WP 4: Case studies integration and policy recommendations

D4.1:
CASE STUDY INTEGRATION REPORT

Reference code: TESS – D4.1

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Short Description: This deliverable reports the results of the TESS project Task 4.1, “Case studies integration”. In particular, it extensively elaborates the knowledge base about community-based initiatives collected within the TESS Task 2.4 thanks to the development of the standardised data assessment sheet (Task 2.2), integrating the results of the subsequent survey conducted through face-to-face interviews with a sample of 63 initiatives in the UK (Scotland), Finland, Germany, Romania, Italy and Spain, also by taking advantage of the more in-depth information obtained from the qualitative analysis conducted within WP3. The final aim is to identify key experiential messages from the case studies in all regions, to extract relevant and comparable information from such a wide variety of cases and to assess – although sometimes preliminarily – their actual and potential impact, also in light of providing – in the following months and within Task 4.3 and Task 4.4 – policy-relevant knowledge about the aspirations, needs, functioning and performance of community-based sustainability initiatives.

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1 Executive Summary

Community-based initiatives (CBIs) are increasingly portrayed as on-the-ground solutions for societal transitions towards low-carbon and more sustainable economies. These initiatives have been championed for their potential to provide a ‘soft’ and bottom-up approach to not only environmental sustainability, but also to community-building, social inclusion, economic revitalization, political mobilization, innovation and for increasing communities’ resilience to social, economic and environmental shocks. At the same time, CBIs have also been challenged in terms of their ability to efficiently deliver tangible benefits, accused of having a too ‘local’ and therefore limited focus, a lack of recognition of the politics of exclusion or privilege, social or environmental justice, etc. What this implies is, first, the need for a multi-dimensional assessment of CBIs’ functioning and impacts and, secondly, attempts to go beyond the current limited (and sometimes anecdotal) evidence through an analysis that is both systematic and comparative.

This deliverable reports the first steps in this regard, and is aimed at systematizing the results of research activities conducted as well as some of the empirical evidence that has emerged from the TESS project so far. This evidence emerged from a sample of 63 community-based initiatives in six European countries; the classification according to domains and sub-domains of activities is reported below in Figure 1. The final aim is to integrate and consolidate the TESS project’s research results in order to provide policy relevant insights about community-based sustainability initiatives in Europe, to help catalyse the potential of these initiatives to social change and sustainable transition, and to contribute to the scientific debate on the topic.

To this end, the deliverable integrates the results from previous research tasks. In particular, it extensively elaborates the knowledge base about community-based initiatives collected within the TESS Task 2.4 thanks to the development of the standardised data assessment sheet (Task 2.2), integrating the results of the subsequent survey conducted through face-to-face interviews with a sample of 63 initiatives in the UK (Scotland), Finland, Germany, Romania, Italy and Spain, also by taking advantage of the more in-depth information obtained from the qualitative analysis conducted within WP3.

Through an in-depth examination of factors that distinguish the CBIs in six regions across Europe working in the domains of food, transport, waste and energy, we provide evidence of what is happening in these community-based sites of experimentation and social innovation. We look at CBIs’ characteristics in terms of histories, composition, experience, internal organization, relationships with external actors, political background, innovative efforts, skills, activities and ambitions, in order to determine who these initiatives are and who they involve, what they do and how. Moreover, when possible, we provide a preliminary estimation of their actual impacts that will be further elaborated and summarized through the multi-criteria analysis to be performed within Task 4.3 of the TESS project. More precisely, we either measure specific indicators, or set a base for such indicators to be estimated, regarding the following areas: economic/financial sustainability, economic benefits and local economic impact, social capital, social inclusion, external networking, political mobilization, human capital externalities and innovativeness.

In terms of “who CBIs are”, we look at members of the CBIs themselves, the groups of beneficiaries their activities reach, the external actors with whom they network and collaborate as well as what CBIs themselves perceive being their most important aims and their achievements in each regard. The ways through which membership in CBIs is disciplined range from formal and/or fee-based subscriptions to completely informal and open policies.
Despite huge differences in terms of, e.g., scope, political engagement, area of operation, our sample represents a number of united features: environmental objectives are the most predominant, together with social aims; decision-making is often collective and takes place through participatory processes. From an internal point of view, respondents have mixed opinions on their underlying values and principles in operation, but initiatives’ views do not indicate that these are wholly incompatible.

Analysing impacts, especially as related to “what CBIs do”, and how, is a more complex task that will be further assessed in the forthcoming Deliverable 4.2. We find that CBIs can be compared according to a number of key variables, yet the diversity of CBIs, and their different geographical context, makes any attempt at neatly categorizing CBIs into singular typologies challenging.

In terms of economic functioning, we find that CBIs have no prevalent sources of revenues but diversify their activities and funding sources. In most cases, they cover their costs and generate surpluses. CBIs predominantly rely on the sale of goods and services for internal revenue generation and, externally, public grants. Their overall financial sustainability is also due, in many cases, to an extensive reliance on – mostly in-kind – contributions from members and/or beneficiaries, including a large amount of volunteer labour. Nevertheless, they have the capacity to deliver a discrete amount of tangible economic benefits to participants, create new paid jobs both directly and indirectly as well as generate wealth and sustain local economic revitalization. Although generating economic impacts is not generally one of their primary aims, we estimated a median of 0.7 FTE jobs created per CBI, 18,740 Euros of annual local wealth generation and 16,734 Euros of reduced economic leakage per year. These medians are due
to a wide variety of cases: 13 CBIs, for example, were estimated to create 10 FTE jobs or more, and nine CBIs report new total local wealth generation in excess of 500,000 Euros per year.

These initiatives, moreover, seem capable and even more explicitly aimed at providing less tangible economic benefits, for example, in terms of targeting human capital externalities or social capital. Leaders often try to capitalize on the relationships between CBIs and the wider community by supporting the design and implementation of activities that are explicitly aimed at the diffusion of skills; this may help beneficiaries to realize their ideas and to increase the accessibility to, or effectiveness of, CBIs in delivering collaborative services that could be applied in other arenas. Our evidence shows that CBI members bring highly skilled people with expertise in a variety of professional and technical areas, and 75% of initiatives have managed to train nearly three-quarters of their members in the most-common skills necessary to run the CBI. Therefore, CBIs provide both formal learning and training occasions (52% of initiatives are active in this regard) and informal venues for collaboration, knowledge diffusion and social interaction that bring the possibility of accessing high-expertise skill sets. There is still room for improving the provision of economic assistance, facilities, land etc. that many CBIs often desperately need in order to carry out their activities, also in light of helping them to create new local economic opportunities and support members and beneficiaries both directly and indirectly.

Our research confirmed, moreover, how CBIs provide fertile grounds for nurturing not only ‘social’ innovation and more sustainable lifestyles, but also more ‘traditional’ and market-based forms of innovation. Although CBIs in our sample belong to an emergent innovation ‘niche’ still characterized by low degrees of structuration, two-thirds of these initiatives were experimenting with some sort of innovative product or process, or producing some sort of innovation themselves, and most CBIs tend to be aware of and admire achievements in building innovation capabilities and good education or awareness-raising practices. They are geared towards innovative practices for various reasons and in different ways: CBIs largely rely on individualized, ad hoc mixes of activities that respond to their relationships at the grassroots level and tend to have more structure in terms of innovation models only when specialized niches emerge.

The initiatives’ propensity towards networking and sharing experiences with other actors is certainly an area that could be improved, both with respect to their innovative efforts and in general. While CBIs appear to value networking ties and their role within their respective networks of collaborations, their performance, as well as the groups of interlocutors with whom CBIs connect, vary. CBIs are well-mixed in terms of the types of interaction, intensity and frequency of collaborations that influence CBIs performance within their own political, economic and institutional settings. CBIs active in the waste domain or in multiple domains tend to have more positive views on the importance of building ties than CBIs in the transport or food domain. Actors from intermediate network organizations and public bodies have the largest share of ties across all CBIs’ networks: approximately 60% of our samples of initiatives, in particular, have established relevant collaborations with at least one public body, in most cases a local public authority; 50% with an intermediary network organization. Other types of collaborations are less frequent. The most preferred and recurrent collaborations are, however, with similar actors, i.e. with other CBIs.

The research also explored other more intangible and elusive domains of impact such as the CBIs’ ability to promote socialization and social capital, an objective that nearly all initiatives
reported as extremely relevant to their work. Most CBIs show a substantial capacity for eliciting various forms of social investment from their members and seek out the development or strengthening of interpersonal relationships within their communities. The ability to promote social capital among members and beneficiaries, and the extent to which such social capital is ‘bonding’ or ‘bridging’, depends on the degree of social investment from members, the types of opportunities for socialization provided and their openness towards their wider communities. The opportunities for networking CBIs provide range from outward-looking activities such as outreach, awareness-raising and knowledge sharing, to inward-oriented activities focused on practical activities such as day-to-day operations. While in most case studies, members and non-members are equally likely to be involved to some extent, the specific targeting of non-members and a more diversified mix of participants could benefit CBIs in terms of operations as well as benefit-sharing. While targeting activities based on the practical needs of the members e.g., goods and services provision, might more broadly help CBI growth, especially in areas where CBIs are already experiencing growth, organizing activities based on community needs through consultation with the local community might also help to improve overall favourability.

These last theme bring us to another and even more problematic issue: the extent to which CBIs promote social inclusion. The ability of initiatives to involve and reach a diversity of beneficiaries in terms of personal characteristics, economic status and geographical provenience varies greatly: the proportion of low-income beneficiaries is, for example, 14% on average; but while there are only six initiatives for which the prevalent targets are low-income, 90% or more of the beneficiaries for 42 initiatives are medium- or high-income. The ability to CBIs to effectively promote social justice, economic alternatives and political change is also questionable. Our research identified both continuities and discontinuities, in particular, with neoliberal mentalities when analysing discourses of change and justice within community-based initiatives, difficulties in providing open, participative and inclusive decision-making – also due to the strong role of a limited number of ‘leaders’ – as well as promoting inclusion and equity.

The assessment of the environmental impacts of CBIs is not presented at length in this report because it is more properly reported in Deliverable 2.1, as well as Deliverable 2.4 of the TESS project. However, it is shown that although the ability of CBIs to reduce green-house gasses emissions could be considered negligible if calculated at the level of each single initiative, their ‘aggregate’ and potential impact is substantial and could even offer an important contribution to reach compelling environmental targets, if the number of participants to community initiatives would reach certain thresholds. Moreover, after reviewing the relevant literature on rebound effects, we show that even though CBIs can have a relevant environmental impact, their activities may also have negative rebound effects, most of which are not usually acknowledged. For instance, when goods and services become cheaper, there are associated risks of increased consumption of other higher-emission services or goods. This has been demonstrated by numerous studies analysing increases in energy efficiency that, by reducing energy costs, lead to energy consumption increases that partially offset the advancements in efficiency, cost or environmental impacts. A second, more indirect rebound effect is also relevant for CBIs: money saved on a more efficient, technological upgrade is often spent on other, more GHG intense activities. The environmental and economic costs saved by purchasing goods and services from a CBI could be marginally offset when the savings are used for consumption of higher impact goods, such as a long distance holiday. However,
rebound effects need to be distinguished from other macro and microeconomic factors and need to be carefully taken into consideration in order to understand the significance of the effect of CBIs on environmental outcomes.
2 Introduction

The main aim of WP4 is to integrate and consolidate the TESS project’s research results in order to both provide policy relevant insights about community-based sustainability initiatives in Europe and to contribute to the scientific debate on the topic. This Deliverable reports the first step in this regard and it is aimed at systematizing the results of research activities conducted so far and the empirical evidence emerged from those, preparing for the following research tasks and setting the base for further elaborations and reflections that will lead to the submission of several research papers in the following months.

To this end, the deliverable integrates the results from previous research tasks. In particular, it extensively elaborates the knowledge base about community-based initiatives collected within the TESS Task 2.4 thanks to the development of the standardised data assessment sheet (Task 2.2), integrating the results of the subsequent survey conducted through face-to-face interviews with a sample of 63 initiatives in the UK (Scotland), Finland, Germany, Romania, Italy and Spain, also by taking advantage of the more in-depth information obtained from the qualitative analysis conducted within WP3. The data for this Deliverable were collected between January and June 2015 according to the methodology described in detail in TESS Deliverables 2.2 and 2.3. The eight TESS partners interviewed 63 community-based initiatives across six EU regions: 9 in the UK (Scotland), 10 in Finland, 10 in Germany (Berlin), 11 in Italy (Rome), 11 in Spain (Catalonia) and 12 in Romania (Western area). The list of community-based initiatives and their description, as well as the anonymous codes by which those initiatives are referred to in the following chapters is provided in the table at the end of this introductory chapter. The methods by which these initiatives have been identified and how the sample was assembled are documented in Deliverable D1.1 and D1.2.

The final aim is to identify key experiential messages from the case studies in all regions, to extract relevant and comparable information from such a wide variety of cases and to assess their actual and potential impact, also in light of providing policy-relevant knowledge about the aspirations, needs, functioning and performance of community-based sustainability initiatives for Task 4.3 and Task 4.4.

The first step in this regard is to qualify what ‘impact’ means when talking about community-based sustainability initiatives, i.e. what are the main dimensions of their activities and outcomes which deserve further exploration and – when possible – can be comparatively assessed. In this respect, the TESS project has intended, from its outset, to distinguish among five main crucial dimensions – environmental, social, economic, technological/innovative, political – that will be systematically addressed and discussed in the following chapters.

2.1 Structure

In Chapter 3 we further stress the need for an assessment of community-based initiatives that addresses all these relevant dimensions in order to define what, why and how such an assessment may be conducted. To this end, these five dimensions\(^1\) will be discussed by

\(^1\) Community-based initiatives’ environmental dimension and impact has been already discussed within the TESS Deliverable D2.1 and D2.4.
reviewing the relevant literature and the existing empirical evidence, in order to provide a theoretical and methodological framework. Moreover, in the final section of Chapter 3, we will present the extent to which the community-based initiatives in our sample perceive these five dimensions as more or the less relevant for their own activities and aims, and their self-assessment of the degree of achievement of those aims.

Chapters from four to fourteen may be said to pursue two different, although correlated, objectives. The first objective consists of an analysis aimed at better understanding who CBIs are, what they do and how. The second objective is to assess their results, performance or impacts in areas which emerge as the most crucial both for the well-functioning, persistence and up-scaling of CBIs, and/or for the promotion of a societal transition based on each of the main pillars of sustainability (environmental, social and economic).

Chapter 4 presents an exploratory analysis of our sample. Based on the survey of the initiatives, some descriptive statistical tools will be applied in order to extract a typology of initiatives, to give an idea of similarities and differences across domains and regions and reflect further upon the specificity of community-based initiatives.

The following three chapters are dedicated to the 'economic' dimension of CBIs' functioning and impacts. Chapter 5 is specifically aimed at outlining an economic, financial and organizational profile of community-based initiatives and an assessment of their sustainability in this regard. The idea is that such an assessment is crucial given the importance for CBIs to have a well-functioning organizational model, covering their costs through diversified sources of funding, and to gain proper control over their assets.

Chapter 6 goes more in-depth in the analysis of human capital that is mobilized within community-based initiatives. The three aims are the following: (i) to more properly understand the peculiar and diversified mix of paid and volunteer labour used by CBIs, (ii) to discuss the most recurrent and crucial skills their active members devote to these activities, (iii) to set the base for assessing their human capital externalities, i.e. how and to what extent they provide opportunities for learning and knowledge diffusion.

Chapter 7 presents an exploratory assessment of the degree to which CBIs contribute to the local economy in which they are embedded, and how. This includes an assessment of the economic benefits they provide to beneficiaries, their direct and indirect contribution to the creation of employment and wealth and their ability to pursue a ‘relocalisation’ agenda by helping to locally retain former leakages or by locally processing goods or materials previously exported from the area.

Chapters 8 and 9 are both aimed at understanding the ‘social’ dimensions of CBIs, their ability to provide opportunities for socialization and interpersonal relationships, elicit various forms of social investment from their members, strengthen social capital and to promote social inclusion (or not). Chapter 8 extensively explores, classifies and elaborates the opportunities for social interaction CBIs provide. The idea is that this is crucial for a proper understanding of the specificities of CBIs, their relations and to distinguish among different clusters of initiatives.

Chapter 9 provides an assessment of CBIs' social dimensions by exploring the degree of 'social investment' from participants to the initiatives, their ability to build or to strengthen social capital, the extent to which this social capital is ‘bonding’ or ‘bridging’, their openness towards their multiple outsides. Finally, the chapter assesses the capacity of CBIs to promote social inclusion, understood as their ability to engage the most heterogeneous social base in terms of gender, income and age, and to provide specific support for disadvantaged groups.
Chapter 10 explores how and to what extent CBIs engage in external collaborations with other CBIs or with collective actors, the characteristics, importance and density of these networks and the centrality of each CBI within those networks. In this, the chapter is transversal to several dimensions, insofar as external networking is crucial for understanding the extent to which CBIs are open to their exterior, able to influence the agenda of other (especially political) actors, promote the diffusion and up-scaling of sustainable practices and diffuse knowledge and innovations.

Chapter 11 discusses how and to what extent CBIs provide a fertile soil for the creation, experimentation, consolidation and diffusion of innovation. This is considered in terms of how they differ from other venues of innovation and how they perform in this regard. The aim is to contribute to emerging debates about ‘grassroots innovation’ by conducting a systematic, comparative, empirical investigation.

The next two chapters are dedicated to environmental issues. Chapter 12 is built upon the results of Work Package 2, to present some estimations on the current aggregate impact of CBIs upon greenhouse gasses emissions and their up-scaled potential based on future scenarios. The first scenario assumes that 5% of the European population become beneficiary of CBIs activities and services, while the second scenario – purely hypothetical – assumes that entire population is reached.

Chapter 13 presents a discussion of potential rebound effects of CBIs, i.e. unintended and indirect consequences of the activities and practices of CBIs which risk having the effect of reducing their capacity to promote a transition to a more sustainable and low-carbon society. This identification is instrumental to a proper assessment of CBIs environmental impact and carbon reduction potential.

Chapter 14 focuses on the ‘political’ dimensions of CBIs or, more precisely, how, through which practices and with what results they promote social justice, economic alternatives and political change. In this, the chapter extensively drawn upon the results of in-depth interviews conducted within WP3. The aim is to critically inquire into the assumption, often taken for granted, that CBIs promote alternatives to neoliberalism, social/environmental justice, venues for political participation or social inclusion.

2.2 Deviations from the original project

The aims and contents of this deliverable have been, for the most part, followed the original layout presented in the initial TESS project proposal. These contents have been, if anything, substantially widened and detailed in order to document all the relevant research results the TESS project is producing as well as to address emerging research questions, which remained partially unanswered given the limited time or due to the scope of methodologies, adopted within the previous work packages.

The only substantial change with respect to what was stated in the DOW is the decision to postpone what was there defined as a “typology of initiatives based on both their impact and the critical factors behind their success” to Deliverable 4.2. This is due to various practical and methodological reasons. The present deliverable presents indeed comparative analysis within each single dimension of assessment, while any analysis and assessment across various dimensions of performance or impact will be presented together with the Multi-criteria analysis,
which is the main content of Deliverable 4.2. Such a typology, moreover, will be using the same indicator set as the Multi-criteria analysis; these indicators need, therefore, a proper presentation and discussion. Thus, to avoid replication on both reports, these results will be presented in D2.4.

Moreover, in some cases we updated our methodological proposal based on the results and findings of previous research tasks and work packages. In particular, the aggregate impact assessment presented in Chapter 12 will present a forecasting which is not based on the application of inferential statistics techniques. This is because the evidence collected so far, and the way our sample of initiatives was selected, do not permit the projection of results of the impact assessment to the whole universe of CBIs in Europe. The peculiarity of the subject of such an assessment – community-based initiatives – and the difficulty in obtaining exhaustive and accurate information about the total number of initiatives, their participants and beneficiaries, do not permit to simply aggregate the results of our assessments. Yet, and in coherence with the TESS project’s emphasis on up-scaling, we decided to focus on hypothetical future scenarios regarding the impact and success expressed by achieved GHG reductions of CBIs, on the one hand, and variations of some external conditions, on the other hand, in order to estimate how these trajectories may hypothetically contribute to the reduction of carbon emissions in the future and to some pre-determined European climate mitigation targets.

Moreover, we opted to exclude precise quantifications of rebound effects to be integrated in the assessment of the individual or aggregated environmental impact (or carbon reduction potential) of CBIs. This is due to missing data on the rebound effect from our CBIs as well as a lack of coherent, solid, comprehensive methods or pre-existing empirical evidence about potential rebound effects which may emerge from the wide variety of typologies of activities our CBIs undertake; a problem which is exacerbated by the high specificity of each (category of) community-based initiatives. In sum, what we do is to identify and discuss potential rebound effects, systematize the existing knowledge and empirical evidence in this regard and reflect on the specificity of community-based initiatives’ rebound effects – a topic which has never been addressed before in detail, in this context, and which deserves further elaboration.

2.3 The agenda for further research

The research detailed in the next chapters is, on the one hand, in many parts exploratory and descriptive. On the other hand, the deliverable presents some interesting and relevant research findings that only need to be properly contextualized and – in some cases – integrated with more specific, in-depth and ad hoc analyses.

The analysis allowed for either the measurement of specific indicators, which will be used for the assessments, presented in Deliverable 4.2, or the setting of a base for such indicators to be estimated. These indicators constitute the criteria from which the multi-criteria assessment will draw: economic/financial sustainability (Chapter 5), human capital externalities (Chapter 6), economic benefits and local economic impact (Chapter 7), social capital (Chapter 9), social inclusion (Chapter 9), external networking (Chapter 10), innovativeness (Chapter 11).

The multi-criteria analysis will provide a prioritization of initiatives according to their assessed performance in order to identify those initiatives with high potential for impact and up-scaling. This will be done through the active involvement of several stakeholders in order to elicit which
dimensions of impact they prioritize and why. The multiplicity of assessment criteria will then be summarized in order to provide a definitive ranking of initiatives and a synthesis of their strengths and weaknesses. The robustness and stability of the results will be verified through a sensitiveness analysis that allows for the identification of the main uncertainties and deviations. Moreover, the evaluation will be targeted to the point of view of different typologies of stakeholders and according to their set of preferences. Such a flexible and participative approach to multi-criteria analysis allows, firstly, a consideration of both the objective values of initiatives and the subjective perception of those values, and, secondly, the active involvement of stakeholders in the evaluation in order to set the foundation for policy makers to prioritise support for initiatives with desired impacts and to involve them in the identification of priorities and challenges.

Additionally, based on this evidence and on the results of policy analysis to be conducted in Task 4.3, we will extract synthetic and relevant information about the content, the contextual constraints/opportunities and the impact of community-based initiatives, both individually and at the aggregate level. The aim is to provide an instrument for evidence-based decision making by offering policy-makers empirical data and analyses on which type of grassroots initiatives to foster and how. This will be done within Task 4.3 and Task 4.4, leading to Deliverable 4.3, Transition strategies policy report, and Deliverable 4.4, Transition strategies policy briefs.

Finally, the research results documented in the following chapters will be used in a variety of dissemination activities (WP6), stakeholder involvement activities and the continued development of the TESS Platform (WP5).
<table>
<thead>
<tr>
<th>Anonymous code</th>
<th>Country</th>
<th>Legal status</th>
<th>Description</th>
<th>Domain</th>
<th>Assessed activity</th>
<th>Short description of the activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCO_multi_01</td>
<td>United Kingdom</td>
<td>Non Profit Organization</td>
<td>A Community Development Trust concerned to involve local people and groups in the sustainable development of Comrie and the surrounding area for the benefit of the community.</td>
<td>Multi</td>
<td>Provision of Heat / Provision of Electricity / Provision of Food</td>
<td>Biomass district heating scheme for enterprise park converted from former army camp / A solar PV array is installed, and used by the catering business, with surplus exported into the grid / Community garden, support for local food businesses</td>
</tr>
<tr>
<td>SCO_transport_02</td>
<td>United Kingdom</td>
<td>Non Profit Organization</td>
<td>The initiative is all about getting people out of their cars and onto bikes and their feet for shorter journeys with a focus on individual towns and villages within highland Perthshire.</td>
<td>Transport</td>
<td>Provision of Transport to Persons</td>
<td>Encouraging of cycling for shorter journeys, with a focus on individual towns and villages within Highland Perthshire</td>
</tr>
<tr>
<td>SCO_multi_03</td>
<td>United Kingdom</td>
<td>Non Profit Organization</td>
<td>The initiative is about bringing people together to face up to the challenges of climate change and resource depletion and to take practical action with more emphasis on local relationships.</td>
<td>Multi</td>
<td>Provision of Transport to Persons</td>
<td>Support to encourage a reduction in car mileage through car sharing, greater use of public transport and enabling a modal shift from cars to cycling for local transport</td>
</tr>
<tr>
<td>SCO_waste_04</td>
<td>United Kingdom</td>
<td>Non Profit Organization</td>
<td>A social enterprise that teaches repair skills and campaigns for things to be built to last. It runs workshops in repair. It advocates for a change in the way we produce and consume.</td>
<td>Waste</td>
<td>Repairing, Reusing, Upcycling</td>
<td>Teaching computer repair and sewing and mending skills</td>
</tr>
<tr>
<td>SCO_multi_05</td>
<td>United Kingdom</td>
<td>Non Profit Organization</td>
<td>It is a Development Trust established to enable regeneration of the fragile local economy</td>
<td>Multi</td>
<td>Provision of Electricity / Provision of Heat / Provision of Food</td>
<td>Installation of community-owned electricity generation (hydro and wind) sold into grid / Installation of domestic solar hot water panels. Scheme to tackle problem of Rhododendron ponticum through uprooting and use as an energy dense fuel / Setting up of two new commercial size polytunnels as communal growing spaces</td>
</tr>
<tr>
<td>SCO_energy_06</td>
<td>United Kingdom</td>
<td>Non Profit Organization</td>
<td>It is an umbrella for three food projects: it sells ethically sourced, volunteer-made meals; it purchases vegetables from a local organic farm and wholesaler, bags them and sells them on to members at cost price; it purchases ethically-sourced food from a wholesaler and sells it to students at cost price.</td>
<td>Energy</td>
<td>Provision of the Infrastructure for Local Food Markets</td>
<td>Sells local or ethically-sourced food to students</td>
</tr>
<tr>
<td>SCO_energy_07</td>
<td>United Kingdom</td>
<td>Non Profit Organization</td>
<td>It is composed of two projects aimed at reducing the community's energy consumption. “Power shift” organises ‘low-carbon fun’ events for students and the “Carbon school” trains students to give energy saving advice to local charities.</td>
<td>Energy</td>
<td>Provision of the Infrastructure for Local Food Markets</td>
<td>Sells local or ethically-sourced food to students</td>
</tr>
<tr>
<td>SCO_multi_08</td>
<td>United Kingdom</td>
<td>Non Profit Organization</td>
<td>It aims to build a resilient, inclusive, enterprising community capable of dealing with ongoing change through a community-owned charitable company.</td>
<td>Multi</td>
<td>Various</td>
<td>Community-owned renewable energy project / Community-supported agriculture</td>
</tr>
<tr>
<td>SCO_multi_09</td>
<td>United Kingdom</td>
<td>Non Profit Organization</td>
<td>A community-led organisation that is attempting to be the green voice for the people. They have three aims: paths, composting, allotments/garden sharing.</td>
<td>Multi</td>
<td>Various</td>
<td>Composting/Allotments or garden-sharing/Green paths</td>
</tr>
<tr>
<td>FIN_food_01</td>
<td>Finland</td>
<td>Cooperative</td>
<td>Community-supported agriculture, although there is no existing farm but the co-operative rents a field. Each participant gets a share of the field size of a regular allotment. Vegetables are also transported weekly into the city with a CO2-free gas fuelled van. Distribution is handled by the growers and volunteers.</td>
<td>Food</td>
<td>Provision of Food</td>
<td>Operates community-supported agriculture: owns a field and has employed two gardeners who take care of the field</td>
</tr>
<tr>
<td>Anonymous code</td>
<td>Country</td>
<td>Legal status</td>
<td>Description</td>
<td>Domain</td>
<td>Assessed activity</td>
<td>Short description of the activity</td>
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<tr>
<td>FIN_energy_02</td>
<td>Finland</td>
<td>Cooperative</td>
<td>The energy co-operative provides district heat with locally sourced wood with three own heat plants and own district heating distribution network. The co-operative supplies as well raw material to two external heat plants.</td>
<td>Energy</td>
<td>Provision of Heat</td>
<td>Produces heat mainly with woodchips in local heat plants</td>
</tr>
<tr>
<td>FIN_waste_03</td>
<td>Finland</td>
<td>Non Profit Organization</td>
<td>A group of people with a diverse/broad view about energy. Working holistically the energy means that we can get involved in any activity, any activity involves energy, any activity from the community, in this case is the neighbourhood.</td>
<td>Waste</td>
<td>Repairing, Reusing, Upcycling</td>
<td>Maintains and organizes waste collection and repair workshops, repairing and restoration of old clothes and furniture</td>
</tr>
<tr>
<td>FIN_multi_04</td>
<td>Finland</td>
<td>Non Profit Organization</td>
<td>An association, which advances sustainable development in a resident-oriented way by giving sustainable development education to different target, groups through different measures and through events, campaigns and projects, and realizing aims through the projects.</td>
<td>Multi</td>
<td>Provision of Transport to Persons / Provision of Electricity / Provision of the Infrastructure for Local Food Markets</td>
<td>Provision of bicycles, cargo trailer for bicycle and cargo bicycles to support more sustainable transport / Solar Panels to produce electricity / Volunteers run local food clubs selling mainly local food products</td>
</tr>
<tr>
<td>FIN_energy_05</td>
<td>Finland</td>
<td>Cooperative</td>
<td>The Energy Co-operative produces heat with two heat plants fuelled with wood chips. The heat plants and heat distribution network are owned by the initiative. The initiative supplies the heat plants with wood chips and manages the plants. The initiative bills their customers directly based on the heat production contracts done with them.</td>
<td>Energy</td>
<td>Provision of Heat</td>
<td>Produces heat with woodchips in local heat plants</td>
</tr>
<tr>
<td>FIN_energy_06</td>
<td>Finland</td>
<td>Cooperative</td>
<td>The energy co-operative buys wood chips from its members and converts it to heat in a heat plan owned by the municipality.</td>
<td>Energy</td>
<td>Provision of Heat</td>
<td>Produces heat with woodchips in local heat plants</td>
</tr>
<tr>
<td>FIN_waste_07</td>
<td>Finland</td>
<td>For Profit Organization</td>
<td>Community organization that wishes to improve the state of the environment by reducing the amount of waste and by increasing environmental awareness. It accepts donations of usable items. They sell or donate the items. The Reuse Centre also provides environmental education and consulting services.</td>
<td>Waste</td>
<td>Repairing, Reusing, Upcycling</td>
<td>Runs various shops to reuse products</td>
</tr>
<tr>
<td>FIN_energy_08</td>
<td>Finland</td>
<td>For Profit Organization</td>
<td>A ecological housing company including 20 apartments, and a village house that has shared spaces, and utilizes the resources of the village, local materials, renewable energy and local skills. They use healthy and sustainable materials in the buildings. Solar energy and wood chips are used for energy production.</td>
<td>Energy</td>
<td>Provision of Heat</td>
<td>The Ecovillage has its own power plant which produces heat to the houses</td>
</tr>
<tr>
<td>FIN_waste_09</td>
<td>Finland</td>
<td>Informal organization</td>
<td>A competition for Finnish elementary school children, in which they collect the empty aluminium cups from burned tea lights.</td>
<td>Waste</td>
<td>Recycling</td>
<td>Collection of empty tea light cups for recycling</td>
</tr>
<tr>
<td>FIN_energy_10</td>
<td>Finland</td>
<td>Non Profit Organization</td>
<td>Supervisor of the interests of the local people, taking care of the social needs of the villagers by arranging different activities, like events, education etc. Provides consultation for the villagers on how to make their homes more energy efficient and how to install carbon free heating and energy systems (solar panels, geothermal heating).</td>
<td>Energy</td>
<td>Provision of Heat</td>
<td>The village association is organizing consulting and education in making environmental friendly choices in housing, e.g. geothermal heating</td>
</tr>
<tr>
<td>GER_multi_01</td>
<td>Germany</td>
<td>Informal organization</td>
<td>A neighbourhood community garden that facilitates independent gardening free from private ownership and individual financial burdens.</td>
<td>Multi</td>
<td>Provision of Food</td>
<td>Cultivating vegetables, fruits, flowers and herbs through an urban gardening project</td>
</tr>
<tr>
<td>GER_food_02</td>
<td>Germany</td>
<td>Non Profit Organization</td>
<td>A decentralised food sharing initiative in Germany. More than 100.000 participants share food on a private basis and around 6.500 participants pick up food from supermarkets, bakeries and other stores, which</td>
<td>Food</td>
<td>Redistribution of Food</td>
<td>Retrieve food from stores (e.g. supermarkets) that need to dispose of it and redistribution via local spots - partly public refrigerators</td>
</tr>
</tbody>
</table>
### TESS Project (Grant Agreement n° 603705) D 4.1

<table>
<thead>
<tr>
<th>Anonymous code</th>
<th>Country</th>
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</tr>
</thead>
<tbody>
<tr>
<td>GER_waste_03</td>
<td>Germany</td>
<td>Non Profit Organization</td>
<td>The initiative tries to stem the overproduction of clothes and other articles by preventing the purchase of new products and by supporting the reuse of these products instead. The shop is operated comparable to a library, where people can come and borrow articles that they need.</td>
<td>Waste</td>
<td>Repairing, Reusing, Upcycling</td>
<td>Re-use of items by sharing them though a public shop</td>
</tr>
<tr>
<td>GER_waste_04</td>
<td>Germany</td>
<td>Non Profit Organization</td>
<td>It provides know-how on urban gardening, and where fruits and vegetables can be harvested for free. Over several workshops, it is shown how food that would otherwise have been wasted can be processed. Besides, the initiative collaborates with schools to educate pupils on the sustainable use of food. Additionally, fruit is being saved from public ground.</td>
<td>Waste</td>
<td>Redistribution of Food</td>
<td>Saves food from businesses</td>
</tr>
<tr>
<td>GER_energy_05</td>
<td>Germany</td>
<td>Cooperative</td>
<td>A co-corporation of citizens that aim for a sustainable and democratic energy policy for Berlin. The CBI wants to run the energy grid of Berlin and is currently applying for the concession in order to promote the energy transition with money that consists of members' shares and donations.</td>
<td>Energy</td>
<td>Repairing, Reusing, Upcycling</td>
<td>Re-use or up-cycling of materials</td>
</tr>
<tr>
<td>GER_waste_06</td>
<td>Germany</td>
<td>For Profit Organization</td>
<td>A social business with the emphasis on upcycling that aims at creating new cycles of resources. Key fields of Material Mafia are: Provisioning of used materials; Education (workshops); Consulting for avoidance of waste; Networking.</td>
<td>Waste</td>
<td>Production of New Products</td>
<td>Production of high quality print products through more sustainable input materials and more sustainable processes</td>
</tr>
<tr>
<td>GER_waste_07</td>
<td>Germany</td>
<td>For Profit Organization</td>
<td>A self-governed corporation, founded by people who aimed for collective working conditions and who wanted to produce printings of high quality. The salary is the same for every member and production methods are oriented towards high ecological standards.</td>
<td>Waste</td>
<td>Repairing, Reusing, Upcycling</td>
<td>Monthly workshop that support the repair of broken devices</td>
</tr>
<tr>
<td>GER_waste_08</td>
<td>Germany</td>
<td>Non Profit Organization</td>
<td>A capacity building concept. Helpers and experts voluntarily support the participants to repair broken devices. It is an initiative against the widespread throwaway mentality and the currently known planned obsolescence.</td>
<td>Waste</td>
<td>Provision of Food</td>
<td>Purchase of local organic fruits and vegetables from a local farm, distribution via delivery stations</td>
</tr>
<tr>
<td>GER_food_09</td>
<td>Germany</td>
<td>Informal organization</td>
<td>A small organic farm that produces fruits and vegetables together with the members living in Berlin (solidarity agriculture or CSA - community supported agriculture). The members pay a monthly contribution and help at the farm. In return, they receive the produced goods.</td>
<td>Food</td>
<td>Provision of Food</td>
<td>Purchase of local organic fruits and vegetables from a local farm, distribution via delivery stations</td>
</tr>
<tr>
<td>GER_transport_10</td>
<td>Germany</td>
<td>For Profit Organization</td>
<td>The initiative is a collective that was founded in order to improve the working conditions for people working in messenger services. The initiative uses bikes and one electric car in order to deliver. In contrast to other messenger services, bikers are not self-employed and do not have to pay a lump sum.</td>
<td>Transport</td>
<td>Transportation of Goods</td>
<td>Transporting mostly lightweight goods (also furniture) by bike and electric car as a messenger service</td>
</tr>
<tr>
<td>ITA_multi_01</td>
<td>Italy</td>
<td>Informal organization</td>
<td>Main activities are projects are: workshops for citizen engagement using the volunteers; courses - language and training - seminars and event organization primarily focused on social inclusion; solidarity purchasing group; various events such as lunches, fairs, promotional activities.</td>
<td>Multi</td>
<td>Provision of the Infrastructure for Local Food Markets</td>
<td>Solidarity Purchasing Group, buying food and other goods directly from local farmers and companies</td>
</tr>
</tbody>
</table>

- 28 -
<table>
<thead>
<tr>
<th>Anonymous code</th>
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</tr>
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<tbody>
<tr>
<td>ITA_food_02</td>
<td>Italy</td>
<td>Informal organization</td>
<td>Solidarity purchasing group. Fruits and vegetables are delivered weekly. For the other products, money is collected in advance and the goods are delivered to the manager by courier service. The manager keeps the products at home and the members pick them up individually.</td>
<td>Food</td>
<td>Provision of the Infrastructure for Local Food Markets</td>
<td>Solidarity Purchasing Group, buying food and other goods directly from local farmers</td>
</tr>
<tr>
<td>ITA_waste_03</td>
<td>Italy</td>
<td>Non Profit Organization</td>
<td>The initiative focuses on facilitating refugees' inclusion in society. They give refugees the facilities and provide them administrative support. Refugees collect trashed plastic paper and other materials and transform these into bags, wallets, cups etc. The 20 refugees get paid for their work.</td>
<td>Waste</td>
<td>Recycling</td>
<td>They collect plastic bags and trashed plastic items to recycle and upcycle</td>
</tr>
<tr>
<td>ITA_waste_04</td>
<td>Italy</td>
<td>Non Profit Organization</td>
<td>Bike repair shop, providing bike repair tools, skills and spare parts for free</td>
<td>Waste</td>
<td>Repairing, Reusing, Upcycling</td>
<td>Community bike repair workshop. They recycle broken bikes and spare parts from which they make usable bikes</td>
</tr>
<tr>
<td>ITA_food_05</td>
<td>Italy</td>
<td>Non Profit Organization</td>
<td>The initiative hosts minor teenagers with problem, provide them accommodation, food, education, health care, psychological support and rehab therapies. Through social agriculture, it aims at teaching them a job for when they will leave the CBI.</td>
<td>Food</td>
<td>Provision of Food</td>
<td>Organic food production with a strong social focus</td>
</tr>
<tr>
<td>ITA_transport_06</td>
<td>Italy</td>
<td>Informal organization</td>
<td>Promoting bicycle use through social events, flash mobs and awareness raising activities in Rome</td>
<td>Transport</td>
<td>Provision of Transport to Persons</td>
<td>Promotion of cycling through social events with a strong political focus</td>
</tr>
<tr>
<td>ITA_food_07</td>
<td>Italy</td>
<td>Non Profit Organization</td>
<td>Solidarity Purchasing Group</td>
<td>Food</td>
<td>Provision of the Infrastructure for Local Food Markets</td>
<td>Solidarity Purchasing Group</td>
</tr>
<tr>
<td>ITA_multi_08</td>
<td>Italy</td>
<td>Non Profit Organization</td>
<td>Association with the aim of protecting the environment, supporting workers' rights, spreading and promoting an environmentally sustainable way of leaving based on better and minor consumption, and promoting a more equal society.</td>
<td>Multi</td>
<td>Provision of the Infrastructure for Local Food Markets / Provision of Electricity</td>
<td>Solidarity Purchasing Group, buying food and other goods directly from local farmers / Solar Panels to produce electricity</td>
</tr>
<tr>
<td>ITA_multi_09</td>
<td>Italy</td>
<td>Non Profit Organization</td>
<td>The participants to the initiative manage a plot in a peripheral neighbourhood of Rome with the aim to cultivate and consume fresh and seasonal agricultural products.</td>
<td>Multi</td>
<td>Provision of Food</td>
<td>Urban gardening project (vegetable production) available for producers and local community of neighbourhood</td>
</tr>
<tr>
<td>ITA_food_10</td>
<td>Italy</td>
<td>Informal organization</td>
<td>Solidarity Purchasing Group</td>
<td>Food</td>
<td>Provision of the Infrastructure for Local Food Markets</td>
<td>Solidarity Purchasing Group</td>
</tr>
<tr>
<td>ITA_food_11</td>
<td>Italy</td>
<td>Informal organization</td>
<td>The initiative is a solidarity purchasing group that puts a particular focus on the &quot;solidarity&quot; aspects of its activity, aiming at maximising small and local producers' income eliminating any middleman intervention during the purchasing process.</td>
<td>Food</td>
<td>Provision of the Infrastructure for Local Food Markets</td>
<td>Solidarity Purchasing Group</td>
</tr>
<tr>
<td>ESP_food_01</td>
<td>Spain</td>
<td>Cooperative</td>
<td>Consumers group of 25 families that aims to buy food, mainly organic, but most importantly local and seasonal.</td>
<td>Food</td>
<td>Provision of the Infrastructure for Local Food Markets</td>
<td>Consumer Purchasing Group to buy mostly local and seasonal food</td>
</tr>
<tr>
<td>ESP_energy_02</td>
<td>Spain</td>
<td>Informal organization</td>
<td>A group of people with a diverse/broad view about energy. They try to reach all the areas of human activities and the environment and resources. We apply this holistic approach to a neighbourhood, with the idea of upscaling at city level.</td>
<td>Energy</td>
<td>Repairing, Reusing, Upcycling / Provision of Electricity / Redistribution of Food</td>
<td>Local second hand exchange market organized twice a year / Generator attached to a bicycle / Organizes once a year a public meal with the waste food from businesses in the neighbourhood and</td>
</tr>
<tr>
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</tr>
<tr>
<td>ESP_transport_03</td>
<td>Spain</td>
<td>Cooperative</td>
<td>Cooperative founded by some workers from a courier services company who got fired after asking for better working conditions. The first courier company offering bike services in the area.</td>
<td>Transport</td>
<td>Transportation of Goods</td>
<td>Courier services - transportation of packages by bicycle</td>
</tr>
<tr>
<td>ESP_energy_04</td>
<td>Spain</td>
<td>Cooperative</td>
<td>The first Spanish renewable energy consumer cooperative. Currently it produces 8-10% of the energy it sells, the rest comes from other producers from which it buys their green credits. The cooperative is run by a technical office and a number of local groups (volunteers).</td>
<td>Energy</td>
<td>Provision of Electricity</td>
<td>Generation of electricity from renewable sources and introducing it to the grid from solar panels and a biogas plant</td>
</tr>
<tr>
<td>ESP_food_05</td>
<td>Spain</td>
<td>Informal organization</td>
<td>A valley with five projects within: a community squat; a Permaculture Forest Garden; a Social Centre managed by the squat; Urban Gardens surrounding the built-in terrains and an initiative to defend a natural park. These work together to self-manage the space in an agro-ecological and communitarian way, taking care of the internal (basic) needs of the participants, and networking with similar initiatives for political activism.</td>
<td>Food</td>
<td>Provision of Food</td>
<td>Production of fruits and vegetables</td>
</tr>
<tr>
<td>ESP_waste_06</td>
<td>Spain</td>
<td>Informal organization</td>
<td>A post-capitalist industrial colony and co-housing, organized in multiple workshops and living spaces, used for producing multiple tools and services for the community and beyond.</td>
<td>Waste</td>
<td>Repairing, Reusing, Upcycling / Provision of Food / Redistribute. of Food</td>
<td>Recycling of oil, electronic waste, furniture, metal, and wood / Recycled fruit for marmalades / Food saved at home</td>
</tr>
<tr>
<td>ESP_food_07</td>
<td>Spain</td>
<td>Cooperative</td>
<td>A food cooperative of 26 household units, who collaborate with one farm from the region for purchasing fruit and vegetables. The farmer provides local and organic food on a weekly basis to the cooperative space, from where it is further dispatched, reorganized and distributed by members. The cooperative is self-organized, and has no employees.</td>
<td>Food</td>
<td>Provision of the Infrastructure for Local Food Markets</td>
<td>Food cooperative of several household units, who collaborate with one farm from the region for purchasing fruit and vegetables</td>
</tr>
<tr>
<td>ESP_waste_08</td>
<td>Spain</td>
<td>Cooperative</td>
<td>A cooperative with 14 members, which seeks to use the architecture as a tool for social transformation, not only providing technical services. They do not only architectural work but they also are interested in participation, urbanisms, from a multidisciplinary perspective.</td>
<td>Waste</td>
<td>Repairing, Reusing, Upcycling</td>
<td>Restoration of buildings with reused and recycled materials</td>
</tr>
<tr>
<td>ESP_food_09</td>
<td>Spain</td>
<td>Cooperative</td>
<td>An eco-farming project and cooperative including consumers in decisions. It is one of the pioneer farm projects created specifically to serve food cooperatives in Barcelona. The project is an initiator of a local network of producers with a participative low-cost agro-ecologic certification, which has stronger sustainability criteria.</td>
<td>Food</td>
<td>Provision of Food</td>
<td>Management of a consumption cooperative of local and agro-ecological fruits and vegetables</td>
</tr>
<tr>
<td>ESP_food_10</td>
<td>Spain</td>
<td>Cooperative</td>
<td>A working cooperative specialized in: a) production of organic fruit and vegetables localized in a peri-urban territory; b) distribution (sale) of ecological fruits and vegetables (also produced by other farms) and c) practical (educational) courses about organic agriculture.</td>
<td>Food</td>
<td>Provision of Food</td>
<td>Production of and distribution organic fruit and vegetables localized from a peri-urban territory</td>
</tr>
<tr>
<td>ESP_waste_11</td>
<td>Spain</td>
<td>Informal organization</td>
<td>A bike-repair workshop, which provides tools, parts and experience in the field free of charge, in exchange for tools or bicycle parts. The workshop/group uses abandoned urban terrains that are also used as a social centre.</td>
<td>Waste</td>
<td>Repairing, Reusing, Upcycling</td>
<td>A bike-repair workshop, which provides tools, parts and experience in the field free of charge, in exchange for tools or bicycle parts</td>
</tr>
<tr>
<td>ROM_transport_01</td>
<td>Romania</td>
<td>Non Profit Organization</td>
<td>Association, which develops tourism itineraries, social entrepreneurship programs, campaigns for rowing, and sustainable development, programs in protected areas.</td>
<td>Transport</td>
<td>Provision of Transport to Persons</td>
<td>Promotion of a rowing boat with a new and unique design (canotca) and a water bicycle</td>
</tr>
<tr>
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</tr>
<tr>
<td>ROM_food_02</td>
<td>Romania</td>
<td>Non Profit Organization</td>
<td>Active from 10 years to protect the nature-rich, farmed landscapes of Transylvania, and support farming communities. The main goal is to give these landscapes and communities an economic future and relevance, without sacrificing their sustainability and productivity.</td>
<td>Food</td>
<td>Provision of Infrastructure for Local Food Markets</td>
<td>The initiative offers a processing centre for fruits and vegetables for local farmers. The initiative also offers a collecting service, where farmers can sell cow milk.</td>
</tr>
<tr>
<td>ROM_transport_03</td>
<td>Romania</td>
<td>Non Profit Organization</td>
<td>The initiative is an organization that promotes cycling, protecting the environment and promoting civic responsibility.</td>
<td>Transport</td>
<td>Provision of Transport to Persons</td>
<td>Organizing events for cycling and different types of events in order to promote bicycle use and to represent the cycling community</td>
</tr>
<tr>
<td>ROM_waste_04</td>
<td>Romania</td>
<td>Non Profit Organization</td>
<td>The goal is to support young people in solving social issues. All the youngsters who got involved in the association’s activities have been trained to develop similar projects on their own and to carry on social campaigns. It has been working with teenagers who were confronted with several problems.</td>
<td>Waste</td>
<td>Recycling</td>
<td>Developing a system for the collection and separation of waste</td>
</tr>
<tr>
<td>ROM_food_05</td>
<td>Romania</td>
<td>Non Profit Organization</td>
<td>The initiative promotes consumption of seasonal food, and aims at educating citizens on the risks of fast food phenomenon, pesticide use or consumption, GM food</td>
<td>Food</td>
<td>Provision of Meals</td>
<td>Provision of vegetarian meals</td>
</tr>
<tr>
<td>ROM_transport_06</td>
<td>Romania</td>
<td>Non Profit Organization</td>
<td>The initiative promotes cycling, and organizes events for people who like to cycle. They also organize specific events that promote cycling, and they try to get more and more people to cycle.</td>
<td>Transport</td>
<td>Provision of Transport to Persons</td>
<td>Promote usage of bicycles, as an alternative for motorized vehicles. The initiative organizes various events for bicycle users and provides equipment that is used for transporting bicycles</td>
</tr>
<tr>
<td>ROM_multi_07</td>
<td>Romania</td>
<td>Non Profit Organization</td>
<td>An association that aims to support the development of the village and the region. The association wants to motivate the rural residents and young people in their educational and cultural development, in order to built and preserve the cultural heritage and to increase the quality of life in rural areas.</td>
<td>Multi</td>
<td>Provision of Food</td>
<td>Production and distribution of agro-ecological products for the local community</td>
</tr>
<tr>
<td>ROM_waste_08</td>
<td>Romania</td>
<td>Non Profit Organization</td>
<td>An environmental protection NGO that aims to promote better public policies related to environmental protection. It also aims to contribute to sustainable development in Romania and to involve the civil society in this process.</td>
<td>Waste</td>
<td>Recycling</td>
<td>Collection of plastic waste in mountain areas and recycling</td>
</tr>
<tr>
<td>ROM_food_09</td>
<td>Romania</td>
<td>Non Profit Organization</td>
<td>The initiative offers food (mostly vegan) that is produced only by local farmers. Besides, this initiative has a very important promotional role: to educate consumers in regard to vegan and fair trade products. Another important aspect is that they try to help people with disabilities.</td>
<td>Food</td>
<td>Provision of Meals / Transportation of Goods</td>
<td>The initiative offers vegan meals, using only products from local producers / Transport of meals to companies by bicycle</td>
</tr>
<tr>
<td>ROM_waste_10</td>
<td>Romania</td>
<td>Non Profit Organization</td>
<td>The initiative has the role of information and awareness on the importance of protecting the environment, and to promote a lifestyle with care to the community and the environment.</td>
<td>Waste</td>
<td>Recycling</td>
<td>Collection of waste and recycling workshops</td>
</tr>
<tr>
<td>ROM_waste_11</td>
<td>Romania</td>
<td>Non Profit Organization</td>
<td>The initiative aims to inform and raise awareness about the importance of selective collection of waste batteries and accumulators and developing a system of collecting these types of hazardous waste.</td>
<td>Waste</td>
<td>Recycling</td>
<td>Recycling of electronic waste (portable batteries and accumulators)</td>
</tr>
<tr>
<td>ROM_multi_12</td>
<td>Romania</td>
<td>Non Profit Organization</td>
<td>The initiative contributes to sustainable development of the local community through the implementation of projects under a holistic approach to all three dimensions of sustainable development: environmental, social and economic.</td>
<td>Multi</td>
<td>Repairing, Reusing, Upcycling</td>
<td>Runs various shops to reuse products (clothes and furniture)</td>
</tr>
</tbody>
</table>

Table 1 - Short description and anonymous codes of the community-based initiatives in the sample.
3 Community organizing and sustainability: the what, why and how of a multi-dimensional assessment

This chapter is aimed at contextualizing the exploratory analysis and assessments presented in the following chapters. An overview of the growing body of research exploring the role of community-based initiatives (CBIs) in the promotion of sustainable regional transitions will be presented, based on a revision of the literature review presented in the TESS Deliverable 2.2. We review the literature about, in particular, the social, economic and technological impacts of CBIs, while the literature about their environmental impact has been already presented in the TESS Deliverable 2.1 and a discussion of their relations with politics and policies will be presented in the TESS Deliverable 4.2. The aim is to stress the need for an assessment of community-based initiatives which addresses all the relevant dimensions of their functioning and impact and to define what, why and how such an assessment may be conducted. To this end, in the last section, we present how these community-based initiatives perceive their activities being aimed at, the importance they attribute to each of the above mentioned dimensions and their self-assessment of the degree of achievement of those aims and dimensions.

3.1 The multiple dimensions of community organizing

“Community-based initiatives” is an elusive concept which has different meanings in the literature and in the eyes of practitioners and observers. For the sake of the TESS project, several criteria have been agreed upon in order to delimit the scope of the analysis. We consider CBIs as the following: collective actions initiated and managed by communities, i.e. any group of individuals – not necessarily located in proximity – who feel that they share something in common, be that a connection through interest, place, lifestyle, culture or practice, and who are self-organized in order to deliver some benefits to their members, to engage in socially innovative activities and to reduce environmental impacts by committing their time and/or sharing their resources and/or implementing projects which serve the community. These initiatives may have received public money but they are not managed by public authorities; they may be not-for-profit as well as for-profit but their revenue-model should serve the community.

Besides this general definition and criteria, in the previous TESS deliverables, and in the following chapters, we show that CBIs are highly diverse in their motivations, functioning and outcomes. Within the body of work further reviewed in the next sections, community-based initiatives are regarded as aimed at a wide array of objectives, including the following: enhancement of public space, improvement of the neighbourhood, neighbourhood beautification, “eyes on the street”, leisure and fun, health (Wakefield et al. 2007; Freeman et al. 2012), economic benefits, job creation, entrepreneurship, other self-serving motives (Rosol 2012), social innovation, technological innovation, civic engagement, socialization and social linkages, community building (Bellows et al. 2003; Alaimo et al. 2008; Robinson-O’Brien et al. 2009), political claim, reducing ecological footprint, providing green infrastructure (Viljoen and Howe 2005; Van Veenhuizen 2006), improve deprived neighbourhoods (Kremer and DeLiberty 2011), ecological resilience, greenhouse gas mitigation, reconnect production-consumption linkages (Kloppenberg et al. 1996; Jarosz, 2008; Maye et al. 2007; Donald et al. 2010), subvert capitalist logics, re-embed production within social relations, social inclusion (Kurtz 2001;
Baker 2004; Saldivar-Tanaka and Krasny 2004; Turner 2011), public participation, social learning (Baker 2004; Levkoe 2006), cultivate political and social skills necessary for citizenship and activism (Travaline and Hunold 2010: 587), pave the way for a more “socially-inclusive form of development” (Donald and Blay-Palmer 2006: 1903), represent the preferences and wishes of communities and local people in the policy process (Luckin and Sharp 2004), reclaiming the ‘commons’ (Johnston 2008) or the “right to the city” (Eizenberg 2012; Shillington 2013), etc.

Some CBIs such as, for example, many community energy initiatives or solidarity purchasing groups, are more aimed at delivering material benefits to their members, while others more closely resemble social movements or some form of political activism. For some initiatives sustainability and a reduced environmental impact is the explicit and main aim, while others are more driven by a desire to increase the social cohesion and liveliness of the places they are based. Some are more experimental while others merely provide some sort of ‘community-based’ or alternative approach to the delivery of traditional services.

In the TESS project we distinguish, in particular, among five crucial dimensions of the functioning and impact of community-based initiatives: environmental, social, economic, political and technological. The environmental and political dimensions of CBIs, as already mentioned, are not discussed in this chapter as they will be contextualized in other TESS deliverables which address these issues more extensively. The remainder of this chapter is therefore structured around three crucial areas of assessment regarding the environmental, social, economic, political and technological dimension of CBIs, the latter focusing on innovation more generally rather than solely on technological innovation. In the last section we present the results of a self-assessment carried out by the CBIs on how important they consider these five dimensions for themselves and the degree to which they have succeeded in pursuing a variety of aims.

### 3.2 Economic dimensions of community-based initiatives

Whether CBIs are more or less aimed at delivering tangible, material and economic benefits – making affordable housing, transport, food, etc. available – to their participants or beneficiaries, their economic, financial and organizational functioning is crucial in terms of, for example, the initiatives’ chances for surviving. This implies the need to assess the initiatives’ functioning in economic terms: how they sustain themselves economically, through which sources, the degree they are resilient in respect to external or internal shocks, etc. A related issue is their organizational effectiveness, i.e. whether the operational, managerial and decision-making models they adopt are well-functioning and appropriate for pursuing their goals.

Moreover, all community-based initiatives selected as case studies within the TESS project are aimed at delivering some sort of good or service to their communities. This means that they all provide some sort of economic benefits to, firstly, their members and direct beneficiaries and, secondly, to the wider community at large and within the local context in which they operate.

In the following sub-section, based on the existing literature and empirical evidence, we outline a method for firstly assessing the economic and organizational functioning of CBIs and their economic impact on beneficiaries and the local economy.
The economic functioning and performance of community-based initiatives

Evidence collected in this project as well as the existing literature show that most CBIs do not require substantial investment and tend to have low running costs. However, they have some costs that should be covered in some way and this can be difficult given that most initiatives are not for-profit. Nevertheless, ‘not-for-profit’ is not the same as running at a loss. Even though CBIs are not created to generate revenue, they must still cover expenses related to their activities in order to accomplish their mission. Financial sustainability is therefore a major goal/necessity towards which grassroots initiatives strive (Smith and Seyfang 2013).

According to the literature, economic difficulties faced by CBIs are some of the biggest challenges initiatives have to deal with. Previous research has highlighted that securing funding is difficult in the long-term, and it is instrumental to achieving the initiatives' other aims (Seyfang and Smith 2007; Seyfang 2009; Smith 2006, 2007). Obtaining critical funds to carry out the necessary activities to fulfil their mission is therefore crucial. The public sector, volunteers, donors as well as charities, foundations, banks and private funders are the main potential contributors to the development and financial resources for CBIs. Often banks, non-profit organizations and governments are open to providing loans, micro-credit and/or grants to support start-ups, labour, insurance, specific costs, etc., but prolonged or exclusive reliance on external grants is problematic (White and Stirling 2013).

More generally, attaining financial sustainability through a single source of funds is improbable. Diversification of sources contributes to the longevity of the project and to its resilience, i.e. its ability to resist crisis. Financial sustainability, moreover, requires the diversification of funding sources: the ability to access external funding, on the one hand (government incentives, grants, funds, donations, loans - ordinary or with preferential terms, etc.), and, on the other hand, to generate (internal) income which may be measured by the share of annual expenses covered by internal/external or by temporary/permanent sources. A more general issue is financial sustainability, i.e. the ability of the initiative to cover its expenses and to sustain itself economically in the long-term. What needs to be assessed is, consequently, whether (i) financial sustainability has been established as a goal and/or (ii) this goal has been satisfied, and/or to see whether the initiative, in the former, has a surplus, a deficit, or a “zero” balance, or, in the latter case, if there is a surplus or deficit, where it is coming from (Léon, 2001).

According to White and Stirling (2013), financial sustainability is perceived by most CBIs as being related to internal income generation in order to obtain greater security and less external dependency. CBIs might provide and/or sell products, goods and services that exceed their internal needs. This enables them to increase their financial autonomy and to make independent decisions that truly reflect their own - rather than external donors'/investors’ - priorities.

An assessment of financial sustainability also requires an analysis of the initiative’s access (and tenure of) capital goods, assets and infrastructure (land, labour, tools, machinery, etc.) that are needed to run the initiative. This is problematic for most initiatives, for example, for community gardens. “Many involved in urban agriculture do not own the land they use to grow food. Without title, or three to five year leases, they risk losing their investment when the land is taken for other purposes” (Brown and Carter 2003: 17). Community activists might prefer to start initiatives within the context of a legal agreement to use public or private land provided
they maintain it well (e.g., usufruct arrangements, conservation easements, land trusts, etc.) or try to secure parcels which rarely have other uses so that they can potentially remain in agricultural use for years (rooftops, roadsides, institutional properties, etc.). Where the previous options are not viable many urban farmers might be able to sign medium-to-longer-term leases; others have pushed for increasing urban agricultural spaces in the city master-plan, sought out incubator spaces and block grants or have encouraged the temporary use of vacant public and private lots with little investment, or that can be later moved to another location (Ibid: 18).

Another major challenge CBIs as well as any other social or non-profit initiative face is related to organizational effectiveness, which is especially important as most institutions and people who donate money, time and other resources are interested in knowing whether the organization is effective and efficient in accomplishing its goals. Organizational effectiveness implies flexibility in the initiative’s organization, substitutability of key roles and the degree of hierarchical management, the extent to which participants can be transferred to different activities and tasks within the initiative and, ultimately, the adoption of an organizational model which is suitable for a well-functioning the initiative and for its aims.

It should be considered, finally, that CBIs are highly diverse not only in their aims but also in their functioning (Holland 2004; Baker 2002). CBIs have distinct organisational forms, different resource bases, divergent contextual situations and they pursue different kinds of development models (Seyfang and Smith 2007: 592). Any assessment of those aspects should therefore be taken carefully into account.

**Direct economic benefits to participants**

A key area of assessment for community-based initiatives is their ability to deliver economic benefits to participants and communities, including increases in individual or family income; decreases in individual or household expenditure; increases (or decreases) in disposable income and/or resources for other necessities or for savings, etc.

Thus, CBIs create direct economic benefits for users in that they might make goods and services available and/or accessible and more affordable, e.g., providing products for free that individuals would otherwise need to pay for, giving participants access to affordable transport, energy, food, etc.

The literature shows that, in this regard, when asked the most important reasons for joining CBIs, a substantial proportion of participants agreed “it was due to the financial savings” (Katzev 2003; Flachs 2010: 2) and impacts on income. This rationale has become more pressing in the current economic crisis and previous studies have shown participants “saw their efforts in most of these initiatives as supplementing their income in the recession” (Flachs 2010: 2).

A U.S. study about community gardens, for example, estimated that community gardeners saved between $75 and $380 in food costs every season (Hlubik et al. 1994; Armstrong, 2000). Studies have estimated that a community garden can yield between $500 and $2,000 worth of produce per family a year, and that every $1 invested in a community garden plot yields around $6 worth of produce (Hagan and Rubin 2013: 12). This is especially crucial in those places or neighbourhoods like “food deserts” where the quality and quantity of food is insufficient (Brown and Carter 2003: 8). Especially in low-income areas, particularly in cities, community-based
agriculture initiatives satisfy a pressing need for fresh, healthy, and affordable food (Peña 2005).

Nevertheless, not all the impacts of a CBI are positive. Participants in CBIs usually incur indirect costs; even if they are low, membership rates and usage fees represent an expense for users. Participants may be asked to contribute to the recurrent costs of project operation, maintenance, and management. In addition to fees paid for joining a CBI, many initiatives finance themselves through periodic subscriptions. A CBI might also be organized based on prepayments for goods and services. CBI participation may involve contributing to the initiative in terms of labour or other tangible contributions (space, means of transport, etc.). Voluntary work, for example, may be considered a collateral and direct cost expressed as a loss of free time for alternative or remunerative use.

Finally, in some cases CBI participants may pay higher prices for products or services provided by the initiative. In these cases, the higher price may be justified by non-economic reasons, for example, the use of alternative, and costlier productive practices that are more sustainable or fair (Grasseni 2014).

The local economic impact of community initiatives

The local economic impact of community-based initiatives is the degree to which they contribute (positively or not) to the local economy, and how. The literature has stressed, for example, that CBIs might create new jobs, help revitalize commercial districts, help businesses thrive and keep money circulating in the local economy, improve nearby land and housing values (Voicu and Been 2008), generate additional tax revenues (Bremer et al. 2003: 20; Sherer 2006), work as business incubators, etc.

Many CBIs, like those in the food domain that establish alternative purchasing networks such as Community Supported (or shared) Agriculture (CSA), explicitly aim at adopting a locally-based economic model. In the food domain this is pursued by providing several benefits to both local farmers and consumers.

Moreover, CBIs may have a number of indirect or intangible economic impacts for their members and the community in which they are operating; these may be difficult to identify or to measure but they should carefully be taken into account. These benefits are indicated in the literature as, for example, improved health, better consumption patterns, increased physical activity, lack of stress, recreation, civic participation, etc. (Bremer et al, 2003; Hagan and Rubin 2013; Bellows et al. 2003; NYCDCP 2009). More generally, when neighbours are rich in community initiatives this is likely to activate a general trend of lifestyle changes improving both the health and economic vitality of communities (Hagan and Rubin 2013: 11). Among other potential intangible effects, people involved in such initiatives gain in terms of education and knowledge (technical and practical skills, environmental literacy, nutritional awareness, etc.) also given that many initiatives offer public education, training and demonstrations and cultural opportunities (Brown and Carter 2013: 19). Some of these initiatives, moreover, create benefits in terms of reducing the amount of time spent in routine activities (e.g. shopping, driving, parking, etc.). CBIs, finally, may exhibit transformational effects in terms of social behaviour and civic participation and induce peoples to live “in new ways” (NYCDCP 2009: 17).
Those impacts may also, in the medium term, generate negative spillovers. Negative visual impacts on the area, negative economic impacts on local retailers, etc. may be among the negative indirect impacts of CBIs on the local economy. Some authors have documented that some kinds of initiatives can promote new forms of enclosure and (ecological) gentrification (Dooling 2009; Tornaghi 2014), by increasing the value and attractiveness of undeveloped inner-city areas which, as the extensive literature about gentrification shows, may negatively affect low-income residents mostly because of increasing housing values or cost of services. There may be additional negative, although not strictly economic, indirect effects: bike sharing, for example, may increase insecurity due to an increase in road accidents (Sælensminde 2004); other initiatives may expose participants to environmental risks such as exposure to pollutants (Koc 1999: 99), but those cases are very rare. Notably, perhaps as a result of a bias towards enthusiasm for such schemes, there is considerably less literature available regarding their downsides.

3.3 Social dimensions of community-based initiatives

Community-based initiatives have a variety of social aims and effects. Here we attempt to contextualize such ‘social’ dimensions of community-based initiatives based on the available literature and already existing empirical evidence. We distinguish between two main sub-dimensions that, in our view, are the two most relevant components to be taken into account when trying to assess what community-based initiatives may achieve in terms of socialization. The first is the tendency of CBIs to provide a physical space and/or several opportunities for socialization to their members, beneficiaries or the local community that can, in turn, help in building or strengthening social capital. Secondly, we discuss their other main social functions that we consider as aimed at promoting social inclusion generally, or, towards particularly vulnerable groups such as minorities, the disabled or disadvantaged.

Community-based initiatives and social capital

The main social dimension/impact of CBIs, as already mentioned, is indicated in the literature as the strengthening of social capital within the community or group. Social capital is indeed a very general concept whose primary dimension, especially given the scope of this analysis, is expressed by the attitude towards networking with a given group or community which, in turn, expresses itself through increased trust, cooperation and reciprocity, and by building a sense of community and belonging. The literature has emphasized that the pillars of social capital are inter-personal relationships that, in turn, require the opportunity of actually meeting and interacting face-to-face: this is exactly the type of opportunity that most CBIs offer to their members (Macias 2008).

Community gardens, for example, are deliberately created to provide a “third place” beyond the workplace and home (Oldenburg 1999), where people can meet, build relationships, develop common interests and identify themselves as members of a community which, in turn, can promote forms of reciprocity among them (Glover et al. 2005). More generally, according to Kingsley and Townsend (2006) the social benefits of CBIs are the following: increased social cohesion (the sharing of values enabling identification of common aims and the sharing of codes of behaviour governing relationships), social support (having people to count on in times of crisis), social connections (the development of social bonds and networks).
Other authors have emphasized the capacity of CBIs to promote local pride and citizen participation especially in poorer communities that may be lacking other public amenities (Macias 2008; Johnston and Baker 2005; Lawson 2005), and to build a sense of belonging to the community. Community-building is, according to Seyfang and Haxeltine (2012), also the motivation for people to join the initiatives in 50% of the cases analysed; at times it is an almost exclusive motivation: “Community garden initiatives (…) are often more about the community than they are about gardening. They offer places where people can gather, network, and identify together as residents of a neighbourhood” (Glover 2003: 192). The immediate expressions of such networking potential are, for example, the sharing of resources among members, increased cooperation and social support by other participants (Kingsley and Townsend 2006), or (social) empowerment more generally (Kirwan et al. 2013).

Moreover, building social capital among participants is instrumental to almost all of the other initiatives’ aims (Beall 1997). It is instrumental, first, for the effectiveness and survival of initiatives that often fail due to a decreased will from participants to engage, cooperate and actively participate. “Maintaining momentum, managing group dynamics, developing the group” is perceived as the third biggest barrier faced by the transition town movement’s initiatives (Seyfang and Haxeltine 2012). Networking is also instrumental for increasing the scope of initiatives and in order to entice other people to join due to their social ties with those who are already members. Disclosing the socially innovative potential of CBIs is fundamental - collective action and interaction being crucial for any social innovation (Kemp et al. 1998; Kirwan et al. 2013; Smith and Seyfang 2013), as we will see further below. A research by Robbins and Rowe (2002) about CBIs in the waste domain, for example, demonstrated that the communities that were (apparently) most effective in terms of an increase in local recycling activity, were also those that had a relatively strong sense of local identity and existing capacity, showing that the two dimension are somehow correlated. Moreover, social capital is a prerequisite for initiatives to reach their political aims, if they have any, by linking organizers with wider social movements or groups and providing a social space that fosters networking and activism (Flachs 2010).

Previous research has shown that the extent to which CBIs promote social capital is however extremely variable, not only according to the typology of the initiative, the domain to which it pertains to or its primary aims, but also according to the number of participants, the degree of their involvement in the initiative, the opportunity that those members have to meet, interact, cooperate, and their ‘social investment’ in the initiative.

Key variables are therefore the following: how many members are actively participating in the initiative and how many of those are ‘active’ participants; how often members/participants meet (which influence the actual opportunities for personal and face-to-face interaction); how much time and resources participants dedicate to the initiative (which may be regarded also as an indicator of personal commitment and social investment from members to the initiative).

In this respect, however, when measuring social capital it is crucial to distinguish between its ‘bonding’ and ‘bridging’ dimensions. The Council on Quality and Leadership (2005), for example, defines bonding social capital as “what we have with people who are similar to us and who are already part of our social circle”, while bridging social capital is “the type we have from our relationships with others who are less like us and who exist outside our typical social circle”. Such a distinction must be applied to CBIs when inquiring as to whether the opportunities for networking a CBI provides allow for the creation of new ties and social relationships or not.
Community-based initiatives and social inclusion

Another important social dimension of CBIs is inclusion (Hinrichs and Kremer 2002). This could also be considered a dimension of social capital and, more precisely, of the capacity of CBIs to ‘bridge’ between usually separated social groups or individuals differing in ethnicity, age, class and social identity (Kingsley and Townsend 2006). More general literature about social capital has warned, indeed, that the bonding dimension of inter-group relationships can produce closed networks, and that a proper balance between bonding and bridging needs to therefore be pursued.

Initiatives can be more or less socially inclusive not only in terms of process (the degree to which they involve a diversity of participants or not) but also in terms of their vision (the extent to which they explicitly address social, racial, gender or other kinds of inequities) and, in their outcomes (the degree to which they improve food access, waste management, clean energy, etc., to a wide range of beneficiaries including, for example, vulnerable groups, minorities, lower-income people). In this, social inclusion is not only about building social networks, but also about social equity and social justice more generally.

The ability of CBIs to promote social inclusion is, however, controversial. Some research suggests that although many initiatives attempt to promote wide community participation, they often fail in this regard (Hinrichs and Kremer 2002). Participants and beneficiaries tend to be homogeneous in terms of race, religion, income, education, if not exclusionary. Several scholars (Schmelzkopf 1995; Von Hassell 2002; Peña 2005; O’Neal 2009), describe the existing tensions between, for example, community gardeners and the greater environmental movement. Much of this tension can be class and racially motivated as low-income gardeners tend to be people of colour or poorer while environmental leaders tend to be Caucasian or wealthier. Some research notes that gardeners feel marginalized by environmental leaders and often exist on the periphery of this “white movement” (Flachs 2010: 3). According to Tornaghi’s work on urban agriculture, “while many of these food-growing projects are actually providing access to land for some social groups, this does not always translate into a fairly accessible resource for the whole population, lacking therefore in terms of distributational justice” (2014: 560). Some community gardens have been even accused of cultivating racist agendas by masking structural inequities and conditioning participants to pursue change through individual endeavour rather than collective action (Pudup 2008). Consequently, we need research that “goes beyond the naive and unproblematic representation of urban food production practices, able to expose the socio-environmental exclusionary dynamics which are embedded into them” or, more generally: “how social cohesion and social exclusion [are] promoted and alleviated through urban agriculture”, or other CBIs (Tornaghi 2014: 562).

According to Ghose and Pettygrove (2014), such exclusionary dynamics are not due to any explicit aim to include or exclude particular groups but because the willingness and ability to participate vary contextually according to individual capabilities, social connectedness and resource access. Research showed, to give another example, that co-housing in the UK, US and the Netherlands tends to be affluent, white, and well educated. This deters some groups (particularly low-income and minorities) from joining cohousing communities because they feel they would be socially and culturally isolated. Case studies conducted in the U.S. and UK prove that a “key problem is that some cohousing communities are more insular - resulting from perceived hostility of surrounding communities or development fatigue (particularly in the case of new build developments) - thus integration restricted” (Williams 2008: 272-274).
The expression of social inclusion for CBIs is, for example, their capacity to integrate newcomers (State of the World 2008 of The Worldwatch Institute), engage/benefit disadvantaged groups (Smith and Seyfang 2013) or low-income individuals (Hinrichs and Kremer 2002), or to promote inter-racial interactions (Shinew et al. 2004) and guarantee their benefits across the whole spectrum of society. Another important dimension is the initiatives' gender balance or, more generally, the demographic profile of member/participants which can be highly differentiated (Buckingam 2005).

The most immediate and more easily measurable expression of social inclusion is the internal diversity of CBIs participants/members', on the one hand, and of their beneficiaries, on the other hand. Diversity, in this frame, is intended as a proxy of the initiatives' social integration or social inclusion potential, which, for example, can be measured by surveying the composition of participants/beneficiaries/target groups: how does participation in the initiative vary by class, ethnicity, gender or any other socio-cultural dimension. Another key issue is whether CBIs explicitly aim and succeed in offering some sort of support to disadvantaged groups such as poor people, minorities, the disabled, etc.

### 3.4 Community-based initiatives and innovation

Many studies have investigated how CBIs and grassroots organizations are actively engaged in innovation processes themselves or seek to influence innovation processes from the outside (Hargreaves et al. 2013). "Community action is a neglected, but potentially important, site of innovative activity" (Seyfang and Smith 2007: 584). What is their specificity in this regard? Within the debates and the literature about innovation and sustainability, CBIs are often regarded as a ‘soft’ and ‘bottom-up’ alternative to major technological changes (Seyfang and Longhurst 2013). This is to say that CBIs emphasize ‘social’ innovation rather than technological change but, at times, the two dimensions are both emphasized (Seyfang and Smith 2007), and therefore need to both be properly assessed.

Differently from more traditional innovation processes, grassroots and community-based innovation favours communities ‘owning’ and embodying innovative sustainable practices and generating socially embedded changes among a plurality of actors, i.e. they do not only favour single innovations but also seek to contribute to translating those innovations into a more general ‘socio-technical regime’ change (Seyfang and Smith 2007), acting as ‘pioneers’ of wider changes.

Drawing upon the extensive literature on 'standard' innovation processes, three main frameworks for analysing the innovative potential of CBIs are to be found within research about sustainability transitions. In what follows we will review each of these strands of literature, discussing first – and mainly – the so-called “multi-level perspective” and strategic niche management (Kemp et al. 1998; Rip and Kemp 1998; Geels 2002; Smith et al. 2010). We also refer to the “innovation systems” approach as it has been applied to sustainability transitions (van den Berg et al. 2011; Jacobsson and Bergek 2011). Finally, we review the debate about social innovation (Moulaert et al. 2005; Klein and Harrison 2006), and how it may be applied to community-based initiatives.
The multi-level perspective and CBIs as innovative niches

A widely diffused approach in this regard is the so-called multi-level perspective on sustainability transitions. The perspective has been previously applied to market-based technological innovations, and has been lately applied to 'grassroots innovation' and CBIs in a transition to a low-carbon sustainable economy (Seyfang and Smith 2007; Seyfang 2010; Seyfang and Haxeltine 2012; Smith et al. 2010).

Grassroots innovation is, however, radically different from market-based innovation, or business innovation – as reported in Table 2 – which is typically the almost exclusive object of any study on innovation processes.

<table>
<thead>
<tr>
<th>Market-based innovations</th>
<th>Grassroots innovation</th>
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</thead>
<tbody>
<tr>
<td><strong>Context</strong></td>
<td>Market economy</td>
</tr>
<tr>
<td><strong>Driving force</strong></td>
<td>Profit: Schumpeterian rent</td>
</tr>
<tr>
<td><strong>Niche</strong></td>
<td>Market rules are different: tax and subsides temporary shelter novelty from full forces of the market</td>
</tr>
<tr>
<td><strong>Organizational form</strong></td>
<td>Firms</td>
</tr>
<tr>
<td><strong>Resource base</strong></td>
<td>Income from commercial activities</td>
</tr>
</tbody>
</table>

Table 2 - Comparing the characteristics of market-based and grassroots innovations (Seyfang and Smith 2007)

Taking into account those differences between the various forms innovation can take, community-based initiatives are regarded as typical examples of innovation ‘niches’, which are defined as local ‘protected spaces’ or ‘incubators’, in which new technologies or socio-technical practices or ‘radical alternatives’ emerge and develop isolated from the selection pressures of ‘standard’ markets or regimes (Markard and Truffert 2008; Smith et al. 2010; Hoogma et al. 2002). The term is borrowed from strategic niche management theory. Niche spaces are ‘protective’ insofar as they provide “shielding, nurturing and empowerment” (Smith and Raven 2012: 1025), and offer “supportive networks to allow experimental new systems to take shape” (Seyfang and Longhurst 2013: 881). Examples are various and range from business incubators to ecovillages (Smith and Raven 2012). Smith and Seyfang (2007) applied the concept to community-based innovations and defined “green niches” as “sustainability experiments in society in which participation is widespread and the focus is on social learning” (p. 589).

Innovation niches operate within specific socio-technical regimes (Geels 2002), which represent the ‘mainstream’ that niches wish to change, or react from. Regimes can be defined as "structures constituted from a co-evolutionary accumulation and alignment of knowledge, investments, objects, infrastructures, values and norms that span the production-consumption divide" (Smith et al 2010: 441). As such, they are characterized by stability and cohesion.
(Haxeltine et al. 2008): “a constellation of dominant practices, rules and shared assumptions”, which represent the “selective environment” for technological development and act as a “homogenising influence on actors” (p. 97).

The relationship between emerging niches and socio-technical regimes is dialectical. In the field of technological innovation (Van den Berg et al. 2011), research has documented that regimes tend to restrict the diversity of innovations, due to some sort of institutional path-dependency (Garud and Karnøe 2001), and tend to produce only ‘normal’/incremental innovation patterns – i.e. technologies that do not require a radical change of the dominant socio-technical equilibrium – thus restricting the transformative potential of societies and acting as barriers for radical changes to emerge and to diffuse (Markard and Truffert 2008). Radical changes, on the other hand, develop in niches (Smith et al. 2010). In certain circumstances, niches entering competition with dominant regimes are successful in outperforming them and “take over” (ibid), becoming “sufficiently powerful to challenge and, ultimately, overthrow a dominant solution” (Haxeltine et al. 2008: 95).

However, this is not always the case. The relation between niches and regimes may be conflictual but it can also be synergic. In the first case the potential for radical change is higher, but less probable, due to various forms of resistance. In the latter case innovations developing in niches are more easily adaptable/acceptable within the dominant regimes and can more easily be absorbed and even “work alongside a regime without changing it fundamentally” (Seyfang and Longhurst 2013: 883). The relation between niches and regimes, moreover, does not depend much on the intentions of those involved but on the characteristics of innovations.

Crucial questions are therefore what is a ‘niche’, how can it be identified and strengthened and, in our case, can CBIs be equated to ‘protective’ spaces where radical changes can more easily emerge, consolidate and spread? Finally, what makes such niches ‘protective’ and/or fertile? In addition, under which conditions do niches emerge, up-scale and challenge the dominant regime and, from our perspective, how can the performative potential of niches be assessed?

Work in this field emphasizes, on the one hand, exogenous conditions, i.e. the importance of landscape pressures and ‘triggers’ in extending the space for radical changes, tensions and contradictions within incumbent regimes, pressures deriving from broader socio-economic dynamics (Geels 2004), and even the possibility that regimes collapse following some sort of environmental or socio-economic or technological crisis (Geels and Schot 2007; Seyfang and Longhurst 2013).

Under favourable circumstances, regimes can collapse thanks to the pressures arising from what Haxeltine et al. (2008) define as ‘empowered niches’, i.e. niches that have “grown ‘powerful’ enough to (…) attack (sometimes effectively) an incumbent regime (and therefore to potentially take over from it)” (p. 96). Another crucial distinction is between ‘simple niches’ (not seeking regime change) and ‘strategic niches’, i.e. “seeds for wider transformation” (Seyfang and Smith 2007: 593). Niches alone, however, will not seed wider change (Hoogma et al. 2002), and need to link to wider processes of social change (Smith and Raven 2012).

Some research has emphasized the role of intermediary initiatives or actors which connect niches to the mainstream and favour the up-scaling of new ideas and practices, even though some sort of compromise or mutual adjustment (Geels and Deuten 2006; Seyfang and Smith 2007). Social movements which act explicitly against existing regimes contribute to these pressures.
Summarizing from the existing literature (Kemp et al. 1998; Geels and Deuten 2006; Seyfang and Smith 2007, Seyfang and Longhurst 2013), we can identify some key factors and processes that favour niche emergence and growth: the visions and expectations of initiatives, which must be widely shared, specific, realistic and achievable; the capacity of the initiative towards the enrolment of actors and resources; a sense of community to facilitate information-sharing; the possibility of building effective social networks, both internally, within single initiatives, and externally between different initiatives/niches and with other societal actors including a variety of ‘supporting’ stakeholders, or ‘intermediary actors’ who “speak for the field”; the promotion of learning processes which include everyday knowledge and expertise, plus ‘second-order learning’, i.e. those forms of knowledge that induce people to question the assumptions and constraints of mainstream regimes; knowledge infrastructures to enable the flow of information and ideas.

Seyfang and Longhurst (2013) and Haxeltine et al. (2008) have attempted to identify a sequence of mechanisms that commonly occur in socio-technical transitions. According to the authors up-scaling is not paralleled by the consolidation/standardization and convergence/diffusion of a particular model but, on the contrary, is characterised by increasing fragmentation, complexity, and diversification/branching of initiatives. Moreover, according to the authors – and as already mentioned – regime shifts are more probable when innovations are adaptable to the existing framework rather than completely novel.

In terms of evaluation and assessment tools, the methodologies adopted by most authors within the multi-level perspective are qualitative and fieldwork based. According to Smith et al. (2010) there are other authors seeking to apply more standardised and indicator-based methods to the field but, whether drawing upon qualitative methods or quantitative measures, there is still considerable work to do in formalising the multi-level perspective into a solid methodology (Seyfang and Longhurst 2013; Markard and Truffer 2008).

Community-based initiatives as innovation systems

Within the multi-level perspective, the importance of networking, how a niche interacts with other niches and how it performs in aggregating actors and resources, is crucial, especially with regard to the possibility that niche innovations move beyond the initial protective space, replicate, scale-up or translate into other contexts (Smith et al. 2010). The multi-level perspective, however, focuses primarily on the interaction between layers/scales in the innovation process. The innovation systems literature, on the other hand, emphasizes the relational dimension of innovation processes more evidently.

An innovation system is composed of networks of actors and institutions that develop, diffuse and use innovations. The approach is interested in seeing how these actors relate to one another and promote knowledge development and diffusion. The key element is therefore the generation and diffusion of knowledge, more than the material outcome of innovation, i.e. new products and markets. This is especially crucial for emerging or ‘immature’ innovation systems, like most of those that will be investigated through our research.

For what refers specifically to the assessment of knowledge creation and diffusion, following Carlsson et al. (2002), Jacobsson and Bergek (2003, 2011) and Jacobsson et al. (2004), a number of possible assessment methods can be identified: conventional patent indicators, the number of actors involved, cross-fertilization of different technologies – e.g. mobility of professionals – an evaluation of the ‘closeness’ to market exploitation, conventional indicators.
of the economic use of knowledge, such as employment and growth figures. In the specific case of sustainability transition, some authors suggest analysing each of the innovation system functions – intermediate variables between structure and system performance – separately: pressure for change; knowledge development; experimentation, resource mobilization; legitimation; development of positive externalities (Bergek et al. 2008).

Less conventional methods have been proposed; for example, measures of the supply of specialized human capital and of the legitimacy of a new technology, or the degree of (technological, or scientific) diversity of the system: diversity may indeed be considered an indication of an innovation system’s performance because of the highly selective environment.

Based on this literature, and in light of understanding what the initiatives’ performance and their potential for providing a fertile terrain for innovation is, a number of key variables can be highlighted: the extent to which initiatives perceive as important or actually adopt original or radically different practices or models (novelty); their innovativeness, i.e. the extent to which they contribute to creating or, mostly, to experimenting and applying new technologies, new ideas and novel approaches; their technical complexity and specificity, in terms of skills or technologies required, which, on the one hand, positively impacts the initiatives’ innovative potential but, on the other hand, reflects negatively on their replicability, diffusion and up-scaling (Seyfang 2010).

Finally, a crucial issue is whether community-based initiatives improve the skills and capacities of participants or beneficiaries, i.e. provide human capital externalities, intended as the extent to which CBIs offers participants and communities with first and second-order learning occasions, diffuse instrumental/technical or critical knowledge, provide formal education or informal knowledge and learning infrastructures to enable the flow of information, ideas and knowledge spillovers.

The crucial issue is not only how those variables can be estimated but also how they can be combined to produce synthetic measures, although exploratory, of innovative potential.

**Community-based initiatives and social innovation**

The relevance of the concept of social innovation for our research is evident because, firstly, in contrast with standard innovation processes, social innovation is “constructivist and community based” (Adams and Hess 2010: 145), and, secondly, because the domain of sustainability transitions is probably where the concept has been applied most (EC 2014).

The term has indeed been applied to a wide diversity of contexts within various lines of enquiry: urban and regional studies, policy studies, social psychology, social entrepreneurship, social movements, public administration studies, economics, etc. (for a review see Cajaiba-Santana 2014). The meaning of the concept is extremely varied and existing studies range from analysing how social context influences or is influenced by (standard) innovation processes (Pol and Ville 2009), to identifying new methods to deliver social services or social policies (Goldsmith et al. 2010).

The concept of social innovation is intended here to identify those innovations that do not create new technologies or products or artefacts, but express themselves “at the level of social practice” (Howaldt and Schwarz 2010: 21), i.e. they do not result in tangible (technological or productive) improvements, but in a change of attitudes, behaviour, social practices or forms of organization (Neumeier 2012: 55), which in turn can help to improve the living conditions of
those involved (Kirwan et al. 2013), and that will later become institutionalized (Cajaiba-Santana 2014).

<table>
<thead>
<tr>
<th>Old economic innovation</th>
<th>New economic innovation</th>
<th>Social innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drivers</td>
<td>Shareholder value</td>
<td>Market position</td>
</tr>
<tr>
<td>Location</td>
<td>Firms</td>
<td>Industries/regions</td>
</tr>
<tr>
<td>Leadership</td>
<td>Company engineers</td>
<td>Industry groups/clusters</td>
</tr>
<tr>
<td>Ideas from</td>
<td>Experts</td>
<td>Shop floor</td>
</tr>
<tr>
<td>Actions</td>
<td>Research and development</td>
<td>Invention, diffusion, adoption</td>
</tr>
<tr>
<td>Relations</td>
<td>Ownership</td>
<td>Mutual interest</td>
</tr>
<tr>
<td>Interventions</td>
<td>Grants, tax breaks</td>
<td>Incubators/infrastructure</td>
</tr>
<tr>
<td>Governance</td>
<td>Licenses, patents</td>
<td>Partnerships</td>
</tr>
</tbody>
</table>

Table 3 - Contrasts and similarities in economic and social innovation (Adams and Hess 2010)

Being intangible, social innovations and their impacts are difficult to identify and even more difficult to evaluate through a standardized metric. Building upon existing research (Moulaert et al. 2005; Adams and Hess 2008, 2010; Vicari Haddock 2009; Caulier-Grice et al. 2012; Kirwan et al. 2013; Cajaiba-Santana 2014), we identify the following key dimensions of social innovation; novelty - the initiative/practice does not necessarily need to be completely original or unique but new in some way or applied in a new way; intentionality - “the distinguishing feature of social innovation lies firstly in newness and secondly in the inherent purposeful actions oriented towards a desired result” (Cajaiba-Santana 2014: 44); the ability of CBIs to provide tangible improvements and to satisfy human needs that are not yet or no longer satisfied by the market or the state; their ability to empower those involved by increasing their socio-political capabilities and assets, their capacity to prevent or to react, their access to or a better use of resources; the opportunities those initiatives offer to create new or to change social relations (and power relations), through community-building, social inclusion, participative decisional processes and by promoting social justice; increments in the capacity of communities and groups to act collectively as social agents of change; the replicability of such ‘models of change’ to other circumstances.

Social innovations, moreover, “are usually new combinations or hybrids of existing elements, rather than being wholly new in themselves” (Mulgan et al. 2007: 5). Social innovators are “technology takers” initially rather than “technology makers” (Seyfang and Smith 2007: 596). In some cases, the innovative dimension rests solely on the capacity to ‘reframe’ old problems in order to provide a new approach (Biggs et al. 2010), in a way that “makes sense to other groups and resonates with existing beliefs and values” (EC 2014: 9).

Almost all existing research agrees, moreover, upon the importance of engaging external stakeholders for social innovation (EC 2014, Biggs et al. 2010) – also in order to cut across organisational, sectoral or geographic boundaries — and the critical role played by
‘connectors’: brokers, entrepreneurs and institutions that link together people, ideas, money and power (Mulgan et al 2007: 5).

Both qualitative and quantitative methodologies for identifying, analysing or assessing the emergence and outcome of social innovations are still in an embryonic stage of development (Cajaiba-Santana 2014, Biggs et al. 2010, Seyfang and Smith 2007, Smith and Seyfang 2013, Reeves et al. 2013, Van den Berg et al. 2007). Others have proposed using quantitative assessment of the output of social innovation aimed, for example, at evaluating CO$_2$-e (carbon dioxide equivalent) savings obtained thanks to social innovations.

### 3.5 Political dimensions of community activism

Many CBIs, as already mentioned, are very much ‘politically-oriented’. A substantial body of research has inquired into the political dimension of community involvement and activism. More precisely, community-based initiatives may have the following “ démocratie clicks” (based on Warren 2001): “ démocratique effects”, i.e. micro-effects at the scale of each individual participant such as (political) empowerment or the improvement of participants information, skills and capacities to act politically; “institutional effects”, i.e. the capacity to influence external organizations and actors, to have a significant impact on and/or relation with public policies or formal political institutions and, in the end, a societal significance; “ public sphere effects”, which refer to the ‘ internal’ political functioning of CBIs and their ability to provide a more or the less viable socialization infrastructure through which participants can discuss and take decisions. The “ public sphere effects” of CBIs are expressed by, for example, the degree of openness of decision-making, the degree of hierarchical management, the frequency of leadership turnover, the opportunities that non-leaders, participants and beneficiaries have to express their personal opinion and influence the initiative. Ghose and Pettygove (2014), for example, have documented that “ forms of subtle exclusion occur in the division of leadership roles and navigation of difference along intersecting lines of race and class among [community] garden participants” (p. 1105). Luckin and Sharp (2004) noted that when CBIs are involved in the policy process, they do not always represent the wishes of local people.

At the scale of individuals, CBIs’ impact on the capacity of participants and beneficiaries to act politically are often regarded as a means of ‘empowering’ those who participate (Langhout et al. 1999; Myers 1998). According to Glover et al. (2005), the associative dimension of CBIs and social networks is that they have the effect of promoting cooperation and civic culture among ‘active’ participants, as well as providing them with the information/skills and relational assets (networking, cooperation, empathy) which are needed to act politically. Empowerment – already mentioned when discussing the social dimension of initiatives – is a concept which is flexible enough to capture a number of effects that initiatives have upon those involved, including ‘political’ effects. Notwithstanding the popularity of the concept, there is no clear definition of what empowerment is, not to mention the difficulty in providing any kind of measure. Most definitions suggest that empowerment is the process of gaining power or gaining control over decisions and resources (Page and Czuba 1999; Jupp et al. 2010), but how to define ‘power’ and how to evaluate such gains remains unclear (see Alsop and Heinshon 2005; WB, 2002; Alsop and Heinsohn 2005). Existing methodologies are, for the most part, qualitative.
Regarding the capacity of community-based initiatives to influence their political and societal exterior in terms of, for example, policy priorities, a proxy for this could be the attitude of initiatives towards external networking, i.e. the extent to which initiatives relate to: a) other initiatives, b) other organisations and actors. In this latter regard, a tension can be highlighted between, on the one hand, the tendency of many CBIs to pursue autonomy and self-sufficiency within their communities through a ‘localistic’ agenda and, on the other hand, those initiatives who actively seek to up-scale, to diffuse or to influence other communities/actors in order to transform socio-political systems or to promote a wider diffusion of radically alternative practices (Tornaghi 2014; Mason and Whitehead 2012).

Existing evidence is controversial in this regard. “The need to build effective links with other actors” is not perceived as a major barrier and it is faced only by 17% of grassroots initiatives, as reported by Seyfang and Haxeltine (2012: 390). Pothukuchi and Kaufman (1999: 220) have documented that food justice initiatives have not been successful in mobilizing or involving diverse food system stakeholders. “Local projects seek supportive partnerships with other local organisations on an ad hoc basis” and, some of them, perceive a risk of capture and instrumentality in their relations with more powerful actors (Seyfang and Haxeltine 2012: 391). “Voluntary organizations that rely on or compete for state funding may become ‘arms’ of the state, serving to translate state policies to non-state practices” (Ghose and Pettyglove 2014: 1093). Many of those initiatives, consequently, explicitly refuse to promote any sort of up-scaling and diffusion, as a mean to “resisting pressures to mainstream, yet simultaneously generates accusations of marginality” (Smith and Seyfang 2013: 827).

Other typologies of initiatives are more open to their (political) exterior, as they influence or get influenced by wider political agendas, also in order to get some sort of support from external organizations or political institutions, which is however a problematic issue for most small-scale CBIs, as we will see further. In those cases, researchers (see Wekerle 2004 about Toronto), have examined the emergence of a networked movement linking community advocates, small and large public agencies, social justice groups, staff of local government and municipal politicians. As reported by Seyfang and Haxeltine (2012), 83% of initiatives have begun the process to “build a bridge to local government”. Other actors that those initiatives have relationships with are: other voluntary organisations (74%); private businesses (59%), charities (45%), social enterprises (39%), political parties (23%), national government (8%).

Those external relations are also instrumental to the survival and success of CBIs, as reported by Hess (2013): “over time, grassroots innovations that are connected with aspirations of local ownership tend to be displaced by better-funded models of financing supported by corporations in the financial and technology industries” (p. 847). Public institutions in different policy fields (health, environment, planning, etc.), have an important enabling or constraining role for CBIs to exist, persist and diffuse. Local authorities are especially crucial but national policies and laws play a key role especially in the field of energy (Hain et al. 2005; Maruyama et al. 2007; Rogers et al. 2008; Walker 2008; Walker and Devine-Wright 2008; Walker et al. 2010), and waste (Robbins and Rowe 2002; Joseph 2006). The extreme cases are those programmes that, in some localities, are coordinated centrally (Tarasuk 2001), but that do not fit with the definition of CBIs adopted within this work (i.e. those initiatives that are initiated by communities).

Within community-led projects, however, the extent to which initiatives are relying on the support or relating to external actors in various forms – funding, special agreements, regulations, collaborations, etc. – is highly variable, and worth considering. Those same
agreements, regulations or policies, in other cases, can also constrain the activity of CBIs (Ghose and Pettygrove 2014; Smith and Kurts 2003; Walker 2008; Walker and Devine-Wright 2008). The issue is complex and cannot be explored only through standardized measures.

Highlighting the initiatives’ aims/objectives/expectations/achievements is especially crucial when discussing their political dimension, and it is the object of the next section.

3.6 The aspirations and achievements of community-based initiatives in Europe

In this section, we examine the way in which the CBIs in our sample rank different areas of impact and then look into more detail at how they self-assess (Section 3.5.2) their success in these areas. The result of our survey, in other words, permits highlighting how community-based initiatives themselves position their aims and functioning within the wide variety of dimensions which have been discussed in the previous sections.

To this end, we first asked initiatives to rank how much importance they accorded to five areas in which they might have an impact: environmental, social, economic, political, and technological. Figure 2 shows the number of initiatives that gave each area a ranking from five – the most important to – to one – the least important.

![Figure 2 - Distribution of rankings given to five types of objectives by 56 initiatives in our sample](image)

Initiatives consistently ranked environmental and social objectives highly, averaging 4.1 and 3.9 respectively, with very few lower rankings. Political and technological objectives had the opposite distribution, both averaging 2.1 with very few high rankings. Having an economic impact was most variably ranked with an average of 2.7 – slightly below the middle value of 3. However, only four initiatives ranked economic objectives as their top priority. It should be noted, finally, that seven initiatives in our sample (11%) declined to prioritise between the
categories that we provided. They argued that the distinction between these areas was artificial.

Figure 3 - The relevance of CBIs’ objectives as stated by members

In addition to the simple ranking exercise, we also asked initiatives specifically about a range of objectives. They were asked to say whether they were relevant to their initiative (“Is this objective/aim relevant for your initiative? Is your activity focused on it?”) and, if so, how important they were in a scale from 1 to 10 (“If it is an objective then, how important is this objective for you?” - Figure 3). Overall, rankings of importance were broadly similar to the rankings described above, with little variation among the ranks given to objectives within the same category.

Finally, we asked CBIs in our sample the degree to which they perceive they have achieved the above-mentioned objectives (“To what degree do you feel you it has been achieved to date?” (Figure 3). The degree to which initiatives felt they were achieving their aims was interesting with all objectives ranking importance above achievement – either we have modest groups or aspirations are high. Note also that political objectives consistently ranked lower than all other objectives both in terms of importance and in terms of achievement (see Table 4).

For example, the results in terms of how important each economic aim is, whether relevant at all and the degree of achievement of said aim are reported in the Figures 3-8. Regarding the single dimensions of CBIs aims, 71% of those initiatives which consider ‘economic’ objectives as relevant, stated that the most important economic objective is “economic benefits to participants” (76%), followed by financial sustainability and organizational effectiveness (73%) while “local economic impact” ranks third (65%).
The most important economic motivation cited by CBIs is “economic benefits to participants”. None of the interviewed CBIs considers this objective as “not important at all”. Analysing the self-perception of the CBIs in terms of the degree of achievement of this aim, the majority of consider this objective “mostly achieved”. None of the CBIs feel that the objective was not achieved at all (Figure 5).

<table>
<thead>
<tr>
<th>Aim/objective</th>
<th>Yes, Relevant (%)</th>
<th>Importance (mean rank)</th>
<th>Achievement (mean rank)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Environmental (average):</td>
<td>91%</td>
<td>8.6</td>
<td>6.7</td>
</tr>
<tr>
<td>Reducing GHG emissions</td>
<td>93%</td>
<td>8.4</td>
<td>6.4</td>
</tr>
<tr>
<td>Using natural resources efficiently</td>
<td>95%</td>
<td>8.6</td>
<td>7.1</td>
</tr>
<tr>
<td>Raising environmental awareness</td>
<td>90%</td>
<td>8.7</td>
<td>6.7</td>
</tr>
<tr>
<td>All Social (average):</td>
<td>86%</td>
<td>8.3</td>
<td>6.9</td>
</tr>
<tr>
<td>Opportunities for socialization</td>
<td>95%</td>
<td>8.0</td>
<td>6.9</td>
</tr>
<tr>
<td>Social inclusion</td>
<td>77%</td>
<td>8.4</td>
<td>6.7</td>
</tr>
<tr>
<td>Empowerment</td>
<td>87%</td>
<td>8.1</td>
<td>7.1</td>
</tr>
<tr>
<td>Promote sustainable lifestyles</td>
<td>92%</td>
<td>8.6</td>
<td>6.9</td>
</tr>
<tr>
<td>All Political (average):</td>
<td>72%</td>
<td>7.1</td>
<td>6.0</td>
</tr>
<tr>
<td>Political mobilisation</td>
<td>65%</td>
<td>7.2</td>
<td>5.8</td>
</tr>
<tr>
<td>Networking with collective actors</td>
<td>71%</td>
<td>7.0</td>
<td>6.1</td>
</tr>
<tr>
<td>Networking with other CBIs</td>
<td>84%</td>
<td>7.0</td>
<td>6.2</td>
</tr>
<tr>
<td>All Economic (average):</td>
<td>71%</td>
<td>8.3</td>
<td>6.8</td>
</tr>
<tr>
<td>Financial sustainability</td>
<td>75%</td>
<td>8.3</td>
<td>6.4</td>
</tr>
<tr>
<td>Delivery benefits to participants</td>
<td>79%</td>
<td>8.2</td>
<td>7.4</td>
</tr>
<tr>
<td>Local economic impact</td>
<td>66%</td>
<td>8.5</td>
<td>6.5</td>
</tr>
<tr>
<td>All Technical (average):</td>
<td>71%</td>
<td>8.1</td>
<td>7.0</td>
</tr>
<tr>
<td>Create innovations</td>
<td>65%</td>
<td>7.8</td>
<td>6.8</td>
</tr>
<tr>
<td>Provide learning/knowledge diffusion</td>
<td>79%</td>
<td>8.4</td>
<td>7.3</td>
</tr>
</tbody>
</table>

Table 4 – CBIs’ self-assessment of the importance and degree of achievement of several aims

Financial sustainability and organizational effectiveness have been considered extremely important (vital) by 54.3% of CBIs, and none consider them not important at all (see Figure 6). When it comes to the “degree of achievement” for financial sustainability and organizational effectiveness, nearly half of CBIs felt they had mostly achieved this aim. No CBIs considered the objective not achieved at all (see Figure 7).
Local economic impact and self-sufficiency objectives have been considered extremely important (vital) by half of CBIs (see Figure 8). None of the CBIs interviewed consider the aim ‘not very important’ or ‘not important at all’. When it comes to the ‘degree of achievement’ of the local economic impact and self-sufficiency aims, nearly half of them expressed that have mostly achieved this aim. No CBIs consider the objective not achieved at all (see Figure 9).
Concerning how community-based initiatives perceive promoting innovation as relevant, important or achieved, CBIs were asked if their activities are aimed at creating/improving/diffusing innovations. 40 initiatives (63%) answered affirmatively while 23 (37%) negatively. Looking at the distribution per country, it is possible to identify a homogeneous group: the share of initiatives whose activities aimed at creating or diffusing innovation was consistently high in the UK (Scotland), Finland and Germany (between 80% and 90%), and the average rating of the relevance of innovation for CBIs in these countries ranged between 7.1 and 7.9. On the opposite side is Italy, which stands out as the country in which this perspective is fully overturned since 73% of the initiatives answered that ‘innovation’ is not a relevant objective. The rating for innovation activities is however high in all countries among initiatives that answered “yes” to the question about this being or not a relevant objective, as its average value was 8 like in Spain and Romania. In Romania, too the initiatives answering “no” to the first question (58%) are slightly more than initiatives answering “yes” (42%). In Spain there is a majority of “yes” again, even if not in the same amount that the first countries (64%).

We asked CBIs about social innovation as well, defined as the importance of “promoting new/different/more sustainable behaviours, lifestyles, social practices”. In this case, only five initiatives (8%) answered negatively, while 56 (89%) answered positively (two did not respond to the question, 3%). The average rating on this indicator is consistently higher, compared to the previous question on ‘standard’ innovation, which means that CBIs are more focused on delivering change and innovation at a social and relational level, instead of delivering more material forms of innovation.

In terms of political engagement, 40 initiatives (63%) reported not having been involved in overtly political activities such as campaigns, protests, petitions or other type of political pressure. While 94% declared that “using natural resources more efficiently / reducing waste” is one of their objectives, and 89% of them aim “to promote new/different/more sustainable behaviours, lifestyles, or social practices” only 63% of them are working “to mobilize people towards a shared political goal (e.g., to promote social/political change and influence the political agenda, push for policy reforms, etc.). Even local socio-economic change seems proportionally quite low on the list of priorities.

In the following chapters, we explore all those diverse dimensions of community-based activism more in depth, also attempting to provide some more objective measures of how CBIs function and how they perform.
4 An exploratory analysis of community-based sustainability initiatives in Europe

This chapter explores different characteristics of community-based initiatives in order to examine if we can construct meaningful ways of describing them based on key dimensions. Categorisation according to key characteristics is essential to understanding how and why community-based initiatives differ in their relationship to and potential impact on the rest of society. It enables us to not only compare groups according to their characteristics, but also to understand why some groups achieve more than others do and have a wider potential impact.

We provide basic categorisations about what CBIs are doing (types of activities, scale of these activities, their political engagement); who is participating in the initiatives (the consistence and dynamic of their active participants and employees, the time they devote to CBIs activities, and gender balance); how CBIs function (the amount and source of the income, spaces needed to run the initiatives, their legal forms, decision-making processes, and their openness to new participants; where they operate from how many years, and how they perceive their policy context. We explain each dimension, analyse any apparent trends, and graphically present the distribution of responses in our sample. We also comment on the variables’ usefulness as key differentiators between groups of initiatives.

During the course of this analysis, we found that while CBIs can be compared according to key variables, the diversity of CBIs makes any simple categorisation using multiple variables almost impossible. From our analysis, we suggest some additional categories and changes to the variables collected here that could enable further categorisation.

4.1 Data

To carry out a descriptive analysis and categorisation of the 63 initiatives in our sample, we selected a sub-set of descriptive variables from the database, covering initiatives’ principal characteristics, activities and aims. In order to explore the data to its fullest potential, we chose variables to cover as many relevant characteristics as possible and organised them into a simple framework covering the what, who, how, where, and when of CBIs’ activities. Each variable will be described in the related chapter section. What are CBIs doing?

A categorisation of community-based initiatives in Europe

The most intuitive and basic difference and similarity between community-based initiatives is in their activities, i.e. what they do. For example, initiatives involved in gardening tend to be similar to each other and tend to be different from initiatives involved in generating renewable energy.

The TESS questionnaire asked for information about CBIs’ activities in qualitative form. We then coded the answers inductively to build groups of initiatives carrying out similar activities for the domains food, transport, waste, energy and others (Table 5 and Figure 1). Note that initiatives are often active in multiple activities across multiple domains.
<table>
<thead>
<tr>
<th>Domain</th>
<th>Activity Category</th>
<th>Description</th>
<th>Number and % of CBIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>Producing vegetables for others</td>
<td>Gardening with the main purpose to produce vegetables for many people's consumption.</td>
<td>5 (7.9%)</td>
</tr>
<tr>
<td></td>
<td>Allotments / urban and community gardens</td>
<td>Gardening with the main purpose to produce vegetables for individuals' consumption or social/therapeutic reasons.</td>
<td>13 (20.6%)</td>
</tr>
<tr>
<td></td>
<td>Food &quot;saving&quot;</td>
<td>Taking &quot;waste&quot; food and re-distributing it.</td>
<td>4 (6.3%)</td>
</tr>
<tr>
<td></td>
<td>Hosting farmers' markets</td>
<td>Hosting farmers' markets.</td>
<td>7 (11.1%)</td>
</tr>
<tr>
<td></td>
<td>Group food purchasing</td>
<td>People grouping together to purchase food.</td>
<td>13 (20.6%)</td>
</tr>
<tr>
<td></td>
<td>Café/restaurant/selling processed food</td>
<td>Serving meals or other types of processed food.</td>
<td>8 (12.7%)</td>
</tr>
<tr>
<td></td>
<td>Local / sustainable food promotion and education</td>
<td>Educating people about more sustainable food choices in the hope of changing their behaviour.</td>
<td>18 (28.6%)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>31 (49.2%)</td>
</tr>
<tr>
<td>Transport</td>
<td>Providing low-carbon transportation</td>
<td>Courier services.</td>
<td>3 (4.8%)</td>
</tr>
<tr>
<td></td>
<td>Sustainable transport promotion</td>
<td>Educating people about more sustainable transport choices (reduction and modal shift to walking, cycling or rowing) in the hope of changing their behaviour.</td>
<td>16 (25.4%)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>18 (28.6%)</td>
</tr>
<tr>
<td>Waste</td>
<td>Promoting waste reduction / recycling</td>
<td>Educating people about waste in the hope of changing their behaviour.</td>
<td>18 (28.6%)</td>
</tr>
<tr>
<td></td>
<td>Litter-picking</td>
<td>Clearing litter from certain areas.</td>
<td>7 (11.1%)</td>
</tr>
<tr>
<td></td>
<td>Recirculating unwanted stuff</td>
<td>Re-circulating items generally in good condition.</td>
<td>6 (9.5%)</td>
</tr>
<tr>
<td></td>
<td>Repairing / Upcycling stuff</td>
<td>Repairing and upcycling items. Often includes teaching repair skills.</td>
<td>12 (19.0%)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>24 (38.1%)</td>
</tr>
<tr>
<td>Energy</td>
<td>Energy consumption reduction advice</td>
<td>Advice on private energy consumption and/or production: insulation, heat pumps, solar panels, behaviour changes.</td>
<td>11 (17.5%)</td>
</tr>
<tr>
<td></td>
<td>Renewable energy: large-scale</td>
<td>Large-scale (more than one building) renewable electricity or heat generation.</td>
<td>9 (14.3%)</td>
</tr>
<tr>
<td></td>
<td>Renewable energy: single buildings</td>
<td>Renewable electricity or heat generation for one building or location.</td>
<td>4 (6.3%)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>17 (27.0%)</td>
</tr>
</tbody>
</table>

Table 5 - Activity categories inductively developed from our sample

2 The classification presented here differs from the one developed within WP2 and reported in Deliverable 2.4, which aimed at identifying groups of activities conducted by CBIs based on their relevance for GHG emissions.
Scale of activity

Another crucial distinctive feature of community-based initiatives is the scale of their activity. In particular, we evaluate the scale of CBIs' activities by firstly examining the size of the geographical area covered by initiatives' activities and, secondly, by studying the number of people who benefit from the activities. We then show the correlation between these two measures of activity scale.

<table>
<thead>
<tr>
<th>NUTS Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supra NUTS 0</td>
<td>Multi-national</td>
</tr>
<tr>
<td>NUTS 0</td>
<td>National = Country</td>
</tr>
<tr>
<td>NUTS 1</td>
<td>Regions (for UK = Scotland) or Groups of Regions (e.g. Italy = North-East, North West, Centre, South)</td>
</tr>
<tr>
<td>NUTS 2</td>
<td>Regions or Groups of Regions (For UK = Eastern Scotland - South Western Scotland - North Eastern Scotland)</td>
</tr>
<tr>
<td>Supra NUTS 3+</td>
<td>More than one City Councils</td>
</tr>
<tr>
<td>NUTS 3</td>
<td>City Council Level or NUTS 3 (e.g. Edinburgh, Aberdeen City and Aberdeenshire, Rome, Barcelona, etc.)</td>
</tr>
<tr>
<td>Sub NUTS 3+</td>
<td>More than one village and/or neighbourhood/district</td>
</tr>
<tr>
<td>Sub NUTS 3</td>
<td>Village or neighbourhood/district</td>
</tr>
</tbody>
</table>

*Table 6 – NUTS level classification (based on Eurostat classification)*

The questionnaire asked initiatives to describe the area in which they were active. Using a classification building on the European Commission’s NUTS levels (Table 6), we coded the geographical extent of initiatives’ activities (Figure 10).
Throughout this Deliverable, the terms *participant* and *member* are used interchangeably to indicate a person who is officially recognized as being part of the CBI, whether formally enrolled or not. Similarly, *beneficiaries* and *users/utilizers* are also used interchangeably to refer to a broader group of people than participants or members and which indicate someone who gets some economically valuable benefit from a CBI, i.e. in the form of goods or services which could alternatively be purchased in traditional markets.
We also asked initiatives about the size of the community they were serving i.e. the number of beneficiaries. The responses varied widely: from a minimum of 10 people to a maximum of 537,200 (Figure 11). The median is 400 and most initiatives have between 200 (25th percentile) and 1,560 (75th percentile) beneficiaries. One would expect these two measures of scale to correlate: initiatives covering a larger geographical area would also serve more people. This is indeed the case in our sample: initiatives operating at the Sub NUTS 3 scale have a median community of 204 beneficiaries, those at the Sub NUTS 3+ scale average 400 beneficiaries, those at NUTS 3 average 1,000 beneficiaries and those at Supra NUTS 3 have 3,493 beneficiaries on average (Figure 12). This correlation strengthens the validity of these two indicators of initiative scale.

**Political engagement**

The CBIs’ engagement in political activities is also an analytically important descriptor of CBIs affecting their sources of funding, their propensity to partner with others and many other variables. We have thus included a description of this variable in this chapter for a more thorough analysis of initiatives' political activities.

Interestingly, only 23 initiatives (36%) self-identified as having been involved in political activities, campaigns, protests, petitions or other types of political pressure during the past year. However, when asked more about the topic, an additional 18 initiatives (29%) could be interpreted to having been involved in such activities during the past year, despite not self-identifying as politically active. This raises the number of politically active initiatives to 41, or 65% of our sample.

The activities that the initiatives were involved in included: lobbying for policy changes or communicating with lobbying organizations; giving input to policy consultations; having informal contacts with politicians; spreading information; participating in demonstrations and strikes; participating in campaigns and movements; signing petitions, manifestos and informal commitments; flash mobs; giving talks and considering CBIs’ activities as political actions per se. Two initiatives reported having been active earlier but not during the past year. The frequency of political activities varied from continuous to less than once a year.

The reasons why the CBIs were not politically active during the past year included: the CBI being apolitical; political activities not being relevant for the CBI's activities; having an effect rather through indirect political activities such as promotional and educational efforts and everyday functioning; lack of knowledge on creating political pressure; CBIs receiving external funding that made political action inappropriate; lack of time; participants being politically active as individuals elsewhere but not through the specific CBI; negative experiences of such activities in the past and simply not having been active as a CBI during the past year.

**4.2 Who is participating?**

Having described the activities of the CBIs in our sample, we now turn to their participants, the people that make the projects happen. Initiatives vary greatly in their total number of active participants. In addition, while many initiatives are entirely volunteer-based, about half of them
have employees. While measuring total numbers of participants and employees is useful, measuring the amount of person-hours may give a better understanding of how much activity is actually occurring. Each of those issues will be explored more in details in the following pages.

A key descriptor of the initiatives in our dataset was the number of active participants, defined in the questionnaire as people “who actively contribute or are associated in any way to the initiative; they may work there, participate in meetings or decision making, give/spend time, contribute to activities, running events, etc.”

The answers to this question varied quite substantially as initiatives differed in size but also in their definition of active participants (Figure 13). The responses ranged from a maximum of 30,000 to a minimum of one. The median number of active participants was 30 and 75% of groups had less than 52 active participants.

![Figure 13 - Number of people actively participating in the initiative](image)
An important distinction between community-based initiatives is whether they have employees and if so, how many. Nearly half of our sample, 31 initiatives, had no paid employees. The remaining 32 had a median number of employees of 8 and 75% had less than 16 staff (Figure 14). The initiative with the most staff employed 316 people.

While the total numbers of participants and employees are useful to understanding how many people are involved, they do not directly correlate to the amount of effort or labour put into initiatives' activities. Thus, our questionnaire also asked for the effort (in hours) contributed by staff and volunteers respectively. In our sample, five initiatives had paid staff only, 28 initiatives had only volunteers and 27 initiatives had both. The remaining three initiatives had neither paid staff nor volunteers.

For the 32 initiatives with paid staff, the total contribution of paid time varied widely from 252 down to 0.1 full-time equivalents (FTE) (Figure 15). The amount of paid time is similar to the number of employees but differences arise because not all employees work full-time.
The 55 initiatives that reported volunteer time varied just as widely, from 19,500 hours per week - 527 FTE - down to 2.5 hours per week - less than 0.1 FTE.

Figure 16 - Volunteer time contribution to the activities of the 55 initiatives with volunteers

4 Note that the data is presented in FTE for comparability – in reality, it would be unlikely for participants to contribute 37 hours per week to an initiative.
To estimate the total time put into initiatives, we summed the paid and the volunteer time (Figure 17). Our data indicate that the presence of paid staff is an important determinant of the total time input to an initiative’s activities.

Figure 17 - Total time contribution – volunteer plus paid time – for 60 initiatives in our sample

Figure 18 - Box plot of total time input in relation to whether initiatives have staff or not for 60 initiatives in our sample

Note that 1 FTE = 37h/week or 159h/month
Changes over time

Given the TESS project’s interest in trajectories, we also show how initiatives’ participants have undergone changes over time (Section 3.2.4), gaining or losing volunteers and employees. Finally, we comment on the gender balance (Section 3.2.5) amongst participants.

An important characteristic of community-based initiatives is their ability to attract new participants. To evaluate this, we asked them about the number of active participants they had 5 years ago (i.e. 2010), or in their foundation year if they were less than 5 years old. We then calculated the annual rate of change in the number of participants (Figure 19).

We also calculate the average annual change in the number of employees for the 25 initiatives that had employees in 2015 and in 2010 (Figure 20); 29 initiatives had no employees in either 2015 or 2010.

When asked about the future, 30 CBIs anticipated the number of employees to be stable over the next five years. Three CBIs anticipated their number of employees to decrease and 24 CBIs anticipated them to increase.

On the one hand, for those CBIs that experienced a substantial increase in terms of number of employees and/or participants, the growth has – for example – been attributed to successful management and fundraising strategies, and to a growing network of external collaboration:

“...the change has occurred because of the success in fundraising for projects which has allowed more staff to be employed and to increase the number of activities organised. Over the past three years they have had some large grants (...) that have required staff to deliver these projects” (UK).

“...there has been significant growth in co-operation with local businesses” (Finland).

Another crucial point seems to be the availability of spaces and/or infrastructure that can facilitate the CBI’s activities:

“In the beginning of the initiative the number of people was different because the initiative did not operate on the same scale. The initiative did not have the spaces/infrastructure it has today” (Romania).
On the other hand, CBIs acknowledge a variety of reasons for the decrease. In some cases, this is attributed to difficulties in the management of a growing and more complex organization while others attribute this trend to a loss of interests of some members:

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5 Five initiatives were excluded from the graph as outliers: three initiatives reported gains of over 2,000 new participants per year and two initiatives reported losing 194 and 500 participants per year respectively.

6 Seven initiatives that had no employees five years ago but had some in 2015; two initiatives had employees five years ago but had lost them all by 2015. These figures are not included in the graph. Finally, 29 initiatives had no employees in either 2015 or 2010.
“We had to become more formalized and structured and that lost us some people – we couldn’t have meetings with 30 people all having their say and also get things done” (UK).

“Four years ago there were more participants. This is because during the first years the interest and the participation of people towards the initiative were higher (probably because it was something new). Over the years it slowly decreased” (Italy).

Nevertheless, a decreasing trend cannot univocally be linked to a ‘decline’ of the CBIs. In some cases, in fact, the number of participants decreases because the initiative got replicated or split into multiple organizations:

“Activists at the beginning were roughly 5,000, now we are about 3,500 because some of them left to replicate the initiative somewhere else with a more local or thematic foci (i.e. operating in specific districts or linking with specific theme such as culture, food, history etc.)” (Italy).

Gender balance
To examine the gender balance in our sample, we collected data on the gender ratio among the founding members, among participants 5 years ago, among participants in the present and among strategic decision-makers for the 63 initiatives in our sample (Figure 21).

![Figure 21 - Female: Male ratio among the founding members, among participants 5 years ago, among participants in the present and among strategic decision-makers for the 63 initiatives in our sample](image)

In the present (green line), most initiatives reported approximately equal gender ratios, with some initiatives being male-dominated (left side of the graph) and very few being female-dominated. Looking back five years (red line), there are fewer evenly balanced initiatives and more male- and female-dominated initiatives. Looking all the way back to initiatives’ establishment (purple line), gender ratios tend to be even less evenly balanced.
Looking at the strategic decision-makers, they tend to be less well balanced than the participants are in general with slightly more male-dominated groups than female-dominated groups.

It is possible that the trend towards more balanced gender ratios over time is simply a result of increasing numbers of active participants: as more people join the initiative, extreme imbalances become statistically less likely. The same remark applies to the strategic decision-makers.

However, the data also show that there are generally more male-dominated initiatives than female-dominated ones in both time periods, and that the number of male-dominated initiatives did not decrease as markedly over time. This may warrant further investigation.

4.3 How are they functioning?

We have presented how initiatives may be differentiated by their type and scale of activities and by their number and type of participants. We now present some classifications based on how they operate: what resources do they draw on and how do they organise themselves? The most obvious resource – aside from people’s time – that initiatives draw on is their monetary income. This comes from a range of sources. Initiatives also differ in their access to space. In terms of organisation, initiatives adopt different legal forms, have different decision-making processes and differ in their openness to new members. Each of these issues will be explored more in details in the following pages.

Monetary Income

An important descriptor of community-based initiatives is their relationship to money and the financial resources at their disposal.

Total revenues differed by several orders of magnitude amongst the 55 initiatives that reported data. Five initiatives had income over 1 million Euros and seven others operated budgets of less than 1,000 Euros (Figure 22).

Another key difference between initiatives is their source of financial resources. Our questionnaire asked initiatives to state the proportion of their income that came from six different types of sources. The main source of income for 58 initiatives in our sample (Figure 23) is diverse and not dominated by any type of revenue.

The sale of services was the most common source of income, followed by fees and subscriptions, public grants, private sponsorships and sales of goods. Only a few CBIs relied on donations. Overall, community-based initiatives seem to draw on many different sources of revenue with no particular source dominating the others.
Another six initiatives reported that they had no income at all and two did not provide any data.

The categories seem relatively robust and most initiatives were able to provide data for this part of the questionnaire. For each category the number of data not available is reported as follows:

1. Fees/Subscriptions/Membership’s dues, data not available for 5 CBIs
2. Sales of goods (produced by the initiative), data not available for 4 CBIs
3. Sales of services (produced by the initiative), data not available for 3 CBIs
4. Cash donations, inheritance, etc., data not available for 3 CBIs
5. (Public) grants, data not available for 3 CBIs
6. (Private) sponsorship, data not available for 3 CBIs
7. Other.
   Data was not available for 3 CBIs.
Space

Access to space – both indoor and outdoor – is another differentiating factor for our initiatives. 48 initiatives in our sample occupied some indoor space. The size of this space varied from a minimum of 9m² to a maximum of 28,000 m² (Figure 24). Smaller office sizes (10-100m²) are more common than larger ones (>100m²) in our sample.

The most common form of occupation is renting (47.5%). This is followed by spaces loaned to CBIs rent-free (24.6%). Members’ houses or other spaces owned by members provided to CBIs were the third most common form (19.7%). Finally, three initiatives (4.9%) owned their indoor space, two (3.3%) squatted it (Figure 25).

Figure 24 - Building space available for 48 initiatives in our sample

Figure 25 - Terms of occupation for the building space occupied by the initiatives in our sample
In terms of outdoor space, i.e. land, we only have data from nine initiatives, despite several more initiatives reporting that they carried out land-based activities. Plot sizes ranged from 60m$^2$ to 54ha. Of these plots, four were rented, four were used for free and one was owned by the initiative.

**Legal Forms**

The initiatives in our sample had a wide range of legal forms, differing according to national context and the legal requirements of their operations. To compare these across the European context, we developed a four-fold classification (Table 7).

<table>
<thead>
<tr>
<th>Legal Structure</th>
<th>Description</th>
<th>Number of CBIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal Organization</td>
<td>A group of people who have an interest, activity, or purpose in common. This organization is 'casual', it is not registered.</td>
<td>12</td>
</tr>
<tr>
<td>Non-profit Organization</td>
<td>An organized body of people who have an interest, activity, or purpose in common. These are non-profit organization (NPO) and are registered. This includes: charity, Community Development Trust, association and NGO.</td>
<td>34</td>
</tr>
<tr>
<td>For profit Organization</td>
<td>Legal and registered entity in which members share a common purpose and unite in order to focus their various talents, and organize their collectively available skills or resources to achieve specific, declared goals. In our case, these are usually companies* that sells goods and/or services.</td>
<td>12</td>
</tr>
<tr>
<td>Cooperative</td>
<td>Jointly owned enterprise engaging in the production or distribution of goods or the supplying of services, operated by its members for their mutual benefit, typically organized by consumers or farmers.</td>
<td>5</td>
</tr>
</tbody>
</table>

*Table 7 - Taxonomy of the legal status of TESS CBIs*

The most common legal form for the initiatives in our sample was as some kind of non-profit constituted body. Co-operatives were a common organisational form too. Twelve initiatives operated without any formal legal identity. For-profit enterprises were the least common form of organisation for the community-based initiatives in our sample.

**Decision-making process**

In addition to initiatives’ legal form, we also asked them questions that are more detailed about how they made strategic decisions. In seven initiatives (11%), a single individual made strategic decisions. In the rest, decisions were made either by a general assembly of all members or participants (40%), or by a subset of participants (49%). Several of this latter group had a board or an executive committee and this was also common amongst initiatives that had a general assembly.

In order to evaluate if decision-making was participatory or hierarchical or something between these two, we asked in more detail about how decisions were taken within the initiative. Full
participation – i.e. all decisions are taken jointly and based upon consensus of all participants – was in use in 41.3% of CBIs, interactive participation – i.e. members/participants are involved in joint analysis and discussions which have a relevant and meaningful role and influence on decision making – in 25.4% of CBIs, participation by consultation – i.e. people participate by being consulted and activities may be modified in the light of members/participants' responses – in 7.9% of CBIs, functional participation – i.e. members/participants are informed and asked to give their inputs and provide information, knowledge, opinions; but these do not necessarily influence decision making – in 17.5% of CBIs, passive participation – i.e. members/participants are simply informed about decisions/activities after the decision has been made – in 4.8% of CBIs and no participation – i.e. members/participants are not actively informed/involved in decisions – was present in 3.2% of CBIs (Figure 26).

Overall, our respondents considered the decision-making processes as functioning pretty well (52.4% of CBIs) or functioning perfectly (22.2% of CBIs). However, 23.8% of CBIs considered there to be room for improvements and 1.6% of CBIs (one CBI) considered it as functioning poorly.

**Openness to new participants**

The initiatives also differed in their enrolment mechanisms and openness to new members (Figure 27). Many initiatives (35%) are completely informal and allowed anyone to join. Another 9.5% were also open to anyone but had a formal enrolment process (i.e. new participants have to sign up); 35% had a formal joining process with certain criteria for members' eligibility (e.g. residency in the area). Finally, 16% had a selection process by which new participants could join and 3.2% had some other joining mechanism.
In terms of whether initiatives made any financial demands of their members, 46% did not ask for any fees, 31.7% charged annual fees, 17.5% charged membership fees and 12.7% asked for share-contributions (Figure 28). Note that the last three categories are not mutually exclusive. For example, members could be asked for a membership fee as well as an annual enrolment fee or a share-contribution.

Overall, the combination of the enrolment process and the financial contributions offers a relatively robust indicator of the position of initiatives along a spectrum from completely open to completely closed. Further analysis could possibly link this dimension to the activities that initiatives carry out.
4.4 Where and when: in which context are they functioning?

Another important determinant of CBIs’ characteristics is their context. Initiatives are likely to differ according to whether they are in an urban or rural (Section 3.4.1) environment. Another obvious variable is the national context, because CBIs face different policy contexts (Section 3.4.2) in different countries. Initiatives also have different histories because they were established at different times and have different ages (Section 3.4.3).

Urban/Rural

Considering all the constraints in comparing the various geographical areas mapped by the TESS project, we considered a more refined classification of the areas where the studied CBIs are active to be relevant.

TESS partners, in fact, chose single or multiple regions as representative of their regions of study (motivations supporting their choice are given in Annexes A-F of Deliverable 1.3). In particular:

1. Regions mapped covered only one administrative area of a country which was then used as the characterisation region: adopted for Spain, Italy, UK - Scotland, Germany;
2. Several administrative areas, or the whole country, were mapped and the region where the majority of key case studies are located was chosen as the characterisation region: adopted for Finland, UK - Scotland, Romania.

To determine whether initiatives operated in urban, intermediate or rural context, we used the European Commission’s classification for the NUTS3 areas in which our initiatives carried out their activities (Table 8).

This classification worked for most initiatives (57). However, a few initiatives (6) operated at a larger spatial scale, covering both urban and rural settings for which these categories were inappropriate.

<table>
<thead>
<tr>
<th>Typology</th>
<th>Description</th>
<th>Frequency in 57 initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predominantly urban regions</td>
<td>Rural population: &lt;20 % of the total population</td>
<td>36 (58%)</td>
</tr>
<tr>
<td>Intermediate regions</td>
<td>Rural population: 20–50 % of total population</td>
<td>15 (23%)</td>
</tr>
<tr>
<td>Predominantly rural regions</td>
<td>Rural population: &gt;50 % of total population</td>
<td>12 (19%)</td>
</tr>
</tbody>
</table>

*Table 8 - Urban–rural typology, by NUTS 3 regions*

Policy context

The wider policy context can have a significant effect on CBIs as both an obstacle to what they want to achieve or as a way of enabling activities and organisation. This can occur at different scales and in different policy areas. To study this, we asked groups whether there was any policy that they found relevant (i.e. supportive) to their emergence or development, and whether there was any particular policy that they felt constituted an obstacle to their emergence or development (Table 9).
Responses to the policy context question varied widely from identifying specific policies, to more general comments on the policy landscape for community groups:

“Nothing to start the group. But the development of the group has been influenced by certain strands in national policy. Nothing specific but a generally supportive environment around inclusivity, sustainability, etc.” (UK).

“Cooperative Act as it is one precondition for establishing a co-operative. Local municipal policies/administration as the municipality has to decide what is purposeful, inexpensive and rational to be done in terms of heating municipal real estates.” (Finland).

<table>
<thead>
<tr>
<th>No policy obstacle</th>
<th>Policy obstacle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive policy</td>
<td>17% – best case</td>
</tr>
<tr>
<td>No supportive policy</td>
<td>21%</td>
</tr>
</tbody>
</table>

Table 9 – How CBIs perceive their policy environment

Almost half the respondents (29) thought that some helpful supportive policy regulations were relevant for their emergence or development, while a higher proportion (almost two-thirds, 39) thought that policy regulations had in some way been an obstacle to the emergence or development of community-based initiatives (see Table 9). This provides an emergent four-fold categorisation of policy contexts: policy support and no obstacles (best); policy support and obstacles; no policy support and no obstacles; no policy support and policy obstacles (worst). Looking in more detail at those who responded positively to identifying policies that helped or hindered the emergence and development of CBIs, we asked them to identify the scale at which this occurred (Figure 29).

![Figure 29 - Policy support and obstacles, by scale of the relevant governing body for 63 initiatives in our sample](image)

Note that some CBIs mentioned more than one scale as supportive or as an obstacle.
The responses show that there is little difference in the scale of policymaking considered supportive for the emergence and development of CBIs, with a slight indication that the local policy context (16) is more relevant than the national is, and the national (13) more relevant than the EU level (10). However, when we look at policy which is considered to be an obstacle to CBIs’ emergence and development we see that most (34) CBIs responded that policy at the local level was an obstacle, with only nine and four considering policy at national and EU scales, respectively, were an obstacle. Given these results, we could refine the classification proposed above to reflect the importance of the local policy context.

Inductively categorising the qualitative responses in order to provide more detailed results showed that initiatives felt that supportive policies were focused on four main areas: property rights and access to land/assets/buildings; economic development/tax/financial incentives/enterprise; community or social development; and environment, transport or food regulations (Figure 30). Note that these categories are not mutually exclusive.

Similarly categorising the policy obstacles to CBIs’ emergence and development also yielded four policy areas: state aid rules and funding bureaucracy; property, public spaces and legal regulations; organizational structure, employment and volunteering regulations; environment, transport, health and hygiene regulations (Figure 31). Note that these categories are not mutually exclusive.
Age

Age is an important characteristic of CBIs. The economic context and the dominant societal concerns at the time of their foundation affect many other characteristics. In our sample, the median age of initiatives is six years, 75% are less than 14 years old and 25% are less than four years old (Figure 32). The oldest is 53 years old and was founded in 1962.
4.5 Conclusions

This chapter provided an overview over key characteristics of the 63 sampled CBIs in six regions of Europe (Finland, Scotland, Rome, Barcelona, Berlin and Romania) following the development of a standardised Data Assessment Sheet (DAS). The DAS included 12 sections on different aspects of CBI organization including basic information, composition, user characteristics, activities, internal organization, external networking, political mobilization, innovative effort, skills, benefits, activities and self-assessment.

The aim of the chapter was to explore a categorisation of CBIs active in one or more domains of food, waste, energy and transport to better understand the wider societal impact of CBIs. CBIs were assessed according to what they did (their activities, number of beneficiaries, geographical scope and political engagement), who they included (participants, employees), how they were organized (person hours, income, spaces and assets, legal form, decision-making processes and openness to new members), where and when they operated (EU regional level, rural/urban, policy context and age).

Analyses of the variables in each of these categories shows some interesting relationships between the different characteristics of CBIs across Europe, in terms of their potential impact, but it does not show any clear patterns emerging that enable the categorisation of CBIs according to single criteria. This is because the variability of CBIs crosscuts multiple categories, making it extremely difficult or even impossible to construct a single characterization. We cannot claim that this sample is representative of CBIs across Europe since it was not selected as a representative sample, the total number of CBIs in Europe being unknown. However, there are features that could be described to unite an average CBI.

In general, these CBIs have no single main source of revenue but receive funding from several different sources. Office space is typically rented and the CBI does not typically own any land. Decision-making is typically collective and participative. Selection of new members has typically some type of formal process and some fees are collected based on the membership. Also, a typical CBI has met obstacles in local scale of policies but also support from them. For a typical CBI environmental objectives are the most important followed closely by social goals. In terms of political activities, a typical CBI is not directly active but may be indirectly active in political activities. All in all, CBIs are unique yet there are uniting features. More exploration is needed on the CBIs’ features in order to better understand them.
5 The economic functioning and sustainability of community organizations

CBIs have a variety of economic aims and effects, and their economic dimensions can be analysed at different scales.

One commonly adopted distinction in this regard is between (i) the internal economic challenges faced by initiatives – e.g. how grassroots innovations are organised and managed, the skills and resources they require and the ways in which this can leave them vulnerable to wider shocks such as funding cuts, loss of key personnel, or changes in policy priorities – and, (ii) external effects on the economic situations of individuals, households, the local community, and more generally on the local area.

From an “internal” point of view, CBIs assume various institutional and legal forms and adopt different management and organizational systems. As previously described in the Chapter 4, Section 4.4, they might adopt an official legal status and register themselves according to their national legislation or, on the contrary, they may act in a more spontaneous and flexible way. Moreover, the model of economic functioning for CBIs can be highly diverse. Often, and even within a single domain (food, transport, energy or waste), these initiatives can financially sustain their activities in various ways and through different sources.

According to Seyfang and Smith (2007), “the institutional forms for grassroots innovative niches are (…) complex (…). There are diverse organisational forms: cooperatives, voluntary associations, mutual informal community groups, social enterprises” (2007: 591). It is, therefore, important to verify whether the organizational form and legal status affect the ability of a CBI to perform a function with optimal levels of inputs and outputs. This is especially significant in a non-profit context as most institutions and people who donate money, time and other resources to this kind of activity are interested in knowing whether the organization is effective and efficient in accomplishing its goals.

From a more specific (internal) financial point of view, several authors acknowledge also that generally a grassroots organization’s “resource base is similarly pluralistic, including grant funding, limited commercial activity, voluntary input and mutual exchanges” (Seyfang 2009: 73). In this regard, in terms of economic functioning and sustainability, we considered issues like (i) diversification of funding sources, (ii) income generation system, and (iii) access, ownership (and tenure) or control of the capital goods, assets and infrastructure (land, tools, machinery, etc.) that are needed to run the initiative, as key elements to assess the financial sustainability of a CBI.

From an “external” point of view, as evidenced in the self-assessment exercise, one of the primary economic aims of CBIs is (also) to deliver benefits to their members, either directly or indirectly. Direct impact can be measured considering the following: (i) an increase in individual or family income; (ii) a decrease in individual or household expenditure in the provision of essentials (food, services, transport, etc.) below (or above) market costs, or free, lower (or higher) proportions of income being spent on the items than previously, increase (or decrease) in disposable income and/or resources for other necessities or for savings; (iii) a decrease in individual/family debt (and/or increase in savings): preventing/avoiding/deferring participants from acquiring debt to pay for land, housing, transportation, energy, etc.

Finally, CBIs might have an impact – positive or negative, direct or indirect – on the local economy, contributing to the local area’s economy also beyond the direct and monetary
benefits they deliver to their beneficiaries. In particular, in a positive way CBIs might, for example, create new jobs and enterprises, help revitalize commercial districts, regenerate local economies, help businesses thrive, keep money circulating in the local economy, create new local investment opportunities, improve nearby land and housing values, generate additional tax revenues, provide new training and skills learning opportunities, trigger changes to local wealth distribution etc. It is possible that they may also have, or be perceived to have, negative local economic impacts such as income/revenue losses for existing businesses. The analysis presented hereafter is indeed preliminary to an assessment of CBIs’ economic impacts that are presented in Chapter 7.

5.1 The financial sustainability of community initiatives

Establishing, maintaining, and balancing a CBI’s financial sustainability with their objectives and mission is a core challenge for most CBIs. These organizations, in fact, face a myriad of challenges in satisfying their objective/s and delivering products and/or services while, at the same time, covering expenses and generating a surplus that (most of the time) is reinvested in the organization itself in order to maintain ongoing activities. It is therefore important to examine major challenges and/or the strength of financial sustainability that are common among grassroots initiatives, identifying (where available) key themes and findings that may help to improve the sustainability, efficiency and more general economic resilience of such organizations.

First of all, we tried to appraise – using a self-assessment exercise – how the issues of both financial sustainability and organizational effectiveness are perceived by these grassroots organizations by asking whether “to develop / experiment / demonstrate a well-functioning business / organizational model / strategy” is important for them (see Chapter 3, Section 3.6). As a result, 73.0% of CBIs consider this objective relevant, 23.8% not relevant and 3.2% did not reply. More precisely, when asked how much important this objective is, 54.3% of CBIs considered it extremely important (vital), 30.4% of them consider these objectives very important, only 10.9% somewhat important (moderately), 4.3% not very important and zero not important at all.

When it comes to the “degree of achievement” of financial sustainability and organizational effectiveness, 11.1% of CBIs perceived they had already fully achieved this: nearly half of them (48.9%) felt they had mostly achieved this aim, 26.7% declared that the objective was “somewhat achieved (moderately)”, and 13.3% declared a low achievement of this objective. No CBIs considered the objective not achieved at all.

In order to assess these dimensions more in-depth and more objectively, as discussed in the methodology for the indicators (Deliverable 2.2), we considered several indices used to assess the financial profiles of charities and non-profits organizations as proposed by Tuckman and Chang (1991), Greenlee and Trussel (2000) and Abraham (2003). These indices are:

(i) Equity balance: this measures the relative amount of equity (i.e. the value left in the organization after subtracting total liabilities from total assets) that an organization has. This is measured as the ratio of total equity to total revenue.

(ii) Debt ratio: the debt ratio is a measure of the amount of debt that the organization uses to finance its programs and projects. It is measured as the ratio of total liabilities to total assets.
(iii) Revenue concentration index: this assesses whether an initiative depends on one specific type of income/source of funding or on a mix of income types.

(iv) Surplus margin (positive or negative): this is necessary to evaluate a periodic monetary result.

We give an overview of the revenue concentration index (iii) and the surplus margin (iv) whereas the equity balance indicator (i) was impossible to calculate as was the debt ratio (ii) as only limited information about CBI debt was available.

Moreover, it is relevant to give a general overview about a fifth aspect that emerged from the questionnaire and that can be defined as: (v) the ownership/control of means of production and assets needed to run the initiative.

Revenue concentration index

One of the primary challenges faced by CBIs is the ability to maintain financial capacity over time (Bowman, 2011). This is crucial for the initiative in order to maintain or expand its activities while developing a margin to ensure its resilience for occasional economic shocks in terms of shortages of funds, extraordinary costs, variability in donations, etc.

Despite the unavailability of historical data that limits the consideration of aspects of financial sustainability over time, it is still possible to assess the diversification of financial sources. A crucial challenge for CBIs is, in fact, the struggle to raise funds for operations even when participants have the means to contribute financial support to the initiative. Many CBIs sell products and services in order to maintain a positive cash flow, others rely on periodical sponsorships or grants, etc.

<table>
<thead>
<tr>
<th>Source of funding</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fees/Subscriptions/Membership’s dues</td>
<td>47.5%</td>
<td>52.5%</td>
</tr>
<tr>
<td>Sales of goods (produced by the initiative)</td>
<td>29.5%</td>
<td>70.5%</td>
</tr>
<tr>
<td>Sales of services (produced by the initiative)</td>
<td>45.9%</td>
<td>54.1%</td>
</tr>
<tr>
<td>External</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash donations, inheritance, etc.</td>
<td>37.7%</td>
<td>62.3%</td>
</tr>
<tr>
<td>(Public) grants</td>
<td>29.5%</td>
<td>70.5%</td>
</tr>
<tr>
<td>(Private) sponsorship</td>
<td>19.7%</td>
<td>80.3%</td>
</tr>
<tr>
<td>Other</td>
<td>23.0%</td>
<td>77.0%</td>
</tr>
<tr>
<td>Average Internal</td>
<td>41.0%</td>
<td>59.0%</td>
</tr>
<tr>
<td>Average External</td>
<td>27.5%</td>
<td>72.5%</td>
</tr>
</tbody>
</table>

Table 10 - Source of funding for CBIs

In general, CBIs can count on different sources of funding. These can be internal or external sources. Internal sources are (1) fees /subscriptions/ membership’s dues; (2) sales of goods (produced by the initiative), (3) sales of services (produced by the initiative). External sources
may be (1) cash donations, inheritance, etc.; (2) (public) grants; (3) (private) sponsorship; (4) other.

As pointed out by different authors (Léon 2001, Santog-Padilla 2012), CBIs are even more fragile when their sources rely on external funding. A CBI, in fact, can count on a diverse set of funding sources, either internal (subscriptions, donations, self-taxation, etc. or income generated through a sales strategy for goods and/or services) and external (public, financial institutions, foundations, philanthropic organizations, etc.).

As a first piece of evidence, on average, 41.0% of the studied CBIs counts on internal sources while 27.5% rely on external sources. The most important internal source is income collected from fees, subscriptions and membership dues (47.5%); the major external source of funding is related to cash donations, inheritance, etc. (37.7%) (see Table 10).

These different sources of funding contribute quite differently to the total budget of a CBI. On average, in the group of the internal sources, “sale of services produced by the CBI” is the largest source of funds providing 24.1% of the total income of the initiative. This is followed by “fees, subscriptions, and contributions from members” (19.5% of income) and, finally, the “sale of goods produced by the CBI” accounting for the 12.7% of total income.

As for external sources, on average, these are less substantial than internal sources. In this case, public grants, comprise an average of 14.0% of the income of a CBI, private sponsorship the 9.3% and other sources a minor 7.9%.

<table>
<thead>
<tr>
<th>Source of funding</th>
<th>Average proportion of funding sources per CBI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal</strong></td>
<td></td>
</tr>
<tr>
<td>Fees/ Subscriptions/ Membership’s dues</td>
<td>19.5%</td>
</tr>
<tr>
<td>Sales of goods (produced by the initiative)</td>
<td>12.7%</td>
</tr>
<tr>
<td>Sales of services (produced by the initiative)</td>
<td>24.1%</td>
</tr>
<tr>
<td><strong>External</strong></td>
<td></td>
</tr>
<tr>
<td>Cash donations, inheritance, etc.</td>
<td>8.4%</td>
</tr>
<tr>
<td>Public grants</td>
<td>14.0%</td>
</tr>
<tr>
<td>Private sponsorship</td>
<td>9.3%</td>
</tr>
<tr>
<td>Other sources</td>
<td>7.9%</td>
</tr>
</tbody>
</table>

*Table 11 - Sources of funding (average) as a proportion of total sources for each CBI*

The crucial factor for assessing financial sustainability is the concentration of these sources in the hypothetical portfolio of a CBI. To measure revenue concentration, we adopted the Herfindahl Index (commonly used in economics to measure market concentration). For each initiative “the square of the percentage share that each revenue source represents to total revenue is summed to produce the index. This provides a revenue concentration measure that captures both the number of revenue sources and the extent of revenue dispersion” (Tuckman and Chang 1991: 453).
Revenue Concentration Index = \[ \sum \left( \frac{\text{Revenue}^j}{\text{Total revenues}} \right)^2 \]

The \( j \) sources of revenues considered are those identified above in Table 11. If the CBI has equal revenue from many sources the value of the index will be close to zero; if revenues come from a single source it will have an index of one. Consequently, the organization is most likely to be financially sustainable when its concentration index is close to zero (Abraham 2003).

As shown in Figure 33, most CBIs (over 89%) have a revenue concentration index that ranges between moderate (\( H \) between 0.15 and 0.25) and high (\( H > 0.25 \)). Only 1.8% of CBIs have an unconcentrated index (\( H \) below 0.01), meaning that they do not have a consistent distribution of their sources and none of them has a low concentration index. This means that a minor number of CBIs has an adequate and balanced diversification of financial sources when considering those previously mentioned.

**Surplus margin**

This indicator evaluates the periodic result (in terms of a positive or negative surplus) of CBIs. A positive surplus margin is a measure of the monetary amount remaining after the total expenses have been covered using all sources of revenues previously described (fees, subscriptions and contributions of members, sale of a product or service, etc.).

Considering that CBIs mostly provide products or services to participants, and considering that their activities are not profit oriented, this may hugely vary one year to another according to

---

\[^{10}\text{Unconcentrated (H < 0.01), Low concentration (H < 0.15), Moderate concentration (H 0.15 to 0.25), High concentration (H > 0.25).}\]
the variability of the different sources of income. Therefore, differently from a business or industry economic analysis, this information cannot properly be considered as an indication of the economic efficiency of the CBI. Moreover, due to time constraints and a lack of historical data, data needed to evaluate a proxy for this indicator has been collected for only the fiscal year 2014.

**Surplus margin** = \( \frac{\text{Total revenues} - \text{Total expenses}}{\text{Total revenues}} \)

According to Tuckman and Chang (1991), in general, if a non-profit “has a low or negative operating margin, this means that it has little or no cash surplus that can be drawn down before it must cut program support. A non-profit with a negative margin is already likely to be in the process of reducing program offerings. Non-profits in the bottom quintile with respect to operating margins are labelled at-risk” (1991: 453).

The majority of CBIs (76.19%) have successfully covered their costs during the year 2014. Only 23.81% of them did not achieve this objective and can be labelled as “at risk”. Among initiatives declaring they have covered their costs (in total 76.2% of CBIs), more than half have a positive surplus, while a third declared a zero surplus, meaning that they have a balanced budget and despite being able to cover their costs, they do not have any positive results.

![Figure 34 - Ability of CBIs to cover their costs (%)](image)

Figure 34 shows that all “informal organizations” (those CBIs who are unregistered and without any legal status) are able to cover their costs; in this case representing 19% of the entire sample. The majority of “non-profit organizations” (71%) also has a positive outcome; these are officially registered legal entities, e.g. charities, community development trusts, associations and NGOs, representing 38.1% of all CBIs analysed. The same positive result is found in other categories: 75% of cooperatives are able to cover their costs (considering that they represent 14.3% of all CBIs) as well as 60% of for-profit organizations (CBIs who are legal and registered entities, usually companies, whose profit serves the community, 4.8% of the
total sample of CBIs). In particular, as mentioned in line with the TESS project’s definition of community-based initiatives, we consider CBIs that are for-profit only if their overall aim is to serve the community. Therefore, companies have been included in the sample only when they have declared that their profit is being used for this purpose.

On average, the surplus produced by our CBIs is approximately 21,285 Euros. CBIs with a positive surplus allocate this money in different ways; most CBIs allocated it in varying proportions and towards different purposes.

As discussed in Chapter 3, CBIs not only provide food, transport and other services to their participants, but also, in some cases, provide inventory surpluses that can be sold in local markets, generating additional income for them. More generally, products and services provided by CBIs can be marketed or not. Some U.S. community gardens, for example “combine their surplus and sell at farmers’ markets or sell food directly to restaurants” (Brown and Carter 2003: 12), “while most use gardens to supplement their food purchases, some have created small economies by selling to neighbours and community members” (Flachs 2010: 2). Nevertheless, this is not the case for the 63 CBIs interviewed by the TESS project. The evidence from our interviews, in fact, is not in line with the research of these authors: our CBIs show that, on average, nearly half (48.8%) of the surplus is allocated to the initiative itself, 18.7% is allocated to savings, 5.7% to other purposes, and only a marginal 0.3% shared among members.

**Debt ratio**

The debt ratio measures the amount of debt the organization uses to finance its programs and projects. It is calculated as a ratio of total liabilities to total assets. Despite the lack of reliable data about CBIs’ assets, it is possible to derive a general overview of the debt situation of our sample of initiatives. A specific section of the questionnaire was in fact focused on the presence/absence of loans (“do you have any loans?”) and on the ability to cover them (“if yes, how much of your annual costs go to cover the payments for this loan(s)?”).

Most of the CBIs (91.8%) do not have any loans. Only 8.2% have loans as is often the case for non-profit organizations.

**Ownership/control of means of production**

An important descriptor of community-based initiatives is their relationship to their means of production. Out of 63 community-based initiatives, 15 have no office spaces dedicated to the initiative (two in the UK, three in Finland, three in Germany, three in Italy, four in Romania), which means that their members work and/or meet at home or in a “public space loaned/free use” in order to run the initiative and their activities. The remaining CBIs make use of an indoor space which may be an office or other kind of space. As shown in Figure 25, the terms of occupation of offices or buildings are diverse. The most common form of occupation is renting, followed by spaces loaned to CBIs rent-free. Members’ houses or other spaces owned by members and provided to the CBI were the third most common form. Finally, three initiatives own their indoor space, and two squat it.

Out of 63 CBIs, only 14.3% have access to land or another outdoor space. This means that only nine initiatives have access to this asset despite several more initiatives reporting that
they carry out land-based activities. Most of the CBIs (88.9%) either rent their outdoor space or have access to loaned public space or are granted free use of space. Only a minority owns this asset.

Finally, a specific question within the economic section of the questionnaire was aimed at assessing whether the studied CBIs could count on donated and/or loaned assets. These might be: land, office or other spaces, capital goods (e.g. tools, machinery, etc.), consumable materials, services or utilities and other goods or services needed by the initiative, and for which “free use” represents, in many cases, a valuable cost savings for the CBI. As shown in below, on average 17.4% of CBIs can count on one or more assets that are loaded or donated, while the vast majority of them, 82.6%, do not benefit from any donations or loans.

<table>
<thead>
<tr>
<th>Assets donated and/or loaned</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land and/or office and/or other spaces</td>
<td>24.2%</td>
<td>75.8%</td>
</tr>
<tr>
<td>Other capital goods (e.g. tools, machinery, etc.)</td>
<td>17.7%</td>
<td>82.3%</td>
</tr>
<tr>
<td>Consumable materials (e.g. inputs used for production)</td>
<td>19.4%</td>
<td>80.6%</td>
</tr>
<tr>
<td>Services, utilities</td>
<td>12.9%</td>
<td>87.1%</td>
</tr>
<tr>
<td>Other goods/services</td>
<td>12.9%</td>
<td>87.1%</td>
</tr>
<tr>
<td>Average</td>
<td>17.4%</td>
<td>82.6%</td>
</tr>
</tbody>
</table>

Table 12 - CBIs that benefit of assets donated and/or loaned

5.2 Organizational effectiveness

According to Seyfang and Smith (2007), “the institutional forms for grassroots innovative niches are complex (...). There are diverse organisational forms: cooperatives, voluntary associations, mutual informal community groups, social enterprises” (2007: 591). It is, therefore, important to verify whether the organizational form and the legal status affect the ability of a CBI to perform its functions with optimal levels of inputs and outputs. This is especially significant for non-profits as most institutions and people who donate money, time and other resources are interested in knowing whether the organization is effective and efficient in accomplishing its goals.

Organizational effectiveness shows how effective an organization is in terms of achieving its intended outcomes and results. Previous studies (Balduck and Buelens, 2008; Das, 2011; Ashraf and Kadir, 2011), have shown that there could be various models for determining organizational effectiveness. However, such methods require information that most of CBIs do not have, and collecting data to extract a robust indicator in our case was not feasible. Despite this limitation, it is possible to give a general overview of the management and organizational method of the CBIs interviewed.

First of all, we analysed the organization of the strategic decision making system (where strategic decisions mean “those which affect the CBI, regarding e.g. new activities, main goals, funding, strategic collaborations, etc.”), using a range of possibilities that vary from a more
hierarchical to a more participative structure as described in Figure 26 of Section 4.4 in this Deliverable.

From a qualitative point of view, some of the opinions revealed by the questionnaire related to the internal organization of these initiatives provided interesting insights that explain the wide range of strategic decision-making systems adopted.

In particular, we asked (as an open-ended question) “how is the initiative run in terms of decision-making and overall operations? (e.g. if there is any management body or committee: how it is structured, what is its aim, how and how often members of this body/committee are selected, and why?)”. As a result, we found that in many cases CBIs tend to be run in a very participatory and informal way: “everything is discussed and decided within the plenum” (Germany), and “liquid and open” (Italy).

In most cases, the decision-making process is based on full participation and consensus. In cases like these, the goal of the process is to find common ground and to stimulate discussions until the group reaches mutual agreement by addressing all concerns. However, in some cases decision-making is more structured. It might be based on general assemblies, meeting of the board of directors, committees, etc. as shown by the following extracts:

“Most important decisions are taken at the weekly assemblies, using consensus-based decision-making. Furthermore, members are organized into committees which are entitled to take more operational decisions” (Spain).

“There is a board of directors formed mainly of the founding members. They meet and debate decisions, and adopt resolutions. They all have the right to vote. Plans are usually drafted for a year” (Romania).

Though consensus can take longer than other decision-making methods, it also fosters creativity, cooperation and commitment to final decisions and activities. In particular, the group participants of the CBI can often be split into small sub-operational groups, each one responsible for organizing and carrying out one or more specific activities/tasks.

“Activities are run according to participants - whoever wants to propose or organize something can do so. Decisions are made by first consulting the other members and then taken if a majority approve. In short, e.g., if they have to decide whether to start buying from one producer, somebody proposes them and they discuss. If enough people are interested, then they make an order from that producer” (Italy).

In some cases, duties and responsibilities of the working groups can be more formalized: “the structure is that we have the Board (...) and we have the working groups. The working groups are each chaired by a Board member and involve other volunteers. These groups deliver the practical activities and oversee staff and the chair brings reports back to the Board” (UK).

Finally, in some cases the decision-making process is not only based on face-to-face meetings. The use and importance of online communications is, in fact, acknowledged by many CBIs. This is, for example, the case for very informal organizations (e.g. associations) that carry out routine activities such as periodical orders of food, provision of services, etc. Indeed, in some cases, the CBI tends to find a consensus between involved people, discussion, online (...)” (Germany).

“The decisions are prepared via email and social media and then made during the weekly/monthly board meetings (...)” (Finland).
“All members can come to monthly committee meetings (...). In between these meetings there is a lot of interaction via a Facebook group (...)(UK).

We also investigated the gender balance in the decision-making process and how this has changed over time. As already shown in Figure 21 of Section 4.3 of this Deliverable, most initiatives (60%) reported approximately equal gender ratios, whereas some initiatives are male-dominated and very few are female-dominated (only 10%). Looking back five years, 33.3% of CBIs said this equilibrium has changed over time while for 66.7% it has not.

![Gender balance in the decision making process](image)

Figure 35 - Gender balance in the decision making process

Finally, as regards the organizational method, we asked CBIs to provide us with a “perception of how well the organizational and management method of their CBI is working”. Figure 36 shows that while a substantial amount of CBIs perceive their organizational and management method as “perfectly functioning”, the majority of them consider it “functioning pretty well” and only a minority consider their organizational and management method “poorly functioning”.

Besides asking what their perception of the organizational and management methods are in order to understand the limits and barriers to the efficiency of the adopted method, we asked CBIs to indicate “how could (this organizational and management method) be improved and why”. In qualitative terms, some opinions gleaned by the open-ended format used in the questionnaire provided interesting indications.

Some CBIs perceive that their organizational model does not need any improvement:

“We don't need to do anything different at this early stage. Life might get more complicated if we're successful” (UK).

In other cases, where based on casual and/or voluntary work, CBIs can face organizational difficulties as shown by the quotes below:

“As the initiative is based on voluntary work, the structure is a bit chaotic” (Germany).
“Some areas working really well, other areas less so”. The initiative “(...) is trying to implement many projects and people’s time to plan and oversee these is sometimes limited. So, more paid time would help. Also, because it is so participative, decision-making can be rather slow” (UK).

“Sometimes it is hard to find volunteers, especially at the beginning” (Spain).

More generally speaking, planning activities and the organization of people’s efforts represents a constant challenge:

“[the (...) CBI] has already been working already for 20 years so the organizational and management method has been proven to function well but long-term planning could be done more and the executive committee meeting schedule could be more regular (...)” (Finland).

Finally, some limitations can be found in the lack of leadership, and in the way conflicts and tensions between participants are managed:

“[the CBI’s] projects function pretty well but depend on the leadership from the president for environment and ethics for management and external representation. There are also no clear mechanisms for dealing with conflict and tensions within the group” (UK).

![Figure 36 - Perception of the organizational and management method adopted by the initiative](image)

### 5.3 Conclusions

The aim of this chapter was to explore (i) the economic functioning and sustainability of the 63 community-based initiatives interviewed, and (ii) their organizational, management and decision-making structure based on a quantitative and qualitative analysis of the information extracted from the survey.

As a first step in order to better understand their economic functioning and sustainability, CBIs were studied according to what their source/s of funding are, either internal (fees/subscriptions/
membership dues, sales of goods, and/or sales of services) and/or external (cash donations, inheritance, public grants, private sponsorship, other). In this regard, on average the majority of the studied CBIs count on internal sources, the most important of which is derived from the “sale of services produced by the CBI” that provides an average of 24.1% of the total income of initiatives. The most important external source is “public grants” that, on average, account for 14.0% of the budget of a CBI. Overall, the “Revenue Concentration Index” (Herfindahl Index) which provides an estimate of the financial sustainability of CBIs measured in terms of concentration of sources of income, shows that most CBIs (over 89%) have a revenue concentration that ranges between moderate (H. between 0.15 and 0.25) and high (H. > 0.25). This means that most CBIs do not have a balanced differentiation of sources of income and are economically are relatively fragile because they cannot rely on a diverse set of funding sources, either internal or external.

As a second financial indicator we considered the “Surplus Margin” that evaluates the periodic monetary result (positive or negative) of the CBIs and, therefore, their ability to cover their (annual) costs. According to the literature, CBIs with a low or negative margin are more likely to be in the process of reducing programmes and activities and could be labelled “at risk”. The general situation appears to be quite positive. Most of the CBIs interviewed declared to have covered their costs: 76.2% of CBIs (in particular, all the “informal organizations” – unregistered and without any legal status – are able to cover their costs). Out of this 76.2%, more than half have a positive surplus while one-third declare a zero surplus, meaning that they have a balanced budget and, despite being able to cover their costs, do not have any positive results. In addition, on average, the surplus produced by the CBIs analysed is about 21,285 euro. Those that have a positive surplus allocate this money in different ways and most of them allocate varying proportions of their surplus towards different purposes. On average, most of the surplus, (nearly half, 48.8%) is allocated to the initiative itself, 18.7% is allocated to savings and the remainder to other purposes. It is interesting to notice that, in contrast to evidence from other studies, in the case of TESS CBIs, almost no surplus is shared among members (on average only a marginal 0.3% is shared with them).

Another financial issue of interest relates to the debt situation of the CBIs. Evidence from the questionnaire shows that most (91.8%) do not have any loans; only 8.2% have loans that is generally the case for non-profit organizations.

We then assessed the ownership/control of means of production that is considered another important descriptor of the potential financial sustainability of CBIs. In summary, out of 63 CBIs, 48 use an indoor space (which may be an office or other kind of space) while 15 have no office space dedicated to their activities meaning that their members work and/or meet at home or in a “public space loaned/free use”. For those that use an indoor space, the terms of occupation of offices or buildings are diverse but the most common forms of occupation are renting (47.5%) and loaned/rent-free (24.6%). Additionally, 17.4% of CBIs, on average, can count on one or more assets (e.g. capital goods, consumable materials, services or utilities, land, office or other spaces) that are loaned or donated, while of the vast majority of them, 82.6%, do not benefit from any donations or loans.

Considering the second point related to the organizational, management and decision-making structure of the interviewed CBIs, the majority of them (41.3%) declared that their structure is strongly based on full participation, followed by interactive participation (25.4%), and functional participation (17.5%). A substantial amount of CBIs (22.2%) perceive their organizational and management method as “perfectly functioning”, and the majority of them (52.4%) consider it
“functioning pretty well”. Most initiatives (60%) reported approximately equal gender ratios, with some initiatives being male-dominated and very few being female-dominated (only 10%). 33.3% of CBIs declared that this equilibrium has changed over the last five years, while for 66.7% it has not.

To conclude, despite having different sources of funding, the predominance of internal sources is significant and, considering the high Revenue Concentration Index, the average CBI does not have a balanced differentiation of sources of income; it seems to be relatively fragile in terms of long-term economic sustainability. The average CBI is able to cover its costs, has no loans and presents a positive surplus that is mostly allocated to its own activities/programmes. The average CBI does not own offices or land, it typically rents the space needed to run its activity and it does not benefit from any donations or loaned assets. Decision-making is typically based on full or functional participation, it shows an equal gender ratio in decision-making processes and its general organizational, and management model is perceived as pretty well functioning.
6 Community-based initiatives and human capital

In this chapter, we aim to better understand the dynamic interplay between skills held at the personal level and, therefore, human capital provided at the CBI level and the potential diffusion of knowledge to CBIs' members and beneficiaries. Although CBIs receive great attention because of the role they play in fostering civic engagement, they are also noted for their ability at building community capacity that takes different forms (Toepler 2003). CBIs contribute to building the capacity of local communities neighbouring the CBI and have been shown to help residents improve their own quality of life (Green and Haines 2002). By providing services and access to skills which are needed or valued within the community and otherwise not available, CBIs can directly impact community residents.

Based on the data collected from the survey, we attempt to measure human capital externalities loosely based on a capabilities approach\textsuperscript{11}. This approach aims to identify and explain how functions and capabilities are generated as benefits to the members, beneficiaries, and neighbourhoods resulting from a CBI activity for which the activities were designed. In seeking to better understand the potential for CBIs to generate externalities for its beneficiaries, we consider the extent to which CBIs are able to offer members, participants and beneficiaries first and second-order learning occasions, to diffuse tacit skills, technical knowledge, to provide learning and education opportunities for informal and formal knowledge, to provide infrastructure to support the flow of information, ideas and knowledge spillovers, as crucial components of human capital (Smith, 2000). We establish a general indicator for human capital using estimates of the human capital resources utilized by CBIs, or labour inputs, and the capabilities, or skills, which are held by the CBIs' members. Our evaluation considers (1) the voluntary and paid labour contributed to CBIs, and (2) the professional and/or technical skills as well as most commonly held or widely diffused skills held by a CBI’s members as crucial to understanding the human capital available within each CBI.

In order to evaluate the level of human capital for our CBI sample, in the next pages we first look at the different mixes of paid and unpaid labour and then delve into the different skill sets which are made available by the CBIs' members and potentially stimulated by the CBI's efforts.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Assessment Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour input</td>
<td>CBI’s efforts can be expressed as the sum of the financial and human effort invested in activities. The actual versus potential labour needs can give an idea of how human efforts are used and developed by CBIs based on the needs of the CBI and within the community.</td>
</tr>
<tr>
<td>Skills</td>
<td>New skills acquisition and training opportunities are complemented by the availability of skilled workers within a given CBI. CBI daily activities and learning opportunities help to diffuse these skills both formally and informally among other members, beneficiaries and the wider local community.</td>
</tr>
</tbody>
</table>

Table 13 – Factors contributing to human capital

\textsuperscript{11} According to Radi and Radišić (2012), and drawing on the capability approach originally developed by Amartya Sen (1999), a capabilities approach makes a fundamental distinction between functionings - what is currently being done - and capabilities - what a person is able to do or to become (2012: 7).
6.1 Key variables

In order to estimate the potential human capital externalities of CBIs, as already mentioned, we consider two factors (Table 13): the first is what we define as the 'labour inputs' invested in the CBI; this gives a measure of the scale of activities conducted by the CBI. The second factor is the level of skills used to conduct such activities which is intended as a measure of the knowledge base mobilized by the CBI and available to its members, beneficiaries or to the local community. A summary of the variables used is reported in Table 14.

<table>
<thead>
<tr>
<th>Human effort</th>
<th>Relevant Data</th>
</tr>
</thead>
<tbody>
<tr>
<td># employees</td>
<td>Total # volunteers/participants</td>
</tr>
<tr>
<td># volunteers</td>
<td># paid person hours/month</td>
</tr>
<tr>
<td># participants</td>
<td># volunteer hours/week</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skills and training</th>
<th>Relevant Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three skills requiring highest level of qualifications</td>
<td># people in the initiative/skill</td>
</tr>
<tr>
<td>Most widely diffused/common skill applied to run CBI</td>
<td># years of education/skill</td>
</tr>
</tbody>
</table>

Table 14 - Data collected on human capital

Labour inputs

The labour inputs contributed by volunteers and members are crucial to the running of CBIs: although it is important to understand the efforts that are made by the CBI to provide access to both members and the wider community (e.g. such as gaining new skills or participating in learning opportunities), a thorough analysis of the opportunities for face-to-face interaction as well as learning, education and training activities is also covered in Chapter 8 of this deliverable and thus we do not include data on events in the analysis below. This section instead focuses on the amount of paid and unpaid labour invested in the organization of learning, education and training activities, events and opportunities for face-to-face interaction.

Voluntary (in-kind) and paid labour inputs

Before looking at the CBIs’ individual and collective capacities, we have to first understand the effort CBIs invest in accomplishing their tasks, activities, production, provision of services etc. We consider the total labour input as an indication of the level of human capital effort invested in CBIs: (1) contributed in-kind by unpaid members, i.e. volunteers; and (2) labour which is compensated for paid staff for running the CBI, organizing special events and opportunities for learning, training, face-to-face meetings etc. (See also Figure 39).
Total Labour Input = \frac{\text{(Paid staff monthly hours} + \text{In-kind volunteered monthly hours)} }{\text{Beneficiaries}}

After controlling for four CBIs who reported missing and incomplete data, we estimate that the labour input to CBIs is, on average, 10 hours of paid and in-kind labour per beneficiary each month. The majority of CBIs (64%) use less than one hour of labour for each beneficiary; nearly a quarter average one to 10 hours; and seven CBIs (12%) average more than 10 hours per beneficiary.

![Figure 37 - Volunteer labour in CBIs: CBI Distribution by percent of volunteers as proportion of total labour inputs](image)

Using data on the number of monthly hours volunteers contribute to the CBI as well as the hours reported for paid staff, we calculated the percent of volunteer labour as the proportion of total labour input in Figure 37, using the following formula:

Volunteer Labour Input: \frac{\text{Monthly hours of volunteer labour}}{\text{(Monthly paid hours} + \text{Volunteer hours)}}

After controlling for three CBIs with missing or unreported data, Figure 37 shows that more than half of all CBIs (56%) rely on volunteers for 80-100% of all human effort inputs to the CBI. On the other hand, less than a quarter of CBIs (12) rely mostly on paid labour, accounting for 80% of human effort, with the rest of the CBI work being carried out by volunteers.

We also calculate how much each member, on average, voluntarily contributes to working at the CBI each month. Using data on the total number of active members and paid staff, we calculated the number of volunteers as the total number of active members minus the number of paid staff. The average hours volunteered in kind are thus the total hours divided by the number of volunteers.
We asked CBIs for the total number of hours of voluntary labour they received each month, in-kind, and calculated the average number of hours each volunteer contributes in-kind using the following formula:

**Average hours volunteered in-kind:** total hours in-kind labour per month / number of volunteers.

After controlling for one CBI with unreported data and seven CBIs with no reported volunteer hours, we calculated that, on average, each CBI member voluntarily contributes 16 hours of in-kind labour monthly. The majority of CBIs average less than 10 hours per member of monthly in-kind labour (Figure 38).

![Figure 38 - Average hours volunteered in-kind: CBI Distribution by average monthly hours contributed by volunteers](image-url)

![Figure 39 - CBI distribution by monthly volunteer and paid labour inputs (Log scale)](image-url)
In Figure 39, CBIs are distributed according to their comparative monthly volunteer and labour inputs. CBIs with high levels of monthly volunteered labour seem to correspond, to a certain extent, to high levels of paid hours; there is also an interesting cluster of CBIs which have high levels of volunteering but low levels of paid labour. These CBIs could be interpreted as heavily relying on volunteer labour or perhaps as CBIs which have a higher level of social commitment from their members, i.e. more willingness to volunteer. Alternatively, this could also mean that CBIs with low paid staff manage to use them more efficiently.

Skills and Training

CBIs help address various complex and evolving issues that require a range of knowledge and expertise: the management of on-going and special events rely on the capabilities and skills of CBIs’ members in order to carry out their missions. Moreover, the skills held by CBI members can help to provide for shortages of leadership and institutional knowledge in their local communities.

In order to better understand how CBIs provide human capital resources and potentially contribute to generating human capital externalities we asked CBIs about the different types of skills that are needed in order to run their daily activities as well as special events. More specifically, we wanted to know which skills are needed to run the initiative as well as how highly skilled the members of the CBIs are. We asked CBIs to list up to three ‘top’ professional and/or technical skills which require the highest level of education, training or experience and how many people within the CBI have that skill. We define professional and/or technical skills as those skills which require formal education and/or work experience in order to be obtained. As such, we specifically excluded such general skills as interpersonal, relational, attitudinal skills, e.g. charisma, empathy, enthusiasm. In addition, CBIs reported the number of years of education and/or experience each skill requires.

<table>
<thead>
<tr>
<th>Skills Diffusion</th>
<th>Education</th>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Top’ professional/technical skills 1, 2, 3</td>
<td># of members with skills 1, 2, 3</td>
<td># years of education to obtain skills 1, 2, 3</td>
</tr>
<tr>
<td>Most common skills to run the initiative</td>
<td># of member with the skill</td>
<td># years of education to obtain the skill</td>
</tr>
</tbody>
</table>

Table 15 - Skills data collected

For the most common skill necessary and applied in running the initiative, we considered skills such as planting and organic fertilization knowledge for CBIs in the food domain; bike repair and transport planning for CBIs active in the transport domain; handicraft and merchandise management for the waste domain; and customer service, data management and reporting for the energy domain. We also collected data on the number of years or education and the number of years of education to obtain these skills.
Top professional and technical skills

We categorized the professional and technical skills held by members according to a generalized coding system. **Finance** skills are loosely defined to include financial planning, management and basic accounting skills. **Professional consultancy** services include skill sets which would normally be provided by licensed professionals such as architects, sociologists, and lawyers for instance. However, we considered **information technology** skills as a separate entity as these related to data management, programming and similar more specialized skill sets. **PR and communications** refers to public relations, marketing, communications, and public outreach skills. **Management** skills include day-to-day coordination, business management, and administrative skills. **Market** skills are skills used in goods and service provision, including the coordination of purchases, procurement, and other logistics-related work. **Environmental** skills are considered separately because of their special relevance to many of the CBIs whose activities pertain to the food, energy, and waste domains – this skill set includes advanced knowledge on issues such as urban agriculture, botany, renewable energy technologies. The other category of skills includes more relational skill sets such as experience in social activism, generic qualities ascribed to members such as reliability or being knowledgeable. **Education and training** skills as well as **manual labour** skills were also included.

Figure 40 shows all the reported professional and technical skills: each skill type is calculated as a percent of the total reported professional and technical skills by all CBIs. Excluding three CBIs who reported that no skills are needed to run their activities and removing one outlier from the analysis, we calculated the aggregate skills held by the other 59 CBIs: 154 total professional or technical skills were reported. Among these, the most widely held skill type is public relations and communications (29), followed by management (24) and environmental services (22).

![Figure 40 - Professional and technical skills requiring the highest level of expertise (% skill type relative to total skills)](image)
In Figure 41, we break down the number of CBIs with each skill: more than half of CBIs list PR and communications skills within their ‘top three’\(^{12}\) skills (in terms of professional or technical expertise needed). Approximately one-third of CBIs list management and administrative or consultancy skills. Few CBIs consider manual labour (8) and commercial skills (10) among the skills requiring the highest expertise.

\(^{12}\) “Top skills” are considered those that require the highest level of expertise, measured in terms of the number of years of training, education or experience needed to acquire that skill.
We further asked CBIs about the total number of members who hold the top three professional and technical skills needed to run the CBI. Figure 42 shows the distribution of highly skilled members in each of the skill types: overall, CBIs collectively have a total of 1,680 highly skilled members in their respective communities. Taking a closer look at the number of people who hold these skills, the most widely held professional or technical skill (after adjusting for one outlier) is in public relations and communications (28% of all skilled members in the remaining 60 CBIs); the least frequently cited is manual labour skills (accounting for 2% of members’ skills).

Although CBIs reported their own estimates on number of years of education required to obtain each of the professional or technical skills, data reliability and response rate were low. Therefore, we opted for calculating the number of years of experience and education in each CBI using standard figures for each type of skill (see Table 16).

<table>
<thead>
<tr>
<th>Financial</th>
<th>Consultancy</th>
<th>Education</th>
<th>PR-Communications</th>
<th>IT</th>
<th>Management</th>
<th>Market skills</th>
<th>Manual labour</th>
<th>Environmental</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>18</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>13</td>
<td>10</td>
<td>16</td>
<td>13</td>
</tr>
</tbody>
</table>

*Table 16 - Number of years of education required per professional skill (Adapted from EURYDICE, 2016)*

We calculated a **high skills index** for professional and technical skills using the cumulative years of education for all professional and technical skills held by each CBI, adjusting for the size of the CBI using the number of active members. CBIs reported the number of members that hold each professional and technical skill – this was multiplied by the number of years of education needed to obtain that skill (Table 16). The formula for the **high skills index** is as follows:

**High Skills Index (1):** \( \frac{\text{Total number of years of education for professional/technical skill}_{1,2,3}}{\text{Number of members with skill}_{1,2,3} \times \text{Total number of highly skilled members}} \)

Excluding the three CBIs who reported that no skills are needed to run their activities and removing two outliers, the number of years of high skills education for each CBI is shown in Figure 43 below. Where no figures were reported for the number of members who hold each skill, we estimated the number of members by using the average percent of members with that skill in other CBIs\(^{13}\).

---

\(^{13}\) For example, if skill x is, on average, held by 20% of the members in all other CBIs, then we calculated this as 20%*total number of members for the CBI with the unreported figure.
In order to understand how the CBIs compare in terms of accumulated years of high skills education, we show the distribution of CBIs according to the high skills index (1) in Figure 44 below. Just over half of CBIs have highly skilled members with an average of more than 16 years of education.

![Figure 43 - Number of years of cumulative education for high skills per CBI](image)

![Figure 44 - High skills index: CBI Distribution according to cumulative years of education for professional and technical skills per high skilled member](image)

**Widely diffused and common skills**

Next, we asked CBIs to list the most widely diffused and/or common skill applied in the day-to-day operations of the CBI. We coded the responses in order to categorize the most commonly held skills as follows: *project management* refers to managerial skills for organizing special events and day-to-day operations, project reporting and basic computer skills such as
emailing or word processing documents; *maintenance skills* are those types of skills which are closely tied to operations management of the working space for the CBI such as janitorial or cleaning services; *communication* skills refer to presentation skills, media and campaign outreach, etc.; *applied practical skills* are generally used in the production of goods, service provision and may include skills for repair work, gardening, etc.; *civic-social* skills are broadly defined to include social competencies, teamwork, etc.; and *environmental* skills which are applied to, for instance, program planning and design, environmental awareness-raising, etc. In total, 53 CBIs reported widely diffused skills (excluding 10 CBIs with missing and unreported data) the majority of which are *applied practical skills* (17), *communication* (12) and *project management* (11).

We also calculated the number of years of education required to obtain each skill. Due to high variance, missing data and a lack of consistency for the reported number of years of education, we opted to calculate the number of years of education required for each skill using standard figures shown in Table 17.

<table>
<thead>
<tr>
<th>Project Management</th>
<th>Maintenance</th>
<th>Communication</th>
<th>Practical</th>
<th>Civic</th>
<th>Environmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of education</td>
<td>16</td>
<td>10</td>
<td>16</td>
<td>13</td>
<td>10</td>
</tr>
</tbody>
</table>

*Table 17 - Number of years of education required per skill (Adapted from EURYDICE, 2016)*

After removing 10 CBIs with no reported data on the most commonly held or widely diffused skills, Figure 45 shows that 17 CBIs reported that applied practical skills are the most commonly held by its members, followed by communication (12) and project management (11).
In addition, we calculated the percent of members who hold the most common skill. As we can see in Figure 46, the majority of CBIs have diffused their most common skill among more than three-quarters of their members.

![Figure 46 - Percent of members with most common skill: CBI distribution in quartiles](image)

We measured the number of years of education required to obtain the most commonly or widely diffused skill in each CBI (see Table 17). After adjusting for 10 CBIs with no reported data on the most common skill, Using the Common Skills Index listed below, Figure 47 above shows the distribution of CBIs according to the number of years of education for the most common or widely diffused skill: the most common skill of nearly half of CBIs takes 16 years of education. Overall, the most commonly held or widely diffused skill takes an average of 13.9 years of education.

![Figure 47 - CBI Distribution according to years of education for most commonly held skill](image)

We measured the number of years of education required to obtain the most commonly or widely diffused skill in each CBI (see Table 17). After adjusting for 10 CBIs with no reported data on the most common skill, Using the Common Skills Index listed below, Figure 47 above shows the distribution of CBIs according to the number of years of education for the most common or widely diffused skill: the most common skill of nearly half of CBIs takes 16 years of education. Overall, the most commonly held or widely diffused skill takes an average of 13.9 years of education.

In Figure 48, we show the distribution of CBIs according to a combined **common skills index** and a **high skills index** (2). The formulas for the two indices are as follows:
**Common Skills Index:** Number of years of education per skill \(*\) Number of members with skill / Number of total active members;

**High Skills Index (2):** Number of years of education for professional/technical skill\(_{1,2,3}\) \(*\) Number of members with skill\(_{1,2,3}\) / Total number of members.

The comparatively ranked levels of high skills and common skills shows that only for some CBIs a high score on the common skills index correspond to higher scores on the high skills index. There is also a cluster of CBIs with low values for both high skills and common skills indices and one way of interpreting this is that there are CBIs that require neither a wide diffusion of high skills nor common skills: some CBIs are able to function without the necessity of either skill set.

![Figure 48 - Distribution of CBIs by high skills index and common skills index](image)

### 6.2 Conclusions: Towards an indicator for human capital externalities

This chapter has presented the data collected by the TESS project in order to explore the human capital available to community-based initiatives based in Finland, UK (Scotland), Italy, Spain, Germany and Romania. To this end, we looked at data collected on voluntary and paid labour inputs as well as skills held by CBI members in order to better comprehend the overall levels of human capital available in the 63 CBIs.

In terms of the labour inputs to CBIs, we found that CBIs with high levels of volunteered or in-kind labour seem to correspond, to some extent, to CBIs with high levels of paid labour. However, there is an interesting dynamic among CBIs that have low levels of paid labour and high levels of voluntary labour. Since these CBIs rely on a disproportionate level of voluntary labour rather than paid, they could be interpreted as having higher levels of efficiency or
productivity per unit of paid labour or alternatively they could be interpreted as having a membership that is more socially committed, i.e. more willing to volunteer.

When we look at the two types of categories of skills held by CBIs’ members, those that require the highest level of expertise and those that are the most widely diffused, we see that there is a general correlation between CBIs with high levels of professional/technical skills and high levels of widely diffused skills when these two types of skills are measured in relation to the size of the CBI (see Figure 48). There are also a number of CBIs that have low values for both professional/technical skills and skills that are the most common among members. Since these CBIs have relatively low levels of both types of skills in general, one way of interpreting this could be that the small percentage of members who possess either type of skill are more efficient in applying them in running the CBI. Alternatively, this could be seen as a lack of ability of these CBIs to diffuse skills among their members, or, these CBIs could simply be active in ways that require neither highly skilled members nor wide diffusion of commonly held skills. In either case, we would need additional information in order to support these hypotheses.

We specifically looked at the skills held by CBIs’ members in order to better understand their potential for fostering the development of new skills and training within their local communities. Generally speaking, CBIs in our sample have varying levels of cumulative expertise and skills and they use these in combination with a mix of voluntary and paid labour. While there is not clear answer in terms of how much of either variable works best, we did observe that CBIs average 10 hours of paid and in-kind labour per beneficiary each month. In terms of skills and expertise, public relations and communications skills are the most commonly found professional/technical skill among all the CBIs and applied practical skills are the most widely diffused or most common. Overall, the most common skill diffused among members requires nearly 14 years of education; and 75% of all CBIs have managed to diffuse their most common skill to three out of four members.

In order to translate this evidence into an estimation and discussion of the CBIs’ ability to provide human capital externalities to their members, beneficiaries and community, some additional issues (and variables) need to be considered. No matter the variety of skills held by CBIs members and employees, initiatives may have a very different propensity and ability to promote the diffusion of those skills. In terms of opportunities for knowledge diffusion, we must distinguish between formal occasions that are aimed at providing learning and training opportunities, and informal occasions that are not explicitly aimed at diffusing knowledge, but in the end represent a very relevant venue for such diffusion to take place.

In the first regard, CBIs may be the designers and implementers of activities that are explicitly aimed at, for instance, the acquisition of new skills and training by members for members and or beneficiaries. This can potentially support current members or beneficiaries in the community to realise their ideas, make services more accessible or effective for participants and help the CBIs themselves deliver stable collaborative services that can be applied in other arenas, e.g. the CBI acts as an enabler for people to connect with the CBI and other creative communities, to access their knowledge, tools and replicate existing collaborative services or start new initiatives; the skills and knowledge gained help members to find employment; etc. These kinds of CBIs activities are discussed elsewhere in this report, particularly in Chapters 8 and 11. In particular, formal opportunities for learning, education or training are offered by approximately half of CBIs but with a varied degree of intensity or frequency.

In terms of informal venues for knowledge diffusion are particularly relevant in order to transfer tacit, non-codified, and contextual knowledge, to target such diffusion to the specificities and
needs of receivers, to sustain innovation processes, etc. In order to better understand the ability and potential of a CBI to diffuse its knowledge and skills to its beneficiaries, the availability of opportunities for face-to-face interaction, which are extensively discussed in Chapter 8 and 9 of this report, must be taken into account.

It goes beyond the scope of this chapter (and of this deliverable) to define an index of human capital externalities; this will be done for the multi-criteria analysis, to be reported on in TESS Deliverable 4.2. As already stated, this index will consider both formal and informal occasions where the skills and knowledge held by a CBI's members can potentially be shared and diffused.
7 Some findings on the economic impact of community based sustainability initiatives in Europe

A sample of 63 case studies was selected for study and was collected. This chapter summarises findings relating to, on the one hand, the impacts that these initiatives are having on the economic situations of their participants and, on the other hand, on the local community. It is based on a wide range of quantitative and qualitative data collected from 63 CBIs across six European regions in an attempt to understand and assess their current and potential future impacts.

These economic impact represent the degree to which the CBI contributes (positively or not), and how, to the economic situation of their participants and on the local economy. For example, CBIs make goods and services available and/or accessible and more affordable for their participants, they might create new jobs and enterprises, help revitalize commercial districts, regenerate local economies, help businesses thrive, keep money circulating in the local economy, create new local investment opportunities, improve nearby land and housing values, generate additional tax revenues, provide new training and skills learning opportunities, change local wealth distribution, etc. (Bremer et al. 2003, Brown and Carter 2003, Flachs 2010, Hagan and Rubin 2013, Sherer 2006, Voicu and Been 2008). It is possible that they may also have, or be perceived to have, negative local economic impacts such as displacement of existing business.

Some of the CBIs studied are actively seeking to drive economic regeneration, create local job opportunities, and create more resilient local economies. Some are motivated by a desire to explore alternative ways of working and of financing and organising enterprise; others may reject the use of money all together, preferring to focus on voluntary work or alternative means of exchange such as the ‘gift economy’. Others are motivated to enhance ‘well-being’ and other less tangible measures of social capital, community capacity, and empowerment or maybe focused purely on environmental goals.

In the following sections, we summarise and quantify the various economic impacts that have arisen as a result of the activities of our diverse range of case studies. For the economic impact on participants, we attempt to estimate a proxy using data on the valuation of annual savings that CBI users obtain annually as a result of the activities of the initiative. With reference to the wider local economic impact, we specifically focus on the number of jobs created, the increase in money circulating in the local economy and on the value of the voluntary activity stimulated.

7.1 Economic benefits to participants

In times of economic recession, although evidence reveals that other motivations (such as environmental concerns or social aims) to join a community-based initiate are important, economic needs are becoming more pressing.

As shown in the literature review (Deliverable 2.2), in terms of economic impacts, the majority of participants, when asked about the most important reasons for joining CBIs, agreed “it was due to the financial savings” and impacts on income (Katzev 2003; Flachs 2010: 2). More in general, data gathered by different authors and for community-based initiatives active in a variety of domains provide different, and often divergent, empirical evidences.
Church and Elster (2002), for example, analyse local initiatives active in recycling projects and “identified significant socio-economic impacts with benefits for sustainable communities. These related to job creation, training and skills development, personal growth (e.g. self-esteem and confidence), a sense of community, social capital, improved access to services and facilities, health improvements, and greater civic engagement” (Seyfang 2009: 75). Likewise, Devine-Wright 2006 argues that “integrating small-scale renewables into community projects brings similar benefits” (Ibid).

The analysis of Muheim (1998: 20) regarding car sharing initiatives shows that practical reasons are the most important to participants and that the proportion of those who joined for ecological reasons is 6-9%. According to Flachs (2010), this rationale has become even more pressing in the current economic crisis and participants “saw their efforts in most of these initiatives as supplementing their income in the recession” (2010: 2). On the contrary, the evidence from our interviews is not in-line with the research of these authors. For the TESS case studies, in fact, data gathered using the self-assessment section of the questionnaire show that only four initiatives (out of 63) ranked having an economic aim as their top priority and, in general, economic reasons are far from the most important reason for joining the CBI.

Economic aims were less relevant than the other three objectives (environmental 91%, social 86% and political 72% as reported in Section 4 on taxonomy of this Deliverable). The relevance of economic aims, in fact, scored 71%, only behind the objective for innovativeness that scored 71%. As mentioned in Chapter 3 and Chapter 5, the most important ‘economic’ motivation cited by CBIs was indeed “economic benefits to participants” (78.7%), while “local economic impact” ranks third (66.1%). In particular, delivering economic benefits to participants is perceived as a vital aim by 47.9% of CBIs, 35.4% consider it extremely important, 35.4% very important, 14.6% somewhat important and 2.1% not very important. None of the interviewed CBIs considers this objective as “not important at all”.

Analysing the perception of the CBIs in terms of their own degree of achievement of this aim, 25.5% of the interviewed initiatives consider the objective fully achieved, 55.3% mostly achieved, 10.6% moderately achieved and only 8.5% low achievement. None of the CBIs feels that the objective was not achieved at all.

**An attempt to estimate a proxy for the economic benefits on participants**

Seyfang and Smith (2007) claim that grassroots’ innovative potential relies on their ability to deliver different kinds of material benefits: “the theory on niches (…) identifies two types of benefit: intrinsic benefits; and diffusion benefits. They are not mutually exclusive, and overlap in practice. (…). One values the niche for its own sake (intrinsic benefits), the other as a means to an end (diffusion benefits). The distinction delineates ‘simple niches’ (not seeking regime change) from ‘strategic niches’ (seeds for wider transformation)” (2007: 593).

From an economic perspective, the economic impact that CBIs might have for their own participants can be seen as “intrinsic benefit”; it depends on the ability of the initiative to deliver (direct and indirect) economic benefits to participants and the local community (e.g. by increasing individuals’ or households’ incomes). In effect, by making goods and services available and/or accessible and more affordable for their participants (e.g. providing products that individuals would otherwise need to pay for, giving participants access to affordable transport, energy, food, etc.) community-based initiatives show their potential in making a direct impact on the disposable income of their participants.
Participants of CBIs can obtain a variety of economic benefits and these can be measured in different ways. As discussed by Katzev (2003) for car and bike sharing initiatives, for example, a direct benefit derives from the financial savings gained by “avoiding the cost of owning and operating a private vehicle or by making it unnecessary for people to purchase one” (2003: 71). This is also applicable in other domains of activities. In the case of community gardens and community farming, just to give another example, initiatives deliver fresh, local, and often organic food at relatively low prices and, therefore, their participants save money on comparable products available in shops. Flachs (2010), states that participation is economically advantageous for individuals because “with a relatively small input, they can make large returns” (p. 2). For instance, community gardeners have been shown to gain significant savings on food costs for produce (Hlubik et al. 1994; Armstrong, 2000; Hagan and Rubin 2013). Another direct benefit created by the initiative is its potential for job creation. Data gathered using the TESS project shows that 58.7% of CBIs directly or indirectly created jobs. In particular, this aspect will form part of next section (and indicator) about the local economic impact of CBIs.

Not all the impacts of a CBI are positive. Below are some of the direct negative elements explored in the literature. As discussed in Section 4.4 (“Openness to New Participants”) participants in CBIs usually incur direct costs; even if they are low, membership rates and usage fees represent an expense for members. In the cases we examined, 46% of CBIs did not ask for any fees, while 31.7% charged annual fees, 17.5% charged membership fees, and 12.7% asked for extra contributions. Moreover, we noted that the last three categories are not mutually exclusive and, for example, participants of the CBIs in this study have often been asked for a membership fee as well as an annual enrolment fee or extra contribution. Further, participants may, at times, be asked to contribute towards covering the costs of project operation, maintenance and management, periodic subscriptions or prepayments for goods and services (for example, when CBIs provide housing or energy). In order to cover operational costs, CBI participation may involve contributions of labour, effort or other tangible contributions (space, means of transport, etc.). Voluntary work is especially of interest as it represents a direct opportunity cost when volunteers dedicate in-kind labour instead of using their free time for alternative or remunerative uses.

We have already estimated how many people are involved in the activities of the initiatives and provided an estimation of the total numbers of participants and hours of voluntary work (expressed in FTE) that these people contribute to the CBIs (see Section 4.3). Nevertheless, considering the high variability of this information, we did not attribute any market price to this data and we could not use it in the elaboration of an indicator of economic benefits on participants. There are also situations where CBI participants incur higher costs for goods or services when purchased from the initiative – although they may be willing to pay more, this is often motivated by non-economic justifications to support alternative production networks which rely on ethical or more sustainable practices (Grasseni 2014). This is true for some products sold by CBIs that are active in the food domain and provide, for example, organic produce.

Estimating the wide range of possible variables to be considered, the variety of domains and the differentiation between CBIs is quite a complex task. Due to data inconsistencies and unavailability, we have used a proxy in order to assess CBIs’ potential to deliver monetary benefits to participants. The indicator selected focuses on an estimation of the amount of money that the group of “users/utilizers” of a CBI saves annually as a result of the project’s activities. Data needed to evaluate a proxy for this indicator was collected by asking our case
studies “how much do you estimate that your users/utilizers save annually as a result of your project activities.”

From a methodological point of view, it is important to note that the data on annual fees paid by members of CBIs could not be used as a proxy because “fees” are generally paid by formally registered members of the CBIs. Instead, the proxy for this indicator is focused on the wider group of beneficiaries who represent the entire group of people that derive economically valuable benefits from the CBI, i.e. in the form of goods or services.

As shown in Figure 49 below, we analysed CBIs with reported data (60.3% of the total), and found that 20.6% are able to create monetary benefits per year of up to 50 Euros, 7.9% create between 50 and 100 Euros, 15.9% between 100 and 500 Euros, and only a few CBIs (3.2%) provide an annual benefit of 500 Euros or more. Finally, 12.7% do not deliver any economic benefit.

![Figure 49 - CBIs (%) delivering benefits to beneficiaries](image)

To conclude, the average CBI in TESS is able to deliver some direct monetary benefits to its users/utilizers. We measured this by asking CBIs how much direct savings they provide to their beneficiaries. The mean average is approximately 132 Euros per year and per person.

### 7.2 Local economic impacts of community-based initiatives

As shown in Chapter 3.6 of this report, 65% of CBIs consider the objective “to revitalize the local/community economy” relevant and, among those, the objective for local economic impact has been considered extremely important (vital) by half of CBIs. In terms of the degree of achievement, 15.0% of CBIs perceive they have already fully achieved this objective, nearly half of them (47.5%) felt they have mostly achieved this aim, 25.0% think that the objective has been ‘somewhat achieved (moderately)’, and 12.5% declare a low achievement of this objective. Whatever their motivation, all case studies are engaged in activities that they feel had some impact on their local economy and in many cases this has been very significant.

Conventional (‘top-down’) measures of economic impact based on contextual data such as employment rates, earnings, wealth distribution, debt levels, asset values etc. are not useful
here due to unavailable data (e.g., not up-to-date figures) and because it is impossible to attribute causal changes to a particular CBI’s activities. Another issue is the likely long lead-time before tangible economic benefits are likely to be realized (Armstrong, 2000). For the purposes of assessing the local economic impact directly attributable to TESS case study CBIs, the following indicators are considered relevant:

- Job Creation;
- Local Wealth Retention;
- Local Wealth Generation;
- In-kind Contribution;
- New Skills and Training Opportunities.

Whilst new skills and training opportunities created by a CBI may not lead to short-term economic impact, some measure of the local skills base, and how this changes, is of relevance for future potential economic impact. However, one limitation of this study is that we were not able to quantify future potential impacts and so future projections are excluded from this analysis. An analysis of CBIs’ “human capital” – which may also be considered as a form of economic benefit - is presented in Chapter 6 of this report, while the issue of how CBIs contribute to deliver economic benefits to individual participants or beneficiaries is discussed in this chapter. In addition, while it would have been useful to consider wider measures of ‘well-being’ and the contribution of a CBI to building local economic resilience which may include social and economic inclusion as well as longer-term community capacity building, this was, again, beyond the scope of the present chapter and of the available data.

**The potential of CBIs to create new jobs**

As with many non-profit organizations, community-based initiatives can deliver essential services, are locally controlled and often contribute to job creation within their communities. Therefore, CBIs can have positive implications for community development. In particular, the potential of CBIs in creating new jobs can be evaluated using an *ad hoc* “Job Creation Index”. This index considers the total number of permanent new jobs created Full-Time by the community-based initiatives thanks to their activity, expressed in terms of a Full-Time Equivalent (FTE). This may include employment directly created within the CBIs as well as other jobs that have been created indirectly as a result of a CBI’s activities. The number of new jobs created may include those funded by new grant income brought in by the CBI, those in new or expanded enterprises started or supported by the CBI or through new opportunities for existing businesses that were created.

Data needed to evaluate a proxy for this indicator has been collected by asking our case studies to count how many new jobs (measured as ‘Full-Time equivalent’) have been created as a direct consequence of their activities. In order to estimate the employment directly created within the CBIs we asked: “how many people are employed by the initiative?” meaning “how many people received a salary or wage for the fiscal year 2014”; “how many person hours are paid (excluding in kind compensation) every month?”, and “minimum and maximum hourly or weekly or monthly wage you paid to your employees last year?”.

Moreover, in order to estimate the employment in their local area indirectly created thanks to the CBI’s activities, we asked: “besides the people already employed at the initiative, are there any outside new paid jobs (measured as ‘Full-Time equivalent’) created thanks to the initiative activities?” If this answer was positive, we then asked: “If yes, how many of those jobs still
 existed at the end of 2014?" The Job Creation Index, therefore, consists of the sum of these two components, indirect (Table 19) and direct (Table 18) jobs, calculated in full-time equivalent (Figure 50).

Figure 50 shows that many CBIs have successfully created a significant number of jobs. Three CBIs have created over 50 jobs (maximum 320) whilst another 10 CBIs created 10 or more jobs. Whilst many CBIs created no jobs, the majority created at least some part-time employment. The median was 0.7 FTE jobs created per CBI. In terms of direct jobs, CBIs created 482 FTE jobs. The top 10 CBIs in terms of job creation are listed in Table 18.

<table>
<thead>
<tr>
<th>Tess ID</th>
<th>Legal Status</th>
<th>Energy</th>
<th>Food</th>
<th>Transport</th>
<th>Waste</th>
<th>Other</th>
<th>Number of job created directly (FTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN_waste_07</td>
<td>For-profit Organisation</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>286</td>
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<tr>
<td>FIN_waste_03</td>
<td>Non-profit Organisation</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>90</td>
</tr>
<tr>
<td>ITA_food_05</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>43</td>
</tr>
<tr>
<td>ROM_multi_12</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>ITA_waste_03</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>ESP_transport_03</td>
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<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>GER_waste_07</td>
<td>For-profit Organisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>ESP_energy_04</td>
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<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>ROM_food_02</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>ESP_waste_08</td>
<td>Cooperative</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

Table 18 – Top 10 CBIs in terms of direct job creation

In total 36 initiatives (57.1%) reported having created no direct jobs. On average, our sample
created nine direct jobs per CBI (min 0, max 286, median 0.01, n=63). Moreover, 50% of the top 10 CBIs (in terms of direct job creation) were multi-domain CBIs.

Regarding indirect jobs (Table 19), 223 of the total 705 FTE jobs created were ‘indirect’, i.e. meaning not employed directly by the CBI but arising as a direct consequence of their activities. The top 10 CBIs in terms of indirect job creation are listed in the table below.

<table>
<thead>
<tr>
<th>Tess ID</th>
<th>Legal Status</th>
<th>Energy</th>
<th>Food</th>
<th>Transport</th>
<th>Waste</th>
<th>Other</th>
<th>Number of jobs created indirectly (FTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCO_multi_01</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>70</td>
</tr>
<tr>
<td>FIN_waste_03</td>
<td>Non-profit Organisation</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>FIN_waste_07</td>
<td>For-profit Organisation</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>ROM_multi_12</td>
<td>Non-profit Organisation</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>FIN_energy_02</td>
<td>Co-operative</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>ROM_food_02</td>
<td>Non-profit Organisation</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>SCO_multi_03</td>
<td>Non-profit Organisation</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>7</td>
</tr>
<tr>
<td>ESP_energy_02</td>
<td>Informal Organisation</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>7</td>
</tr>
<tr>
<td>ESP_food_10</td>
<td>Cooperative</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>SCO_multi_08</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

*Table 19 – Top 10 CBIs in terms of indirect job creation*

<table>
<thead>
<tr>
<th>Tess ID</th>
<th>Legal Status</th>
<th>Energy</th>
<th>Food</th>
<th>Transport</th>
<th>Waste</th>
<th>Other</th>
<th>Number of job created directly and indirectly (FTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN_waste_07</td>
<td>For-profit Organisation</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>321</td>
</tr>
<tr>
<td>SCO_multi_01</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>73</td>
</tr>
<tr>
<td>FIN_waste_03</td>
<td>Non-profit Organisation</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>51</td>
</tr>
<tr>
<td>ITA_food_05</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>45</td>
</tr>
<tr>
<td>ROM_multi_12</td>
<td>Non-profit Organisation</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td>34</td>
</tr>
<tr>
<td>ROM_food_02</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>24</td>
</tr>
<tr>
<td>ITA_waste_03</td>
<td>Non-profit Organisation</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>ESP_transport_03</td>
<td>Cooperative</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>ESP_energy_04</td>
<td>Cooperative</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>SCO_multi_03</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>GER_transport_10</td>
<td>For-profit Organisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>11</td>
</tr>
</tbody>
</table>

*Table 20 – Top 10 CBIs in terms of direct and indirect job creation*

Regarding the entire sample of 63 CBIs, 45 initiatives (71.4%) reported not having created any
indirect jobs. Whereas 70% of the top 10 CBIs (in terms of indirect job creation) operate in the food domain, or are multi-domain types. Across the whole sample, CBIs created an average of four indirect jobs per CBI (min 0, max 70, median 0, n=63).

In sum, CBIs created, on average, 11 indirect or direct jobs (min 0, max 321, median 0.69, n=63). In total 60% of the top 10 CBIs (in terms of both direct and indirect jobs created) were multi-domain CBIs. The size of the communities in which our case studies operate varies widely from a whole city to a small neighbourhood. We have defined the size of this community according to the self-reported number of people that the CBI regards as beneficiaries of their activities.

Table 21 shows the total number of FTE jobs created per local beneficiary for the top CBIs in our sample. On average, CBIs created 0.0451 FTE jobs per local beneficiary (min 0, max 1.495, median 0.0004, n=63).

<table>
<thead>
<tr>
<th>Tess ID</th>
<th>Legal Status</th>
<th>Energy</th>
<th>Food</th>
<th>Transport</th>
<th>Waste</th>
<th>Other</th>
<th>Number of indirect and direct jobs created/local beneficiary (FTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITA_food_05</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>1.495</td>
<td></td>
</tr>
<tr>
<td>ITA_waste_03</td>
<td>Non-profit Organisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.857</td>
<td></td>
</tr>
<tr>
<td>SCO_energy_06</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>0.084</td>
<td></td>
</tr>
<tr>
<td>ROM_food_09</td>
<td>Non-profit Organisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.076</td>
<td></td>
</tr>
<tr>
<td>ESP_transport_03</td>
<td>Cooperative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.072</td>
<td></td>
</tr>
<tr>
<td>SCO_multi_01</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>0.067</td>
<td></td>
</tr>
<tr>
<td>ROM_multi_12</td>
<td>Non-profit Organisation</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>0.034</td>
<td></td>
</tr>
<tr>
<td>FIN_energy_08</td>
<td>For-profit Organisation</td>
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<td>x</td>
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<td>x</td>
<td>0.029</td>
<td></td>
</tr>
<tr>
<td>GER_transport_10</td>
<td>For-profit Organisation</td>
<td></td>
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<td></td>
<td></td>
<td>0.022</td>
<td></td>
</tr>
<tr>
<td>ESP_energy_02</td>
<td>Informal Organisation</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>0.018</td>
<td></td>
</tr>
</tbody>
</table>

Table 21 – Top 10 CBIs in terms of indirect and direct jobs created per local beneficiary

The potential of CBIs to retain local wealth

The activities of CBIs might help retain locally produced capital, increase recirculation of money and help contain and/or stop leakages from the local economy. CBIs can therefore contribute to the promotion of local economic development. As discussed by Hagan and Rubin (2013), for example, when neighbours and residents start to “buy local” this is likely to activate a general trend of lifestyle changes improving both the health and economic vitality of communities (2013: 11).

Estimating the retention of local leakages is very challenging (New Economics Foundation, 2002b), nevertheless, we considered it feasible – to some extent – to catch and measure some of them. In order to do so, we estimated a specific indicator denominated “Local Wealth Retention” which represents a proxy for the value of former leakages from the local economy now locally retained thanks to the projects and activities run by CBIs. In particular, at the local level, retention of more wealth may occur through, for example, enabling beneficiaries/participants to save on household energy bills or through the increased
availability of local food or other goods. It may also include services now carried out by local people instead of by people who live outside the area.

CBIs may contribute to reduced economic leakage in many ways – some relevant examples from different activity domains are listed in Table 22.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>Value of savings to beneficiary’s energy costs through reduced energy consumption or micro-renewable energy generation</td>
</tr>
<tr>
<td>Food</td>
<td>Value of extra food now produced and consumed locally as a result of the CBI’s activities</td>
</tr>
<tr>
<td>Transport</td>
<td>Value of savings accruing to beneficiaries (e.g. reduced consumption of car fuel, maintenance costs; public transportation fares) as a result of reduced travel or modal shift to walking/cycling</td>
</tr>
<tr>
<td>Waste</td>
<td>Value of savings by participants as a result of goods repaired and reused rather bought new; food no-longer wasted</td>
</tr>
</tbody>
</table>

Table 22 - Examples of reduced economic leakages per each TESS domain of activity

Based on these examples, CBIs were therefore asked to think about how their activities, across different domains, have contributed to the reduction of economic leakages from their community. Data needed to evaluate a proxy for this indicator has been collected by asking our case studies: “how much do you estimate that your users/utilizers save annually as a result of your project activities” (see also Figure 49). Out of our sample of 63 CBIs, 28 were unable to provide estimates for the amount of wealth retention in their local economy as a result of their activities (44%); nine reported no reduction in leakage whilst others reported a very significant reduction in economic leakage. In general, CBIs were unable to give specific
numbers for the level of local wealth retention, instead offering ranges of local wealth retention or comparisons of their own services such as heat production with wood to business-as-usual services such as heat production by oil.

<table>
<thead>
<tr>
<th>Tess ID</th>
<th>Legal Status</th>
<th>Energy</th>
<th>Food</th>
<th>Transport</th>
<th>Waste</th>
<th>Other</th>
<th>Local Wealth Retention (Euro /year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN_waste_07</td>
<td>For-profit Organization</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>€ 3,850,000</td>
</tr>
<tr>
<td>SCO_multi_03</td>
<td>Non-profit Organization</td>
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<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td>€ 772,380</td>
</tr>
<tr>
<td>FIN_energy_02</td>
<td>Cooperative</td>
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<td></td>
<td></td>
<td>x</td>
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<td>€ 375,000</td>
</tr>
<tr>
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<td>x</td>
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<td>€ 340,000</td>
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<td>x</td>
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<td>€ 180,000</td>
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<td>€ 102,600</td>
</tr>
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<td>ESP_waste_06</td>
<td>Informal organization</td>
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<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td>€ 80,000</td>
</tr>
<tr>
<td>SCO_transport_02</td>
<td>Non-profit Organization</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td>€ 71,863</td>
</tr>
</tbody>
</table>

Table 23 – Top 10 CBIs in terms of Local Wealth Retention per year

<table>
<thead>
<tr>
<th>Tess ID</th>
<th>Legal Status</th>
<th>Energy</th>
<th>Food</th>
<th>Transport</th>
<th>Waste</th>
<th>Other</th>
<th>Local Wealth Retention (Euro /year)</th>
</tr>
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<tbody>
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<td></td>
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<td>x</td>
<td></td>
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</tr>
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<td>x</td>
<td>x</td>
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<td>€ 227</td>
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<td></td>
<td>€ 194</td>
</tr>
<tr>
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<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>€ 193</td>
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</tr>
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<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>€ 96</td>
</tr>
</tbody>
</table>

Table 24 – Top 10 CBIs in terms of Local Wealth Retention per year per beneficiary
The average wealth retention across our sample was 186,000 Euros per year but this is skewed by one CBI that reported local wealth retention of 3,850,000 Euros per year (see Figure 51). The median was 16,734 Euros across the sample of 63 CBIs. In order to obtain a reliable indicator, we then normalised the estimated wealth retention per number of local beneficiaries declared by each CBI. When normalised by the number of local beneficiaries reported by the CBIs, the annual wealth retention due to their activities is shown in Figure 54. Four CBIs reported in excess of 200 Euros per year, per beneficiary. The median was 27 Euros per year with a maximum of 1,308.00 Euros. Those CBIs reporting the highest local wealth retention (total) are described in Table 23 and Table 24 below. Ninety per cent of these CBIs operate in either the energy or waste domain with 30% of these operating in both.

The potential of CBIs to generate local wealth

In addition to retaining capital and money locally, CBIs are able to attract capital, provide loans, and encourage local investment thanks to their innovative approaches to solving problems and creating new opportunities. Generation of new local wealth may occur also through value being added by local processing of goods or materials previously exported from the area of a CBI or, for example, by what was previously considered ‘waste’ being ‘upcycled’ e.g. a CBI may be milling timber that was previously exported from the area as round logs, adding value to locally grown food (such as milling wheat and baking bread), a CBI may own a wind turbine that is generating substantial annual revenues, etc. Additional funds gained through grants or other similar funding schemes can potentially channel or spur economic activity in the local area and may be considered a component of local wealth generation. This new local wealth generation may occur as a result of a CBI’s activities to stimulate local enterprise or may be carried out directly by the CBI itself.

The selected CBIs were asked to provide data on their total turnover (revenues) as well as the extra turnover that their activities have been responsible for stimulating in any other local enterprises. In particular, two specific questions of the questionnaire provided a good approximation of these dimensions: the first one related to the annual revenues of the CBI for the fiscal year 2014; the second one aimed at estimating other local economic activity stimulated by the work of the CBI. The latter was collected by using the following question: “in case the initiative facilitates transactions (e.g. connecting producers and consumers), can you give us a figure [monetary or non-monetary] of how much is exchanged yearly thanks to the initiative?” This could be, for example, money collected by a Solidarity Purchasing Group in order to ‘pay’ the farmer for the vegetables – in this case the initiative only ‘facilitates’ the transaction but it still seemed relevant to understand the amount of money ‘collected’, and therefore the turnover activated by the activity of the CBI.

Of the 63 CBIs analysed by the project, three were unable to provide any data whilst eight of them had no direct financial transactions. Figure 52 shows the range of total new wealth generation (direct and indirect) reported from all our case studies.
Figure 53 shows this range in more detail. Nine (14%) CBIs report new total local wealth generation in excess of 500,000 Euros per year with a maximum of 9.4 million Euros. The median is 18,740 Euros per year whilst 16% of CBIs reported no wealth generation at all.

When normalised for the number of local beneficiaries reported by CBIs, the annual wealth generation due to their activities is shown in Figure 54.
Table 25 below presents the results for the top ten CBIs (in terms of local wealth generation per beneficiary, per year); with values ranging between 338 Euros and 6,538 Euros.

<table>
<thead>
<tr>
<th>Tess ID</th>
<th>Legal Status</th>
<th>Energy</th>
<th>Food</th>
<th>Transport</th>
<th>Waste</th>
<th>Other</th>
<th>Local Wealth Generation (Euro /beneficiary per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GER_waste_07</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>x</td>
<td>€ 338</td>
</tr>
</tbody>
</table>

Half of the top 10 CBIs are “non-profit organizations”; these are officially registered legal entities (e.g. charities, community development trusts, associations and NGOs). There are three in the UK, one in Italy and one in Finland. Thirty percent of them are cooperatives, i.e.
jointly owned enterprises engaging in the production or distribution of goods or the supply of services, operated by their members for their mutual benefit and typically organized by consumers or farmers. Two of them operate in Spain, one in Finland. Twenty percent operate in Germany and are “for-profit organizations”: legal and registered entities that, in order to pursue their objectives and aims, sell goods or services (usually private companies). None of them are “informal organizations”, meaning there are no CBIs in the top 10 that are unregistered and without any legal status. Finally, three CBIs are multi-domain but it is notable that 60% of these multi-domain CBIs are also operating in the domain of waste (even though only exclusively in three cases).

**An estimate of the local economic impact of the CBIs**

The estimates of wealth retention and wealth generation mentioned above can be combined to give a proxy of the local economic impact of a CBI. When wealth retention and generation are considered together, there are 11 CBIs in our sample that totalled over 310,000 Euros per year (see Figure 55); 20 CBIs totalled less than 10,000 Euros; and the maximum was 9.4 million Euros and the median was 39,000 Euros.

![Figure 55 - Total New Local Wealth Retention plus Wealth Generation per year by number of CBIs](image)

When this is normalised by the number of local beneficiaries (see Figure 56), there were six CBIs that reported over 1,300 Euros per year of new local wealth; the maximum was 7,800 Euros and the median was 58 Euros per beneficiary.

The top 10 CBIs (in terms of total local wealth retention and generation per beneficiary, per year) are shown in Table 26; most of them are operative (in most of the cases not exclusively) in the energy and waste domains. Some of them are active in the transport domain (two CBIs exclusively), while only multi-domains CBIs are active also in the food domain (three CBIs).
The local multiplier effect of the CBIs

The multiplier was invented by the economist John Maynard Keynes, in the twentieth century. As discussed by different authors, “the multiplier has been used to study all sorts of economics problems since then, (...) and has mainly been used to look at the economy at the national or regional level (macroeconomic level)” (New Economics Foundation 2002a: 12). Recently, the evaluation of the local multiplier effect has been adapted for relevance in use at the local and organisational level (microeconomic level). At this level, in fact, the local multiplier represents a significant approximation (even if often rough) that can offer valuable insights into the functioning of the local economy (Ibid). Spending by one enterprise to purchase goods and
services from other local businesses generates, in fact, further local economic activity. This issue has been the subject of an intense academic debate and available literature shows different methodologies that can be useful for the identification and calculation of local multipliers.

In our specific analysis, the total economic impact of new wealth retained or generated in any community is very dependent on how long this money circulates locally and how many times it is re-spent. Nevertheless, whilst we have collected data on the percentage of revenue a CBI spends locally, we have not been able to follow this spending in detail so as to be able to calculate local multipliers. Eight CBIs were unable to provide any information on local spending or they reported zero financial transactions.

Different authors (e.g. Cox 2010, Hopkins 2010) have proposed a range of indicators for local economic resilience such as the percentage of local household expenditure that is spent locally, and the percentage of locally owned businesses. In order to estimate the total annual expenditure of CBIs, we asked initiatives to provide us with an estimation of the amount of money locally spent, using the following question: “what percentage of your (of the CBI) total expenditure is spent with local suppliers?”, where expenditures include all money spent on purchasing consumables as well as paying for services such as graphic design, IT support, website design, venue hire, bookkeeping/accounting, catering or services provided by a local consultant, etc.

The data collected helped to provide a general overview of the phenomenon. As a general approximation, on average, CBIs spend 74.1% locally (min 0, max 100, median 80.0, n=53). On average, multi-domain CBIs spend 74.2% locally (min 0, max 100, median 80.0, n=28). CBIs operating only in the transport domain spend, on average, 97.5% locally (min 90, max 100, med 100, n=4), in the energy domain on average, 69.0% (min 0, max 100, med 80.0, n=5), CBIs in the food domain on average, 80.4% (min 0, max 100, med 90.0, n=9) and CBIs
operating only in the waste domain spend, on average, 61.5% locally (min 0, max 100, med 80.0, n=10). If we assume that these local enterprises replicate similar levels of local expenditures, there could be a sizeable local multiplier: 80% local spending repeated down the line would produce a multiplier of five. The size of the multiplier depends upon one’s marginal decision to spend [locally], called the marginal propensity to consume [locally] (mpc). The following general formula to calculate the multiplier has been used: \(1/1-\text{mpc}\). Hence, if CBIs spend 0.8 locally and save 0.2 of every 1 Euro of extra income, the multiplier will be: \(1/1-0.8 = 1/0.2 = 5\). The multiplier is therefore five, which means that every 1 Euro of new local income generates 5 Euros of extra local income.

### Tess ID Legal Status

<table>
<thead>
<tr>
<th>Tess ID</th>
<th>Legal Status</th>
<th>Energy</th>
<th>Food</th>
<th>Transport</th>
<th>Waste</th>
<th>Other</th>
<th>In-kind contribution /annum</th>
<th>In-kind contribution /annum/local beneficiary</th>
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</thead>
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<td>x</td>
<td></td>
<td>x</td>
<td>€ 115,200</td>
<td>€ 327</td>
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</tbody>
</table>

|Table 27 – Top 10 CBIs in terms of value of in-kind contributions per year per beneficiary |

### In-kind contribution

Most of the CBIs studied are run by volunteers and, in many cases, stimulate a very significant amount of unpaid activity (see Chapter 6). Whilst this activity does not directly add to local financial flows, it is still an important element of economic activity that deserves measurement. We have therefore collected data to quantify the value of this ‘in-kind’ contribution, estimating, as a proxy, the amount and value of the free voluntary work that people ‘donate’ to the initiative. Data needed to evaluate a proxy for this indicator has been collected by asking our case studies: “how many person hours every week people volunteer to the initiative’s activities” and then, “talking about these people actively participating (but not paid), how much do you think it would cost monthly to cover the free labour that they give to the initiative”.

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Five CBIs received in excess of 820 Euros per year of in-kind contributions per local beneficiary with a maximum of 6,400 Euros per year. The median was 22.17 Euros (11 CBIs were unable to provide data).

Table 27 shows the top 10 CBIs (in terms of in-kind contributions per beneficiary); it is clear that the value of in-kind contributions is very substantial; 50% of the top ten CBIs operate in the food domain, 40% in the waste domain.

### 7.3 Conclusions

Whilst a third of our sample of case studies did not consider the local economic impact of their activities to be a relevant objective for their work, two-thirds were concerned about economic impact and half of these two-thirds considered it to be extremely important. Whatever the motivation for their activities may be, all our case studies have been shown to have some impact on their local economies and, in some cases, this has been very substantial. Many CBIs have successfully created a significant number of jobs: three CBIs created over 50 jobs (maximum 320), another 10 CBIs created 10 jobs or more, and whilst 26 CBIs created no jobs, the majority created at least some part-time employment. The median was 0.7 FTE jobs created per CBI.

The concept of local wealth retention through reduced economic leakage did not appear to be well understood by respondents, or it was considered something CBIs were not able to quantify; indeed, 44% of our case study sample was unable to provide any estimates. Of those who did provide data, the reduced economic leakage was often considerable (up to 3.85 million Euros per year in one case) and with a median of 16,734 Euros, or 27 Euros per year, per local beneficiary. Given the lack of data, this is likely to be a considerable underestimate. Nine (14%) CBIs report new total local wealth generation in excess of 500,000 Euros per year with a maximum of 9.4 million Euros. The median was 18,740 Euros per year whilst 16% of CBIs reported no wealth generation at all, relying solely on unpaid volunteers and do not generate any income. When wealth retention and new wealth generation were considered together, there were eleven CBIs in our sample that totalled over 310,000 Euros per year. Twenty CBIs totalled less than 10,000 Euros. The maximum was 9.4 million Euros and the median was 39,000 Euros per year. When normalised for the number of local beneficiaries, there were six CBIs that reported over 1,300 Euros per year of new local wealth. The maximum was 7,800 Euros and the median was 58 Euros per beneficiary.

We were unable to quantify local multipliers but most CBIs in the sample prioritised local spending wherever possible, with a median of 80% of expenditures being based in the local economy. Moreover, 80% of local spending, repeated down the line, would produce a multiplier of five, considerably magnifying the overall level of local economic activity stimulated by our case studies.

Most of the CBIs studied are run by volunteers and, in many cases, stimulate a very significant amount of unpaid activity. Five CBIs stimulated in excess of 820 Euros per year of in-kind contributions per local beneficiary with a maximum of 6,400 Euros per year. The median was 22 Euros per beneficiary per year. Overall, we can conclude that although creating an economic impact is, in most cases, not the primary aim of community led sustainability initiatives, their ability to create new jobs, generate wealth, and revitalize the local economy is considerable; therefore, it must be carefully considered in order to have a complete picture and...
assessment of their functioning and effects.
8 An analysis and classification of grassroots activities and interaction

The aim of this section is to investigate the different forms of interaction through which CBIs engage with their members, their constituencies and with the local community. This helps to better understand whether and to what extent CBIs provide different forms of engagement as manifested by their activities that entail direct interaction between members of the CBIs and external parties. For the aims of the analysis, therefore, we only focus on the subset of CBI activities that involve face-to-face contact with members of the local community, the user base (beneficiaries) or the public at-large. These include activities such as public meetings and events, training and dissemination activities, direct provision of services or arms-length commercial and non-commercial exchanges of goods. In the remainder of this chapter, we will refer to this subset of activities as “grassroots activities” in order to highlight the fact that these activities represent a privileged channel through which CBIs, on the one hand, provide opportunities for building or strengthening social ties and, on the other hand, exchange knowledge, information, and resources with the grassroots level. This analysis is therefore aimed at both better understanding the functioning and aims of CBIs, and at contextualising the analysis presented in Chapter 9 about how CBIs contribute to the creation and consolidation of bridging and bonding social capital in the communities in which they operate.

The following questions have been used to guide the analysis:

1. Which types of grassroots activities do CBIs more frequently perform?
2. Is it possible to identify regularities in the mix of grassroots activities that CBIs perform, and consequently to identify groups of CBIs that specialise in a similar range of activities? If so, does this specialisation relate to some basic characteristics of the CBIs such as their domain of activity, their size, or their country of operation?

The analysis is based on data gathered for 63 CBIs in six European regions and is largely descriptive and exploratory in character; tools drawn from Social Network Analysis have been utilised to identify patterns in the relations linking CBIs to their grassroots activities.

In order to investigate the grassroots activities of CBIs, the analysis relied on information collected on the following aspects of CBIs characteristics and operations:

- **Basic information**: year of establishment, domain of operation, number of official members and active participants. This data allowed to outline of the main features of CBIs under investigation in term of specialisation, scale and longevity;
- **Grassroots activities**: data on the type, frequency and target of activities involving face-to-face interaction with members, users, the local community and the general public. Data relevant for this section were primarily collected through open-ended questions; for the aims of the analyses presented in this report, data were coded in order to extract key concepts, codify them into discrete categories and assess their distribution among the sample of initiatives under investigation;
- **Relevance of the grassroots level for the activities of the CBIs**: Responses to the following question were analysed in order to understand the self-assessed relevance of the grassroots level for the initiative: “Do you consider the needs/desires of the local area community/population where your initiative is active as relevant to your activities, strategies, decisions?”.
8.1 **Main features of CBIs and their grassroots activities**

This Section describes the nature and possible pattern of the grassroots activities through which CBIs pursue their goals, perform their tasks, and manage internal and external relationships. We start with a description of the coding process used to identify homogeneous categories of grassroots activities, to then be used to provide details on the following points: the basic characteristics of the investigated CBIs such as longevity, membership and the domains in which they operate; an overview of CBIs' grassroots activities and their relationship with CBIs basic characteristics; some grassroots activity profiles based on a two-mode Social Network Analysis used to (a) identify groups (cliques) of CBIs engaged in a similar mix of grassroots activities; (b) understand which grassroots activities tend to more frequently co-occur in the same CBIs. In this way, we intend to highlight the presence of different “grassroots activity profiles” (recurring clusters of grassroots activities that may represent different models of interaction with the grassroots level), and relate them to the characteristics of CBIs that appear to conform to the prevalent profiles.

**Applying an emergent coding process to identify categories of grassroots activities**

The open-ended answers describing the nature, frequency and target of activities involving face-to-face interaction with both members and non-members have been coded in order to identify recurring typologies of grassroots activities towards which CBIs address their efforts and their level of engagement with different stakeholders, in particular with local communities. Rather than starting from pre-defined categories, inductive / emergent coding (Saldaña 2009), was first applied to the raw textual data elicited from interviews in order to identify recurring themes and types of activities. The decision to rely on emergent coding was based on the recognition, after an initial inspection of the data, that the pre-determined categories to describe the nature of activities used in the questionnaire had been interpreted differently by respondents coming from different contexts and, therefore, presented too coarse a disaggregation of grassroots activities into categories. Furthermore, it was clear from the open-ended descriptions that participants had sometimes lumped together activities with different components into a single category (for example, a training activity that also involved contributing voluntary work to the CBI).

The identified codes were therefore grouped and reclassified into nine categories of grassroots activities listed below:

1. **Awareness (AW):** awareness-raising activities among members, the local community and the general public about topics that are relevant to the CBI’s goals and activities (e.g. environmental sustainability, energy consumption, common goods, urban sustainable management, etc.);
2. **Consultations (CON):** involvement of the local community in the CBI’s management and decision-making processes through regular consultations;

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14 I.e.: Daily activities, normal opening hours etc.; Informational (introductory, awareness, recruiting, discussing, etc.); learning, educational, training; Internal meetings (e.g., assemblies, weekly meetings, management decision voting, etc.).
3. Dissemination (DIS): organization or participation in formal dissemination activities such as conferences and workshops;
4. Knowledge Sharing (KS): sharing skills and expertise with other members, the local community or the general public;
5. Management (MAN): internal management activities (meetings for management boards, working groups, members-only assemblies);
6. Market and Services (MS): providing goods and services to the local community or to the CBI’s beneficiaries generally, but not necessarily, through market mechanisms (e.g., organic food, sustainable energy, bike repairing etc.);
7. Outreach (OUT): informing the local community and the wider public about the CBI’s activities and achievements;
8. Training (TR): formal training activities organised and managed by CBI members and also targeting non-members;
9. Work (WRK): activities needed to maintain and develop the CBI’s assets and facilities, to provide the services or to produce the goods that are sold or distributed (e.g. maintenance of facilities, tending to gardens etc.).

Through a similar two-step emerging coding process, we identified four targets for the activities listed above:

1. Community (C): local community
2. Members (M): members of the initiative
3. Public (P): general, wider public

Activities for the “local community” differ from those directed at the “wider public” in that they are explicitly targeted at the inhabitants of the area in which the CBI is active, while the latter are potentially open to everyone.

**CBIs’ main features: a description of the sample**

We start from a description of the CBIs in the sample in terms of their trajectory, longevity, membership bases and distribution by domain. We use the same data described elsewhere in the Deliverable but which are needed to then be connected to the categories of grassroots activities listed above and to the innovative activities in Section 8.2.

The oldest initiatives in the sample are around 20+ years old, while younger ones are only 2 to 3 years old. As a general remark, it should be noted that the initiatives’ longevity is quite fairly distributed among the quartiles of the dataset: 19.7% have been around for 15+ years, 18.0% from 10 to 14 years, 32.8% from five to nine years and 29.5% from one to four years. Over the whole sample, the average lifetime is 10 years (i.e. 2005 as year of establishment) while the median age is only six years (the median year of establishment is 2009). This means that most of initiatives were founded more recently.

Looking at Table 28 below, there are also noticeable and significant differences among countries: while CBIs in Germany, Italy, Spain and Romania are close to the average age for all CBIs, initiatives in Scotland (UK) and Finland stand out for the respective low and high longevities compared to the average across the whole sample. This might be due to a different level of institutionalization of CBIs in these countries – an issue that should be further explored with additional data analysis.
Table 28 - CBIs longevity by country

<table>
<thead>
<tr>
<th>Country</th>
<th>Longevity Median</th>
<th>Longevity Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Finland</td>
<td>16</td>
<td>19</td>
</tr>
<tr>
<td>Germany</td>
<td>4.5</td>
<td>10</td>
</tr>
<tr>
<td>Italy</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Spain</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Romania</td>
<td>6.7</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 29 shows the distribution of domains in each country. All other countries have at least one or two domains only mentioned once. On the other hand, there is a concentration of domain activity within other countries: waste in Germany (6), food in Italy (8) and Spain (4), energy in Finland (6). In total, 80 domains were listed by initiatives (including multi-domain initiatives): waste (27) and food (25), followed by energy (15) and transport (13).

Table 29 - CBI activities distributed by domain for each country

<table>
<thead>
<tr>
<th>Country</th>
<th>Energy</th>
<th>Food</th>
<th>Waste</th>
<th>Transport</th>
<th>Multi-domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Finland</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Germany</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Italy</td>
<td>1</td>
<td>8</td>
<td>5</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Spain</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Romania</td>
<td>1</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

Types and distribution of grassroots activities and their distribution across countries and domains

As previously explained, nine categories emerged from the coding of activities described by the sampled TESS initiatives. Considering that each CBI performs several activities, a total of 276 activities were mentioned in the interviews; their distribution across the nine categories is represented in Figure 58. Management activities (MAN) are, by far, the most frequently cited. Since we defined MAN to include those activities mostly pertaining to CBIs’ own internal maintenance and functions, in most cases these do not entail relations with the grassroots level and, therefore, this category will be dropped from most of the subsequent analyses that follow in this chapter.
The second most common activity is the provision of goods and services to the local community (MS, 15.0%) followed by outreach activities aimed at informing the public about CBIs and their mission (OUT, 14.0%). The diffusion of specific skills and expertise is also quite relevant for CBIs (KS, 11.0%), while other activities are progressively less frequent: awareness raising (8.0%), training (6.0%), work and consultation with the local community (5.0%) and dissemination (2.0%).

On average, UK CBIs engage in the most activities (7.4 activities per CBI) followed by Spain (4.2), Finland and Romania (both 4), Italy (3.7) and Germany (3.2).

The targets of CBIs' activities were sorted into the four identified categories where two of stand out as the most frequently mentioned targets of all CBIs' activities: Local Community (43.0%) and Members of the initiative (36.0%) in Figure 59. Sixteen percent of activities are attended
by the wider public and activities attended by both the local community and the initiatives’ members account for 6.0%.

Figure 59 - Targets of CBI activities

Taking a more in-depth look at how frequently CBI activities targeted each group, in each country, we see that United Kingdom (Scotland) has the most evenly distributed number of activities per target group (see Table 31 below); Finnish CBIs are less balanced where the most frequently targeted group is MC (40.0%); in Finland, where the focus on the local communities is by far the most relevant. Spain and Romania stand out for being the two countries where the initiatives’ members are targeted more than local communities.

Table 31 - Percent of target group frequency in CBIs’ activities, by country

<table>
<thead>
<tr>
<th>Country</th>
<th>Local Community</th>
<th>Members of the initiatives</th>
<th>General public</th>
<th>Members + Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>23.7%</td>
<td>19.8%</td>
<td>35.7%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Finland</td>
<td>21.9%</td>
<td>5.2%</td>
<td>11.9%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Germany</td>
<td>8.8%</td>
<td>15.6%</td>
<td>4.8%</td>
<td>40.0%</td>
</tr>
<tr>
<td>Italy</td>
<td>17.5%</td>
<td>14.6%</td>
<td>11.9%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Spain</td>
<td>12.3%</td>
<td>24.0%</td>
<td>19.0%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Romania</td>
<td>15.8%</td>
<td>20.8%</td>
<td>16.7%</td>
<td>6.7%</td>
</tr>
</tbody>
</table>

8.2 A two-mode network analysis of CBIs’ grassroots activities

In seeking to identify common patterns in the engagement of CBIs in different forms of grassroots activities, a series of descriptive analyses were performed applying tools from Social Network Analysis (SNA) to the data on CBI grassroots activities described in the previous section.

For the aims of this Section, the engagement of CBIs in different forms of grassroots activities is conceptualized as a bipartite (two-mode) network in which initiatives (CBIs) are associated (linked) to the types of grassroots activities that they perform. Two-mode networks represent ties between nodes belonging to two (disjointed or overlapping) sets of entities called “modes”.

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Two-mode networks were originally conceived of as tools for the analysis of co-membership in organizations or co-participation of actors to events as in the now classic study of the Southern Club Women by Davis et al. (1941). In time, the domain of application of two-mode networks has grown to include a wide range of issues. Links between “modes” have become a much more abstract concept than originally implied by affiliation or membership relations. Two-mode networks have, for example, been used to study the relation between parties and issues in an electoral campaign (Kleinnijenhuis and de Nooy 2013), or to investigate the relation between problem solvers and problems in an open-source project (Conaldi and Lomi 2013). Two-mode networks have a well-established place in the literature on innovation and knowledge where they have, for example, been applied to networks representing relations between scientific documents and technology fields (Jurowetzki and Hain 2014), authors and papers (Newman 2001) and the structuration of knowledge relations through the analysis of journals and citations (Leydesdorff 2011).

Two-mode networks offer a rich set of tools to analyse multi-dimensional relational spaces such as that defined by CBIs and grassroots activities. In this case, the relation between CBIs and the grassroots activities they perform can be represented as a weighted two-way matrix whose rows correspond to CBIs and whose columns represent different types of activities. Each cell within the matrix is assigned an integer value equal to the number of activities in each coded category that a CBI reported in the questionnaire. For illustrative purposes, an excerpt of the two-way matrix is presented in Table 32.

<table>
<thead>
<tr>
<th></th>
<th>AW</th>
<th>CON</th>
<th>DIS</th>
<th>KS</th>
<th>MAN</th>
<th>MS</th>
<th>NS</th>
<th>OUT</th>
<th>TR</th>
<th>WRK</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCO_multi_03</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SCO_multi_09</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FIN_food_01</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>GER_transport_10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ITA_multi_01</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>ITA_food_11</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ESP_food_01</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 32 - Excerpt from the weighted CBIs-by-activities matrix

The bipartite CBI-by-activities network is presented in Figure 60, and its basic descriptive statistics are given in Table 33. All the following plots and analyses were obtained by removing the Management (MAN) activity category from the two-way matrix\textsuperscript{15}. In this figure, circles

\textsuperscript{15} The removal of Management is motivated on both analytical and substantive grounds. In analytical terms, Management activities are performed by all CBIs and have a disproportionately high degree. For this reason, the Management category is an outlier that dominates the graph and hides any meaningful patterns or separations of ambits in other areas of activity. In conceptual terms, all the studied CBIs are formal organization and are therefore expected to perform some management activities irrespective of their engagement in grassroots activities. CBIs sharing their engagement in Management activities
represent CBIs and squares represent categories of activities; the node size is proportional to the log of the degree. The colours used to represent CBIs denote the domains in which they operate, while node labels are used as shorthand for the country. Nodes are arranged using the Fruchterman-Reingold force-directed algorithm, which places topologically near nodes (nodes that show similar relational patterns), in the same vicinity. Hence, CBIs that perform similar sets of activities will be located next to each other and the same holds true for activities that tend to be jointly performed by a high number of CBIs. Furthermore, nodes with higher degree centrality (CBIs that perform a wide range of activities, or activities that are performed by most CBIs) will be located towards the centre of the graph while less frequent activities or CBIs that specialize in a smaller range of activities are pushed towards the periphery. Therefore, the graph in Figure 60 provides a first indication concerning the presence of distinct patterns in the mix of activities performed by CBIs, and this permits the identification of the CBIs that are more actively engaged in grassroots activities.

Figure 60 - The CBI-activities network (Layout based on Fruchterman-Reingold)

could however have very little in common beyond the need for some formal governance mechanism. For these reasons, we believe that Management can be safely removed from the analysis without losing information relevant to the investigation of grassroots activities.

16 The degree corresponds to the number of links each node has in a network. In practice, the degree for a CBI represent the different number of activities it is engaged in, while for an activity the degree represents the number of CBIs that perform that kind of activity. Since the CBIs-by-activities network is non-directed (all links are reciprocal), there is no difference between the indegree (number of incoming links) and the outdegree (number of outgoing links).

17 D, Germany; E, Spain; F, Finland; I, Italy; R, Rumania; S, Scotland (UK).

18 Node colours denote the domain of activity; node labels denote the country (D, Germany; E, Spain; F, Finland; I, Italy; R, Rumania; S, Scotland). Node size for CBIs proportional to their local clustering coefficient; node size for activities is fixed and arbitrary.
The centre of the graph in Figure 60 is characterised by the presence of a closely-knit cluster of seven CBIs engaged in a similar and, at the same time, varied range of activities. This group is rather homogeneous in terms of degree and includes CBIs from a sub-set of domains (Multi-domain, Food and Waste) and countries (Germany, Spain and United Kingdom). While multi-domain CBIs can be more easily expected to engage in a wide range of activities (most multi-domain CBIs are in fact located in the inner circle delimited by activity nodes), the presence of three of food-related CBIs in the centre of the graph is somehow more surprising since it indicates that higher intensity of activity is not necessarily correlated to a higher number of domains.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of vertices</td>
<td>72</td>
</tr>
<tr>
<td>Number of edges</td>
<td>187</td>
</tr>
<tr>
<td>Density (bipartite)</td>
<td>0.33</td>
</tr>
<tr>
<td>Clustering coefficient (two-mode)</td>
<td>0.33</td>
</tr>
</tbody>
</table>

Table 33 - Descriptive statistics for the CBI-by-activities network

Moving out from the centre of the graph, different groups of CBIs are clustered in triangular structures focusing on couples or triplets of activities; these CBIs show a more specialized character when it comes to the type of grassroots activities they perform. This is, for example, the case for the four CBIs in the lower-right quadrant, exclusively engaged in outreach (OUT) and knowledge-sharing (KS) activities; or, of the group of CBIs in the lower-left quadrant involved in outreach activities (OUT) and in the provision of goods and services (MS). Little patterning is visible in these clusters which indicates that specialisation in a specific range of activities is not necessarily related to the country or domain of operation.

Finally, the outer section of the graph is characterised by star-like patterns formed by CBIs specialised in only one type of activity. This happens more clearly for outreach activities, knowledge sharing and the provision of goods or services. In addition, in this case, these patterns seem to have no apparent correlation with domains and countries.

In order to have a first indication of the presence of similar patterns of associations between CBIs and sets of activities, global and local clustering coefficients have been calculated for the two-mode network reported in Figure 60.\textsuperscript{19} Clustering refers to the presence of tightly knit groups of nodes characterized by a high density of ties. The global clustering coefficient provides an overall indication of the tendency for clustering in the network; it ranges between 0 (no clustering, corresponding to a star-shaped graph) to 1 (maximal clustering, reached when the network is entirely composed of disjoint cliques). In the case of the CBI-activities network, a high level of clustering would indicate that it is possible to identify groups of CBIs that are

\textsuperscript{19} Global and local clustering coefficients have been calculated using the methods for two-mode networks proposed by Opsahl (2013).
strongly connected to each other because they all perform the same types of activities – thus suggesting the presence of one or more groups of CBIs that follow a similar "model" in managing their relations with the grassroots level. For the network in Figure 60, the global clustering coefficient is 0.33 (see Table 33), signalling only a moderate tendency for clustering. The relatively low local clustering coefficient seems to reject the hypothesis that there are recurrent patterns in the activity mix, and indicates that each CBI combines different activities according to its specific needs and context.

The local clustering coefficient is instead a node-level measure that indicates how clustered the node's immediate neighbours are. The local clustering coefficients calculated for the CBIs in the two-mode network are represented in Figure 61, where the size of CBI nodes is proportional to their local clustering coefficient. Given the two-mode nature of the network, the local clustering coefficient calculated for a CBI indicates to which extent its neighbours (all the CBIs with which it shares at least one activity) tend to also jointly perform other activities. It can therefore be read as an indication of the CBI belonging to a group of CBIs that all have similar activity profiles. Therefore, a concentration of high local clustering coefficients in one section of the graph would indicate the presence of a group of CBIs engaged in a similar mix of activities and distinct from the rest of the graph. Again in this case, nodes with a high clustering coefficient could be seen as representatives of a "model" of grassroots engagement achieved by concentrating on a specific combination of activities.

![Figure 61 - Local clustering in the CBI-activities network (layout based on Fruchterman-Reingold)](image)

Node colours denote the domain of activity; node labels denote the country (D, Germany; E, Spain; F, Finland; I, Italy; R, Rumania; S, Scotland). Node size for CBIs proportional to their local clustering coefficient; node size for activities is fixed and arbitrary.
Elaborating the results summarized in Figure 61, it is possible to identify a tendency for clique formation among the CBIs engaged only in training (TR), awareness (AW) and shared work activities (WRK); this cluster is visible in the top-right quadrant of the graph. Furthermore, CBIs engaged in outreach activities (OUT) associated with either knowledge sharing (KS) or the provision of goods and services (MS) seem to show stronger tendencies to clique formation.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Number</th>
<th>Mean</th>
<th>SD</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>7</td>
<td>0.43</td>
<td>0.04</td>
<td>3</td>
</tr>
<tr>
<td>Food</td>
<td>16</td>
<td>0.38</td>
<td>0.11</td>
<td>4</td>
</tr>
<tr>
<td>Multi-domain</td>
<td>12</td>
<td>0.36</td>
<td>0.09</td>
<td>1</td>
</tr>
<tr>
<td>Waste</td>
<td>18</td>
<td>0.33</td>
<td>0.07</td>
<td>7</td>
</tr>
<tr>
<td>Energy</td>
<td>10</td>
<td>0.33</td>
<td>0.06</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 34 - Local clustering coefficients by domain. NA indicates that no local clustering coefficient could be calculated.

<table>
<thead>
<tr>
<th>Country</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>11</td>
<td>0.40</td>
<td>0.09</td>
<td>4</td>
</tr>
<tr>
<td>Rumania</td>
<td>12</td>
<td>0.38</td>
<td>0.10</td>
<td>4</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>9</td>
<td>0.37</td>
<td>0.05</td>
<td>1</td>
</tr>
<tr>
<td>Germany</td>
<td>10</td>
<td>0.35</td>
<td>0.08</td>
<td>5</td>
</tr>
<tr>
<td>Spain</td>
<td>11</td>
<td>0.35</td>
<td>0.10</td>
<td>2</td>
</tr>
<tr>
<td>Finland</td>
<td>10</td>
<td>0.33</td>
<td>0.09</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 35 - Local clustering coefficients by country. NA indicates that no local clustering coefficient could be calculated.

In terms of their local clustering tendencies, CBIs operating in the transport domain show considerable variation. About half of them obtain consistently high clustering values (resulting in the highest mean value across domains and the lowest standard deviation for this subset), while for the remaining half no coefficient could be calculated because of their marginal role within the network.\(^{21}\) In this case, multi-domain CBIs and CBIs operating in the food domain also show very similar results. It remains to be assessed whether the similarity between multi-domain and food-related CBIs indicates that the specific needs of the food domain influence the overall strategies of multi-domain CBIs that also engage in food (so that they eventually show very similar activity profiles). Overall, however, with the exception of transport-related

\(^{21}\) The two-mode local clustering coefficient is undefined for nodes that have less than two connections.
CBIs, there are no major variations across domains (Table 34). Similarly, local clustering coefficients do not differ markedly across countries (Table 35). Taken together, these results provide a further indication of the reliance of CBIs of individualised strategies rather than on the replication of well-established models of engagement with the grassroots level. Little, if any, institutional isomorphism seems to be at play that could be an indication of an organisational field still relatively young and hence probably characterised by a low degree of structuration.

Relations between types of activities

The remainder of this section will focus on the analysis of the one-mode projections of the two-mode network so as to identify similarities between the CBIs’ activity profiles and the prevalent patterns of association between activities. A projection along one of the dimensions is obtained by selecting only one set of nodes (either the CBI’s or activity’s mode) as the new node-set, and by placing a link between two nodes if they were connected to the same node in the other dimension. To more fully capture the information contained in the original two-mode network, the weights assigned to each link represent the number of nodes in the second dimension that both nodes in the first dimension were connected to. In the case of the activity-by-activity projection, for example, two activity categories are connected by a link with weight $n$, if $n$ CBIs were engaged in both activities.

The original two-mode network being rather dense, its one-mode projections are, in this case, marked by a large number of overlapping, tightly connected cliques which allows for more detailed interpretations. Therefore, if analysed in their original form, little can be inferred from the two projections (see e.g., the original one-mode projection of the activity-by-activity network

![Figure 62 - The original activity-by-activity projection](image)
in Figure 62\textsuperscript{22}). In order to identify any underlying patterns of associations between CBIs or activities, edgecuts of the networks (i.e. edges connecting vertices in two different partitions) have been extracted by removing all links with a weight lower than a certain threshold. In this way, only CBIs that share more than a certain number of activities (or activities jointly performed by more than a certain number of CBIs) are considered to be connected. By using edgecuts, it is therefore possible to concentrate on the stronger underlying association and eliminate weak correlations. As in the two-mode analysis, management activities have been removed from the network prior to projection.

The one-mode activity-by-activity network shown in Figure 63 results from an edgecut at 5 of the original network. In this Figure, two activities are linked by an edge if at least five CBIs were engaged in both types of activities. The width of the line linking two nodes is proportional to the number of CBIs that performed both activities.

\textbf{Figure 63 - The activity-by-activity projection; Edgecut at 5; line strength proportional to edge weight}

Figure 63 shows which types of activities tend to be jointly performed by a relevant number of CBIs; as previously mentioned, the Figure can be read as indicating the presence of different “models” of grassroots engagement associated with a specialized sub-set of grassroots activities. The first thing to notice is the centrality of outreach activities (OUT), that bridge otherwise disconnected areas of the graph. Outreach activities are, therefore, central to the grassroots engagement of most CBIs even when they specialize in one of the specific activity mixes that, as explained below, seem to emerge from the graph.

Three cliques (fully connected subsets of nodes that can represent distinct grassroots engagement “models”) can be identified in the activity-by-activity graph\textsuperscript{23}.

The first, and also the strongest in terms of line weights, is composed by outreach (OUT), knowledge-sharing (KS) and the provision of goods and services (MS). A considerable number of CBIs are involved in at least two of these activities and five of them are involved in all three activities at the same time - these are SCO\_multi\_03, FIN\_waste\_07, GER\_multi\_01,

\textsuperscript{22} Please note that this figure still presents the management (MAN) category; density is not significantly reduced by removing the category. The figure is presented for illustrative purposes only - in all other relevant analyses the MAN category has been dropped.

\textsuperscript{23} Cliques identified in a network edgecut at \( n \) correspond to cliques at level \( n \) in the original, uncut network.
ESP_energy_04, ROM_multi_07; of these, three operate in multiple domains, one in food and one in waste. The CBIs are from five of the six countries in TESS (only missing Italy).

The remaining two cliques comprise four activities each and they define two different ambits of specialization that we might call "models of grassroots engagement". The first clique includes outreach, knowledge sharing, awareness raising and joint work activities. In this case, two CBIs (SCO_multi_01 and SCO_multi_03) engage in all four activities; both are multi-domain CBIs. There are then six CBIs that engage in at least three of the activities belonging to this clique. Interestingly, only one of them is a multi-domain CBI while two are active in food, two in energy and one in the waste domain. The CBIs are geographically spread and, again, Italian CBIs are absent from the core of this clique.

The second clique includes outreach, consultation, training and the provision of goods and services. Associations within this clique are weaker. Two CBIs engage in all four activities at the same time. They are CBIs SCO_multi_03 and ITA_multi_01; both are multi-domain and are located in Scotland and Italy respectively. Five CBIs perform three activities; in terms of domains, two are multi-domains, two are in energy, one in food and one in transport. In this case, two CBIs are from Italy and there is no CBI from Germany.

Some of the associations between activities identified through the clique analysis are worth noting and would require further investigation. In particular, it would appear that involving members of the community in the performance of tasks relevant to the functioning of the CBIs is prevalent among information-oriented CBIs that focus on knowledge-sharing and awareness-raising activities. It is possible that, in this case, performing joint work is seen as part of awareness-raising activities and has in itself a dissemination value. On the contrary, consultation with the community is prevalent among service-oriented CBIs that provide goods or services through market channels as part of their activities. In this case, it would appear that consultation often relates to better identification of community needs that the CBI can serve through its production of goods or provision of services. A more thorough investigation of the reasons leading to different bundles of activities would require looking at CBIs’ individual histories and profiles.

8.3 Relations between CBIs: typologies of CBIs by sets of grassroots activities

If in the previous projection we were focusing on identifying the presence of different models of grassroots engagement, with the aim of the analysis to identify which CBIs show a similar mix of grassroots activities and, therefore, rely on similar grassroots engagement models. This second one-mode projection analysed is the CBI-by-CBI projection. The graph in Figure 64 shows the one-mode network obtained through an edgecut at 3; two CBIs are connected by a link if they have at least three activities in common; the width of the line is proportional to the number of activities that they have in common. For greater clarity, isolates (nodes with no

24 They are SCO_energy_06, FIN_ENERGY_02, GER_multi_01, ESP_ENERGY_04, ROM_FOOD_05, ROM_WASTE_10.
25 These are SCO_multi_01, FIN_ENERGY_08, ITA_FOOD_05, ESP_transport_03 and ROM_FOOD_02.
connections) have been removed so as to focus on the CBIs that show more articulate patterns. In addition, in this case, the “management” category has been removed before projecting the network. The labels used in the graph indicate the country and provide a unique identifier for each CBI.

The most striking features of the graph are its star-shaped pattern and the presence of several densely connected cliques. The star-shaped pattern derives from the centrality of node SCT_3, a multi-domain initiative, which is linked to all CBIs because it performs at least one activity for each category represented in the network. Significantly, a second Scottish CBI marked as SCT_1 in the graph occupies a strong bridging position as it connects two otherwise disjoint cliques in the top-right quadrant of the graph. Therefore, these two initiatives show the most varied mix of activities, differently from other CBIs that have a more specialised character. Were these two nodes to be removed, the remaining CBIs would split into separate components comprising CBIs showing similar activity profiles.

![Image of the graph](image)

Figure 64 - The CBI-by-CBI projection. Edgecut < 3; nodes size proportional to the degree (number of links); line strength proportional to edge weight

Cliques in this case represent groups of CBIs that share a significant number of grassroots activities. A clique analysis identifies one clique with five nodes and five cliques with four nodes each. Details on the composition of each clique are given in Table 36. Cliques 2 to 5 show different combinations of a range of four activities: awareness raising, knowledge sharing, outreach and joint work. The CBIs partaking to these cliques can be identified as a rather homogeneous group in terms of their mix of activities; as mentioned before, they would appear to represent a subset of strongly outward-oriented CBIs that combine the sharing of information
with practical activities open to the community or the public. The food domain is highly represented in this group of CBIs either as part of multi-domain activities or as a specialized domain. To some extent, these CBIs are larger in scale (judging from members) and are characterized by a longer longevity.

Conversely, Clique 6 identifies a small group of CBIs in which consultation with the community is associated with the provision of goods and services. Although generally smaller in size than CBIs in the previous cliques, these CBIs tend to have been in operation longer.

Clique 1 identifies a mix of activities that bridges the previous two, since it identifies a combination of knowledge sharing and outreach activities with the provision of goods and services. Even in this case, the food domain is dominant (four of the five CBIs are active in this domain), followed by three CBIs active in the waste domain.

<table>
<thead>
<tr>
<th>Label</th>
<th>ID Name</th>
<th>Domains</th>
<th>Members</th>
<th>Active members</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLIQUE 1 (KS, MS, OUT)</td>
<td>SCT_3 SCO_multi_03</td>
<td>Transport, Food</td>
<td>65</td>
<td>50</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>FIN_16 FIN_waste_07</td>
<td>Waste</td>
<td>229</td>
<td>475</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>DEU_20 GER_multi_01</td>
<td>Food, Waste</td>
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<td>17</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>ESP_44 ESP_energy_04</td>
<td>Food</td>
<td>150</td>
<td>250</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>ROU_58 ROM_multi_07</td>
<td>Food, Transport, Waste, Energy</td>
<td>N/A</td>
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<td>10</td>
</tr>
<tr>
<td>CLIQUE 2 (AW, KS, WRK)</td>
<td>SCT_3 SCO_multi_03</td>
<td>Transport, Food</td>
<td>65</td>
<td>50</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>SCT_1 SCO_multi_01</td>
<td>Energy, Food, Waste, Transport</td>
<td>650</td>
<td>55</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>SCT_7 SCO_energy_06</td>
<td>Energy</td>
<td>N/A</td>
<td>76</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>ROU_61 ROM_waste_10</td>
<td>Waste</td>
<td>10</td>
<td>30</td>
<td>8</td>
</tr>
<tr>
<td>CLIQUE 3 (KS, OUT, WRK)</td>
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<td>6</td>
</tr>
<tr>
<td></td>
<td>SCT_1 SCO_multi_01</td>
<td>Energy, Food, Waste, Transport</td>
<td>650</td>
<td>55</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>DEU_20 GER_multi_01</td>
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<td>11</td>
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<tr>
<td></td>
<td>FIN_11 FIN_energy_02</td>
<td>Energy</td>
<td>50</td>
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<td>16</td>
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<tr>
<td></td>
<td>SCT_1 SCO_multi_01</td>
<td>Energy, Food, Waste, Transport</td>
<td>650</td>
<td>55</td>
<td>9</td>
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<tr>
<td></td>
<td>ESP_44 ESP_energy_04</td>
<td>Food</td>
<td>150</td>
<td>250</td>
<td>5</td>
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<tr>
<td></td>
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Table 36 - Composition of cliques with more than four members

<table>
<thead>
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<th>Label</th>
<th>ID Name</th>
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<th>Active members</th>
<th>Years</th>
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<td>CLIQUE 6 (CON, MS, TR)</td>
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<td></td>
</tr>
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<td>SCO_multi_03</td>
<td>Transport, Food</td>
<td>65</td>
<td>50</td>
<td>6</td>
</tr>
<tr>
<td>FIN_17</td>
<td>FIN_energy_08</td>
<td>Energy</td>
<td>34</td>
<td>32</td>
<td>14</td>
</tr>
<tr>
<td>ITA_30</td>
<td>ITA_multi_01</td>
<td>Food (waste)</td>
<td>20</td>
<td>40-50</td>
<td>12</td>
</tr>
<tr>
<td>ITA_34</td>
<td>ITA_food_05</td>
<td>Transport</td>
<td>42</td>
<td>72</td>
<td>14</td>
</tr>
</tbody>
</table>

8.4 Conclusions

The analyses performed in this section set out to uncover regularities in the engagement of CBIs in different types of grassroots activities whereby they establish direct, face-to-face relationships involving members, local communities and the wider public. The relation between CBIs and different categories of activities was conceived of as a two-way network in which CBIs are linked to the activities that they regularly perform. This approach permitted the identification of cohesive sub-groups of CBIs based on their common engagement in specific grassroots activities, and of cohesive subgroups of activities based on their being undertaken by the same CBIs. Both types of sub-groups were identified in one-mode projections of the original two-mode network; details on the composition and characteristics of the sub-groups were used to try to relate the identified patterns to some basic characteristics of CBIs (namely their domain, country, age and membership size).

The overall results of the analysis suggest that most CBIs rely on very individualized activity mixes to carry out their activities and missions; any emerging “models” of grassroots engagement concern only a relatively small number of CBIs. In fact, out of 63 CBIs, only 12 resulted to be members of cliques at level 3 (i.e., groups of CBIs that all had at least three activities in common). These results would be further reduced were it not for the presence of two very active multi-domain Scottish CBIs. In terms of grassroots activity models, a possible differentiation emerges between mixes of activities driven by the outward-looking diffusion of information (outreach, awareness-raising, knowledge sharing) coupled with the involvement of non-members in the practical activities of the CBI; and a mix of activity driven by service and good provision modulated on community needs through more extensive consultation.

The analytical usefulness and validity of these two clusters of activity should ultimately be based on an in-depth analysis of the CBIs’ individual profiles and modes of operation, as well as on elements that provide indications about their dynamics and evolution. This could be done, for example, with regard to the growth and evolution of their membership, constituency and users'/utilizers’ base (mostly with reference to the issue of change in membership, participation and employment). The reasons for looking at scale dynamics are linked to the Multi-Level Perspective (MLP) and Strategic Niche Management (SNM) frameworks: growth is, on the one hand, a sign of consolidation and structuration, on the other, it can generate tensions and frictions among different sub-niches that may have contrasting views on the desirability of co-optation and symbiosis with elements of the dominant socio-technical regime. Structuration and tensions may reflect in the different mix of activities that CBIs use to pursue their mission.
9 The social functioning and social impact of community-based initiatives

One of the key contributions of CBIs relates to their social aims and impacts. Social dimensions of CBIs can serve to both fulfill their practical aims to promote environmental and sustainable lifestyles, and they can also contribute to stand-alone aims for social well-being and the strengthening of social capital within a community or group.

We will assess the extent to which CBIs provide social opportunities to their members, beneficiaries and communities, and present the results of our attempt at translating the concept of social capital into a more tangible measure. Due in part to the abstract and subjective nature inherent to interpreting social capital into operational measures, no consensus on measuring social capital directly will likely ever exist (Grootaert et al. 2002; Narayan and Cassidy 2001). Social capital is difficult to measure and, for empirical analyses, proxy indicators are often necessary (Collier 2002; Liu and Besser 2003; Productivity Commission 2003). The choice of indicators for social capital should be guided by the scope of the interrogation and scale of observation, whether at an individual- or community-level (Callahan 1996; Collier 2002; Baum and Ziersch 2003).

Given the object of this study, our aim is to assess the extent to which CBIs promote opportunities for social interaction and to create or strengthen social ties, and aim to better understand the ways in which these initiatives pursue the development of social capital as part of their objectives and daily activities. For this we analyse a set of answers from the survey among 63 CBIs across 6 European regions. Since the aim is to elicit information on how CBIs attempt to build various forms of bridging and bonding social capital. In seeking to better understand how CBIs play a role in developing inter-personal relationships, we undertook the assessment of social capital using questions focused on areas such as the frequency and aims of events and opportunities for engagement, participation in face-to-face meetings and interactions. We also attempt to differentiate between the social opportunities provided by CBIs as activities which promote bridging social capital or bonding social capital: bonding social capital can be seen in activities which increase the social cohesion among already existing communities, groups and organizations, whereas bridging social capital is more related to activities that offer opportunities for face-to-face interactions among previously unrelated individuals and therefore for ‘bridging’ between usually separated social groups or individuals (see also Chapter 3). To the extent that these social opportunities involve individuals differing in ethnicity, age, class and social identity, bridging social capital can also be interpreted as a means to promote social integration and social inclusion.

Providing opportunities for social interaction is key for CBIs both as a means to pursuing their aims and also as a goal in itself: often these social opportunities are indeed one of the main motivations for people to join CBIs and one of their primary aims (see Chapter 3). Previous studies have shown that the social benefits of CBIs can lead to the following: social cohesion (defined here as shared values and codes of behaviour which enable common aims to be identified and which govern relationships), social support, social connections including the development of bonds and social networks, increased citizen participation and a sense belonging and community building (see Deliverable 2.2 and Chapter 3 of the current deliverable). Comparatively assessing how different CBIs perform in this regard is key to understanding if, and how, CBIs deliver benefits and results to their communities and/or
beneficiaries as well as to the CBIs themselves in evaluating the worthiness of efforts in terms of generating social capital and their respective social aims.

9.1 The social dimensions of community organizing

Many definitions of social capital have been proposed in the literature (c.f. Fukuyama 2001; Fox 1997; Takahashi 2002; Paxton 1999). Perhaps the most frequently cited is Robert Putnam’s definition of social capital as the “connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them” (2000: 19). Following Putnam, the understanding of social capital as something related to civic participation, the propensity to constitute associations and trust has gained widespread popularity among the social sciences. When needing to measure social capital at the level of single organization or, in our case, community-based initiatives, ‘macro’ and collective manifestations such as those mentioned above are not applicable. In these cases, it is more appropriate to go back to the original understanding of the concept proposed by Pierre Bourdieu (1972) who first introduced the concept to indicate the set (or ‘capital’) of interpersonal relationships available to each individual. This aspect, as already mentioned, will be expressed in terms of the frequency of opportunities for inter-personal and face-to-face interaction CBIs provide, i.e. in terms of opportunities for networking.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Participants’ social investment</td>
<td></td>
</tr>
<tr>
<td>1.1 Active participation index</td>
<td>Monetary resources devolved to the CBI</td>
</tr>
<tr>
<td>1.2 Resource investment</td>
<td>Time volunteered by members at the CBI</td>
</tr>
<tr>
<td>1.3 Number of active members actively</td>
<td>Number of active members actively</td>
</tr>
<tr>
<td>participating in the CBI</td>
<td>participating in the CBI</td>
</tr>
<tr>
<td>2. Social capital</td>
<td></td>
</tr>
<tr>
<td>2.1 Opportunities for face-to-face interaction</td>
<td>Opportunities for face-to-face interactions provided by the CBI</td>
</tr>
<tr>
<td>2.2 Social interaction opportunity index</td>
<td>Participation in CBIs’ events and meeting</td>
</tr>
<tr>
<td>3. Bridging new relationships</td>
<td></td>
</tr>
<tr>
<td>3.1 Bridging potential of CBI’s membership</td>
<td>Pre-existing social ties among CBIs’ members</td>
</tr>
<tr>
<td>3.2 Bridging intensity of CBI’s events</td>
<td>Participation in CBIs activites by new or previously unassociated persons</td>
</tr>
<tr>
<td>3.3 Bridging potential of CBIs</td>
<td>CBIs’ interaction with their local communities</td>
</tr>
<tr>
<td>3.4 External networking index</td>
<td>Importance of external networking for CBIs</td>
</tr>
<tr>
<td>4. Social inclusion</td>
<td></td>
</tr>
<tr>
<td>4.1 Members’ gender balance</td>
<td>Participants’ gender</td>
</tr>
<tr>
<td>4.2 Beneficiaries’ heterogeneity</td>
<td>Composition of beneficiaries in terms of provenience, age, income</td>
</tr>
<tr>
<td>4.3 Engagement of disadvantaged groups</td>
<td>Disabled beneficiaries</td>
</tr>
<tr>
<td>4.4 Synthetic social inclusion index</td>
<td></td>
</tr>
</tbody>
</table>

Table 37 - Indicators for the assessment of the social dimensions of 63 CBIs

Other ‘micro’ dimensions of social capital which are applicable to our case and worth considering are related to the (1) intensity of membership (for instance, in terms of the active
contribution of members to the CBI), (2) level of resources and time contributed to CBI activities as a proxy for the commitment and social investment on the part of members.

In Table 37, we list the summary of indicators which will be measured and discussed in the following pages, and all of the relevant data used for these indicators.

In order to distinguish and measure the degree to which the social opportunities enabled by CBIs may be interpreted as bonding or bridging social capital, we focused on the extent these social opportunities involve previously related or unrelated individuals. The ‘bridging’ dimension of social capital is, as already mentioned, moreover, related to the concept of social inclusion, which is a very relevant dimension of the social functioning of community-based initiatives in itself. In this regard, in the following pages we also inquire into expressions of social inclusion such as (1) CBIs’ openness towards new members and the local community, (2) the heterogeneity of beneficiaries in terms of provenience, income and age, and (3) initiatives’ capacity to engage disadvantaged groups.

In order to collect all the relevant information, we specifically asked CBIs about the importance of promoting interaction and networking and to self-assess the degree of achievement of these aims (see Chapter 3); information specifying the types of opportunities for face-to-face interactions and their respective frequencies, aims, and targets; the registration process for new members; and data regarding members’ nationalities, age, socio-economic status etc.

9.2 Participants’ social investment in CBIs

Enrolling and engaging participants\(^\text{26}\) are challenges which CBIs face in striving for effectiveness, maintaining momentum and even survival (Beall 1997; Seyfang and Haxeltine 2012). Despite the diverse range of activities our CBIs are involved in, the intensity of participation among members is crucial to the continued functioning of all CBIs. Although this is not necessarily a manifestation of social capital, it is crucial to look at the degree of social investment participants devote to the CBI both per se, and as an indirect measure of the ability of the initiative to provide opportunities for socialization to their communities.

One way of looking at this is by reviewing the intensity of members’ participation in the activities organized by the CBI. To this end, we asked CBIs about, first, the number of hours per week that participants voluntarily contribute to the CBI and, secondly, the number of active participants involved (as opposed to the total number of those enrolled in the CBI as members) in order to create a ratio and estimate an active participation index (API). This ratio tells us, on average, how many hours each active member contributes to the CBI and gives a gauge as to how intensely involved they are in contributing to the running and organization of the CBI’s activities.

---

\(^{26}\) Throughout this chapter, the terms participant and member are used interchangeably to indicate a person who is officially recognized as being part of the CBI, whether formally enrolled or not. Similarly, beneficiaries and users/utilizers are also used interchangeably to refer to a broader group of people than participants or members and which indicate someone who gets some economically valuable benefit from a CBI, i.e. in the form of goods or services which could alternatively be purchased in traditional markets.
Active Participation Index (API) = Volunteer labour hours per week / Active members

The higher the API, the higher the level of intensity and engagement of active members, indicative of a more involved membership and stronger (social) investment from participants.

After removing 8 CBIs with missing data or zero figures reported, the distribution of CBIs is 85.0% with a low API, averaging between one and five hours contributed per participant every week; 4.0% with a medium API of more than five but less than 10 hours per week per participant; and 11.0% with participants contributing more than 10 hours on average per week.

Moreover, we asked CBIs to report, first, on the quantity of monetary resources devolved to the CBIs by members and, secondly, the amount of time which was contributed by members and/or volunteers to the activities carried out by CBIs. These values are, again, used as proxies for the level of commitment, engagement and (social) investment on the part of the participants.

Before proceeding with calculating the indicator, it is useful to take a look at the two variables separately, as in the graph seen in Figure 65. The four quadrants include (i) those CBIs where members’ investment is primarily monetary as seen in the top left quadrant, (ii) those CBIs where both monetary and in-kind contribution are above the median, (iii) those CBIs where such investment is primarily in terms of volunteer labour as seen in the bottom right quadrant and (iv) CBIs where both forms of investment from members are below the median as seen in the bottom left quadrant.

There seems to be a trend that CBIs with high levels of volunteering among participants correspond to high levels of financial investment from members, but there are also a number of CBIs which show high levels of volunteering but do not have high levels of financial investment. One way of interpreting this could be that CBIs compensate for their inability to
financially invest in beneficiaries with a higher level of social commitment from participants –
the reverse could also be true where in that some CBIs with a high level of volunteering
perhaps adequately cover ways to reach beneficiaries and thus require a lower level of
investment of financial resources.

Based on the sum of the two variables – monetary resources devolved to the CBI, and time
devoted monthly to the initiative, the latter monetized according to monthly salaries – a
resource investment indicator has been calculated and normalized according to the number of
users/utilizers who benefit from the CBI.

\[
\text{Resource Investment Index} = \frac{\text{Monetary resources devolved to the CBI} + \text{Volunteer labour}}{\text{Beneficiaries}}
\]

After excluding 11 CBIs with no reported data, the majority of remaining CBIs (52 in total)
invest less than 1 Euro per beneficiary each month (33.0%); more than half of CBIs invest from
1 to 50 Euros for each beneficiary monthly; and only 12.0% of CBIs invest more than 50 Euros
monthly per beneficiary, as shown in Figure 66 below.

![Figure 66 - Resource investment index. Distribution of CBIs according to the monetary and in-kind members’ contributions](image)

**9.3 The social capital enabled by CBIs**

As stated in the previous sections, in order to assess the social capital enabled by CBIs we
asked them about the type, number and frequency of opportunities for face-to-face interactions
provided by the CBI. The idea is that those interaction opportunities are crucial to build ties
and to strengthen relationships and, therefore, may be used as a proxy for the social capital
which CBIs potentially create or reinforce.

The types, aims and targets of those opportunities for face-to-face interaction have been
already extensively discussed in the previous chapter about grassroots activities (Chapter 8).
In the next pages we will first look at the number of events or opportunities for face-to-face
interactions and at the number of attendants to those events separately; we then use those variables to estimate an index of social capital for each CBI.

The distribution of CBIs according to the number of face-to-face opportunities offered per year is shown below in Figure 67, adjusted for the size of the CBI number of members, i.e. according to the following formula:

**Opportunities for Face-to-face Interaction** = Number of events organized yearly / Number of members.

On average, CBIs offer between seven and eight opportunities for face-to-face interaction per year and per participant: 21 CBIs (34.0%) offer one to five events per participant; 10 CBIs (16.0%) average more than 15 events or opportunities per participant; and 12 CBIs (19.0%) less than one event per participant on average.

Considering that the above figure looks simply at the total number of opportunities with respect to the size of the CBI, we decided to calculate an additional **social interaction opportunity index** reflecting members' participation in CBI events and measured in terms of outreach or impact on the wider community of beneficiaries. This index was calculated using the number of events for face-to-face meetings made available by the CBI, multiplied by the average number of attendees. This sum was then divided by the number of beneficiaries. The higher the index score, the better (or more efficiently) the CBI in providing interaction opportunities and at utilizing those to engage and reach beneficiaries.

**Social interaction opportunity index** = (number of events * average number of attendees) / beneficiaries
CBIs average a score of 46,878 and a median of 185 on the social interaction opportunity index. In Figure 68, CBIs are distributed according to their score. The majority of CBIs fall between one and 100. Nine CBIs score above 10,000 which shows a strong impact in terms of the effectiveness of CBIs in providing events and opportunities for their members and beneficiaries to build or strengthen social relationships.

![Figure 68 – Social interaction opportunity index: Distribution of CBIs according to the average number of members per beneficiary at events](image)

### 9.4 Bridging of new social relationships by CBIs

We now assess the extent to which the social opportunities enabled by CBIs are potentially able to ‘bridge’ between previously unrelated individuals or, on the contrary, to ‘bond’ further individuals which are already part of more or the less cohesive groups or communities. This is done by estimating the extent to which CBIs contribute to the creation of new relationships between people who did not previously know one another.

To this end we asked CBIs, first, to estimate the percentage of members who were previously friends and/or already knew each other before joining the CBI. This data is used as a first proxy of how effective the CBI has been at extending its social reach beyond the immediate social circles of founders and early participants, i.e. as a proxy of the ‘bridging’ potential of the CBI in terms of membership. A very simple indicator may be extracted from this number, defined as the ‘bridging potential of community-based initiative’s membership’, i.e. the CBIs’ potential in creating new social ties among members.

**Bridging Potential of CBI’s Membership = % of previously un-associated members**

Figure 69 below shows the distribution of CBIs according to this indicator, i.e. the percent of their members who were neither friends nor knew one another prior to joining the CBI, after eliminating one CBI with missing or unreported data on the composition of their members.
Figure 69 shows that CBIs are almost uniformly distributed in the five classes, with a slightly higher number of them in the second class (26%) where the proportion of members who had previous ties is less than half. In sum, while some CBIs have been very successful in terms of engaging people with no previously established ties to one another (44%), more than half of all 62 initiatives (56%) have members which, in the majority of cases, were not brought together by the initiative itself or which, in other words, have a low ability to create new social ties and ‘bridging’ social capital.

The same sort of estimation was attempted for participants or attendants to the events/opportunities for face-to-face interactions described in the previous sub-section. To this end, we asked CBIs how many of those attendants, on average, did not previously know each other as a proxy for the ability of a CBI to engage people who were not previously and already part of any social network. Again, the idea is that the more previously un-associated attendees at an event, the better the potential of the CBIs to enable some sort of ‘bridging’ social capital.
Figure 70 shows that in terms of CBIs’ abilities to attract new people to events, the results are pretty evenly split. Just over half of CBIs reported that, on average, 50% or more of the attendees to events are new to the CBI, meaning they were neither friends nor members of the CBI prior to attending the event.

We calculate this indicator of bridging social capital, defined as the “bridging intensity of CBI’s events”, by taking the average number of outside attendees (the total number of attendees adjusted for the average number of members present) divided by the total number of events over the past 12 months.

**Bridging Intensity of CBI’s Events** = \(\frac{\text{Number of attendees} \times \text{Percentage of previously un-associated attendees}}{\text{Number of events}}\)

Figure 71 below shows that more than half of all CBIs have a low bridging intensity score averaging less than 10 attendees with no previous ties at each event the CBI hosts; only 6 manage to have upwards of 100 or more. Of this latter group, two CBIs have been highly successful at attracting from 1,000 to 10,000 people with no previous ties to the CBI, per event.

Figure 71 - Bridging intensity of CBIs’ events: Distribution of CBIs according to the ratio of attendees with no prior ties to the CBI and the number of annual CBI events

An alternative measure for the bridging potential of CBIs’ events can be calculated using the number of beneficiaries as a normalizing factor. In this case, we used the total number of people who participated in an event hosted or organized by the CBI over the past 12 months, adjusted for the average proportion of participants who were previously associated with the CBI or to one another, and divided by the total number of beneficiaries, as in the formula below.

**Bridging Potential of CBIs’** = \(\frac{\text{Number of attendees} \times \text{Percentage of previously un-associated attendants}}{\text{Number of beneficiaries}}\)
According to this value, nearly half of the CBIs score very low in terms of their ability to connect to people beyond their respective networks of already existing social ties (see Figure 72).

![Figure 72 - Bridging potential of CBIs': CBI distribution according to the ratio of attendees with no prior ties to the CBI and the number of CBI beneficiaries](image)

### 9.5 Open communities or closed clubs?

Beyond inquiring into the extent to which the social capital enabled by CBIs is bonding or bridging, there are also other possibilities for looking, and estimating, if CBIs are open or closed to their exterior. In this paragraph, such ‘openness’ is estimated in terms of the attitude of the CBI towards: (i) considering the needs of this local community when planning and organizing its activities, (ii) interacting with the local community and (iii) collaborating with other CBIs, actors or stakeholders.

We asked how the CBI itself estimated the importance, in its daily activities, of “considering the needs/desires of the wider community served by the CBI”. In this aspect, 86.0% of CBIs (54), in some way, consider their wider communities’ needs and/or desires in determining their activities.

We further asked whether CBIs’ hold “promoting interaction and networking with the local community” as one of their objectives: an even higher number of CBIs (59) agreed that their aims include promoting or interacting with the local community.

Finally, the data on CBIs’ external networking (to be more extensively covered in Chapter 10) can be adapted here to estimate an indicator of the importance of external collaborations. External networking can reap benefits for participants as well as for the CBIs themselves as it helps to increase the breadth and reach of the CBIs' objectives and membership and to achieve political aims by connecting with other social movements and groups (Flachs 2010). Connectivity and engagement with other organizations or actors working on topics relevant to a CBI’s activities is important to the strength of a given CBI in terms of acting within a wider landscape of societal impact.

To this end, we estimated the number of other similar initiatives with whom the CBI collaborates (or has in the past) and the relative importance of this relationship with respect to the CBIs' objectives. For the purpose of this chapter, we defined an indicator expressing the average
importance that external collaborations have for each CBI, expressed here as the external networking index as follows:

**External networking index = Importance of relationships / Number of relationships**

We asked each CBI to list all the similar initiatives operating in their geographical region with whom they have interacted in the past and are still in touch with (see Chapter 10 for an extensive analysis of those external collaborations). We then asked them to rate the level of importance of that relationship to their CBI’s operations and continued efforts. We averaged the importance of each CBI’s total relationships to calculate the external networking index.

![Figure 73 - CBI distribution based on external networking index](image)

After controlling for six CBIs with no data reported, 92.0% of the remaining CBIs (52) value their relationships with similar CBIs as at least somewhat important; 85.0% of CBIs (48) feel external networking is very important or vital to the achievement of their objectives whereas 9.0% of CBIs (5) see these relationships as neither very important nor of any relevance to the work they are doing (see Figure 73).

The three abovementioned indicators rely heavily on a type of self-reported assessment done by the CBIs themselves and are, therefore, also quite subjective in terms of the perception that CBI have of themselves; most importantly, these self-reported measures are indicative of the CBI’s aims and not a measure of if and how much they have achieved those aims. In this latter respect, a more extensive analysis and discussion of CBIs’ external networking, and of its impact, will be presented in Chapter 10.

### 9.6 CBIs and social inclusion

An extremely relevant (social) dimension of community-based initiatives is their will and capacity to promote social inclusion. Social inclusion may also be considered a component of initiatives’ abilities to strengthen social capital among participants and/or beneficiaries and,
more precisely, to provide opportunities for ‘bridging’ in order to achieve the most heterogeneous group of people possible, including the largest number of ‘disadvantaged’ people possible. As mentioned in Chapter 3, this is also a widely debated issue in the literature. Community-based or grassroots initiatives are sometimes accused of being *de facto* exclusive in that they tend to involve only certain categories of people (often Caucasian, well educated, middle-high income) and, even if attempting to promote social inclusion, may sometimes fail in this regard (see Chapter 3, Section 3.3.2).

The propensity or ability to promote social inclusion is probably also influenced by the type of the initiative and its areas of activity, something to be taken carefully into account when interpreting the results that we report hereafter. CBIs, moreover, can be more or less socially inclusive to the extent that they involve a diversity of participants, explicitly address social, racial, gender or other kinds of inequities, or in terms of outcomes: the degree to which they improve food access, clean energy, etc., to a wide and heterogeneous range of beneficiaries.

Given the scope of this research and of this chapter, we focus mostly on the process rather than on the outcome, and analyze the characteristics of CBIs’ beneficiaries. More precisely, we assess and present here five issues that, in our view, may be considered both components and proxies of the CBIs’ abilities to promote social inclusion and, secondarily, the ease in which they are accessible.

The first of these issues is related to gender balance which, only in this case, is assessed at the level of CBIs’ members or participants. The measure of gender balance is the standard deviation from a balanced composition of males (50%) and females (50%). We assume that the most balanced CBIs are the most inclusive, rather than – for example – considering only the proportion of women. The issue of gender balance has been already discussed in Chapter 4, Section 4.3 of this report, where a summary of results can be found. The second issue is related to the geographical origin of beneficiaries. We asked CBIs to indicate the proportion of beneficiaries from several groups of countries. The results in terms of the proportion of foreigners²⁷ is reported in Figure 74. The majority of CBIs (73.0%) have a composition of beneficiaries with less than 25.0% foreigners; 17 CBIs (27.0%) manage to reach a diverse population of beneficiaries where more than 25.0% are non-national beneficiaries. On average, 16.0% of CBIs’ beneficiaries are non-nationals with 84.0% nationals. This means that most beneficiaries of CBIs tend to be nationals of the country where the CBI is found although the proportion of foreigners is, in most of the case, higher than the respective proportion in that country’s total population. In order to obtain a synthetic measure of heterogeneity of the CBIs’ beneficiaries in terms of geographical origin, we calculated an index of diversity (Shannon diversity index). The third issue we considered is the composition of beneficiaries in terms of age. We distinguished between five age cohorts of beneficiaries and calculated an index of diversity analogous to the Shannon index. The fourth issue regards the ability of CBIs to include poor people as beneficiaries and the fifth issue is related to the inclusion of disabled people.

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²⁷ In Task 2.2 we defined the following categories: *nationals* = native to the country, born and raised; *european* = citizens of European countries; *others* = citizens of the rest of the world.
We assume that the most CBIs perform in terms of gender balance, ability to involve foreigners, diversity in terms of beneficiaries’ age, and capacity to reach poor and/or disabled people within the pool of beneficiaries, the more inclusive the CBI is.

Based on this, a synthetic index of social inclusion was obtained by summing the normalized score based on the minimum/maximum values in the sample for each of the five sub-indexes, which were therefore all weighted equally.\textsuperscript{28} The results of these assessments are reported in Table 38 and Table 39 below in terms of averages per country and per domain of activity with regard to the synthetic index of social inclusion and the five sub-indices.

The summary of the indices per country and the summary per domain, reveal a wide variety of interesting cases and which we can only briefly discuss here. Initiatives in Scotland and Romania, for example, have an almost equal gender balance, while in other countries (and especially in Germany and Spain) the situation is much more unbalanced. However, Romanian initiatives engage few disadvantaged persons such as poor or disabled people or foreigners and therefore they rank the lowest in terms of the synthetic social inclusion index. On the other hand, German CBIs seem very oriented towards disadvantaged people, especially the poor (only Finnish CBIs appear to be more oriented towards low-income persons) and foreigners. Spanish CBIs are the most inclusive in terms of beneficiaries’ geographical provenance but nearly fail to reach disadvantaged people. The averages in terms of age diversity seem more balanced across countries (Table 38) and domains (Table 39; a more in-depth analysis of sub-domain categories of CBIs could bring about more insights.

\textsuperscript{28} In order to calculate the final social inclusion index for the largest number of CBIs, in those cases where the questions about the proportion of poor people and of disabled were not answered, we assigned a zero value, assuming either that those CBIs which didn’t answer have no poor people or disabled within their beneficiaries, or that being unable to answer means that the issue is not relevant for them.
### Participants’ gender balance

<table>
<thead>
<tr>
<th>Country</th>
<th>Participants’ gender balance</th>
<th>Beneficiaries’ geographical provenience</th>
<th>Beneficiaries’ age</th>
<th>Poor beneficiaries (%)</th>
<th>Disabled beneficiaries (%)</th>
<th>Social inclusion Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>0.05</td>
<td>0.35</td>
<td>0.88</td>
<td>8.1%</td>
<td>10.0%</td>
<td>0.43</td>
</tr>
<tr>
<td>Finland</td>
<td>0.25</td>
<td>0.37</td>
<td>0.69</td>
<td>29.7%</td>
<td>6.8%</td>
<td>0.39</td>
</tr>
<tr>
<td>Germany</td>
<td>0.40</td>
<td>0.51</td>
<td>0.59</td>
<td>26.0%</td>
<td>4.4%</td>
<td>0.33</td>
</tr>
<tr>
<td>Italy</td>
<td>0.27</td>
<td>0.39</td>
<td>0.72</td>
<td>16.1%</td>
<td>2.0%</td>
<td>0.32</td>
</tr>
<tr>
<td>Spain</td>
<td>0.33</td>
<td>0.61</td>
<td>0.56</td>
<td>3.5%</td>
<td>0.1%</td>
<td>0.28</td>
</tr>
<tr>
<td>Romania</td>
<td>0.09</td>
<td>0.08</td>
<td>0.71</td>
<td>5.3%</td>
<td>2.6%</td>
<td>0.26</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0.24</td>
<td>0.38</td>
<td>0.68</td>
<td>14.9%</td>
<td>3.6%</td>
<td>0.32</td>
</tr>
</tbody>
</table>

**Table 38 - Social inclusion index and sub-indexes average score per country**

### Domain of activity

<table>
<thead>
<tr>
<th>Domain of activity</th>
<th>Participants’ gender balance</th>
<th>Beneficiaries’ geographical provenience</th>
<th>Beneficiaries’ age</th>
<th>Poor beneficiaries (%)</th>
<th>Disabled beneficiaries (%)</th>
<th>Social inclusion Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste</td>
<td>0.25</td>
<td>0.50</td>
<td>0.59</td>
<td>33.1%</td>
<td>5.4%</td>
<td>0.40</td>
</tr>
<tr>
<td>Multi-domain</td>
<td>0.10</td>
<td>0.31</td>
<td>0.85</td>
<td>13.6%</td>
<td>5.0%</td>
<td>0.40</td>
</tr>
<tr>
<td>Energy</td>
<td>0.28</td>
<td>0.30</td>
<td>0.67</td>
<td>9.6%</td>
<td>3.4%</td>
<td>0.27</td>
</tr>
<tr>
<td>Food</td>
<td>0.29</td>
<td>0.41</td>
<td>0.66</td>
<td>2.2%</td>
<td>2.1%</td>
<td>0.27</td>
</tr>
<tr>
<td>Transport</td>
<td>0.27</td>
<td>0.24</td>
<td>0.70</td>
<td>3.1%</td>
<td>1.1%</td>
<td>0.24</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>0.24</td>
<td>0.38</td>
<td>0.68</td>
<td>14.9%</td>
<td>3.6%</td>
<td>0.32</td>
</tr>
</tbody>
</table>

**Table 39 - Social inclusion index and sub-indexes average score per domain of CBIs activity**

The synthetic social inclusion index ranges from approximately 0.25 to 0.45 both per country and per domain. However, the disaggregation per domain reveals a clear fracture between, on the one hand, waste and multi-domain CBIs and, on the other hand, the other domains whose rankings are all similar and much lower than the former. CBIs engaged in waste activities seem to favour inclusiveness while beneficiaries of CBIs engaged in food and transport activities seem much more homogeneous. Again, further insights may be derived from a more in-depth and disaggregated analysis of some specific categories of CBIs.
9.7 Conclusions

This chapter aimed at assessing the extent to which CBIs provide opportunities for social interaction and create or strengthen social ties both as a means to pursuing their aims and also as a goal in itself. We distinguished between social opportunities provided by CBIs which may be interpreted as promoting bridging social capital or bonding social capital; CBIs' activities can help build bonding social capital, which may lead to increased social support, social connections and social cohesion, as well as bridging social capital, which may be facilitated through activities that bring previously unrelated individuals together and may lead to the development of bonds and social networks that “bridge” usually separated social groups or individuals.

More specifically, we looked at the social dimensions of community organizing in terms of the following: participants' social investment in CBIs, measured as an intensity of how involved active members are in running and organizing CBI activities; the volunteered resources in terms of labour and money devoted the CBIs; social capital enabled by CBIs, measured in terms of the participation of members in CBI events and relative outreach to the wider community of beneficiaries; the bridging of new social relationships; and a CBI's status in terms of social inclusion. We also inquired as to whether our case studies see themselves as open communities or, alternatively, more like closed clubs, by looking at their consideration of local community needs and interactions and collaborations with other CBIs, actors and stakeholders.

We found that the majority of CBIs have a relatively low active participation index, averaging between one and five hours contributed per participant every week. From a financial perspective, most CBIs invest less than 1 Euro per beneficiary each month although 12.0% of CBIs invest a much higher sum of more than 50 Euros monthly per beneficiary. In terms of opportunities for face-to-face interaction, most CBIs (34.0%) offer one to five events per year and per participant with 10 CBIs (16.0%) averaging more than 15 events. The majority of CBIs (25) average between one and 100 members per beneficiary at events.

In terms of membership, more than half of all initiatives (56%) have a low ability to create new social ties and ‘bridge’ beyond the immediate networks of members and the CBIs themselves. However, as concerns the ability of CBIs to engage people with no previously established ties to one another, CBIs have been rather successful. CBIs’ abilities to attract new people to events are pretty evenly split: over half of CBIs (34) have turnout where, on average 50.0% or more, are new attendees, but 29 CBIs (46.0%) reported that generally less than half of attendees were people without already established ties to the CBI or its members. Looking at the data on CBIs’ external networking we found that nearly all CBIs (92.0%) value their relationships with similar CBIs, 85.0% feel external networking is extremely important and crucial to pursuing their objectives.

In terms of social inclusivity, most CBIs have very few foreigners as beneficiaries and the overall average non-national beneficiaries is 16.0%. In terms of gender balance, there are interesting findings per country - Scotland and Romania are almost evenly balanced, while Germany and Spain are much less so. Romanian initiatives engage relatively fewer poor, disabled or foreign people while German CBIs are very oriented towards them. Finnish CBIs are especially geared towards the inclusion of low-income persons and Spanish CBIs are the most inclusive in terms of foreigners. Age is relatively balanced across countries and domains. CBIs engaged in waste activities seem to be more favourable towards inclusivity though food
and transport CBIs have much more homogeneous groups of beneficiaries. Further research in terms of inclusivity, diverse ethnicity, age, class and social identity, and the targeting of disadvantaged groups would benefit from more in-depth and detailed analyses of sub-domain data. The extent that social opportunities provided by CBIs are able to involve a diversity of individuals is key to better understanding how CBIs can further deliver benefits and results to a wider network of beneficiaries as well as to the CBIs themselves. This type of research could prove useful also for CBIs internal evaluations in terms of meeting their respective social aims.
10 CBIs’ external collaborations and social networks

A transition to low carbon societies is urgently needed to face the deleterious consequences and implications of irresponsible anthropogenic activities at the global scale (WGBU, 2011, Moran et al. 2011). The fact that efficient countermeasures to trigger this societal shift to lower GHG emissions and address human-induced climate change challenges may be developed in informal settings of community activism (Dreier 1996), is also gaining consensus. Improved understanding of how CBIs function and evolve is necessary in order to promote successful upscaling and promotion. The novel approaches elaborated for fostering sustainability and transition within community-based initiatives. One of the elements that plays a fundamental role in shaping this evolution is how CBIs interact at the local scale with similar entities, institutional frameworks, external stakeholders and the general public (i.e., Walker and Cass 2007; Bergmann et al. 2010; Middlemiss and Parrish 2010; Mulder et al. 2006).

This chapter focuses mainly on the investigation of network of interactions that CBIs build at the local scale. The work features both qualitative and quantitative methodologies for social networking analysis. The main aims are threefold and described as follows:

1. to explore networking capabilities of CBIs and understand the role CBIs play within their network. To this end, region-specific figures and a ranking of the social networking ties possessed by all CBIs have been built; this is instrumental to the description of how CBIs perform within their own network in comparison with CBIs pertaining to the same network and also with CBIs operating in different networks. The indices elaborated in this phase will also feed into the Multi-Criteria Analysis (MCA) that will be developed within Task 4.3 of WP4;

2. to understand the characteristics of interlocutors with whom CBIs connect, and whether networking performance is perceived of as an important role within CBIs. In this regard, an understanding of the diverse types of interaction that can occur within CBIs and their interlocutors was investigated through the development of bimodal network and descriptive statistics techniques. In particular, the aim is to explore what characterizes ties in terms of the type of interlocutor, intensity and frequency of collaborations;

3. to investigate, the influence of networking properties on CBIs performance and whether these properties may be associated with, or better interpreted through, the results of the greenhouse gas (GHG) accounting developed in Deliverable 2.4. In this regard, inference is based on a multiple regression methodology aiming at highlighting the linkage between networking capabilities with a CBI’s performance in environmental and either terms.

Social network analysis provides particular understandings about how entities are connected within a specific domain and is therefore a way to consider social structures of various kinds (Ennis and West 2012). Thinking in terms of the ties between people, groups and organizations can assist communities to focus not only internally on their functioning (and the strengths and resources within them) but also externally in considering the links to broader social actors whom influence them (Ennis and West, 2012).

The final aim of this work is to effectively contribute to the debate about the importance of interactions of CBIs within their own political, economic, and institutional setting. As a matter of fact, grassroots initiatives operate in different contexts that are often characterized by lively and diverse political, institutional, cultural, and economic frameworks (Seyfang and Haxeltine 2012). The recognition of networks of activists and community groups generating novel
carbon-reduction initiatives and their systemic linkage to environmental impacts is essential (van den Bergh, et al. 2011, Pilon et al. 2010).

### 10.1 Methods and data for the external networking indices

In order to characterize the external networking of CBIs a social network analysis of their collaborations was performed. The theory of networks represents an ensemble of powerful toolsets and robust paradigms for researchers aiming at investigating how interaction shapes the relations between all the actors (nodes) in a network and how each node’s behaviour is influenced by the ties with the other nodes (Borgatti *et al.* 2009). Many different indices and algorithms have been proposed to perform network analysis, and it is not always straightforward to identify which one (if any) outperforms the rest (McGrath 2003). We opted to compute a narrowed range of indices according to a few driving criteria which are consistent with this Chapter’s aims (see Section 10.2), and also due to data availability and simplicity.

For this, data from the survey among 63 CBIs in 6 European regions is applied, especially data related to networking. Each CBI was first asked to name all relationships with other (similar) CBIs and then to explicitly state the importance of each tie using the values associated with a the following discrete scale: “not at all important” (1), “not very important” (2), “somewhat important” (3), “very important” (4), “extremely important” (5). Furthermore, each CBI was asked to name all relevant ties with collective actors, to identify each actor according to a set of alternatives list (Table 40), and to weight the importance of each tie using the same scale adopted to weight the importance of ties with CBIs. The result is a list of weighted directed edges connecting several nodes representing the CBIs we inquired plus entities (i.e. other CBIs or collective actors) with whom they relate; the importance of each tie is elicited through its weight and the direction goes from the node asserting the existence of a linkage to the node that is the object of that linkage.

<table>
<thead>
<tr>
<th>Nodes type description</th>
<th>Node’s type code</th>
</tr>
</thead>
<tbody>
<tr>
<td>National public bodies</td>
<td>APB_NPB</td>
</tr>
<tr>
<td>Regional public bodies</td>
<td>APB_RPB</td>
</tr>
<tr>
<td>Local public bodies (e.g. municipal)</td>
<td>APB_LPB</td>
</tr>
<tr>
<td>Intermediary network organizations (e.g. networks of CBIs)</td>
<td>INO</td>
</tr>
<tr>
<td>Social and political movements</td>
<td>SPM</td>
</tr>
<tr>
<td>Political organizations (e.g. parties), interest groups, trade unions</td>
<td>POL</td>
</tr>
<tr>
<td>Firms’ associations (employers’ associations, no-profit networks, …)</td>
<td>FIRM</td>
</tr>
<tr>
<td>Local/community/Neighbourhood associations</td>
<td>LNA</td>
</tr>
<tr>
<td>NGO networks</td>
<td>NGO</td>
</tr>
<tr>
<td>Educational, research centres, students associations etc.</td>
<td>EDU</td>
</tr>
<tr>
<td>Religious actor</td>
<td>REL</td>
</tr>
</tbody>
</table>

*Table 40 – Descriptions of possible node types*
In network analysis the investigation can be developed at multiple levels of detail (Scott 2011; Freeman 1979), and each level conveys a specific information stratum. Indices at the level of the entire network regarding, for example, density, amplitude, degree of dispersion etc., are not usable in our case because we have little or no knowledge regarding the number and intensity of ties that nodes not featuring the sampled case studies have. Given our lack of a complete dataset regarding the entire network, and given that one of the aims of this analysis is to assess each individual CBI, we select indices at the level of each single node which are significant also in the absence of exhaustive information. In particular, each CBI represents a node in the network, and nodes-based methods can be used to evaluate the role played by a single node according to connectivity and/or centrality. In fact, one of the main aims of this work is to assess the degree to which each node connects to their network; this information is computed and extracted for all nodes.

10.2 Centrality of a network: mapping CBIs’ external networking

In the literature, network analysis features multiple indicators aimed at describing the centrality of a node within a web of interacting nodes, used as a proxy to identify the most important vertices within the network. Since our networks are not very complex structures – rather, they feature disconnected low-density interactions settings – in order to meaningfully grasp the importance of each node within their network we relied on very simple, yet performing, indices based on the concept of network centrality and the corresponding centrality degree.

Centrality degree is a measure of the relative importance of each node’s position within a network. The centrality degree counts the number of direct ties that a node has with other nodes and assumes that the higher the number of direct relations, the more important the node’s role is. In order to allow for meaningful inter- and intra-network comparison, this value is usually normalized. The degree of centrality $D$ of a node $i$ is defined as:

$$ D_i = \frac{k_i}{n-1} = \frac{\sum a_{ij}}{n-1} \tag{1} $$

If node $i$ is linked to node $j$, $a_{ij}$ is 1 and 0 if otherwise; $k_i$ is the degree of node $j$; $n$ is the number of nodes in the network. However, ties are not all the same. In fact, CBIs may have multiple ties with several actors but some more important than others. In our case, ties’ weights are elicited through a self-assessment of the importance of each link from 1 to 5. Thus, Equation 1 is then expressed through Equation 2, where $w_{ij}$ is the weight (i.e. the intensity) assigned to the tie connecting node $i$ to node $j$:

$$ D_i = \frac{k_i}{n-1} = \frac{\sum (a_{ij}w_{ij})}{n-1} \tag{2} $$
The graphs drawn from the edges-listing acquired through the survey data are directed; therefore, links are not reciprocal because the direction of the relation between two nodes is explicit. Networking properties of nodes can be better addressed by disaggregating and investigating separately out-going ties and in-coming ties in directed graphs. The possibility of associating a centrality degree separately to in-coming or out-going ties for each node generates a centrality in-degree or out-degree, respectively. In-degree reflects how “popular” a node is, while out-degree measures how “active” it is (thus eliciting how important networking is for it). However, given the limited data, we directly surveyed only a few CBIs (~10) per study region, and we did not ask the same questions to the nodes they listed as well. Therefore, we mainly use out-degree indices as a general measure of the importance that networking has for each CBI for two main reasons: (i) it can be computed for all CBIs in our sample; (ii) it is supposed to effectively represent the importance that building and maintaining relationships have for CBIs considering how active (more central) they are within the network.

Nevertheless, the in-degree indices we are able to calculate are indeed significant because, although limited in number, the selected initiatives can be considered a sample of the wider universe of community-based initiatives. In-degree based indices are usually associated with the concept of “popularity”, and their application within the nodes of a network elicits a rank of “prestige” that each node has within its own network. As said, the structure of the data collection process elaborated within TESS does not allow for the computing of in-degree centrality for all the CBIs in our sample. Conversely, it will return a value for all the nodes (CBIs or collective actors) they connect with. Thus, some CBIs will have an in-degree associated if they are the node to which another CBI connects. Since in-degree will not return a value for all the nodes within our networks, it cannot be used to make comparative analysis of all the nodes within the sample. However, it can be used to focus on two topics. First, we can use it to investigating which type (Table 40) the most popular nodes within our network belong to so as to identify which type of interlocutor tends to catalyse connections from CBIs and, therefore, implying that they must have a relevant influence on their activities. Secondly, it can be use to find (if any) if the CBIs in our sample are also the target of other CBIs’ ties – such evidence may support the hypothesis that the former achieve a higher degree of popularity within the respective region-specific network so that the impact of their activity is not solely limited to what they do for themselves but also for what they do for someone else’s activity.

Both in-degree and out-degree indicators have been computed for the nodes of the networks built from the TESS data collection, and the average results per country and per domain are given in Table 41 and Table 42, respectively, while the results per CBI are reported in Figure 75.

The aims of elaborating results for in-degree and out-degree are twofold: on the one hand, they will feed into the multi-criteria analysis that is part of Task 4.3 of WP4 and potentially serve as an indicator of each CBI’s ability to build relationships with other actors as well as the importance of networking for their activity. On the other hand, as underlined in the literature, CBIs’ capabilities for building build ties and creating networks with other actors is needed for embedding changes in practices that the sustainable transition often requires (Castells, 2012). The ensemble of results obtained by mapping CBIs’ networks are analysed in detail in Section 10.5. The in-degree index is reported in the graph only to the extent that its value is above zero.
### Table 41 - Average results of centrality indices per country

<table>
<thead>
<tr>
<th>Country</th>
<th>Out-degree</th>
<th>In-degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>11.11</td>
<td>0.18</td>
</tr>
<tr>
<td>Germany</td>
<td>10.00</td>
<td>0.11</td>
</tr>
<tr>
<td>Italy</td>
<td>10.00</td>
<td>0.07</td>
</tr>
<tr>
<td>Finland</td>
<td>10.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Romania</td>
<td>9.96</td>
<td>0.61</td>
</tr>
<tr>
<td>Spain</td>
<td>9.09</td>
<td>0.08</td>
</tr>
</tbody>
</table>

### Table 42 - Average results of centrality indices per domain of activity

<table>
<thead>
<tr>
<th>Domain</th>
<th>Out-degree</th>
<th>In-degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-domain</td>
<td>15.72</td>
<td>0.06</td>
</tr>
<tr>
<td>Waste</td>
<td>11.29</td>
<td>0.20</td>
</tr>
<tr>
<td>Transport</td>
<td>7.96</td>
<td>0.18</td>
</tr>
<tr>
<td>Energy</td>
<td>7.74</td>
<td>0.00</td>
</tr>
<tr>
<td>Food</td>
<td>6.13</td>
<td>0.32</td>
</tr>
</tbody>
</table>

10.3 Exploring the linkage between networking properties, CBIs’ characteristics and performance

We further analyse the influence of networking properties on CBIs performance, e.g. climate mitigation potential through empirical observations and see whether this may be associated or better interpreted in comparison with the results of the GHG accounting and other surveyed information. In this regard, inference has been made that aimed at highlighting the linkage between networking capabilities and a CBI’s performance in environmental and other terms. In addition, one of the aims of the networking analysis was to investigate the importance of networking with specific types of nodes for each CBI. To this end, the networking importance of one specific actor’s type \((k)\) for any given CBI \((j)\) is given by the sum of its ties’ weights \((W)\) with actors belonging to that same type, and it was derived according to Equation 3:

\[
D_{kj} = \sum w_{kij}
\]

The applied questionnaire for the survey featured several categorizations of actors (see Table 40). Furthermore, another type was created from the aggregation of the variety of public bodies at different scales and labelled as All Public Bodies (APB). This information was used to investigate whether one particular public body type was more influential on the total number of collaborations with public bodies, and whether public bodies in general represented an important share of the networks. The summary of the number of collaborations or links by actor type, per country, and actor type, per domain are shown in Figure 76 and Figure 77, respectively. In both cases, the majority of links is represented by connection with other CBIs, public stakeholders or intermediate network organizations. Figures 92 and 93 may let us speculate two things: that although previous investigations within the TESS project have shown that CBIs may have a “tough love” relationship with public institutions, the latter still represent an important interlocutor in any case. Secondly that the activity of entities aiming at improving CBIs interconnectivity is also important for CBIs.
Figure 76 - CBIs' networking interaction by actor type per country

Figure 77 - CBIs' networking interaction by actor type per domain
The data on the networking importance for each CBI with each type of actor, and the results of centrality out-degree, were associated to other relevant information that emerged from the survey. This aims to investigate whether recognizable and reiterated patterns could be identified within the sample. The additional data used is shown below:

- Activity of the initiative
- Age of the initiative
- Number of active members
- Number of hours volunteered per week
- Number of employees
- Number of beneficiaries
- Quality of management (from 5=good to 1=bad)
- Hierarchy structure (from 6=horizontal to 1=vertical)
- Total reduction of Green house gas emissions (GHG) compared to a baseline scenario (see Deliverable 2.4)
- Proportion of GHG reduction of European average per capita carbon footprint (see Deliverable 2.4)

The data has been investigated using simple descriptive statistical techniques provide some insights of the distribution and frequency of certain types of ties in our network. In order to further explore whether particular groups of CBIs tend to favour the relationship with specific type of stakeholders, a bimodal network was also built. Bimodal networks allow nodes to represent not only entities building ties (i.e. CBIs), but also properties of nodes with whom are built. In our case, we explore the networking properties of CBIs and find significant patterns within the sample by characterizing CBIs' ties and specifying the type of interlocutors that each tie binds. The two modes represent CBIs having the relation, and the types of ties they have. Thus, the bimodal network considers the CBIs as viable nodes, on the one hand, and, on the other hand, the types of connecting nodes, i.e. the typology of actor to which the CBI is tied.

### 10.4 Community-based initiatives’ centrality and domain of activity

In Figure 78, the ranking of CBIs according to their centrality out-degree is shown, classified by main domain of activity (the x-axes in Figure 76 and Figure 77 feature a rank of out-degree values, this was used to order out-degree values from the biggest to the smallest). Although clear distribution patterns are not evident, it is noticeable that more than half of the waste-related CBIs set along the far-left side of the graph with a high value of out-degree. This may indicate that networking is more important to CBIs whose main activities deal with the treatment (upcycling/recycling/reuse) of waste as opposed to the three other domains. Conversely, food-related CBIs tend to cluster along far-right part of the graph, suggesting that networking could be of less interest or importance to them; energy-related CBIs are mainly found in the centre part of the graph, while multi-domain-CBIs show a tendency more similar to waste-related CBIs.
Figure 78 shows the distribution of CBIs according to out-degree and classified by main domain of activity. Similarly, Figure 79 shows the ranking of CBIs according to out-degree values, but classified according to the CBIs' main priority. Initiatives where this information is not available are excluded from the graph. Similarly to Figure 78, no evident pattern arises; CBIs' objectives seem to have little to no correlation with out-degree networking centrality. It is also clear that dispersion is greater/even less uniform than the distribution in Figure 78. The only indication could be that CBIs who consider social and environmental objectives more important are generally evenly distributed in terms of out-degree. This may indicate that CBIs perceiving environmental and social dimensions as more relevant may also be better at networking, although not necessarily. However, no clear trend or pattern can be derived from the distribution of CBIs in terms of these two areas of impact.

Figure 79 - Distribution of CBIs according to out-degree and classified by main domain of activity

Figure 79 - Distribution of CBIs according to out-degree and classified by their main priority
10.5 CBIs’ networks according to the type of connecting nodes

So far we have characterized and described CBIs’ networking properties according to the centrality degree that CBIs have in their own networks. Another means of investigating whether important patterns arise from the networks is to characterize the relationships that CBIs have with external interlocutors according to different types of interlocutors. We first portray the frequency distribution of CBIs’ ties by type of interlocutor (Figure 80). As already shown, the majority of connections of our CBIs (~35.0%) are with other CBIs.

![Figure 80 - CBIs’ external collaborations by interlocutor type](image)

However, it should be noted that the questionnaire featured two separate sets of questions to investigate networking capabilities: one specifically targeted other CBIs, while the other specifically targeted collective actors. This result can also be interpreted by the fact that CBIs tend to group with other similar initiatives because building ties of this kind implicitly allows a collective ability to enlarge the base of volunteers and increase outreach. The other two types with a larger share of all ties in the networks are Intermediate Network Organizations (INO) and All Public Bodies (APB)\(^29\). The former consists of stakeholders aimed at building networks among similar CBIs (INO). The results show the fact that networking with similar CBIs is important and show that these stakeholders connect with CBIs even if not involved in anything directly related to the activity of the CBIs (e.g. urban gardening, sustainable transportation etc.). It can be expected that their activity is still crucial because they “put” similar CBIs together and therefore support their empowerment.

The results show that public bodies in general – and local public bodies in particular – account for a large share. This suggests that although CBIs often fill a gap in societal practices that are better represented by public institutions, the support of public bodies is still necessary because

\(^29\) All Public Bodies (APB) is the sum of Local, Regional and National Public Bodies.
they offer financial, logistic, legal support etc., and because our survey shows that public bodies are considered non-negligible interlocutors in order to reach CBIs’ final goals. This is also supported by the fact that intermediary network organizations and public bodies rank highest in terms of degree of prestige (in-degree), thus, eliciting that these stakeholders have a prestigious and dominant position.

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community-based initiatives (CBI)</td>
<td>203</td>
<td>35.12</td>
</tr>
<tr>
<td>Intermediary network organizations - e.g. networks of CBIs (INO)</td>
<td>82</td>
<td>14.19</td>
</tr>
<tr>
<td>Local public bodies - e.g. municipal (LPB)</td>
<td>58</td>
<td>10.03</td>
</tr>
<tr>
<td>Local/community/neighbourhood associations (LNA)</td>
<td>46</td>
<td>7.96</td>
</tr>
<tr>
<td>Educational, research centres, student associations etc. (EDU)</td>
<td>37</td>
<td>6.40</td>
</tr>
<tr>
<td>NGO networks (NGO)</td>
<td>37</td>
<td>6.40</td>
</tr>
<tr>
<td>National public bodies (NPB)</td>
<td>32</td>
<td>5.54</td>
</tr>
<tr>
<td>Regional public bodies (RPB)</td>
<td>30</td>
<td>5.19</td>
</tr>
<tr>
<td>Social and political movements (SPM)</td>
<td>29</td>
<td>5.02</td>
</tr>
<tr>
<td>Political parties/associations, interest groups, trade unions (POL)</td>
<td>8</td>
<td>1.38</td>
</tr>
<tr>
<td>Firms’ associations – e.g. employers’ associations, non-profit networks etc. (FIRMS)</td>
<td>7</td>
<td>1.21</td>
</tr>
<tr>
<td>Religious organizations (REL)</td>
<td>1</td>
<td>0.17</td>
</tr>
</tbody>
</table>

Table 43 - Frequency and proportion of CBIs’ ties by interlocutor type

As previously mentioned, although the significance and applicability of in-degree functions to the TESS CBIs in our sample is limited, these indices have shown to be relatively significant in exploring the prestige of the nodes that compose the external networks of TESS CBIs, in particular, for understanding to which interlocutor types most popular nodes belong.

In this regard, Figure 81 features the in degree value for each node on the y-axis, while the rank that these nodes have within their respective network is shown on the x-axis, according to the in-degree value which, as already mentioned, can be interpreted as a measure of their prestige. Figure 81 shows that the area occupied by high ranks and high in-degree values (top-left part of Figure 81, here surrounded by a red circle) is almost entirely occupied by public bodies, intermediate network organizations and CBIs. This provides additional evidence to support the claim that the most important interlocutors for the sampled CBIs are public bodies at different scales. This suggests that the relation with public institutions is fundamental for the emergence and establishment of CBIs, and that public bodies play an important role in fostering CBIs activity in all countries of our sample.

We further characterize CBIs’ ties through a bimodal network that elicits the type of interlocutor of the sampled CBI for each tie. In this case, the two modes are represented by the CBIs having the relation (the set of circle nodes in Figure 82) and by the type of interlocutors (the
set of square nodes in Figure 82), as described in Section 10.3. It is noteworthy how in Figure 82 nodes 68, 69 and 71 (which, taken together, represent APB) occupy a central position, which indicates that public bodies are not only the most prestigious (Figure 80) and numerous (Table 43) types of connecting nodes, but they also occupy the most central location in the bimodal network.

Conversely, and somewhat surprisingly, POL actors occupy very peripheral locations meaning that conventional political parties/organizations are not very relevant for CBIs’ activities. This suggests that formal political actors are not so relevant to foster propagation and outreach for CBIs, at least in terms of the quantity and density of relationships.

Moreover, Figure 82 shows that the CBIs most connected to the centre of the network are the ones active in multiple domains. Waste-related CBIs are dispersed throughout the entire graph and, together with energy-related CBIs, are the ones who connect more with the four less-central node types (i.e. FIRM, POL, REL that are all located in the far-right of Figure 82). This could evidence that multi-domain CBIs connect more importantly with the most popular type of nodes, hence implying that for them networking could be of particular interest. Furthermore, CBIs engaged in the domains food and transport, which are the most populated domains in our sample of CBIs, do not seem to have a strong concentration to the central location and tend to be rather dispersed in peripheral areas of the network, thus, suggesting that networking for them may not be so relevant, or that in spite of being relevant they are not extremely successful in building relevant ties.

We further compare the calculated out-degree value of the CBIs with their perceptions about the importance of networking per domain of activity as elicited through the self-assessment exercise and rated on a scale from one to 10. It is noticeable that the vast majority of CBIs assign a relevant score to networking importance (> 85% of CBIs gave networking a score > 5) regardless of their domain of activity. Further, few waste-related and multi-domain CBIs achieve a high level of out-degree. This could be a sign that that even if networking is
considered important, good networking is difficult to achieve and maintain; therefore, this is potentially an area for further improvement for many CBIs in the sample.

![Bimodal representation of relations of CBIs to different interlocutors; Symbol size = out-degree; Green boxes = APB; Graphic layout based on Fruchterman-Reingold](image)

One of the aims of the networking analysis was to further investigate whether networking properties positively influence environmental impact, or whether CBIs that give a more important contribution towards alleviating societal environmental burdens also show that networking ties are important in fostering their activities. We thus investigate whether networking shows any relation with environmental impacts described in Deliverable D2.4.

In more detail, networking with collective actors (i.e. all actors listed in Table 40, except CBIs) has a significant, although not high correlation (0.63) with the GHG indicator “Per capita carbon footprint reduction” and with the centrality out-degree (p value < 0.05); this suggests that CBIs who build important networks with collective actors (and/or with other CBIs) are more likely to carry out sustainable practices that have a higher positive environmental impact. In addition, out-degree centrality is correlated (0.81) with the proportion of networking with all public bodies (APB), although in this case, the P-value does not show significance.

10.6 Conclusions

The network analysis conducted did not reveal clear profiles of “how” CBIs connect and “what type” of CBIs connect more than others. The clustering analysis reinforces this conclusion and implies that CBIs are well mixed and that networking centrality does not represent a viable means of differentiating among them. However, some general observations can be made. For
example, according to networking performance, waste and multi-domain CBIs, on average, tend to have higher out-degree values than CBIs active in other domains; this suggests that building ties is more important for CBIs upcycling/recycling/reusing materials than for CBIs promoting diverse activities. Indeed, the networking performance of CBIs active in the transport and food domains suggests that networking could be of less interest to them.

The investigations regarding with “whom” CBIs prefer to connect to, and “which type” of interlocutor is more relevant gave more distinct results. The two types of interlocutors that cover the largest share of all ties in the networks are Intermediate Network Organizations (INO) and All Public Bodies (APB).

The role and focus of INOs are to help similar CBIs connect. The fact that their presence within the networks is relevant underlines the fact that networking with similar actors (and/or belonging to wider network) is important to CBIs. Moreover, the fact that APB, in general, characterizes the larger proportion of ties among collective actors reveals that even if the emergence of CBIs is often focused on filling a gap in current societal practices created by a lack of public institutions, on the other hand, collaboration with public bodies is still common because it may help CBIs in reaching their goals. It should be noted that local authorities are the preferred interlocutors among public bodies; reinforcing the idea that CBIs’ activities are strongly characterized by their strong local foci.

The comparison between the perception of the importance of networking and networking intensity reveals that even if all CBIs consider networking important for their activity, not all of them perform well in this regard (except for a few CBIs active in multi-domain- and waste-related activities). The difficulty in elaborating good and performing networking strategies for CBIs could represent a viable and improvable issue for stakeholders aiming at promoting CBI activities.
11 Community-based initiatives and grassroots innovation

The main aim of this section is to investigate the nature of the innovative activities CBIs perform and seek to promote. In this way, we hope to better understand whether or not, and to what extent, the rooting of CBIs at the grassroots level sustains their capacity to nurture innovation that can potentially transcend the borders of their immediate membership or constituencies through replication, upscaling and learning.

More specifically, we focus not only on technological innovation but also on anything that CBIs’ themselves perceive as being ‘innovative’ in their activities and functioning, including innovation that has a social character in that: this pertains to social practices (attitudes, behaviours, forms of organization) rather than to technologies, products or artefacts. We can thus define grassroots innovation (Smith and Seyfang 2013) in a way that it can help improve the living conditions of those involved and has the potential to become institutionalised at a later stage.

The question driving the analysis is therefore the following: which forms of innovation (technological, social, organisational etc.) do CBIs pursue or realize? Secondly, we seek to understand if there is some relationship between the forms of innovation performed by CBIs and their characteristics.

The analysis is not primarily concerned with measuring the actual output and impact of innovation – although a synthetic innovativeness index is estimated and discussed – but it instead aims for a more qualitative assessment of the potential and limits for triggering and sustaining innovation that spreads beyond the boundaries of the CBI from which they originated. The analysis is therefore largely descriptive and exploratory in character; tools drawn from Social Network Analysis have been utilised to identify patterns in the relations linking CBIs to their different innovation practices.

The analysis is based on the survey data gathered from 63 CBIs located in the six countries. In order to investigate the CBIs’ innovation practices, the analysis relied on information collected on the following aspects of CBIs characteristics and operations:

- Role and extent of innovation: data concerning the self-assessed relevance of and satisfaction with the innovative activities performed by CBIs;
- Types and forms of innovation: information on these points was collected by collating, coding and analyzing the open-ended answers to a cluster of related questions concerning the type, nature and extent of the innovative activities performed by CBIs; their collaboration with outside initiatives as receivers, partners and disseminators of innovation; and the acknowledgements received for their innovation activities.

In the following sections we look at the innovative activities performed by CBIs and adopt a socio-technical view of innovation to look at the full range of innovative activities that CBIs perform. We first assess CBIs’ propensity towards innovation and which of the main sub-functions of an innovation system they undertake. We then discuss how CBIs perform within each of these sub-functions, also with the already mentioned aim of measuring a synthetic index of degree of innovativeness, and the extent to which they do this. We then present a descriptive picture of the variety and diffusion among CBIs of different forms of innovation, and investigate the presence of patterns and regularities in the ways these initiatives innovate. We first focus on proper innovations which CBIs introduce first-hand, or adapt to their specificities, and subsequently focus on other aspects of the innovation process, such as the exchange of
knowledge CBIs are engaged in, the areas of impact of their innovation activities and their views about their future needs.

11.1 How relevant is innovation for CBIs

As summarized in Chapter 3 of this report, when asked about how important the creation, improvement and diffusion of ‘innovation’ among the aims of the initiatives are; 40 initiatives answered that the issue is somehow important. Innovation, therefore, is one of several priorities for 63% of initiatives included in the sample, but it ranks the lowest (14th among 15 specific objectives) with respect to the other dimensions of CBIs’ activities (environmental, social, economic and political) and. Such averages are, in fact, due to a high variability between countries with respect to the importance given to innovation (Table 44).

<table>
<thead>
<tr>
<th>Country</th>
<th>Yes</th>
<th>No</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>90%</td>
<td>10%</td>
<td>7.1</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>89%</td>
<td>11%</td>
<td>7.4</td>
</tr>
<tr>
<td>Germany</td>
<td>80%</td>
<td>20%</td>
<td>7.9</td>
</tr>
<tr>
<td>Spain</td>
<td>64%</td>
<td>36%</td>
<td>8</td>
</tr>
<tr>
<td>Romania</td>
<td>42%</td>
<td>58%</td>
<td>8</td>
</tr>
<tr>
<td>Italy</td>
<td>27%</td>
<td>73%</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 44 - Innovativeness relevance and rating

The share of initiatives whose activities aimed at creating or diffusing innovation is indeed consistently high in the UK (Scotland), Finland and Germany (between 80 and 90%). On the opposite side is Italy, where only 27% of initiatives consider the issue relevant, followed by Romania (42.0%) and Spain (64%).

When it comes to the slightly different issue of ‘social innovation’ the situation changes: we asked about the importance of “promoting new/different/more sustainable behaviours, life styles and social practices”, only five initiatives (8.0%) answered negatively. The issue ranks fourth among the 15 above-mentioned potential objectives, right below environmental and social concerns.

This suggests that, first, to understand the impacts and effectiveness of initiatives, changes on processes are more relevant than changes about products. Secondly, almost all CBIs seem to be striving towards some sort of ‘change’ which is, however, rarely perceived as being aimed at or enabled by some sort of innovation in the strict sense. This is to say that CBIs emphasize, for the most part, ‘social’ innovation rather than technological change but for some, both dimensions are relevant. Therefore this will be investigated further in the following sections.

In the next section we will distinguish between specific sub-processes of an innovation system and assess the positioning of CBIs with regards to each of those sub-functions.
11.2 CBIs and their sub-functions of innovation

In order to better understand the whole range of activities CBIs perform within their innovative efforts, we applied a scheme proposed by Bergek et al. (2008) for the analysis of technological innovation systems’ sub-functions (see Chapter 3, Section 3.4.2) to their specificities. These sub-functions, and how those have been translated into specific questions to CBIs, are reported in Table 45. CBIs were asked to answer yes or no to those questions as well as to provide, in case of a positive response, a description of their motivations or activities in the respective cases. This description or explanation was intended not only to qualify the innovative activities of CBIs but also as a verification, i.e. to probe the subjective perception of initiatives regarding their innovative efforts and performance in a more objective way.

<table>
<thead>
<tr>
<th>Innovation system sub-function</th>
<th>Question</th>
<th>Qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pressures for change</td>
<td>Do you feel the need to introduce/implement (radically) different or new products/services/technologies/processes/organizational models or any kind of innovation?</td>
<td>What and why you feel this need? Why or how would this be innovative?</td>
</tr>
<tr>
<td>2. Knowledge development and diffusion</td>
<td>Do you provide specific learning, educational, training opportunities?</td>
<td>To whom, how frequent and what is the aim?</td>
</tr>
<tr>
<td>3. Networking (resource mobilization)</td>
<td>Are you collaborating with any other organization in these activities? Are you part of a wider network of collaborating innovators?</td>
<td>With whom are you collaborating? What networks are you involved in? What are you developing?</td>
</tr>
<tr>
<td>4. Experimentation</td>
<td>Are you testing innovations, applications and innovative products/services/processes/organizational models developed by others?</td>
<td>What are you experimenting on? Why is this innovative?</td>
</tr>
<tr>
<td>5. Market formation</td>
<td>Have you created any new goods/services/markets (or market segments)? Do you feel the initiative responds to a demand which was unfulfilled? Do you offer anything which was unavailable? Do you create an alternative form of providing goods and services?</td>
<td>What did you create? How did your activities change? In what ways does it differ from existing provision/activities/models, and from your (former) competitors?</td>
</tr>
<tr>
<td>5.1 Patenting</td>
<td>Did you apply for patents? Did you register any patents?</td>
<td>What you patented?</td>
</tr>
<tr>
<td>6. Legitimation</td>
<td>Do you perceive those [innovative] efforts to be acknowledged by other organizations as relevant/useful/worth the effort/fundable/something that should be improved, diffused, etc.?</td>
<td>Can you give us an example of how, who, why?</td>
</tr>
<tr>
<td>7. Replication</td>
<td>Are there other organizations that are using your innovation(s)? Has there been any replication in other places, sectors of what you are doing?</td>
<td>Which products or services are being utilized/implemented by others and who is doing so?</td>
</tr>
</tbody>
</table>

Table 45 - Scheme of the questions included in the survey for assessing the innovativeness of community-based initiatives
In line with what was stated in the previous section, 68.0% of initiatives declared a feeling of “pressure to change” their functioning and/or products. When asked if they actually created any new goods, services, or market segments, 76.0% of initiatives answered affirmatively. However, once asked to qualify, many of those new products turned out to not be really new, sometimes consisting of merely a new ‘vision’ or attitude towards traditional services, sometimes of innovations borrowed from somewhere else whereby the initiative was simply the first to introduce it in the ‘local area’ without any adaptation. This is not surprising given the difficulty in understanding what is effectively ‘innovative’ or not. After such a verification, we can state that approximately 21.0% of CBIs actually introduced more or less radically new goods or services (“Market formation”), 25.0% introduced innovations created by someone else (“Experimentation”), and 17.0% achieved both at the same time: they were able to create some sort of new market as well as experiment or test innovations produced by others. These results are summarized in Figure 83 together with the distribution of CBIs with respect to their other innovation sub-functions. The categories are described in Table 48.

Figure 83 - Distribution of CBIs with respect to 7 innovation systems sub-functions

Among those 29 initiatives which created some novel innovation, only two have registered one or two patents each, while very few others refused to patent their innovation for reasons such as being “happy to have our project taken and replicated by others,” or because “patents are made to favour oligopolies”. The rest are, for the most part, innovations which are simply not patentable for reasons which to be explained in the following sections.

Many of those 40 ‘innovative’ initiatives declare not only that their innovative efforts are acknowledged by other organizations (73.0%), but also that their innovations have been imitated and replicated by others (27.0% of the whole sample; 43.0% of the ‘innovative’ initiatives; “Innovation diffusion” in Figure 83). The propensity to network with other
organizations for producing or testing innovation is, as well, high but not as high as we would have expected: 30.0% in the whole sample, and one-half of the 'innovators' are in collaboration with other organizations, mostly on an ad hoc basis ("Networking" in Figure 83). Such a propensity towards networking is, by far, higher among those experimenting or testing innovations produced by others with respect to those who created their own innovation. Of those latter, only one-third declare membership in an innovation network.

Regarding activities aimed at "knowledge development and diffusion", those are here considered a sub-function of the innovation efforts of CBIs, but may also not be directly aimed at improving the innovative capacities of CBIs and, as such, are discussed in other chapters of this report. Opportunities for learning, education or training are indeed offered by approximately one-half of CBIs, 17.0% of which are very intensively active in this regard. Yet, only two-thirds of those initiatives which we defined as 'innovators' offer any learning or training opportunity to their members or beneficiaries, while almost one-half of those initiatives which are not innovators, are active and sometimes intensively so in this regard. This indicates that the extent to which CBIs are active in this regard is not necessarily correlated to any explicit innovative effort, and that most training and learning activities are offered with the only aim of providing learning opportunities, knowledge externalities or awareness raising.

11.3 Towards a synthetic innovativeness index for CBIs

The information analysed and discussed in the previous section can be used to measure a synthetic indicator of degree of ‘innovativeness’ for community-based initiatives. To this end, we assessed whether our CBIs are active or not with respect to each of the previously mentioned eight innovation system sub-functions, and verified their self-assessment in this regard through an analysis of the open-ended questions provided to qualify or to explain these activities. In the case of the most important three of those sub-functions – knowledge diffusion, market formation and patenting – we distinguished whether CBIs’ activities in each of those regards is intense or ordinary. We then standardized the cumulative score for each CBI by dividing such score with that of the most innovative.

The measure of this index is mainly aimed at including ‘innovativeness’ among the set of indicators to be used for the multi-criteria analysis of CBIs’ performance which will be undertaken in Task 4.3 of the TESS project and reported in TESS Deliverable 4.2. Nevertheless, the analysis of results can bring some additional insights about what and how CBIs innovate.

In terms of countries, among the 18 CBIs whose performance is considerably higher than the rest, six are from Finland, four from both United Kingdom (Scotland) and Spain and only one is from Italy. The averages per country are reported in Table 51. In terms of domains, among the most performing CBIs, and excluding three multi-domain initiatives, the most recurrent areas of activity are waste and energy. The averages per country are reported in Table 52.

Each index’s average per country replicates, to a certain extent, the ranking reported in Table 44 on how CBIs in each country perceive the importance of innovation, except for German CBIs who rank this lower and CBIs in Italy and of Spain who seem to perform noticeably higher than their expressed willingness to innovate. The ranking of the innovativeness’ index per domain is also, to a certain extent, similar to what was reported above regarding the most innovative initiatives. CBIs active in the field of waste seem, on average, to have a lower
innovative capacity with respect to energy initiatives, while food is the area where the innovation capacity is the lowest.

<table>
<thead>
<tr>
<th>Country</th>
<th>Innovativeness index average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>0,68 / 1</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0,58 / 1</td>
</tr>
<tr>
<td>Spain</td>
<td>0,58 / 1</td>
</tr>
<tr>
<td>Germany</td>
<td>0,40 / 1</td>
</tr>
<tr>
<td>Italy</td>
<td>0,31 / 1</td>
</tr>
<tr>
<td>Romania</td>
<td>0,25 / 1</td>
</tr>
</tbody>
</table>

*Table 46 - Average innovative performance per country*

<table>
<thead>
<tr>
<th>Domain</th>
<th>Innovativeness index average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>0,59 / 1</td>
</tr>
<tr>
<td>Waste</td>
<td>0,49 / 1</td>
</tr>
<tr>
<td>Multi-domain</td>
<td>0,48 / 1</td>
</tr>
<tr>
<td>Transport</td>
<td>0,45 / 1</td>
</tr>
<tr>
<td>Food</td>
<td>0,33 / 1</td>
</tr>
</tbody>
</table>

*Table 47 - Average innovative performance per domain of activity*

### 11.4 Different approaches to innovation

As in the case of grassroots activities (Chapter 8), the analysis of innovative activities was based on a two-step emergent coding. Text was extracted from the open-ended answers provided by CBIs on a series of questions concerning: the nature of their innovation activities; their access and contribution to external knowledge flows; their capacity to diffuse innovation models through replication, upscaling or sharing ideas with other CBIs; their use of legal mechanisms for protecting their innovation. Differently from the analysis reported in the previous sections, the answers and explanations from CBIs were not 'filtered' according to what can or cannot be regarded as proper 'innovation' because the aim was to understand the subjective perceptions from initiatives themselves.

We did not seek to isolate individual innovation activities; our objective was rather to identify which were the overarching themes underlying CBIs’ approaches to innovation. We sought, in other words, to highlight the drivers, tools and mechanisms that CBIs adopted to promote and advance innovation in the localities or domains in which they operate. We therefore focus on
sources and models of innovation more than on the nature of single innovative activities. Different approaches and drivers were often mobilized by the same CBI for a single innovative project; in this case, the same innovative activity would correspond to different entries in our coding table in which the themes brought together (in relation to a specific innovation activity) were unpacked. The text corpus extracted from the database ran at roughly 12,000 words although the extensiveness of answers varied considerably across CBIs.

<table>
<thead>
<tr>
<th>Times mentioned</th>
<th>Number of CBIs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TECHNOLOGICAL INNOVATION (TEC)</strong></td>
<td></td>
</tr>
<tr>
<td>Innovation driven by technology</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL INNOVATION AND RECYCLING (ENV)</strong></td>
<td></td>
</tr>
<tr>
<td>Reusing and recycling</td>
<td>18</td>
</tr>
<tr>
<td>Environmentally-friendly innovation</td>
<td>12</td>
</tr>
<tr>
<td>Sustainable modes of transportation</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
</tr>
<tr>
<td><strong>INNOVATION THROUGH RE-EMBEDDING, RELocalization AND COMMUNITY-ORIENTed MODELS (EMB)</strong></td>
<td></td>
</tr>
<tr>
<td>Community-oriented models</td>
<td>20</td>
</tr>
<tr>
<td>Alternative economies and non-monetary exchanges</td>
<td>10</td>
</tr>
<tr>
<td>(Re)-embedding the local economy</td>
<td>9</td>
</tr>
<tr>
<td>Organising community-oriented markets</td>
<td>7</td>
</tr>
<tr>
<td>Giving asset ownership back to the community</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
</tr>
<tr>
<td><strong>INNOVATION IN AND THROUGH COMMUNICATION (COM)</strong></td>
<td></td>
</tr>
<tr>
<td>New training and knowledge dissemination activities</td>
<td>26</td>
</tr>
<tr>
<td>Innovation through awareness-raising</td>
<td>9</td>
</tr>
<tr>
<td>Organising innovative events for the area</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
</tr>
<tr>
<td><strong>NEW BUSINESS AND ORGANISATIONAL MODELS (BUS)</strong></td>
<td></td>
</tr>
<tr>
<td>Innovation in logistics and organization</td>
<td>22</td>
</tr>
<tr>
<td>Exploiting innovative market niches</td>
<td>7</td>
</tr>
<tr>
<td>Develop local tourism potential in innovative ways</td>
<td>7</td>
</tr>
<tr>
<td>New funding and financing models</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
</tr>
</tbody>
</table>

Table 48 - Summary of the frequencies of different categories of innovation activities
Table 48 provides an overview of the categories of innovation activities identified in the dataset and their aggregation in overarching themes. The first column indicates how many times the theme was identified in the text corpus, the second reports how many CBIs mentioned the theme in their discussion of innovation.

The first striking feature is that “hard” technology is only rarely mentioned as a driver of innovation. The innovation activities of CBIs largely rely on “soft” technologies, whether related to innovative business and organizational models or to transformative visions for a sustainable social- and community-oriented economy. Innovation driven by the implementation of community-based mechanisms is the most widespread among CBIs in the sample with community-oriented forms of innovation being reported by 36 CBIs. Other forms of innovation are evenly spread among CBIs and all other categories, involving 24 CBIs each.

Following a process similar to that described for the analysis of the CBI-by-activity, a relational visual representation of the distribution of innovation categories is provided in Figure 84. In this case the innovation space in which CBIs operate is also conceptualized as a two-mode CBI-by-innovation network and is represented using Social Network Analysis. It is immediately apparent that innovation patterns are far more structured than grassroots activities.

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30 Node colours denote the domain of activity; node labels denote the country (D, Germany; E, Spain; F, Finland; I, Italy; R, Rumania; S, Scotland). Node size for CBIs proportional to their local clustering coefficient; node size for activities is fixed and arbitrary. Layout: Fruchterman-Reingold.
In this case, multi-domain CBIs from Scotland dominate the centre of the graph since, in terms of innovation activities, they are far more diversified than most of their counterparts elsewhere. A high degree of specialisation appears to characterise the CBIs located outside the centre of the graph. CBIs located in the lower edge of the graph, for example, either only operate through community-based methods or combine these with “soft” innovation in communication and business organization.

On the other hand, CBIs that use technology-driven forms of innovation (the top of the graph) appear to be specialized in a different mix of innovation activities: while technological innovation is often combined with organizational innovation, technology-driven CBIs do not engage in community forms of innovation.

Overall, it is possible to identify several different groups of CBIs showing exactly the same patterns of innovation. It is also interesting to note that the (little) patterning identified in the grassroots activities network is unrelated to the patterns observed in the innovation network. For example, the CBIs that belonged to the same cliques in terms of their grassroots activities (see Chapter 8) show very different innovation patterns. Therefore, the choice of grassroots activities seems to not be correlated to the forms of innovation practiced by CBIs.

11.5 Knowledge flows towards and from CBIs

Community-based initiatives seem to rely quite evenly on forms of tacit knowledge circulated within networks with other similar organisations, and on formalised expert knowledge.

Seven CBIs explicitly mentioned their relations with external experts and professionals as relevant to their innovation activities. This exchange involved a university in only one case, while, in the rest of the cases, external codified knowledge was accessed through consultation with professionals or private companies; at times, this involved the setting up of a formal advisory panel. In five cases, the sources of knowledge mentioned were linked to the “local buzz” rooted in networks involving other organisations with similar aims and outlooks. In all these cases, CBIs reported having replicated or found inspiration in models and experiences developed elsewhere.

Notably, the local area was not seen as a particularly valuable source of knowledge; in most cases, the community instead provides the reference point for identifying needs and stimulating a search for innovative solutions. Overall, it would appear that CBIs perceive themselves as disruptive Schumpeterian “creative destructors” rather than as actors embedded in the type of dense innovation networks envisioned by most systemic approaches to innovation.

Conversely, CBIs are very open to sharing and diffusing their knowledge and experience with similar initiatives operating elsewhere. In 11 cases, they mention having acted as a source of inspiration for similar initiatives established in other areas, and in eight cases their models have been specifically replicated elsewhere. A further sign of openness is the very limited utilization of Intellectual Property Rights protection. Patenting was mentioned in only three cases while, in another three cases, CBIs had registered trademarks or other private labels under their names. Patenting is not necessarily aimed to restrict the use of innovations to others. The low propensity towards patenting innovations could be aimed to prevent
commercialization of CBIs’ innovation by, for example, companies. Further and more in-depth research is needed to explore this issue more properly.

11.6 Impacts of innovation activities

When referring to the type of impact that their innovation activities was having, 12 CBIs mentioned the positive impact on the local economy in terms of re-localisation of economic activities, increased local employment and better conditions for local businesses to flourish (for example, by providing more affordable work-spaces or simplified access to start-up capital). An environmental impact was mentioned in six cases while, in four cases, the impact was specifically tied to the ways in which the CBIs had helped “rebuild a community” by favouring new relations, increased awareness and social capital creation.

It is interesting to note that in five cases, the answers explicitly mention the convergence between community-oriented objectives and economic impact on the local business environment as one of the main achievements of the innovation advanced by CBIs.

11.7 CBIs’ plans for future innovation activities

We have also analysed CBIs’ visions for the future, focusing on understanding what their plans for upscaling or enlarging their innovation activities were, and which factors they thought could support their sustained innovation efforts.

A considerable number of CBIs (35 in all) explicitly discussed their plans and needs for the future in the course of the interview. Of these, 25 considered the sustainability of innovation as relying upon processes that were related to decisions concerning the activity itself. They had aims to replicate the innovation in other areas (three cases), improve or refine the current model (five cases), upscale the model and enlarge current operations (nine cases) or extend the experimented model to new sectors (12 cases).

However, it is important to note that 20 CBIs mentioned that changes in institutions, culture, and attitudes at the local or societal level were required for furthering and spreading their innovation and to enact the envisioned long-term changes. Moving beyond their own capacities, they felt that actual upscaling and replication required an interaction between their own actions and changes at the landscape level.

11.8 Conclusions

The aims of this chapter were to analyse the innovation activities of CBIs. Starting from a descriptive analysis of the forms of direct engagement with the local community and innovation practices, we first assessed the performance of CBIs with respect to seven sub-functions according to which an innovation system can be dissected, also in light of measuring a synthetic index of innovativeness and discussing the results. ‘How much’ community-based initiatives innovate is, however, by far less interesting than understanding how and why they innovate. To this end, we characterized the positioning of CBIs with respect to innovation by
coding their answer in this regard and by implementing a two-mode Social Network Analysis in order to interrogate the emergence of consolidated or recurrent models. The picture that emerges from this admittedly preliminary analysis is consistent with a view of CBIs as belonging to an emergent innovation niche still characterized by low degrees of structuration. CBIs largely rely on individualized, ad hoc mixes of activities to articulate their relations with the grassroots level. No dominant organizational patterns appear to have emerged in relation to their domains or country of operation. More structure appears, instead, in terms of innovation models where more specialized approaches can be identified.

Relying on the work performed so far, it would be interesting to investigate more in-depth the relation between grassroots activities and innovation models. This, we believe, could be best achieved through a mixed-method that starts from cross-tabulating innovation activities with other CBIs’ characteristics and applying formal methods such as Multiple Correspondence Analysis, to then relate emerging patterns to the individual histories of CBIs representative of different models. Finally, a more qualitative and in-depth analysis of some exemplar community-based initiative – being particular innovative in general or with respect to otherwise similar CBIs – will help to explore further how CBIs innovate. The ambition is to contribute to the emerging debate about ‘grassroots innovation’ (see Chapter 3) by providing an empirically rich, systematic, and comparative analysis of the capacity of community-based initiatives to function as niches for the experimentation, creation and diffusion of innovation.
12 Scenario-based aggregate impact and up-scaling potential of CBIs in Europe

CBIs have catalysed considerable social and technological innovation through their activities, which is in many cases accompanied by relevant reductions in GHG emissions. Because of this, they are often considered in the literature as niches that can effectively contribute to - and boost - regional transition towards a low-carbon economy (Seyfang and Smith 2007). However, most empirical research grounds mainly on anecdotal evidence and little or no work has been done, to the best of our knowledge, to quantitatively assess CBIs’ aggregate impact and up-scaling potential.

The goal of this chapter is therefore to investigate the potential aggregate impact and the up-scaling potential of CBIs’ activities in regards to climate change mitigation. Is the upscaling of CBIs in the realm of utopic visions or a viable possibility?

The main idea of this aggregation and upscaling analysis is to build upon the calculations of GHG reductions achieved by the selected TESS CBIs though certain activities (Deliverable 2.4). Using this data set we explore the consequences of the potential involvement of a certain share of citizens in CBIs’ activities in each European country across the different domains to reach the EU climate change mitigation target for the year 2020.

In other words, for the four domains in which the case studies operate, we aimed at answering the following question: what would occur if a certain share of EU citizens would participate in a CBIs’ activity either as an active member or as a beneficiary? To what extent could GHG emissions be avoided? How CBIs may contribute to achieve the climate change mitigation targets for Europe by 2020?

It is worth to note that our results are not formal projections for the coming decades, but are rather based on simplified aggregations and future, hypothetical scenarios based on the data reported by the selected CBIs. In other words, our data do not permit to infer if those scenarios will be realized or not, and the probability of this to happen. In this regard, and in the final part of the chapter, only a general qualitative reflection is provided in regards to the factors and the different upscaling strategies that could enable this potential.

12.1 Objectives

Quantifying CBIs’ environmental aggregate impact in Europe would require an exhaustive EU-scale dataset eliciting the actual size, locations, number and impacts of all CBIs in Europe. Since this dataset currently is not available and impossible to obtain – given the diversity of CBIs and the difficulty in deciding if a given organization or initiative is classifiable as CBI or not - we base our analysis on the information gathered from over 50 CBIs though a survey within the TESS project. Our case studies were selected from 6 European countries in order to include representative cases of the variety of different activities that CBIs do in Europe. This is, however, a strong assumption and should be considered when interpreting the results.

The results are based on domain-specific calculations where, for each domain, an archetype CBI profile is drawn from averaging the values of all CBIs engaged in the respective domain, disregarding the specific activities that they conduct (see the next Section). Results are given at the country scale for the 29 European Union’s member states.
The four domains and their underlying activities are listed in Table 49 (for more information see Deliverable 2.4). We believe that this set of activities – although not being exhaustive - represents the variety of the actions promoted by CBIs within their communities.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Activity</th>
<th>Description of service provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>Provision of Food</td>
<td>Growing local organic food, e.g. urban gardening, allotments and small scale organic farming</td>
</tr>
<tr>
<td></td>
<td>Redistribution of Food</td>
<td>Saving food that is still edible from supermarkets and reducing food waste at the household level</td>
</tr>
<tr>
<td></td>
<td>Provision of Meals</td>
<td>Promotion of dietary change towards diets that include less animal-based products, e.g. preparing vegetarian and vegan meals</td>
</tr>
<tr>
<td>Transport</td>
<td>Provision of Transport to Persons</td>
<td>Promotion of less GHG-intensive means of personal transport, e.g. use of bicycle or public transport</td>
</tr>
<tr>
<td>Energy</td>
<td>Provision of Heat</td>
<td>Provision of heat from renewable sources (biomass and geothermal sources)</td>
</tr>
<tr>
<td></td>
<td>Provision of Electricity</td>
<td>Generation of electricity from renewable sources (solar, wind, hydro, biogas)</td>
</tr>
<tr>
<td>Goods and Materials</td>
<td>Recycling</td>
<td>Recycling of materials (paper, glass, plastic, aluminium)</td>
</tr>
</tbody>
</table>

Table 49 - Description of activities considered for the up-scaling and aggregate impact assessment

12.2 Methods and Data

The calculation of the GHG emissions avoided for each of these activities was conducted independently, then grouped by domain considering the average values of all CBIs within each activity. Only CBIs engaged in a single activity were analysed and initiatives engaged in multiple activities were excluded. The reason for this omission is that both the growth rates and number of active members reported by the CBIs refer to the entire initiative and are not possible to disaggregate for multi-activity CBIs.

Data on achieved emission reductions

The data on the total GHG reductions achieved by the CBIs in relation to the baseline scenario (kg CO2e/y) was obtained from the previous GHG assessment, documented in Deliverable 2.4. It elicits the total amount of GHG reductions imputable to a single CBI in the timeframe of one year, in relation to the provision of an equal amount of service occurring in a baseline scenario.
Data on the number of beneficiaries per CBI

CBIs reported directly the number of beneficiaries\(^{31}\) they had in the year 2014; as stated above, this number relates to the entire scope of the initiative and, as a result, the number given is difficult to disaggregate amongst the specific activities under analysis. For example, CBIs might report a total of 400 beneficiaries from their functioning, which could include the provision of organic food and the promotion of sustainable means of personal transport. This hypothetical CBI might also be very active in many different educational activities. Due to the multiple functions many initiatives realize, it is difficult to provide an accurate number of beneficiaries per activity using the data reported by the CBIs. Furthermore, CBIs reported about the number of people that benefited partially or completely at least once from their activities in the given time frame. For these reasons, and in order to make the results of the achieved GHG reductions of the different domains comparable, it is preferable to adopt an objective method for the estimation of the beneficiaries across the different activities. We take into account, as explained in detail in Deliverable 2.4, the quantity of goods/services provided by the initiatives and relate these quantities to the total demand found in each country. For example, for the calculation of the beneficiaries in the energy domain we compare the kWh generated per year by the CBIs to the per capita energy requirements found in each country. This approach is followed for each of the activities considered and allows for an objective comparison across activities.

Data on the number of active members and FTM per CBI

The number of active members\(^ {32}\) was reported by the CBIs as paid and volunteer labour hours in 2014, and has been recalculated to full time equivalent working members (FTM), which is defined here as a person working 8 hours per day and 22 days per month.

Aggregation to domains

The data set described above was then used to calculate the GHG reductions of an average CBI in each domain per benefiter and per FTM. The average across all CBIs considered under the respective domain yields the value for each domain. The applied data for each activity is shown in Table 50.

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\(^{31}\) Beneficiaries are the (broader) group of people who get some economically valuable benefit from it in the form of goods or services, i.e. something that could be obtained through market purchase.

\(^{32}\) Active participants: those who actively contribute or are associated in any way to the initiative; they may work there, participate in meetings or decision making, give/spend time, contribute to activities, running events, etc.
Upscaling to country level using two scenarios

In order to estimate the potential aggregate impact of initiatives, we defined two scenarios that depict different levels of citizen involvement in activities of CBIs:

- The scenario “SC_low” assumes that 5% of the population in each country is involved as beneficiaries of CBIs in each domain, which is within a realistic range.
- The scenario “SC_high” assumes that 100% of the population in each country is involved as beneficiaries of CBIs in each domain, which implies a purely hypothetical total societal transition.

Thus, the GHG reduction potential per beneficiary and per active member for each domain was multiplied with the respective number of population in each country to yield the up-scaled climate change mitigation potential of CBIs under each of the two scenarios. Country-scale population data is extracted from the Eurostat database for the year 2014\(^3\).

The results of these calculations were then compared to the climate change mitigation targets for the year 2020 as set by the EU 2020 strategy (20% cut in greenhouse gas emissions from 1990 levels, a reduction target of 20% was also assumed for each of the four domains) and to the current countries’ sectoral GHG emissions (obtained from Eurostat\(^4\) for the year 2014, aggregated to the four domains by only considering the subsectors related to the activities of the case studies).

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\(^3\) Eurostat: Population on 1\(^{st}\) of January, code: demo\_pop

\(^4\) Eurostat: Greenhouse gas emissions by source sector (source: EEA), code: env\_air\_gge
12.3 Results and discussion

Comparison with 2020 targets per country

This section aims at discussing the results of GHG reductions per country in light of the climate change mitigation targets of the European Union by the year 2020 (20% cut in greenhouse gas emissions in relation to 1990 levels).

Figure 85 shows the already achieved greenhouse gas reductions by different EU countries (2014 compared to 1990) and the European target set for 2020 (EU 2014), represented by the red dotted line. The black dotted line shows the overall reduction achievements across all sectors in each country while bars indicate the progress in each of the four domains: agriculture, energy, waste and transport. Based on their current performances, the countries may be aggregated into three groups:

1. “Forerunners”: this group consists of countries that have already exceeded the overall GHG emissions reductions demanded by 2020. However, in some cases certain domains still fall short of this target.

2. “Closing up”: this group consists of countries that have reduced their greenhouse gas emissions compared to 1990 but have not yet achieved the 20% reduction target. The EU-28 (average across the 28 EU countries) falls within this group. These countries are on the verge of achieving the overall target.

3. “Lagging behind”: this group consists of countries that have increased (or not decreased) their overall greenhouse gas emissions compared to 1990.

Over all groups, the transport domain, and in some cases also the waste domain, is lagging behind strongest in terms of meeting the GHG emissions target. This could indicate that the transport domain is very difficult to address, despite its large potential regarding climate mitigation. In the agricultural and energy domain, large reductions have been achieved on average in the “forerunners” group, but stronger efforts are needed in the other countries in order to reach the 20% reductions target by 2020.

How strongly can CBIs contribute to reaching the GHG mitigation target for the year 2020?

To estimate the potential impact of CBIs we assume that 5% of the population (scenario “SC_low”) in each European country is included into the circle of beneficiaries of CBIs. On average, this corresponds to 1.68% of the EU population becoming an active member in a CBI, i.e. contributing full-time to their activities (by assuming the current proportion of active members per beneficiary).

This would shift the overall achievements per country up considerably: almost 85% of the European countries and EU-28 would then meet the 2020 target. In the figures, the black dotted line shows the overall reduction achievements across all sectors for each country, while the bars indicate the progress in each of the four domains for this considered scenario. The red dotted line indicates the 2020 GHG reduction target. According to this scenario, the Baltic
States would exceed an overall reduction of 50%. In summary, this scenario indicates that this relatively 'small' involvement of population may be very important for some countries (e.g. Italy, Germany, and Czech Republic).

If we now hypothetically assume that 100% of the population is included into the circle of beneficiaries of CBIs (scenario “SC_high”, see Figure 87), this would on average correspond to 33% of the population being an active member of a CBI. Figure 87 represents the level of potentially achievable GHG reductions by country (2014 compared to 1990) according to this scenario. The black dotted line shows the overall reduction achievements across all sectors of each country, while the bars indicate the progress in each of the four domains (all under the respective scenario). The red dotted line indicates the 2020 target regarding emission reductions.

Since we have defined the active members contributing to the CBI as full-time workers (FTM), this scenario assumes that the entire population is involved in CBIs' activities as beneficiaries. It further assumes that the entire demand is met through the supply provided by CBIs for the four domain considered (since for example a beneficiary of a CBI in the food domain is defined by meeting its entire food demand through the goods provided by the CBI). Thus, scenario “SC_high” is obviously very unlikely, but indicative of the maximum hypothetical achievement in regards of GHG mitigation in Europe. It indicates that for some countries, despite of the enormous effort potentially invested into CBIs, the overall target for 2020 cannot be achieved by this bottom-up approach alone, and indicates which GHG activities present the lowest performance. Under this scenario, the EU-28 would achieve a total reduction of ~73% in GHG emissions.

It should be noted that under both scenarios we assumed an equal contribution of citizens across each domain (agriculture, energy, food and waste), without knowing which domains are capable of catalysing higher shares of active membership. Yet, the results from the calculation of the GHG reductions of the selected CBIs (see Deliverable 2.4) have shown a strong difference in the “efficiency” of each of the analysed activities conducted by CBIs. Looking at the GHG reduction potential with the number of active members necessary to achieve this reduction, we obtain a very wide range, which spans from 340 t CO2e per active member for the provision of heat to 0.4 t CO2e per active member for the provision of food (see Table 49, See Deliverable 2.4 for more details on the GHG calculations). Thus, if the share of population assumed as active members would be devoted in a higher proportion to the more 'efficient' activities, the overall GHG reductions per country could still be increased.

35 See section “Data on the number of beneficiaries per CBI” and Deliverable 2.4 for more details.
Figure 85: Achieved greenhouse gas reductions by country (2014 compared to 1990) versus the European target by 2020. Data: Eurostat (Greenhouse gas emissions by source sector)
Figure 86: Potentially achievable greenhouse gas reductions by country (2014 compared to 1990) according to scenario SC_low. The number of active member refers to FTM (full-time equivalent member).
Figure 87: Potentially achievable greenhouse gas reductions by country (2014 compared to 1990) according to scenario SC_high. The number of active member refers to FTM (full-time equivalent member).

100% beneficiaries
33.61% active members
12.4 Conclusions

This chapter aimed at assessing the extent to which CBI practices could contribute to reaching a priori established climate mitigation targets at the EU level, assuming the upscaling of certain CBI practices. The results can be regarded as speculative estimates built upon different scenarios informing on the required effort at country scale, both as direct active engagement and as passive receiver of CBIs’ services, to fill the current climate change mitigation target gaps in Europe.

This simplified up-scaling exercise has shown a strong potential of CBIs to contribute to the European climate mitigation targets, despite the fact that large efforts from a considerable part of the population would be necessary. The calculations imply that the whole burden to reduce GHG emissions is achieved by CBIs alone; however, it is expected that in reality the targets will be achieved through a mix of top-down and bottom-up approaches.

It should be noted that, as already stated, it is not possible to assign a probability that the described scenarios would be realized, and the derived estimates are consequently fraught with a high uncertainty. This is mainly because although the selected CBIs cover a wide range of common grassroots activities, we cannot guarantee that they are representative of the whole universe of European CBIs.

Moreover, this chapter does not analyse in detail the success factors or limitations that enable or hinder the upscaling potential for CBIs. In this sense, our analysis does not address which are the most viable upscaling dynamics that we can expect in the future, which external factors would make these projections or dynamics more or less probable, and what would be the consequences, including potential rebound effects. These issues can hardly be quantified exhaustively, but can be the object of a more in-depth analysis and reflections. Some of these aspects are presented in other deliverables (Work package 3 in particular) and other chapters of this report (see Chapter 13 on rebound effects). In particular, while the results presented so far are based on a quantitative analysis of up-scaling potential, a more qualitative discussion of the upscaling scenarios presented above is needed. For example, the results discussed above do not include any discussion about how such an upscaling of CBIs may be implemented. In particular, the results of the Work Package 3 of the TESS project showed that CBIs of the TESS-portfolio alternatively consider as viable upscaling options two growing strategies: growth and replication. The first option would imply an assumption that upscaling CBIs’ impact is a consequence of enlarging CBIs size, i.e. a simple growth of the CBI in terms of membership, output, equipment, working hours, services offered etc., to reach a bigger operational scale; this could be labelled as “scaling-up”. The second option assumes that such an upscaling would be the consequence of the emergence of new initiatives that replicate existing ones in new locations, tending towards a larger territorial coverage; this approach could be labelled as “scaling-out”.

In general, although both strategies are considered viable, some domains evidenced a higher propensity towards replication - as in the transport domain (see results from Work Package 3 for more details on “replication versus growth preferences”). Some evidence can be provided in this regard: the CBIs were asked whether the initiative was a replica of another CBI, and whether the CBI has sparked replication somewhere else. Roughly, ~60% of CBIs reported to have inspired a replication of the initiative somewhere else, and ~50% declared to be a replica of another CBI. The heat provision activities reported the highest proportion of replicas,
while the other activities ranged from ~ 20% for the food provision and transportation CBIs to no replicas at all in the waste domain initiatives.

In summary, this chapter reported some preliminary evidence on the aggregate impact and up-scaling potential of CBIs across Europe, while a proper investigation of the opportunities and constrains for CBIs’ upscaling would require additional research, and goes beyond the scope of the article and the data currently available. Future research could integrate this additional evidence to provide a more complete picture and estimation.
13 Potential rebound effects in community-based transitions to a low carbon economy

Grassroots organizations and community-based initiatives (CBIs) have become increasingly popular for their alternative, bottom-up approach to experimenting with ways to mitigate the impacts of climate change. As the previous chapters have shown, there are CBIs involved in various domains and activities all over Europe and, in theory, CBIs could more easily experiment with ways to encourage more sustainable behaviour at different scales than top-down policies because of their added flexibility and fewer constraints. Transitions take place at multiple and complementary scales, across various domains and a wide range of activities. While there are potential advantages in terms of greenhouse gas reductions stemming from these activities (see the previous Chapter, and Deliverable 2.4), there are also associated rebound effects (RE) which must be considered. Rebound effects can be loosely defined as unplanned consequences of an action that defies the original intention. For example, a rebound effect refers to increased consumption that results from an advancement in technology or an increase in efficiency (Foster et al. 2007).

The consideration of rebound effects in environmental studies is attracting growing attention. This is related to a price-adjusting phenomenon that can counterbalance effects from the adoption of a more efficient technology, most commonly analysed for energy conversion technology or policy. This chapter aims to discuss the potential rebound effects for community-based initiatives carrying out activities which may help catalyse the transition towards a low carbon economy. While the potential rebound effects in the energy and transport sectors have been widely studied at a regional, national or international scale (Abdessalem & Labidi, 2015; Whitehead, Franklin, & Washington, 2015; Yu, Zhang, & Fujiwara, 2013; Sorrell, 2010; Sorrell, 2007; Sorrell, Dimitropoulos, & Sommerville, 2009; Sorrell, 2010), there is little empirical evidence of how activities at the community or household level may produce unintended rebound effects. These initiatives may be successful in terms of social and economic transition but the potential of rebound effects from production, consumption and behavioural shifts has yet to be understood across different sectors and different scales. Consequently, this chapter helps address this gap by presenting a qualitative assessment of potential positive and negative rebound effects for CBIs active in the energy, transport and food domains related to the activities carried out by the CBIs selected in the TESS project (Matiaske et al. 2012). Positive rebound effects are seen when environmental impacts are higher than the original results such that they counteract the environmental benefit from, for instance, a new technology; negative rebound effects occur when environmental benefits are reinforced and therefore mitigate the environmental impact/ minimise the environmental impact (cf. Font Vivanco, Freire-González, Kemp, & Van Der Voet, 2014).

In general, there are three main types of rebound effects, which can act on the short- or long-term:

1. Direct, where increased efficiency leads to even greater consumption because of lower costs of consumption: For instance, programs for increasing energy efficiency may not result in reductions in energy consumption since residents may find that they can now afford to keep their homes warmer. As a result, the potential cost savings or energy savings are directly reinvested by consuming more energy (c.f. Madlener & Alcott, 2009).

2. Indirect, where savings gained from an efficiency cost reduction increase expenditure and consumption of other goods or services that may be more resource intensive (Sorrell 2007).
Given the aforementioned example, increased efficiency could lead to less energy costs which could be re-invested into other, potentially more GHG-intense consumption. A further common example of the rebound effect is, for instance, when community-based car sharing (eventually community-based) is promoted: while individual car ownership may decrease over time and therefore be associated with reduced GHG emissions, individual use of car-sharing may increase as it becomes cheaper, more convenient and more competitive with less GHG intense methods, such as public transport or cycling (Druckman et al. 2011a).

3. Economy-wide, where macroeconomic increases in growth and energy consumption arise from efficiency increases in production and use (Sorrell 2007; Jenkins 2010). For the purposes of this Deliverable, we exclude the latter (economy wide RE) as it is beyond the scope of the project focus.

In the following sections of the Chapter, we use the published literature on rebound effects which either focus on or could be applied to a community-based/grassroots initiative perspective. We attempted to include various perspectives which were crucial to understanding what the dimensions of a rebound effect are.

Grabs (2015) defines the rebound effect as the: “effect of consumer-led shifts to alternative purchasing behaviour generally defined as the percentage of potential savings in particular environmental impacts of consumption that were not realised due to consumers’ rebound (in particular, re-spending) behaviour” (Grabs 2015: 8). Upon further reading, it became apparent that there were different kinds of rebounds. Apart from short- and long-term effects, there were also different orders, or magnitudes, of rebound which can be compared to direct and indirect rebound effects (Berkhout et al. 2000; Herring and Roy 2007; Oikonomou 2009). First-order REs exist where price or income effects increase purchasing power or where indirect substitution effects exist – these can be direct income effects or indirect substitution effects. An example of a first-order RE is when more fuel efficient vehicles are produced thus decreasing the price per distance travelled but directly increasing the attractiveness of travel (c.f. Bouhou 2013), or where replacing inefficient appliances reduces electricity bills but the savings is used for more energy intensive indulgences such as long-distance vacations. Second-order REs take place when industries are indirectly affected by demand shifts in other industries. For instance, lower energy prices may lead to increased travel demand which increases demand for vehicle production. Rebound effects are typically expressed as a percentage of potential savings taken back from a calculated maximum efficiency improvement (either theoretical or model-based) (Maxwell et al. 2006).

13.1 Research approach

We focus on activities in the domains of transport, food, and energy which are carried out by CBIs (see Table 51 for the list of CBI activities by domain). Due to a lack of relevant literature on rebound effects in the waste domain, it was not possible to address this domain here. We are interested in understanding the extent to which a rebound effect takes place at a community scale and within community-scale projects in these domains. We follow a logical inquiry that questions whether changes in x intervention (such as the alternative provision of goods and services by CBIs) produce y rebound effect on CBIs and the environment, as measured through the level of GHG emissions and/or energy use associated with the various activities analysed.
We carry out a literature review of previous studies on rebound effects in order to unpack issues related but not limited to the following: higher efficiency production increasing/decreasing GHG emissions, changing geographic distribution of production and consumption, shifting consumer trends and increasing/decreasing exports, energy price shocks and energy price elasticities, changing supply-chain networks and monetary savings and spending on alternative consumption. We carry out a qualitative study which identifies both direct and indirect rebound effects in relation to research on goods consumption and production, food, energy and transport in order to examine the current understanding of rebound effects in the domains our CBIs are active in. Our aim is to reflect on the ways that potential rebound effects may impact the environmental outcomes of the CBIs as they relate to potential reductions in greenhouse gas (GHG) emissions.

In the next section, we summarize the findings from the literature review and present the main findings for the energy, transport and food domains. This is followed by a reflexion on some issues in estimating rebound effects for the household or community-level activities included in our CBI sample and discuss some potential avenues for future research.

<table>
<thead>
<tr>
<th>Energy</th>
<th>Food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own block heating</td>
<td>Establishing bee hives</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>Mapping edible plants</td>
</tr>
<tr>
<td>Energy co-op</td>
<td>Regional/local food</td>
</tr>
<tr>
<td>Energy efficiency</td>
<td>Organic farming</td>
</tr>
<tr>
<td>Buildings restoration</td>
<td>Permaculture</td>
</tr>
<tr>
<td>Community agriculture</td>
<td>Urban garden</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Waste</th>
<th>Transport, mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycling project</td>
<td>Car rental</td>
</tr>
<tr>
<td>Reduce plastic bags</td>
<td>Car sharing</td>
</tr>
<tr>
<td>Sustainable printing</td>
<td>Bike sharing</td>
</tr>
<tr>
<td>Repair cafes</td>
<td>Cargo bike rental</td>
</tr>
</tbody>
</table>

Table 51 - CBI activities by domain

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36 It should be noted that the activity names here differ slightly to the GHG-relevant activities by CBIs described in D2.4: this list reflects activity types as gathered in the literature review for this chapter.
13.2 Estimates for potential positive and negative rebound effects

Most studies have focused on transportation, heating and electricity. Some key economic concepts used in the analysis that follows, and their relationship to the rebound effect are introduced here (adapted from Maxwell et al. 2006):

1. Price effect or price elasticity: this is the sensitivity of demand in response to a change in price, more specifically, it is the percentage change in demand that results from an increase in price of 1% (Maxwell et al 2006). This is often used in analyses for direct rebound effects at the household level (see for example Katrena et al 2010).

2. Income effect or income elasticity: this is the change in demand which is related to an increase in income of 1%. Disposable income may increase, assuming all else equal, as a result of energy or resource efficiency changes that lower prices of goods or services. This is often studied in relation to both direct and indirect rebound effects though the carbon intensity of the expenditure (vs. consumers saving this) impacts the rebound effect (Druckman et al. 2010). It is therefore crucial to consider habitual and other behaviors such as whether households are lower or higher income as well as other macroeconomic trends (Jackson 2005; Sorrell 2007; Druckman et al. 2010; Maxwell et al. 2006).

3. Substitution effect or cross-price elasticity: if all else is held equal, this is the change in the demand of good X when the price of good Y increases by 1%. This is useful in studying indirect rebound effects such as increases in energy efficiency which lead to an increase in food demand. The increased consumption of food may increase the GHG emissions and therefore outweigh the environmental impact of lower energy consumption (ibid).

In many of the papers reviewed, the findings of the rebound effect were a combination of the orders - but in theory, there is definitely more than one order of rebound. Generally speaking, the scientific evidence on the rebound effect is insufficient to support either the view that rebound effects are too small and thus insignificant (Lovins 1998, 2005; Schipper 2000), or greater than 100%, referred to as a “backfire” which completely negates the environmental improvement targeted (Sorrell 2010; Maxwell et al. 2011). Past empirical analyses have estimated the rebound effect at less than 30% for household services and personal transportation (Bouhou 2013; Sorrell et al. 2009), though it should also be noted that many of these analyses suffer from a small dataset with incomplete data characterizing households. Table 52 presents a summary of the CBI rebound effects based on earlier work by Kratena et al. (2010). In the following sections estimates of the RE will be explored in more detail for the domains energy, transport and food.

<table>
<thead>
<tr>
<th>Good or service</th>
<th>Rebound – ceteris paribus</th>
<th>Assumed efficiency increases</th>
<th>Rebound – combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>11%</td>
<td>N/A</td>
<td>Not calculated</td>
</tr>
<tr>
<td>Clothing</td>
<td>160%</td>
<td>N/A</td>
<td>Not calculated</td>
</tr>
<tr>
<td>Heating</td>
<td>26%</td>
<td>50%</td>
<td>19%</td>
</tr>
<tr>
<td>Gasoline/diesel</td>
<td>46%</td>
<td>20%</td>
<td>11%</td>
</tr>
<tr>
<td>Electricity</td>
<td>12%</td>
<td>20%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Table 52 - CBI rebound effects (Adapted from Kratena et al. 2010)
13.3 Energy

There is clear evidence for direct rebound effects for household energy efficiency improvements for space heating/cooling, personal transport, white goods and lighting which are estimated in the range 10 to 30% for developed countries (Greening et al, 2000; Schipper and Grubb, 2000; Allan et al., 2007; Sorrell, 2007; Small and van Dender, 2007). In these cases, efficiency improvements and associated cost reductions result in increased consumption by consumers. This may decline in the future insofar as demand decreases and income increases. This is because energy accounts for a greater amount of expenditure in lower incomes. For this reason, these direct rebound effects may be larger for low-income groups and households in developing countries (Sorrell, 2007).

For example, estimates for rebound effects related to household energy efficiency in the UK are ~15% (Barker et al. 2007). A recent U.S. study investigating 30 industry sectors shows long-term direct rebound effects of 20 to 60% with energy intensive sectors, with utilities, chemicals and agriculture having the highest effects (Saunders, 2008). The reason energy intensive sectors show higher rebound effects is because energy costs are a significant factor in their production costs. This makes them more energy constrained than for example the services sector. When efficiencies reduce energy costs in energy intensive sectors much of the savings can be used to increase production which in turn uses more energy. For example, if an energy intensive sector e.g. a foundry installs a more energy efficient furnace much of the cost savings from this can be used to produce more metal (Maxwell 2011).

According to the UK Energy Research Centre (2007), direct rebound effect estimates were calculated for a number of consumer energy services in OECD countries based on improved energy efficiency. The result was a rebound effect range of 10 to 30% (Greening et al 2000; Schipper and Grubb 2000; Allan et al. 2007; Sorrell 2007; Small and Van Dender 2007). In addition, empirical studies on the Netherlands, Austria, the US and the UK have established rebound effects for increased consumption associated with energy efficiency improvements as 15 to 27% (Berkhout et al. 2000), 20 to 30% (Haas et al 2000), 10 to 30% (Greening et al 2000), and 15% (Sorrell et al 2009), respectively. For energy efficiency, a key issue is the contribution that energy efficiency improvements (or more generally, increasing inputs of ‘useful work’) make to overall productivity and economic growth. This is a complex issue, but the traditional economic view that energy plays a relatively unimportant role in economic growth may be incorrect (Maxwell 2011).

Energy interventions are the most researched in terms of direct rebound effects. Key studies on indirect and economy-wide rebound effects have focused on hybrid cars and green consumption behaviour, food waste, home heating and car travel (Girod et al 2009; Druckman et al. 2010; Lapillonne et al. 2009), though less evidence for energy is available (Maxwell et al. 2006). The current understanding of energy related rebound effects show that per-unit increases in productivity leads to increased energy consumption which can counteract any environmental gains. The significance of the rebound effect for energy has been estimated from 50% to 100% increased consumption, varying based on factors for consumption and economic growth (Jevons 1865, Khazzoom 1980; Brookes 2000; Maxwell et al 2006).
13.4 Transport

Concerning the area of transport, the implications are the following: higher efficiency increases service demand (first-order rebound), low fuel prices and higher efficiency increases the demand for quality (second-order) which in turn increases service demand further (third order) (Goerlich & Wirl 2012). Evidence was also found for direct rebound effects of 30-80% for fuel efficiency improvements in commercial road transport (Gately 1990, Graham & Glaister 2002, Anson & Turner 2009). This is because fuel efficiency lowers the cost of freight transport, making cost efficient transportation possible for more goods, over longer distances and more frequently. An oft-cited example in the transport sector is the “generated traffic” effect – essentially, this effect describes the increased activity on a road following an increase in capacity (Kent et al. 2010; Victoria Transport Policy 2010). Sorrell (2007) has estimated a 10-30% rebound effect for fuel efficiency in private cars in OECD countries. In addition, the French Ministry of Environment (2010) has given additional evidence on the rebound effect as expressed in GHG emissions, for fuel efficiency increases: without the increase, the growth of CO₂ for households would have been 12% higher (as cited in Maxwell et al. 2011). Table 53 presents a synopsis of the estimated REs for the transport and energy domains.

<table>
<thead>
<tr>
<th>Type of energy use</th>
<th>Range of rebound effects</th>
<th>&quot;Best guess&quot;</th>
<th>Number of studies</th>
<th>Degree of confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual car use</td>
<td>5-87%</td>
<td>10-30%</td>
<td>17</td>
<td>High</td>
</tr>
<tr>
<td>Space heaters</td>
<td>14-60%</td>
<td>10-30%</td>
<td>9</td>
<td>Medium</td>
</tr>
<tr>
<td>Space cooling</td>
<td>1-26%</td>
<td>1-26%</td>
<td>2</td>
<td>Low</td>
</tr>
<tr>
<td>Other consumer energy services</td>
<td>0-49%</td>
<td>&lt;20%</td>
<td>3</td>
<td>Low</td>
</tr>
</tbody>
</table>

Table 53 - Select rebound effect estimates in the transport and energy domains (Adapted from Maxwell et al. 2006)

13.5 Food

Rebound effects related to more sustainable food production are generally calculated in consideration of the financial savings to consumers. Increases or decreases in the cost of food production can lead to positive (e.g. reduced costs lead to higher consumption) or negative rebound effects, (e.g. increased cost leads to lower consumption). Weidema and colleagues (2010) looked at the effectiveness of changes in food production and calculated a price rebound of 35%.

A 2008 study on the EU Environmental Improvement of Products (IMPRO) of meat and dairy showed rebound effects of -10 to -100% for proposed interventions to reduce the environmental impacts of meat and dairy consumption in the EU (Weidema et al, 2008), and were identified as resulting from increased production and consumption costs of the proposed interventions. This negative rebound effect means that the net environmental benefits would actually be greater than planned and it illustrates the role increased cost can play in mitigating rebound effects. We explore the food domain more in depth below:
Oversupply of food could lead to increased consumption or increased food waste

Food waste on the level of households plays a significant role: the average European citizen wastes around 16% of the purchased food at home (Vanham et al. 2015). In the GHG assessment carried out in Deliverable 2.4 for the TESS case studies, this typical share of wasted food has been considered. However, the activities of the CBIs (e.g. providing locally grown food or providing food redistributed from supermarkets) could lead to an oversupply of food, or at least for some food categories. This could lead to either an increase in the amount of wasted food or an increased uptake of food. This effect of excessive food supply has been shown especially for high-income countries (Vandevijvere et al. 2015). Taking into account also increases in body weight, the remaining per capita emissions related to food surplus (resulting in food waste) are high for Northern Europe (407gCO2e/day) (Hiç et al. 2016).

In summary, while a typical share of food waste has been considered in the GHG assessment of Deliverable 2.4, this could be increased by an oversupply of food (e.g. oversupply of a specific vegetable type provided by an urban gardening project). This could also lead to more food intake which does not replace the amount of newly purchased food to the extent we have assumed when calculating direct GHG emissions reductions of CBIs.

Shifting to “greener” diets or reducing the amount of food purchased lead to monetary savings, which are spent on alternative consumption of households

The rebound effect regarding food waste has been explored by Druckman et al. (2011) for UK households by assuming a decrease in food and drink related GHG emissions and expenditures by a third (as a proxy for reducing the 33% of food wasted in UK households). This action lead to a high rebound effect of 51% due to the fact that food is associated with relatively low GHG emissions compared to other household expenditures (e.g. on fuels). A more recent study for the UK assumes the reduction of 12% food waste and 12% associated GHG emissions, which leads to a rebound effect of 77% (Chitnis et al. 2014). Thus, money saved from reduced food purchases is spent on more GHG-intense actions. When considering three GHG relevant actions (lowering heating temperature by 1 degree Celsius, reducing food waste by a third and substituting a 21 mile car trip with walking), the overall rebound effect was found to be 34% (Druckman et al. 2011b). If the money saved would be invested, the rebound effect could be lowered to 26% or even lower when considering only “green” investments.

A similar rebound effect of 50% was found for middle-income households in Australia when switching from a current to a recommended diet (of the 2.2 tCO2e/year saved compared to a current diet of 6tCO2e/year, 1.1 t are reemitted though a rebound effect) (Lenzen & Dey 2002). Switching from conventional to “green” diets of Swedish households yields a reduction in GHG by 13%, and a rebound effect of 238% (Alfredsson 2004). Thus the saved emissions are overcompensated by alternative consumption to such a large extent that the result is a paradigmatic case of what we previously defined as a “take-back-effect”.

An example of a positive rebound effect was found in a different study for Swedish households. They found a smaller rebound effect when switching to vegetarianism: of the 20% GHG emissions saved, 49% would be re-emitted due to alternative consumption by an average
If this dietary change is joined with buying organic food (fruits, vegetables, potatoes and milk – assuming an associated GHG reduction of these products of 7%), the financial savings from due to less meat consumption roughly balance out the increased cost of organic food consumption which would eliminate the rebound effect. This is due to the fact, that organic food is costlier, so the re-spending of money in more GHG-intense consumption is avoided.

In the context of the TESS CBIs in the food domain, the effect of monetary savings is evident (see chapter X on “Economic benefits to participants”). According to the literature the rebound effect from re-spending the saved money on other types of consumption amounts to at least 50% and is thus considerable. This potentially affects all food related initiatives (either providing raw materials or meals to beneficiaries).

Shifting to “greener” diets lead to macro-economic impacts such as higher exports of meat production as a response to decreasing domestic consumption

Tukker et al. 2011 have studied the impacts of moderate diet shifts in Europe to a recommended diet with low red meat consumption. The rebound effect due to monetary savings (first-order) is estimated to amount to 21% while a larger second-order rebound effect of 47.5% was found. The latter can be explained by the fact that the reduction in domestic meat consumption is compensated by higher exports of meat production as a response to a decreasing domestic market. This could potentially affect the TESS initiatives promoting dietary changes or offering “greener” meals. However, third-order effects such as changes in the meat sector of the other countries could balance out this effect.

Inefficient local food distribution networks could lead to increased travels

A study has been carried out by Coley, Howard, and Winter (2009) on the distribution system of the UK’s largest supplier of organic food, distributing food boxes via a delivery system including the packaging, storing and transportation. The GHG emissions caused by the delivery of a box is equivalent to a distance travelled by a person by car of 6.7 km, which is less than the average distance travelled to a supermarket (7.4km). Thus, if the delivery of a box replaces the entire shopping trip and assuming a substitution of person traveling by car, the delivery system is less carbon intense. This is relevant for some CBIs in our sample (such as local and solidarity purchasing groups) who deliver food directly to members, therefore reducing the number of trips to a supermarket.

A clearer picture was found for grocery delivery in Seattle (Wygonik & Goodchild 2012) and Finland (Siikavirta et al. 2003). They found that even when assuming an inefficient distribution system, the emissions per customer of personal travel exceeded the emissions caused by a delivery van per customer. These results are however based on the assumptions of delivery systems replacing round trips by car to supermarket. However, often additional supermarket trips are still necessary and the customers could also travel via bike or foot to supermarkets. Besides the important factor of avoiding shopping trips for single or few items, the failure rate has been identified as an important factor. This means that emissions of distribution system rise substantially if parcels are failed to be delivered on the first attempt (Edwards et al. 2010).
The distribution of local food via delivery systems has not been included in the assessment. Therefore we have assumed similar emissions compared to personal travels to supermarkets. However, in case only a smaller food basket is provided by the CBIs, additional shopping trips would still be necessary and therefore the emissions caused by the delivery system could be considered as additional.

**Leisure travels to allotment gardens located outside of town**

The GHG footprint associated with gardening has been estimated to amount to 1.71t/ha in England and 5.29t/ha in Sweden based on a survey among two gardening initiatives (Rur 2010). This includes emissions from production (e.g. heating, tools, fertilizers), storage and transport. The large difference between the two countries is mainly due to larger distances travelled by car (responsible for around 40% of the emissions). However, the footprint only includes inputs and does not include the output, i.e. emissions saved from the production of own fruit and vegetables compared to buying in the open market.

A survey among allotment garden owners in Cologne, Germany, found that 38% travel by car to the sites, which are on average 3km away. The total distance travelled within a year to these allotment gardens was 578km (Dijst et al. 2005). Similarly, 40% of the gardeners in allotment gardens studies in Austria travel by car or motorcycle which are mostly accessible in approximately 20 minutes (Breuste & Artmann 2014). Such rebound effects should be considered in order to provide a full estimation of the impact on GHG emissions related to community gardens.

**More GHG emissions for some organic food products**

The literature reviews carried out by Lynch et al. (2011) and Meier et al. (2015) have shown that in general organic production per kg is associated with fewer GHG emissions than conventional production. However, large variations between studies can be observed and food categories such as poultry or beef are excluded (see also Deliverable 2.4). The differences in the GHG emissions of the two production systems could also be due to the fact that in organic farming less energy intensive technologies are applied, e.g. less heating of greenhouses. When using the same technologies, the differences are not so clear (Lynch et al. 2011). However, other factors, favourable for organic production such as the soil sequestration or the nitrogen fluxes are often poorly considered in studies (Meier et al. 2015; Lynch et al. 2011).

This is relevant in our case given that most community-based gardens or agriculture produce organic food. While the differences in emissions caused per food category has been considered in the GHG calculations of the TESS case studies (Deliverable 2.4), only broad food categories have been applied (e.g. dairy). In addition, future studies are expected to provide a more comprehensive comparison of GHG emissions from the two agricultural systems.

**Locally produced food does not always mean less GHG emissions**

The GHG emissions caused by the production of food not only depend on the transport emissions (often discussed in studies as “food miles”) but also very much on the emission-
intensity of the production system. For example, emissions caused by locally produced tomatoes under heated polytunnels are much higher than emissions from imported tomatoes from Spain or Italy. On the contrary, less-energy intensive production systems (without heating) in Austria cause lower emissions than the imported tomatoes (Theurl et al. 2014). This is also underlined in a study on community-based food growing in a London suburb (Kulak et al. 2013): lower GHG emissions are only achievable when focusing on food products which would in a baseline scenario (equivalent products purchased in a supermarket) be grown in energy intensive greenhouse systems or transported by air. While the production of early potatoes, apples and beef cause less GHG emissions in the UK, importing products like tomatoes, strawberries, lamb and poultry would be more favorable in terms of GHG emissions (Webb et al. 2013). Also for the UK, a study by Michalský and Hooda (2015) has found that for 5 fruits and indigenous vegetables (apples, cherries, strawberries, garlic and peas) the domestic production emissions are lower compared to imported produce, especially if the imported goods are transported as air freight.

In contrast to this, the transportation phase plays a smaller role for the overall emissions than the production phase for meat. Since the EU exhibits a higher emission-intensity for the production of ruminant meat than other world regions, increasing the domestic production and reducing imports would result in an increase the overall emissions (Avetisyan et al. 2014). This effect is less pronounced for other food types analyzed. In a Dutch case study, the scenario of producing 20% of the food basket locally has been assessed by Jansma et al. (2012). The effect is only a relative small reduction in emissions since most of the food is produced within the Netherlands anyway. Of the reductions a considerable share is also attributed to less personal travel and reductions associated with increased organic farming. Thus, the reductions due to fewer food miles play a smaller role.

Such effects are not considered on the GHG assessment (Deliverable 2.4) for the TESS case studies, since general (not country-specific) emission factors are used for production from Tilman and Clark 2014. Data on the local transportation has been obtained for some CBIs, however in case of data gaps, assumptions on the travelled distances were made.

13.6 Conclusions

The results of this investigation include some positive and negative potential rebound effects of the CBIs. One of the reasons the TESS project has been made is to evaluate not only the greenhouse gasses related to the CBIs, but also to see which activities are the ones most worth replicating and prioritizing. Even though the community-based initiatives start out with good intentions in terms of sustainability – whether it be the reduction of greenhouse gas emissions, saving citizens some money, protecting the environment, generating energy using renewable sources or promoting local organic farmers, many of the CBIs’ activities can have unforeseen and indirect negative consequences.

In the previous sections, we briefly presented a synopsis of the most relevant results on rebound effect estimates taken from previous studies that are of relevance for the types of activities conducted by community-based initiatives in Europe. We excluded the waste domain, as there was an insufficient number of previous studies identified, mostly having been overlooked in the literature.
Two primary and outstanding instances of the rebound effect were identified in the literature review. The first, and more direct type of rebound, was the increased consumption of services or goods if said service or good were to become cheaper. E.g. if fuel efficiency increased, thereby reducing the costs to run a car, the usage of the car (in kilometres travelled) could increase, partially offsetting the advancements in efficiency or cost. The second, more indirect rebound effect identified was the following: money saved on a more efficient, technological upgrade was spent on other, more GHG intense activities. For instance, if a new electrical vehicle was purchased, the (environmental and economic) costs saved by not having to pay for petrol could be marginally offset by the owner taking a long distance flight on their next holiday with the saved money.

It should be noted, however, that to accurately measure the rebound effect it is necessary to define and distinguish it from and contextualize it within other micro-/macro-economic factors. There is a good evidence base for this and the relationships with key factors have been explored — e.g., price (price elasticities), income (income elasticities), substitution (cross price/substitution elasticity) and saturation effects. Overall, the economic factors underpinning energy efficiency price induced rebound effects are that efficiency improvements result in an effective cut in energy prices, which produce output, substitution, competitiveness and income effects that stimulate energy demands (Hanley et al. 2009). The relationship between these effects can be complex, which adds to the challenge in obtaining an accurate and complete estimate of the rebound effect. Isolating the rebound effects from other factors that cause increased consumption is a key issue that needs resolution in the definition and measurement techniques for estimating the magnitude of rebound effects. Current measurement approaches include income/price elasticity studies (for direct rebound effects), econometric modelling, general equilibrium modelling and expenditure surveys. Traditional economic models for measuring environmental policy savings are not catered to the rebound effect. One of the key problems is to define/enable the scale of the rebound effect in policy interventions. This difficulty has contributed to the present debate on the significance of the effect as a whole.
14 Empowering or constraining imaginaries? An analysis of the discourses of change and justice of community-based initiatives

In the Global North, alternative or community economy practices are often initiatives committed to a transition towards a low-carbon and more localized economy. It seems increasingly accepted that these community-based initiatives (CBIs hereinafter) are on-the-ground solutions to the recent manifestations and impacts of globalized trade of materials and resources, decrease of welfare provisions, a shattered society, and climate change (Bergman et al. 2010, Burch 2010; Seyfang and Smith 2007). Moreover, with the 2007 downturn and economic crisis revealing abruptly that the economy is no longer a source or growth or optimism, the conditions of instability and precariousness together with the severe environmental crisis have opened up space for alternative or community economic practices to emerge (Tsing 2015).

While these initiatives are often portrayed as a solution to the current social, economic and environmental crisis and as enactors of the politics of the possible in a new post-capitalism era (Gibson-Graham 2006), they have also been criticized for reproducing exclusionary practices. For instance, transition scholars have often described them as a pleasurable leisure-based community movement carried out by highly-skilled hobbyists, arguing that these practices are “little and temporal islands reserved for a concerned but exclusive middle class and a selective urban creative milieu” (Bialski et al. 2015, Guthman 2008). They also accuse them of having too localized impacts. Moreover, CBIs’ strong emphasis on responsibilisation through individual choices and changes in consumer behaviour – rather than a structural change based on advocacy and political action – have been accused to be insufficient to challenge the current economic paradigm and its negative socio-environmental impacts (Guthman 2008, DuPuis and Goodman 2005, Neal 2013, Alloun and Alexander 2014).

In line with more critical lines of thought, Guthman and others have asked how is it that activist groups “seem to produce and reproduce neoliberal forms and spaces of governance [and] at the same time […] oppose neoliberalism writ large?” (Guthman 2008a:1172) From a definitional standpoint, neoliberal discourses promote community development as an essential channel of political engagement and as a compensatory mechanism for the inadequacies of the market (Jessop 2002), which then helps to produce neoliberal subjects and mentalities (Pudup 2008; Slocum 2004). These studies have shown how neoliberalism constrains activism by limiting “the arguable, the fundable, the organizable, and the scale of collective action” (Guthman 2008), and how it creates a mental block that prevents individuals to imagine a fundamental social change (Žižek 2009).

In this paper, we embed the discussion around “how neoliberalization incorporates, co-opts, constrains and depletes activism” (Bondi and Laurie 2005) in an exploration of the ways in which the imaginaries of these initiatives have been impregnated by neoliberal agendas and practices. It aims to contribute to the analysis of the “parallels and tensions between neoliberalism and environmentalism” (McCarthy and Prudham 2004; Swaffield 2016). Additionally, a number of scholars have pointed to the need for more extensive qualitative work to fully understand the behaviours and motivations of citizens engaging in alternative ethical consumption choices (Johnston, Szabo, and Rodney 2011), examining “not just what people buy, but also how they connect purchasing with citizenship or social engagement” (Busa and Garder 2015: 340). In this paper, we seek to answer the following questions: How does
neoliberalism influence the collective imaginaries of initiatives’ members about the possible societal change they can achieve and the strategies they can use to achieve change? What are the implications for the movement if its collective imaginary of change embraces certain neoliberal rationalities? By imaginaries of change, we refer to preconceived ideas, visions, and discourses framed by individuals about what societal change should look like and the role that communities have in the transition to a more sustainable, low-carbon and socially just economy. We show how such imaginaries influence the actions that individuals undertake and how, when these individuals are part of a movement, they imprint the collective discourse of the group. The imaginaries influence what is possible and what is desirable - they make CBIs a preferred solution to a number of contemporary social and environmental problems over other possible strategies.

We argue that CBIs have developed and articulated an imaginary of change that appears imprinted by core neoliberal rationalities, that is rationalities linked to questions of individual responsibility, the role of the State, and civil participation and equity. This imaginary is at the same time constraining CBIs’ ability to have a wider impact on society (i.e. becoming embedded within social, cultural and political systems, attracting new members or encouraging greater levels of change). Though couched in terms of social transformation, the imaginaries put forward by CBIs’ members might serve inadvertently to support the hegemony of neoliberal governance by alleviating the State of responsibility for social and environmental service provision and reinforcing the legitimacy of conditional and privileged services. In addition, we observe that the discourses around justice and equity presented by respondents seem to reproduce patterns of exclusion and privilege which characterize the socio-political and economic hegemonic system. Although often (correctly) justified by arguments related to material factors such as “not our priority”, “we cannot reach everyone”, the reality is that CBIs might be consolidating the environmental privilege of those who are conscious and able to self-organize by accepting neoliberal rules of responsibilization, self-organization, and market-based economy.

Our analysis builds on surveys conducted among 63 initiatives in six European countries, which focused on, among others, the objectives, strategies, composition and beneficiaries of each CBI, on semi-structured interviews conducted with members of 14 of these 63 initiatives, and on observation of events and meetings organized by them. A total a number of 60 members were interviewed (semi-structured interviews, data analysed using grounded theory techniques in NVivo). The result of our survey on political activism reveals that our sample of CBIs in TESS is not very active politically and that political objectives rank low on their list of priorities (see Chapter 3). When asked, 64% of initiatives reported not having been involved in overtly political activities, such as campaigns, protests, petitions or other type of political pressure. Even local socio-economic change seems proportionally quite low on the list of priorities. For instance, only 66% of CBIs seem committed to “revitalizing the local economy and deprived areas.” This number clashes with CBIs’ statements of aiming at including disadvantaged people (77%). This difference shows that among CBIs in general, the discourse of social change, inclusion, and equity is generally stronger than their practice. This argument is supported by the fact that in reality only a small number of initiatives organize activities targeting more disadvantaged groups.
14.1 Constraining Imaginaries and Imagination

In the next sections, we describe the imaginaries of change that emerged from the qualitative interviews conducted among 50 members of 13 community-based initiatives in six EU countries. In the first part, we analyse the goals, visions, and perceptions of desired change of community-economy members. Our analysis sheds light on the neoliberal (re)production of mentalities and their effect on the processes and practices of CBIs. Yet, acknowledging that certain neoliberal elements are not fundamentally neoliberal and might be needed for promoting a counter-hegemonic program, or that certain “traces of neoliberalism may be defining characteristics of post-neoliberalism” (Yates and Bakker 2014: 69), in the second part of this results section we look at the dilemmas and contradictions that the embedded neoliberalisms create in community economies as well as the “negotiations” of these contradictions with the hegemonic system.

14.2 Neoliberal Continuities

In this first section, we describe the neoliberal continuities embedded in the imaginaries of change of community activists: we argue that certain neoliberalisms prevail among community members in form of members’ subjectivities, and that such subjectivities constrain their imagination about ideas of change. We group these neoliberalisms under three main categories: (i) responsibilisation through individual endeavour, (ii) push for a depoliticized environment and the lack of recognition and/or (iii) understanding of other group struggles.

Responsibilisation through individual endeavour and consumer changes
- A pragmatic and economic-centred vision

A first neoliberal continuity is reflected in a pragmatic and economic-centred vision of change. Our data reveals that CBIs’ members have a very realistic and down-to-earth vision of societal change. They talk about very “achievable” and “material” objectives, mainly related to the economic sustainability of environmental projects. By “economic sustainability”, we refer to the endurable management of resources, labour and capital. For both professionalized (with paid-staff) and informal (run by volunteers) CBIs, economic sustainability (and upscaling) is at least as important as environmental and social sustainability for achieving wider societal changes. They value economic stability as a way to demonstrate that these alternatives are feasible. However, this stability is not easy to achieve: Professionalized CBIs struggle with financial survival and informal groups have to deal with the inefficiencies of volunteer labour (especially due to high rotation of members and limited time availability).

As a result, CBIs’ central priorities are material and instrumental objectives that can allow them to achieve this stability. Their need to insert and maintain themselves in the economic system (rather than putting the efforts in radically change it) means, in a way, the perpetuation of the current hegemonic system. Food producers, for example, emphasize the importance of building a solid, loyal and growing consumer base that can secure their livelihoods and maintain the financial viability of the farms. They envision and hope for the creation of a higher number of farms that can feed urban customers on a large scale. A similar trend seems manifest in energy cooperatives, whose focus is on increasing the number of members for
buying into renewable energy schemes (i.e. clients). For more professionalized initiatives, their model for social change requires creating their own income, usually through asset acquisition, such as land, wind turbines, or forests, to which they dedicate much effort. Their members consider the generation of income as a tool to enable groups to become independent rather than grant dependent. It also allows for longer-term planning of activities and helps overcome restrictions that might exist for the use of public funds. As a result, many CBIs see replication as an important goal, since replication makes the “movement” bigger and thus increases demand for services and products. Replication is envisioned with a strong entrepreneurial vision: those who are able to acquire those assets are able to replicate the model. For example, the founder of a farming project in the peri-urban area of Barcelona envisions the possibility of reaching every family in the city by expanding entrepreneurial projects like his organic farm:

“Under my view the objective of this movement if you would call it such, is that I made my numbers. I like numbers. I say, here [at our CBI] we feed 200 families approximately. How many projects like ours should be in Barcelona metropolitan area to feed the city? How many families are there? 500.000 families? 2.500 projects like ours. And I don’t see it so difficult,” co-founder, co-owner and worker of an organic farming project (SPAIN).

Responsibilisation through individual endeavour and consumer changes - An emphasis on social transformation though individual behavioural changes

Another element associated with neoliberalism mentalities relates to the emphasis on social transformation through individual behavioural changes, rather than on broader changes at the structural level (e.g. changes in legislation, planning, or policy). Neoliberalism promotes individual endeavours to achieve transformation (Rose 1990). Such “Entrepreneurship of the self” mentalities highlight the need for change among individuals who are acquired with certain freedoms and skills (Harvey 2003). Interviews reveal that the imaginary of change among the members of CBIs is linked to “responsible citizens” “living of an alternative model,” looking for “sustainable lifestyles”, “liveable cities” and “quality of life” and who “spread the message within their social circles”. Even more militant initiatives do link structural change to individual behavioural changes (e.g., switching utility company, choosing to commute by bike). In their view, the power of society against environmental degradation or carbon dependence comes from individuals as consumers or producers. The envisioned societal change relies on alternative forms of consumption (consumer cooperatives, ethical consumption, purchase of products made in a sustainable way, DIY) or production (growing organic food, producing renewable energies). To join most of these initiatives means to either purchase organic food or renewable energy, or to sell what your asset produces (land, wind farm, etc.). Such a characteristic renders the movement as an alternative market place.

When not focused on consumption, CBIs tend to focus their attention on changing attitudes and habits of citizens. An example of such would be a biking initiative in Italy whose environmental mission of promoting and facilitating bike access through the city by promoting biking and repairing bikes does not require “purchasing” to join. Other initiatives organizing trainings and activities express a sense of “civic responsibility” beyond consumer activism. They are generally the ones more attached to their neighbourhoods or areas (such as
consumer cooperatives or the groups organized around social centres). For instance, one of the volunteers at the biking workshop in Rome describes the important role of the initiative in increasing people’s awareness to live “differently” and in promoting a more liveable city – though individuals’ lifestyle decisions.

“I would like to think that our presence in the city, the role of the CO … it helps and does good to making change happen. It’s a change that we are trying to find across the ways that we grow and increase the number of people who live sustainably, living differently, that bring a city which is more livable and we are also, well, so we have this idea for longer term change,” volunteer at a biking workshop (ITALY).

Responsibilisation through individual endeavour and consumer changes
- An underdeveloped and vague social imaginary

While most of the initiatives focus on the environmental and economic dimension of their work, their societal or social contribution is not always defined so clearly. CBIs tend to focus on changing social relations through/within their small communities based on the frequent belief that small groups are inherently good. However, in reality, our data reveals the presence of hierarchies, competition, conflicts and gender issues among these initiatives, with not all initiatives paying attention to the internal “community” dynamics. As a result, the social change imaginary of members of CBIs seems often weak and underdeveloped, and the imaginary to challenge the social systems (or social classes) remains vague. In some cases, CBI’s imaginary seems more about accommodating the system and working with dominant structures than challenging it. As McCarthy put it, initiatives seems to aim for a less centralized capitalism, one that would be organized around smaller scales and more conscious of environmental and societal issues, but without opposing neoliberal logics (McCarthy 2006).

This is the case of a cooperative of wood suppliers in Finland, a social enterprise providing inexpensive heat from local (leftover) wood for the local community, thus decreasing reliance on imported oil. The socio-economic transition that the cooperative has realized has taken place through their emphasis on a local and sustainable approach including using locally sources wood, increasing local employment, creating income to members (landowners). This approach is nevertheless compatible with capitalist features such as accumulation and inequity.

Even though CBI members claim that power is distributed within the initiative, the way in which this distribution occurs, the rationale for it, and the selection of members among whom it is distributed are still open questions. Challenging external power relations also seem to be a more remote priority for many CBIs. For example, the food sharing initiative in Germany is not about changing relations of power or distributional inequities in the production and distribution of healthy, fresh and/or organic food. Even if the initiative aims to reduce poverty worldwide, this vision is not clearly articulated, and their actions focused on food recycling seem quite disconnected from the ambitious goal. Similarly, energy initiatives work mainly to position themselves as energy producers in order to get a source of income. Their discourse around civic involvement, participation and democratization is somehow incomplete or partial.

Last, our observations on individualism reveal that even strong discourses of change are not followed by realizations. The biking initiative in Italy is the case with the closest apparent discourse of inclusive, just and sustainable society imaginary, and with the articulation of different goals and activities that derive from that imaginary. The CBI also aims at developing
a broader sense of community and creating a more sustainable lifestyle and liveable city. Therefore, the goal seems more ambitious and less pragmatic. It goes beyond a shift towards more sustainable lifestyle with fewer cars and more bicycle use. This and other CBIs unwittingly are built around a certain kind of person and lifestyle – one that is urban-based and belongs to certain socio-cultural milieu – thus, is limited in how to adapt biking more widely to other environments and lifestyles. Rather than reaching out to lots of diverse ways of living, they reflect and reproduce the values and assumptions of its members and thus do not encourage diversity.

**A takeover of public responsibilities and a push for a depoliticized environment - The acceleration of the state retreat**

Another neoliberal continuity of the alter-economy movement seems to be the acceptance of the conditions that the rollout of neoliberalism dictates: the retreat of the public sector and the reliance on individual capacities and commitment to individual self-improvement. In many cases, CBIs tend to take over services that the State should (or used to) be responsible for – such as those related to the provision of environmental protection, public space, or health-related facilities etc. In many cases, CBIs are closer to representing alternatives to the State rather than to the market economy. As mentioned above, not all of these organizations necessarily reject the market economy as a means to fulfil their objectives; this translates into the paradoxical situation of being fighting the hegemonic economic system accepting its rules. At times they resemble a sort of third sector organization which accelerates the retreat of the state through the social functions they perform. For example, when a member of a Scottish Trust talks about the organization’s objectives, societal functions once attributed to the State are now integrated as functions of the Trust, which uses capitalist methods (enterprising, fundraising, etc.) in order to operationalize those functions:

“So it’s a very broad remit, and it covers things like, you know, town centre regeneration, improvement of sports facilities and leisure facilities, and we’ve got some achievement in that area... finding funding for worthwhile social investment projects that won't otherwise be funded – fundraising is quite a big part of our remit, and encouraging other groups... to be... enterprising – to help them find funding, to help them, you know, draw up project plans and things like that... So, it’s not just about us doing everything, it’s about us also being there to enable and to advise and help other groups who have got what you might call sort of ‘socially useful’ projects that they’d like to get off the ground,” trustee of a development trust (UK - SCOTLAND).

Additionally, when CBIs negotiate with local institutions over services or product provision, municipalities or regions often see them as “clients” (i.e., municipalities offer organic food produced by CBIs to local schools; they contract renewable energy for the municipality from CBIs alternative energy cooperatives) or “funders” – rather than targets of demands for social or political change. At higher governance scales (national and supra-national), CBIs tend to rarely trust national or international institutions, and they express their commitment to remaining autonomous and self-organized. In their views, the Political (in the sense of institutional politics) is often negative or obsolete. They consider that they should as CBIs take over state responsibilities, as respondents seem to believe, in many cases, that the State is not able to alter the socio-economic system. They show an extended opposition to State control of services, and deem State agencies as ineffective and undesirable. For instance, in
Germany, an energy cooperative aims at winning the bid for the control of the Berlin energy grid in response to its general distrust toward the State control of the energy grid:

“There are also a lot of people that don’t want to see it [the grid] in the hands of a private company. On the other hand there are also a lot of people who think that letting it run by a public company is also not the best option. With the history of Berlin in mind there is somewhat of a skepticism or a lot of people just don’t want the senate to be in charge of it. You could formulate it in a negative way that there is a distrust. But in many ways there is also just the wish to take on responsibility […]”, chairwoman of an energy cooperative (GERMANY).

A takeover of public responsibilities and a push for a depoliticized environment - An apolitical approach in the construction of leisurely spaces of engagement

The often apolitical approach of initiatives constitutes another neoliberal continuity of the alter-economy movement. As mentioned in the introduction, our quantitative analysis of CBIs reveals that their members do not seem to advance a very strong political vision about change or political commitment to societal, economic or political transformation. In addition, interviews show that the few initiatives that value political action seem to disconnect such activism from their daily activities. They see political activism as a secondary priority or as a practice that can be done by others. Dedication to external politicization is perceived as particularly unfeasible for the CBIs that are fully dedicated to be economically sustainable. Although these initiatives aim to propose new governance arrangements for diverse and more caring economies, the (micro) politics they carry out seem to be limited to the internal organization of their local communities themselves. For instance, they place much emphasis on changing social relations, creating social bonds, politicizing individuals around them. They also seem to rely on the engagement of their members, rather than on an external politicization of the initiative itself, the type of activism which Swyngedouw (2009) calls “placebo-politicalness”. As Guthman (2008) puts it “what passes as politics these days is done through highly individualized purchasing decisions” referring to the “politics via markets” of Lipschutz and Rowe (2005) (2008: 1175). This is the kind of politics played by the consumer cooperatives (Barcelona, Rome) or community supported agriculture in Finland. Although CBIs represent spaces that can be seen as new open opportunities for promoting a type of deliberation and social interactions that would otherwise be inexistent (that is a kind of everyday politics), the content of the discussions, the participants, and the dialogue structure seem to be disconnected from visions or strategies for a socio-political or economic transformation. Even organizations which aim at providing a political space of engagement and reflection seem to not be questioning closed societal structures, systems, and forms of decisions that prevent environmental goods or amenities or sustainable activities or products in general from being more equitably distributed in society or to really engage a more diverse group of people. As in a post-political environment, “there is no contestation over the givens of the situation… only debate over the arrangements of policing and the configuration of those who already have a stake…” (Swyngedouw 2009: 610). The words from the member of a food CBI in Italy reveal that the everyday (micro-)politics have replaced institutional politics. They show a general reluctance to raise demands to state institutions and an interest in remaining more as an alternative to/autonomous structure from such structures.
“What I like here is the relationship with people, which is not the typical political activity. To offer a place where youngsters in their 20s can come and study, socialize and develop ideas or to offer to retired people a green place where to develop some activities, I think this is a kind of political action that make use of social presences as a leverage and not of political activism, not of slogans but (deals with) everyday practices and the constant effort to spread the idea that to build different relationship is possible,” member of an organization promoting local organic food (ITALY).

A takeover of public responsibilities and a push for a depoliticized environment - Consensual and de-politicized elements

Other neoliberal continuity refers to the depoliticizing character about environmental issues, which emerges in the discourses of CBIs: one that replaces the ‘proper’ political by the social (Swyngedouw 2009). If “consensus is the dismissal of politics” then CBIs can be said to be rather apolitical – discussing how social change should take place only with those sharing similar visions, and debating only very consensual and de-politicized elements, such as participatory governance, democratization, renewable energies, or localism. Even though initiatives claim to be politicizing and democratizing certain key issues (i.e., energy, consumption, or food), their lack of external political action raises the question of how far the democratization promoted by CBIs goes. It most probably reaches only certain groups of people. Such a hypothesis is illustrated by the model of energy cooperative built in Barcelona or Berlin, in which, while CBIs’ members do become shareholders, the group, the organization, still works as an energy company supported by a number of highly skilled professionals and committed volunteers. Such a model doubtfully democratizes energy but, rather, decentralizes it.

Additionally, some of CBIs’ members reject the idea of overt political activism and confrontation, which they simplify into a debate over legality or illegality. In their views, confronting the hegemonic political economic structures is linked to carrying out contentious actions but not to trying to change regulations or participate in political events, etc. Such a positioning seems to limit the ability of CBIs to be truly political in their proposal for alternatives. In contrast, many CBI members seem to appreciate the possibility of an easy, fun, and pleasant participation – that is a type of intermediate and conformable activism which requires moderate commitment beyond making individual decisions regarding sustainable consumption. CBIs’ lack of developed political activism seems to be linked to their creation of the small and almost leisurely spaces of engagement that communities represent. Words such as “good vibes” and “positive energy” reveal the absence of real spaces of critique and reflection beyond the presence of spaces to be happy in. They appear as political spaces of debate or marketplaces for a certain cultural milieu.

CBIS seem to represent a type of consensual imaginary in which there seems to be little room for more confrontational processes or alternative voices. This is what a member of the Spanish energy cooperative thinks on the engagement in the cooperative as something funny.

“I think that SE has done it really well. They have promoted the appropriation very well, people get engaged, because I see it [the engagement] as a way of participating in a very exciting project, very easy, very transparent. And I find it very well how they did it.
To be basically it seems kind of funny to do things like these. Only for having fun, people should try,” member and former participant of an energy cooperative (SPAIN).

Thus, the question remains open as to whether this kind of “positive” activism can lead to broader social changes. It might, in reality, be easily accommodated and/or co-opted by external forces if it is not accompanied by a clear positioning against the hegemonic system of political decision-making and private capital and profit accumulation, and it risks leaving the structures of capitalism largely untouched. The co-optation of the organic food movement is an example of this risk. A clear political positioning and voice and the recognition to social aspects would avoid that to happen.

Lack of recognition and/or understanding of others’ struggles or other possible changes - Closed communities, exclusive alternatives

Many CBI members admit the exclusive character of alter-economy initiatives, and they assume that communities are naturally formed by a group of similar people. This perspective seems to eliminate the possibility of a reflection on why other groups are not attracted by CBIs' values and praxis. It also jeopardizes their ability to recognize that CBIs fail to include the claims of more marginalized and less privileged populations and that cultural origins and social class often determine the ability and willingness of individuals to access CBIs. This lack of recognition seems to render CBIs quite hermetic not only to certain social classes, but also to certain social groups that do not share cultural codes or habits. The president of the Spanish energy cooperative recognized this reality.

“I think this type of initiatives [neighborhood revitalization, initiatives working in the area urbanism] would include [equality and inclusion visions]… but it’s a different logic than ours, that’s clear. Ours is exclusionary. Anything of this kind that emerges from a specific social class, I don’t know if social class… from a specific ideological environment, it’s not elitist, but it has a very specific conditions that do not apply to all the population, obviously,” member and board president of an energy cooperative (SPAIN).

The exclusivity of many CBIs is illustrated in the larger TESS database. The following figures attempt to describe the database (n=63) in terms of composition. While, on average, 84.0% of the users of CBIs are citizens of the country in which the CBI is established (min 30, max 100, median 100), only 10.9% of them are from other European countries (min 0, max 50, median 5) and only 5.1% of the users are non-Europeans (min 0, max 100, median 5). Furthermore, CBIs (n=54) consider that only 15.2% of their users are deprived people (min 0, max 100, median 5). No data on the share of deprived people was available for eight initiatives and one initiative reported this question as not applicable. In total, only 3.8% of the users (min 0, max 45, median 0.9) were considered disabled by the initiatives (n=53). No data on the share of disabled people was available for seven initiatives and for three initiatives this question was reported not applicable. Yet, many of the CBIs seem to be located in areas where issues of marginalization or poverty are present: 49.0% of the CBIs remark that their communities include groups at risk, including refugees, immigrants, unemployed people, students with children, people with alternative lifestyle choices, people not owning a bicycle, international students, people with certain political orientations or isolated people. These statistics reveal
the gap between the social needs in the areas in which many CBIs are located and their commitment and/or ability to address them.

While some CBI members do acknowledge their exclusivity as a problem, they do not identify concrete solutions to change this pattern. For example, interviewees argue that organic food is more expensive than conventional food due to the unregulated pollution of industrial farms. Even though they perceive membership fees as a barrier, they consider that fees are needed to maintain the stability of the groups/cooperatives. Additionally, some members justify the homogeneity of CBIs due to structural problems external to them, which they then see as reasons for their inability to cope with them. A contradiction thus emerges: While many CBIs are sceptical about the ability of the State to solve environmental (and other) challenges, they seem to trust the system to address issues of inequality and poverty (which is reflected by repeated “someone else’s problem” types of comment) or to believe in trickle-down effects (see below). Moreover, even when they direct such responsibility to the public sector, the solutions imagined to facilitate the engagement of excluded groups relate to educational tools, the promotion of individual change, and awareness-raising, which are all activities they seem to dedicate time to as CBIs.

Our study shows that CBIs perhaps do not intend to be exclusionary but unintentionally reproduce patterns of domination and exclusion through their focus on environmental issues. It seems that most CBIs have not yet made the link between environmentalism and other forms of discrimination – or they believe that discrimination will also be tackled by making changes to everyday practices. However, what our data seems to reveal is that unless this link is made explicit and CBIs do more to include marginal populations and their concerns, it will only forward the interests of a few and not tackle more widespread inequalities.

Lack of recognition and/or understanding of others’ struggles or other possible changes - Limited imaginaries of inclusion and justice

Additionally, CBIs often seem to have difficulty moving beyond existing imaginaries and/or interests in order to find solutions for addressing the low heterogeneity of their members and the lack of inclusion of marginalized groups. Some barriers are easier to tackle and to break down, including language barriers, a more limited use of technical language, the removal of ID-check requirements, the organization of meetings during times and days in which a wider variety of participants could participate, or the offering of services that better respond to the preference of more excluded social groups (for instance spices, herbs or produce that represent the culture and dietary pattern of immigrants from the Global South). In the case of the TESS database, only 22 initiatives (34.9%) reported that their membership process was informal or had no rules (i.e., anyone can join), while most of them – 41 initiatives (65.1%) – have some type of membership selection process. Here, membership eligibility is based on specific eligibility criteria, formal enrolment procedures, membership fees and interview or screening (i.e., a selection process), or a combination of all of these. Such steps might deter newcomers outside the traditional circle of the initiative to join. Moreover, some initiatives also seem to test the ‘fit’ of potentially interested new members. In Germany, a food initiative designs and administers quizzes to make sure that members know about, and even share, the values of the initiative – an initiative which claims to be fighting against inequalities and trying to favour low income people. Another contradiction emerges: disadvantaged populations are the only official beneficiaries of the CBI but they are discouraged to take part in the
management of the community. Lastly, while many of the initiatives collecting fees had small or nominal fees starting at one Euro per year, cooperatives seem to collect rather higher fees (100 Euros or more), which might also deter lower-income participants. In total, only 29 initiatives (46.0%) do not collect any type of membership fees.

Access is not only an issue of resources or material barriers. *Narrow discourses and visions and a lack of recognition of others’ values can make CBIs unattractive to some groups.* “Organic food”, “back-to-the-land” or “liveable city” discourses represent different meanings for different social classes or ethnicities, and their use might discourage different social or cultural groups from joining the CBIs. For example, an initiative promoting food recycling in Germany has a limited ability to integrate minorities and poor residents. In that case, not all the members realize that receiving food “wasted” by others is not seen by everyone as sustainable or as an anti-poverty measure, but as something denigrating or as charity. Initiatives often fail to recognize such differences, and tend to play “politics of conversion” instead of “politics of respect” (DuPuis and Goodman 2005). This member of the initiative perceives that everyone should equally value food and the reuse of food waste. Although she points to the heterogeneity of members, the data shows that the initiative indeed has problems integrating with a wider variety of groups.

“Yes, that also the professions and everything gets mingled [...] and it has nothing to do with culture or ancestry or colour or religion because everybody needs to eat and everybody wants food to be something valuable,” member of a food sharing initiative (GERMANY).

**Lack of recognition and/or understanding of others’ struggles or other possible changes - Trickle-down effect**

While initiatives maintain that they are unable to cope with equity or inclusion issues, *their members often imagine that CBIs’ work manages to benefit the society as a whole thanks to a trickle-down effect:* they believe that their power as a social movement and their eruption as new political actors in the socio-environmental arena will help changing power structures, ultimately benefitting more disadvantaged populations. However, in practice, it is unclear how this will happen and which spectrum of society really benefits from the expansion of the alter-economy paradigm since CBIs’ actions are far from addressing the root of environmental inequities. The way many of them envision justice does not involve changing distributional inequities in society but rather eliminating corporate or government monopolies over decisions, resources and profit. When interviews brought up distributional aspects of environmental bads and benefits, the claims advanced by CBIs’ members tended to be quite poor and empty. The lack of political commitment made them unrealistic too.

Nevertheless, our data reveals some examples of initiatives with goals and activities meant to benefit low-income groups. In some cases, CBIs express solidarity and a sense of communitarianism in providing for example free workshops to poor residents or free training. That said, *they do not seem to have a very committed dedication to reaching out directly to more marginalized groups.* While most of the initiatives assert they are open to everyone (they are colour blind), most of the CBIs do not seem to go out of their way to include underprivileged groups. However, colour blindness can be exclusionary and reflect meta-privileges: the inability to recognize one’s own privileges. As a result, the imaginary of justice presented by respondents often seems to reproduce patterns from the hegemonic system. In
most of the cases, the specific activities that CBIs organize for socially vulnerable groups seem rooted in assistance and paternalistic perspectives rather than in a truly equal and substantive ideology that would empower underrepresented groups, classes and ethnicities.

### 14.3 Discontinuities

We now turn to look at the dilemmas and contradictions that the embedded neoliberalisms described in the previous section create in certain members of community economies, and how these are negotiated or justified explicitly or implicitly (i.e. in their imaginaries). Assuming that “traces of neoliberalism may be defining characteristics of post-neoliberalism” (Yates and Bakker 2014), we reflect on some characteristics of community economies attached to neoliberal subjectivities that might have a different reading.

“Community initiatives” is a broad term that embraces many different initiatives, non-profit organizations and businesses; the high variety of initiatives and contexts implies also different degrees of consciousness and self-reflection inside the communities. We observed such differences in our sample. Some of the interviewees share with us the “uncertainty, ambivalence and perplexity about the processes they engaged with”, while others may be less aware of the extension of the neoliberal program and face certain questions that reflect unresolved internal dilemmas (Bondi and Laurie 2005).

If we assume that any political action might not be “pure” and always reflect dilemmas, debates, and conflicts, we can argue that the activist members of CBIs also resist or negotiate with the neoliberalisms embedded in their activism. We use the term negotiation to acknowledge that certain concessions that members make to the hegemonic system might also result in counter-hegemonic actions, especially when these are linked to reflexive and critical processes of change. In other words, “if neoliberalism ‘recognizes’ political resistance as the performance of neoliberal subjectivity, there is no way of resisting which remains wholly outside neoliberalism” (Bondi and Laurie 2005:.399). Thus, in this section, we look for glimpses of resistance on these neoliberal subjectivities and analyse four defining aspects of CBIs which are considered neoliberal elements, and how these are negotiated within initiatives to produce counter-hegemonic reasoning or imaginaries of change.

### Realistic and ambiguous visions about CBIs’ roles and limitations

Earlier we presented some very realistic and down to earth visions of the initiatives’ roles. Some of the CBIs’ respondents are aware of the limitations of this type of activism, which they see as restricted and compartmentalized in the end. They are aware that social movements and “institutional attacks” are needed for further societal changes. Thus, for some members, CBIs are “just” the best possible option to consume in an environmentally sustainable way, while they put their political efforts in other struggles. They might or might not be aware that the CBIs reproduce neoliberalism logics, but they stress that this is only one thing among many that one could do. Indeed, an important part of the members of CBIs are engaged in other struggles as individuals. For example, some interviewees are enrolled in different social movements, are active in different neighbourhood councils or are militant members of a political party or syndicate.
While some members think initiatives should be more active in the political arena, others argue that these should be open to everyone, especially to people who are more politically engaged and critical of the current system and to people who seek less commitment to the work of a CBI. More pragmatic members of CBIs will more likely be in favour of including a higher number of people even those are less engaged, for the sake of the economic sustainability of initiatives. In contrast, the more “militant” imaginary developed by some CBIs’ members pushes for the politicization of initiatives and therefore for a rather high political commitment and consciousness of members. Some interviewees recognize these two faces of the initiatives.

“I think there are sort of... there are at least two ways to understand success for [our CBI]. One is that we get involved with loads of campaigns and we help them keep going, and we help organize them. The other is that we provide people with a space to be... just to be happy in volunteer at a fair-trade and organic café in a University Campus” (UK - SCOTLAND).

In many cases, the need to focus on concrete results and the survival of the project is what alienates CBIs’ members from broader social struggles. It is common that some initiatives start with more radical political ambitions, which they later have to revisit in view of a need to focus more time and resources on economic survival and sustainability. Nevertheless, the more militant members still express their desire to see their initiative become more politically engaged and more impacting. However, they also acknowledge important difficulties to engage all the members of the communities. This discrepancy creates tensions and frustration in communities even though both strategies are not exclusive and should be complementary. Some interviewees openly complain about the low engagement of some members of the communities and, in some cases, even accuse them of engaging in this type of community for acquiring certain status (especially in food initiatives), as expressed by one member of a community-supported agriculture project near Helsinki, Finland.

“The resources are very limited and weak in relation to what amounts and kilos one should get from the field (...) I see that we are facing the fact that for many members, who come from the metropolitan area, this membership is more like a kind of a question of status. It is nice to write to these facebooks and what other twitters there are in today’s public media where one can tell ‘what I have done today’. It is like beneficial for me that ‘I’m ecological, I’m green, I think like this and this and therefore I’m like a communal person and know my responsibility’. I see it very much so that for many people it is more about a question of status than about being able to come there [to the field] to do physical, concrete, dirty work that possible takes place under heavy rainfall, in cold or in godless heat,” member of a community-supported agriculture project (FINLAND).

**First steps towards collectivity, self-organization and political activism**

Second, CBIs’ common emphasis on individual choice and consumer activism – rather than on direct collective political action – is often “justified” by the role that initiatives also play in stimulating democratic and deliberation learning, and in moving beyond individualism and dependency towards collectivity and self-organization. These abilities, members argue, are acquired in the collective spaces that the communities create. While we argue that the idea of community should not be seen as inherently good, many of these initiatives have helped to
bring some everyday politics to the daily lives of citizens. This is the idea stated by a member of a food cooperative in Spain who sees the opportunity to engage in a food cooperative as a great experience and a way to compensate the individualistic culture where communities are embedded. However, although it is true that initiatives might be a first step to the collective organization, this perspective seems to omit that it is because of individualism that CBIs exist – where people make individual choices to join and remain, and where they are not being asked to give up any of their individuality or freedom. This is the constraint under which CBIs exist – the tyranny of respecting the rights of the individual means they are severely limited in what they are able to do.

“We have been educated in a very individualist culture, dependent on markets, very little self-sufficient, with complex personalities. And the common work and self-management in a cooperative is an amazing life experience,” member of a consumer cooperative (SPAIN).

On other hand, CBIs are often aware of the importance of strengthening existing networks and partnerships with other initiatives, such the producers’ networks (see also Chapter 10 on External networking)), and in using them to make community-based initiatives more politically powerful and relevant – beyond helping them to achieve economic sustainability. This is the case of informal farmers’ cooperatives in Spain or the networks between different departments and collectives at the University of Aberdeen.

The self-governing function of CBIs also brings some negotiations. Although self-organization, as an element of the new communitarianism, is not fundamentally neoliberal, it is (and must be) a key element of the counter-hegemonic project; initiatives also aim at becoming governing actors, that is self-managed and self-governed actors who also have an impact on institutional regulations. Some of our interviews reveal the presence of anarchist self-sufficiency ideals rather than decentralizing neoliberal mentalities. The desire for autonomy is also related to feelings of being off-the-grid in order to achieve more sustainability as occurs in the alternative energy networks that manage to move back to a local scale in the energy sector, and as is the case of the wood energy cooperative in Finland. The local scale allows both managing of the network (relatively) autonomously and achieving sustainability.

Opening possibilities of negotiation with (local) political institutions

The desire for autonomy expressed by several CBIs’ members seems to often come from their dissatisfaction with existing governing rules and institutional politics which some members consider either obsolete or too hard to change. On the other hand, some organizations such as one promoting nature protection and the use of bicycles in Cluj, Romania, recognize that the initiative can advance only in certain issues, but there is another dimension of change that should come from regulatory lock-ins.

“Some external factors that have stopped the development of this initiative were encountered (for instance, there was no infrastructure for cycling; in train no bicycles are allowed). Aspects like these ones can lead to a slow development of some initiative, or even to its end. The authorities must step in at one point; because the community has already done its part,” member of an initiative promoting the bike use (Romania).
In any case, there is a general desire to change (or evade) the established power and the common idea that institutions should evolve and be truly democratic and representative of a wide range of populations. Additionally, the low political engagement of many CBIs is, in many cases, more related to the precariousness of the initiatives rather than to a lack of awareness of the importance of being more politically engaged. In general, while CBIs perceive local and regional political institutions to be more accessible and receptive to their work and demands, they tend to equal national and supranational scales with market dictations which they see just as difficult to overcome.

Some of the relationships that CBIs build with political institutions illustrate the start of some negotiation with neoliberalism, at least the desire to take more control of it. On the one hand, some CBIs tend to represent more confrontational social movements which reject a direct engagement with political institutions unless political leaders approach them: the perspective of “we are not going to knock on their doors, we wait for them to knock on ours” is common. In contrast, the respondents of other CBIs see the political spaces that CBIs construct as a way to prepare their members for a more constructive and successful engagement with political bodies since these spaces strengthen social organization, increase people’s ability to deliberate and promote participation in general. This is the case of the communities organized around food (but not exclusively), which encourage participation in different activities as well as open spaces that facilitate social cooperation through food and work on the land, as well as the organization of meetings, assemblies, etc. where decisions that affect the course of the communities are debated.

When CBIs manage to negotiate with (generally local) public institutions, the processes of dialogue have, in some cases, resulted in collaborations or partnerships. This is the case of a renewable energy cooperative in Spain which has become the electricity provider for some municipalities. Although the cooperative is closer to a company than to a community-based initiative (which means that the partnership itself might not be so different from any public-private contract), the small groups of volunteers from the cooperative have been the ones making the agreements with municipalities possible. In this regard, it is worth mentioning that in many places institutional politics have changed tremendously in recent years, and CBIs’ members more often find potential allies among local politicians. Some interviewees see the cooperation with institutions as an opportunity to escape from precariousness and a way to have more impact and benefit a greater number of people. However, members also identify political attempts to co-opt the grassroots initiatives (“they just want to come out in the picture”).

Some interviewees see the strategy of alternative building in alliance with political institutions as equally valid as more confrontational tactics. They argue that CBIs might be empowered enough to create alternatives that can be later recognized and accepted by public institutions – rather than being co-opted – and thus reach people beyond communities’ circles. Two examples from Spain might help to illustrate this vision. First, an alternative organic certification promoted by a farmers’ network in Barcelona (a Participatory Guarantee System) has attracted the interest of the official regulatory agency which has recognized the need to differentiate between large scale industrial organic producers and agro-ecological producers. In another case, a local group of volunteers disseminating a renewable energy cooperative in their municipality (30,000 inhabitants) has negotiated with local institutions to make the cooperative the official energy supplier for public facilities. Because regulations were designed only for the “big-players”, the municipality had to alter these regulations to make it feasible for small producers to participate in the bids. While these types of changes are dependent on the
willingness of institutions, and are relatively small advances, they might be setting a different scenario of institutional politics: one that is accessible to mobilized citizens and favourable to exogenous ideas.

**New politics of possibilities**

The last negotiation that members carry out with neoliberalism is related to the enacting of politics of possibilities. The politics played by the opening or rendering visible of new *possibles* can stimulate certain change in the power relations (for example, dialectically) (Gibson-Graham 2006), which is perceived by most of the members as the main contribution of these types of alternatives. Interviews reveal that the imaginaries of change developed by CBI members are often centred around building politics of possibilities. Perhaps the most successful achievement of CBIs is empowering local people/individuals and communities/collectives by encouraging them to think about the issues that affect them, or are important to them, and making collective decisions on what to do about them. They encourage people to voice their opinions and to create a space for ideas and alternatives to emerge.

In that regard, the politics of possibilities opened by CBIs is perhaps the most important contribution CBIs make to politics and participation. They may be a first type of empowerment and alternative thinking, even though issues of hierarchies, oppression, inequities and inclusion remain unresolved. Yet, whether the possibilities that these initiatives open are sufficiently far from the hegemonic paradigm to help to bring a wide socio-economic and political change is open to further reflection. Despite the (often) lack of political commitment of CBIs, their members often argue that community-based organizations allow for the discourse of lobby and advocacy groups to be legitimated since CBIs might materialize the discourses of change (i.e. they are alternatives already taking place). These lobby groups that call for a different world might use CBIs as an example of other economies, other types of relations, “other worlds that are possible”. Therefore, the initiatives, despite their frequent lack of overtly political activism, help to create a counter-narrative that might be used by more confrontational groups. Indeed, this might be a fundamental discontinuity. Considering that the change necessarily is to be brought by a combination of different forces (Smith 2010), the power of community economy might reside in finding, dialoguing and cooperating with other counter-hegemonic forces.

### 14.4 Conclusions

In this chapter we identified continuities with neoliberal mentalities when analysing discourses of change and justice within community-based initiatives. Our findings reveal how CBIs’ activism often represents neoliberal “forms and spaces of governance” even when they oppose neoliberalism in their discourses (Guthman 2008). Results show that the imaginaries of change are highly influenced by neoliberal logics and that those continuities highly constrain the ability of CBIs to have a stronger and wider impact on society. Results also show that environmental and (community scale) socio-economic objectives are prioritized over more social and political goals. Some initiatives have a broader perspective of change and a strong social dimension, but they are not able to meet their objectives partly due to their precariousness, partly due to constraining regulations which do not help them overcome such neoliberal continuities. Even
the more radical and militant members of CBIs recognize the difficulty of engaging their communities in actions beyond “voting with your pocket”.

In the second part of our results section, we also looked at how communities (or at least some members) engage in negotiations with the current socio-economic system. We use the term negotiation to acknowledge that certain concessions members make to the hegemonic system might also result in counter-hegemonic actions, especially when these are linked to reflexive and critical processes of change. We observed glimpses of resistance to these neoliberal subjectivities.

We have stressed the relevance of reflection and self-assessment of initiatives in order to strengthen their role in society and to become more greatly aware of their limitation. Although we highly value CBIs as needed social and environmental spaces which bring valuable benefits to users and to the environment, we argue that in order to be truly transformational, their members should have a more reflective positioning and include other realities. We identify issues of inclusion and equity as pending tasks for these communities. If the imaginary of social change seems rather vague, the imaginary of justice and equity itself is quite poor. Even if the trickle-down effect many CBIs seem to advance might work at some scales with more socially vulnerable groups benefiting from the activities and products offered by CBIs, more inclusive discourses and practices are needed in order to avoid that the transition movement becomes only an alternative market place for certain classes, a place in which hegemonic cultural codes and logics are reproduced.

Politics of possibilities are perceived as one of the main (if not the most) important achievements of these communities. The question we aim to pose is whether such a narrow discourse based on ethical consumerism and environmental consciousness might, in the end, be proposing a very limited politics of possibilities.
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