

SCALBUR

LEADING A REVOLUTION
IN BIOWASTE RECYCLING

Deliverable 2.4

Multi-level stakeholder engagement analysis, including gender, and impact analysis



| Deliverable fact sheet | | |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------|---|
| Document name | D2.4 Multi-level stakeholder engagement analysis, including gender, and impact analysis – Mid-term version | |
| Responsible partner | CSCP | |
| Deliverable number | 2.4 | |
| Due date of deliverable | 31.10.2020 | |
| Actual submission date | 30.10.2020 | |
| Version | 1.0 | |
| Authors | Francesca Grossi, Dimitra Ioannidou | |
| Reviewers | Carina Diedrich, Luis Esquivel, Cristina Fedato, Felix Schumacher | |
| Work package no. | 2 | |
| Work package title | Stakeholder Engagement and social innovation actions | |
| Work package leader | Carina Diedrich, CSCP | |
| Work package participants | CSCP, ITENE, CLUBE, FCC, G!E, LAZIO, LUND, MADRID, IRIS | |
| Dissemination level (please select one) | | |
| CO | Confidential, only for members of the consortium including the Commission Services | |
| PU | Public | X |
| PP | Restricted to other programme participants, including the Commission Services | |
| RE | Restricted to a group specified by the consortium including the Commission Services | |
| Nature of the deliverable (please select one) | | |
| R | Report | X |
| D | Demonstrator | |
| W | Websites, patents filing, etc | |
| O | Other | |

ABSTRACT

In the SCALIBUR pilot cities, engaging all key local and national actors along the value chain is of vital importance to the project's success in promoting new circular economy approaches to recycle urban biowaste. As such, the following report illustrates the adopted SCALIBUR's multi-stakeholder engagement approach, process and tools as well as current status quo and gives an overview of the key analytical tools that will be employed to evaluate the project's direct and indirect impacts on the stakeholders in the pilot cities and regions Madrid (Spain), Albano Laziale (Italy) and Kozani (Greece).

The first section of the document describes in detail the various phases and components of the applied multi-stakeholder engagement approach. Furthermore, the behaviour change and social innovation components of the multi-stakeholder engagement approach are also described and contextualized within the overall WP2 activities and overall SCALIBUR's project objectives.

The next two sections focus on the rationale and analytical method(s) to be applied throughout the project in order to assess and evaluate the adopted multi-stakeholder engagement activities via a series of ex-ante and ex-post analytical tools. Specifically, these analytical methods and tools have been selected and will be implemented at the city level to gather data and information from SCALIBUR identified key stakeholder groups (see also D2.1), namely: individual citizens/householders; local value chain actors; national and European actors.

Lastly, the final section of this deliverable provides a blueprint of the upcoming multi-stakeholder engagement activities and related assessment and evaluation tasks for each of the SCALIBUR pilot city, in the next eight months of the project.

CONTENTS

| | |
|------------------------------------------------------------------------------------------------|----|
| ABSTRACT | 3 |
| CONTENTS | 4 |
| INTRODUCTION | 5 |
| 1 THE SCALIBUR STAKEHOLDER ENGAGEMENT APPROACH & SOCIAL INNOVATION COMPONENT | 7 |
| 1.1 Stakeholder engagement | 7 |
| 1.2 The social innovation & behaviour change components of the stakeholder engagement approach | 12 |
| 2 SCALIBUR STAKEHOLDER ENGAGEMENT EVALUATION | 15 |
| 2.1 Rationale & Objectives | 15 |
| 3 SCALIBUR TARGET GROUPS | 20 |
| 3.1 Target Group 1: Citizens and Households | 20 |
| 3.2 Target Group 2: Value chain actors | 24 |
| 3.3 Target Group 3: National and European actors | 29 |
| 4 NEXT STEPS & TIMELINE | 33 |
| 4.1 Ex-ante surveys & in-depth interviews | 33 |
| 4.2 Biowaste Clubs Activities & Meetings | 34 |
| Concluding Remarks | 36 |
| References | 37 |
| ANNEX 1: Surveys for Target Group 1 | 38 |
| Survey Template city of Albano | 38 |
| Survey Template city of Kozani | 55 |
| ANNEX 2: Surveys for Target Group 2 | 71 |
| Survey Template for Value Chain Actors | 71 |
| Survey Template for the Open Markets in Kozani | 93 |

INTRODUCTION

Core objective of the SCALIBUR project is the promotion of new circular economy approaches to recycle urban biowaste in Europe. To achieve this objective, the identification and engagement of all relevant stakeholders along the bio-waste value chain in the three SCALIBUR pilots, namely Kozani (EL), Albano Laziale (IT) and Madrid (ES), is crucial. Thus, WP2 focuses on understanding the context-based determinants (including economic, socio-cultural and political factors); mapping all relevant stakeholders along with their operational settings, understanding their challenges and, eventually, collecting already existing and generating new best practices to help the pilot cities in the uptake of technologies developed in SCALIBUR and close the bio-waste loop. In deliverable D2.1, the results of the stakeholder mapping and the baseline analysis in the three pilot cities have been presented, including key learnings, thus already composing tailored stakeholder engagement plans for each city.

Building on the developed stakeholder engagement plans, this deliverable aims at outlining the specific multi-stakeholder engagement approach adopted together with the analytical framework through which all stakeholder engagement activities will be assessed in terms of their indirect and direct impacts at the local level. The evaluation will allow for the identification of areas within the stakeholder engagement plans that might need future refinement.

The first part of this deliverable describes the developed and adopted SCALIBUR stakeholder engagement approach based on a quadruple-helix basis. The underlying theoretical foundations are presented. Specifically, the four phases - Identification, Engagement, Consulting, and Collaborative - of the whole process are presented together with a brief summary providing with the so-far conducted SCALIBUR activities with respect to each of them in the three SCALIBUR pilot cities. In addition, also the two fundamental components of this approach, namely social innovation and behaviour change are thoroughly described in connection to the approach. Both elements are essential in SCALIBUR, since the project aims to demonstrate pathways to support the integration of the urban biowaste valorisation approaches on a local level and promote the marketization and acceptance of biowaste derived products by citizens and households.

Section 3 focuses on providing insights to the methodologies that will be used to assess and evaluate the indirect and direct impacts of the planned multi-stakeholder engagement activities at the local level. The data analysis will be conducted mainly using a series of qualitative methods which will enable an ex-ante and ex-post assessment of the activities: i.e. trend analysis, qualitative content analysis, coding system, surveys and comparative analysis. The

surveys have been developed accounting for the different needs and challenges of the pilot cities and regions and will be used to showcase differences in the perception, awareness and engagement level of the different actors. The other qualitative analytical tools will be functional to the analysis of the gathered data across the various groups and pilot cities, thus enabling the setting of a benchmark before and after the implementation of SCALIBUR activities, as well as a comparative analysis of impacts across the pilot cities.

In the final section of this report, a blueprint of the status-quo together with foreseen multi-stakeholder engagement as well as evaluation activities for the next eight project months is provided. This overview does not only provide a snapshot of the upcoming SCALIBUR engagement and assessment activities at the local level, but it also shares key highlights on the possible challenges and related mitigation measures to be adopted in view of the on-going COVID-19 health emergency.

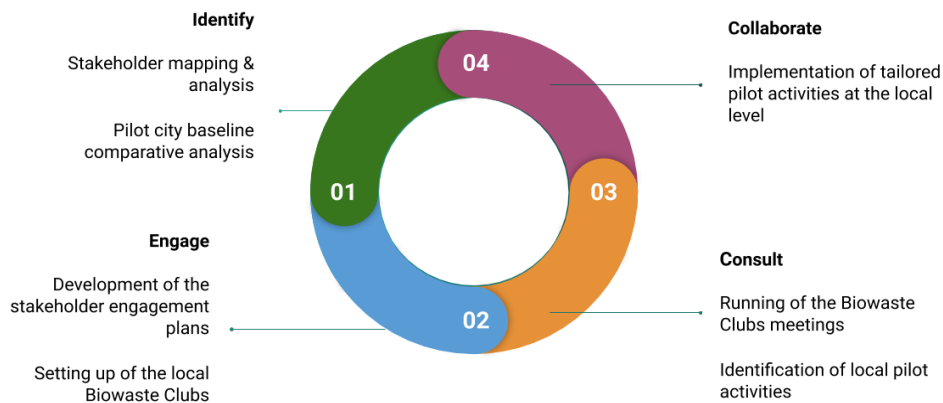
Lastly, it is important to highlight that this report, including the presented analytical assessment and evaluation methodologies and tools, has been developed considering also WP8 tasks focusing on the assessment of environmental, techno-economic, social impacts and safety aspects of SCALIBUR processes. Specifically, the developed survey templates (Annex 1 & 2) are the result of a coordinated collaboration between WP2 and WP8, also illustrated in D8.2. Furthermore, this report can be considered as the backbone of the SCALIBUR multi-stakeholder engagement approach. Therefore, it will be complemented by a second report which will describe and focus on the final outcomes and generated impacts of the SCALIBUR multi-stakeholder engagement activities in each pilot city, to be compiled by M48 of the project.

1 THE SCALIBUR STAKEHOLDER ENGAGEMENT APPROACH & SOCIAL INNOVATION COMPONENT

1.1 Stakeholder engagement

Changing – or, as the SCALIBUR slogan puts it, “revolutionizing” – an entire value chain is by its nature a complex challenge which at one stage or another affects different actors: i.e. waste management companies, policy-makers, citizens, research institutes etc. Accordingly, a successful scale-up of new technologies and processes requires increased social awareness, a change in behavioural patterns and the fostering of social innovations. In order to achieve this, it is crucial to involve all key actors – including citizens - from the start. Understanding key stakeholder’s characteristics is necessary to develop engagement mechanisms that account both for the impacts that the promoted technologies and activities may have on the different actors and vice versa the influence that the actors can exert by promoting or hindering certain processes. While there are different strategies that can be used to appeal to the different stakeholder categories, the stages by which an actor adopts an innovation, and whereby scale-up is accomplished are similar and include awareness of the need for an innovation, decision to adopt (or reject) the innovation, initial use of the innovation to test it, and continued use of the innovation.

Accordingly, the developed SCALIBUR stakeholder engagement approach has been defined (see also D2.1) as a guided process during which all relevant actors are included through frequent exchanges and join forces to achieve a common goal. Stakeholders for the SCALIBUR project are any representatives of certain societal groups or of specific organisations – such as companies, industry sectors or public bodies, as well as common citizens - that are directly affected by or can affect the bio-waste value chain. Consequently, stakeholder engagement is understood here firstly, as an ongoing, inclusive dialogue among all actors that can contribute directly or indirectly to fostering a sustainable bio-waste value chain, and secondly as a process for agenda-setting and collective implementation of activities that are shaped according to the local stakeholders’ needs and expectations. This two-fold approach is practically implemented in the project following four interconnected phases, graphically exemplified in **Figure 1**.



The following subsections outline the methodological approaches and tools that are being used in the SCALIBUR project to implement the described four stakeholder engagement phases.

Identification Phase: understanding the context

In order to create SCALIBUR’s envisioned economic, social and environmental impacts, it is necessary to engage and collaborate with all key actors along the whole biowaste value chain, from individual citizens to waste management companies, different public bodies and policy representatives, the local HORECA sector and also (potential) users of the new biowaste-derived products (such as farmers using fertilizers gained from biowaste).

Accordingly, the first phase of the stakeholder engagement process in SCALIBUR has been conducted through the application of two complementary qualitative analytical methods: **a mapping** and **baseline analysis**: the stakeholder mapping exercise is based on a collaborative qualitative research approach including exchanges and discussions that draw from multiple perspectives to determine a list of all key stakeholders (at the local, national and EU level), covering the whole value chain of organic waste in the three SCALIBUR pilot cities/ regions – Kozani (Greece), Albano Laziale (Italy) and Madrid (Spain). Building upon the knowledge and understanding of the local contexts gathered through the mapping exercise a baseline analysis was then carried out focusing barriers and opportunity areas of the local biowaste value chains, current consumption behaviours and the key steps and actors involved along the whole biowaste management chain. For a detailed description of the tools employed for this initial analytical phase including all developed templates, see Deliverable 2.1 “*Stakeholder engagement plan per pilot municipality and identification of current promising practices*”.

Engagement Phase: the SCALIBUR Biowaste Clubs

Drawing on the stakeholder mapping and baseline analysis, in the three SCALIBUR pilot cities, tailored key stakeholder groups emerged, each representing a different but central one operating and influencing the local biowaste value chain. These groups are:

1. Individual Citizens/Households
2. Local Value Chain Actors
3. National & European actors

Following this identification process, the SCALIBUR “engagement phase” was kicked off, which can be exemplified in the following key steps:

1. Selection of stakeholders to be engaged in each pilot city: The selection of a first set of key actors per pilot city has been conducted by the CSCP and the local partners by ranking mapped stakeholder representatives of the three main groups. The ranking process included criteria such as the actors’ influence on the project goals, their interest in the project activities or the already built experiences of local partners in working with these actors.

2. Development of tailored stakeholder engagement plans for each pilot city: following, preliminary stakeholder engagement plans were developed for each pilot city. These plans built upon the overview of key actors operating procedures, interests, needs and challenges derived from the stakeholder mappings as well as upon the local technological, economic, social and environmental central factors identified via the three baseline analyses.

3. Setting up and launch of the SCALIBUR Biowaste Clubs: SCALIBUR Biowaste Clubs represent open and inclusive dialogue platforms. Their formats and operational settings are based on focused research and evaluation through real-time discussions, exchanging as well as prototype testing (during the last two years of the project) in a holistic living-lab format. The Clubs enable identified groups of actors to exchange knowledge and information, thus leading to a better understanding of local challenges, needs and opportunities areas and consequently to the implementation of innovative solutions at the local level.

As for the “Identification Phase” also with respect to the “Engagement Phase” a detailed description of the tools employed including all developed templates can be found in Deliverable 2.1 “*Stakeholder engagement plan per pilot municipality and identification of current promising practices*”.

Consulting Phase: exchanging and learning

In terms of specific objectives at the local level, the SCALIBUR project aims to:

1. Increase consumer awareness and acceptance of urban biowaste-derived products;
2. Change behaviour towards better recycling rates, in order to increase quality and quantity of the biowaste collected;
3. Implement innovative practices in biowaste collection, transport, sorting, pre-treatment and characterization (WP3) at the local level.

All these action-driven impacts firstly require different analytical steps and secondly demand for exchanges and consultations with local stakeholders which as mentioned are channelled via the Biowaste Clubs activities.

The analytical steps are represented by complementary and interlinked processes undertaken in WP2 in close connection to WP3 tasks consisting of the collection and analysis of a set of promising practices (WP2 Task 2.1, see Deliverable 2.1) with respect to biowaste collection systems, treatment methods, and resulting by-products taking into account the diverse technological, cultural, climate-related, urban structure, target groups and legislations representative of SCALIBUR pilot cities context-based determinants. The primary focus of this selection was to enable a comparison between the challenges and opportunities of the already implemented practices and those of the SCALIBUR pilot cities.

Afterwards, the Biowaste Club meetings provided the dialogue stage to present to key stakeholders the initial baseline analysis outcomes developed for each pilot city together with the identified promising practices to kick-off discussions on suitable and cost-effective pilot activities that best answer the pilot cities' needs and meet local opportunities. Seven Biowaste Clubs meetings have been organized up to October 2020: four meetings in Albano Laziale (IT); 2 meetings in Kozani (GR); and 1 meeting in Madrid (ES). **Table 1** provides an overview of the so-far engaged actors per type and per pilot city. The numbers are derived by the participation lists of all conducted Biowaste Club meetings.

| | Kozani | Albano Laziale | Madrid |
|--------------------------------------------------------------------------------------------|--------|----------------|--------|
| Local and regional authorities (including actors operating in neighbouring municipalities) | 8 | 28 | 8 |
| Waste Managers | 2 | 4 | 2 |
| Service providers | 0 | 3 | 10 |
| SMEs | 4 | 1 | 5 |
| Industry experts | 3 | 1 | 1 |
| NGOs | 1 | 1 | 0 |
| Research and development | 2 | 2 | 6 |
| Other experts (e.g. university) | 1 | 0 | 3 |

The gathered knowledge and input resulting from those Biowaste Clubs meetings has been then combined with technical improvements developed in WP3, related to the selective collection of the OFMSW from households and HORECA, resulting in the final identification of promising pilot activities for each city, which will be implemented throughout the last two years of the SCALIBUR projects. In **Kozani & Albano Laziale** the focus is on the implementation of innovative practices for collection, transport and characterization of OFMSW and HORECA waste; in **Madrid**, on increasing social awareness through innovative practices on collection of OFMSW as well as sorting, pre-treatment and characterization. Specific pilot activities are under discussion and initial ones have been already identified as described in the following section.

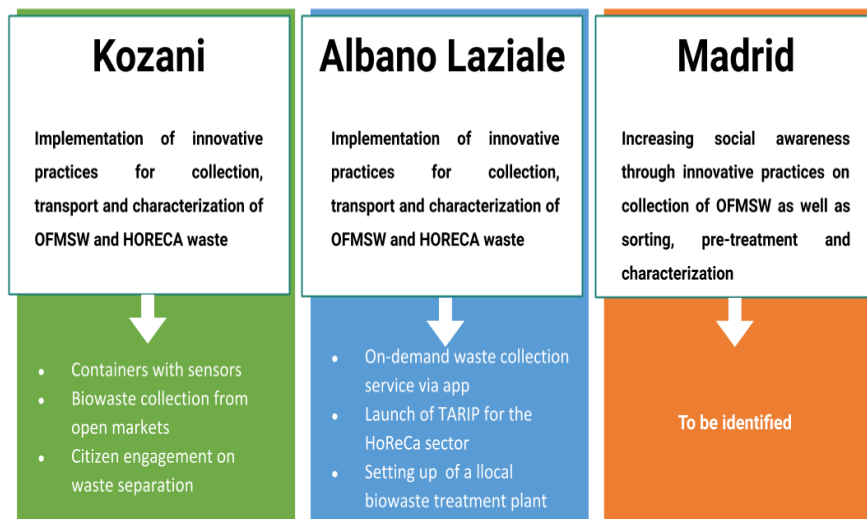
Collaborative Phase: implementation of innovative actions & strategies

The fourth phase of the stakeholder engagement process adopted in SCALIBUR is characterized by a so-called full engagement that fosters stronger support and stakeholder buy-in, resulting in greater success throughout the implementation of specific activities and generating perceptions of shared responsibility over results. Against this rationale, the collaborative phase is more than simply sharing knowledge and information and also more than establishing networks that help each party achieve its own goals. The approach implemented aims to create a shared vision and to derive joint strategies to address concerns and overcome existing local challenges.

Accordingly, the initial steps of the collaborative phases have been characterized by consultations and exchanges channelled via the initial Biowaste Club meetings. These multi-stakeholder gatherings resulted in the final identification of the most promising pilot activities for two SCALIBUR pilot cities/ regions, namely Kozani and Albano Laziale. At the time of the

publication of this report (October 2020), WP2 and WP3 project teams including local partners have started the step-by-step process to translate those identified promising practices into concrete activities for the pilots Kozani and Albano. While, in Madrid due to the initial delays occurred - due mainly to the larger size of the city and to various elections and later on due to the COVID-19 health emergency - discussions are on-going with Madrid local partners in order to also identify the most suitable and cost-effective innovative pilot activities to be implemented in the city.

Figure 2 graphically summarizes so far identified pilot activities per pilot city:



1.2 The social innovation & behaviour change components of the stakeholder engagement approach

The SCALIBUR stakeholder engagement approach also recognises that any kind of this process and/or strategy need to be based on the understanding of the psychology of decision-making. Engagement and participatory strategies can further support stakeholders (being them experts or common citizens) to make sense of complex structures and behaviours. The knowledge and understanding of the cognitive processes of identified key actors in SCALIBUR is thus essential to drive forward social innovation at the local level by encouraging behaviours and choices resulting in positive environmental and social impacts.

Nowadays, there is an increased recognition of the need for social innovation in many sectors including business models, design, marketing, services, and public sector involvement. Although the term social innovation pops up in many areas and policy domains the conditions under which social innovation develops and leads to societal changes are yet not fully understood. In fact, the mere definition of the term “social innovation” varies across disciplines and contexts.

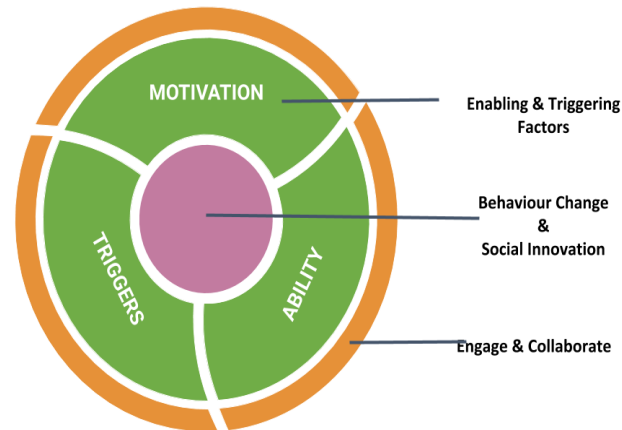
Given this background, in the SCALIBUR project we adopt a pragmatic definition of social innovation and connect it to behaviour change (Howaldt, 2018). In SCALIBUR we define *social innovation as a process aims at activating, fostering, and utilising the innovation potential of the whole society by empowering key actors via increasing their knowledge and capacities to meet social needs.*

This definition offers the advantages of defining social innovation as a process which is not defined by the outcome (i.e., requiring that only actions that ended with a social benefit be defined as social innovation). It starts when an actor devises increased knowledge and capacities resulting in a different behaviour that reconfigures social practices answering a given social need (the actor can be a citizen, an entrepreneur, a service provider etc.). By the reconfiguration, it is meant that an action/strategy must in some way change how people interact with one another with respect to a given issue identified as a problem that affects an identified community. This also enables to discover how social phenomena, conditions and constructs come into being and are transformed.

Hence, social innovation represents a process driven by two components: the key actors and the existing structures in which they operate. Individuals can influence social innovation through their behaviours, but are also constrained in doing so by existing structures provided by e.g. social norms, roles, policy domains and economic factors (e.g. prices). Thus, in order to design and implement successful bio-waste related interventions, it is necessary to better understand how and why people behave as they do as well as identify those key factors (economic, social and regulatory) that might hinder or promote the implementation of defined interventions.

In SCALIBUR we adopt the behaviour change model components (developed by BJ FOGG)¹ which builds upon the assumption that individuals or groups are always driven by three key factors graphically summarized by **Figure 3**:

¹ Source: <https://behaviormodel.org/>



- **MOTIVATION:** is represented by a set of different motivational factors: *pleasure/pain, hope/fear, social acceptance/rejection*;
- **ABILITY:** These factors refer to the self-efficacy perception at performing a target behaviour, namely time, money, non-routine; physical efforts;
- **TRIGGERS:** are reminders that may be explicit or implicit about the performance of a behaviour. Examples of triggers can be alarms, text messages or advertisement, triggers are usually perceptual in nature but may also be intrinsic. One of the most important aspects of a trigger is timing as only certain times are best for triggering certain behaviours.

Given the three key factors shaping and influencing behaviour affected and by local factors, there are consequently different strategies and tools that can be used to trigger successful changes. These strategies in SCALIBUR can range from changing existing regulations, improving certain solutions to providing feedback, suggestions and knowledge to the development and adaptation and up-take of new biowaste solutions. The focus and extent of the adopted strategy influence the aims and the long-term effects of behaviour change and thus of social innovation. For example, many innovations carry out improvement functions without fundamentally changing the prevailing practices and associated institutional structures. Others adopt a wider perspective addressing social challenges and thus stimulate establishment of new forms of e.g. cooperation between different actors and sectors while simultaneously altering existing behaviours and social constructs.

2 SCALIBUR STAKEHOLDER ENGAGEMENT EVALUATION

2.1 Rationale & Objectives

It has been defined how multi-stakeholder engagement and related co-creation activities are a key issue for the achievement of the SCALIBUR project's objectives. Accordingly, it is also central to assess and validate the impacts of the stakeholder engagement activities in terms of: 1) positive or negative changes in the perception of actors on urban biowaste as a local resource as well as their participation in separate collection actions; positive or negative changes in the overall acceptance of urban biowaste-derived products, including food and feed ingredients. Impacts will be measured through the analyses of the engaged stakeholders per identified group and the following analytical steps and activities will be conducted:

- Development and conduction of ex-ante and ex-post surveys focusing on collection & separation behaviour combined with qualitative interviews in each pilot city;
- Implementation of direct feedback mechanism e.g. a short interactive poll after Biowaste Club meetings as well as after each online activity e.g. webinars, e-trainings etc.;
- Comparative analysis of the participation and engagement across time evaluating how many people participate in the e.g. Biowaste Club meetings and related activities; how many of those participants engage in further actions afterwards etc.
- Comparative gender analysis – across the three pilot cities - of the engaged key actors including citizens to analyse to which extent gender play a role with respect to biowaste related activities

The assessment of these issues will not only support the tailoring of future Biowaste Clubs meetings and activities in the three pilot cities, but it will allow for the introduction of corrective measures and maximization of impacts also in terms of market exploitation of project results. Furthermore, maximization of project impacts will also be further promoted through the interlinkages in the development and conducting of impact assessment and evaluation across WP2 and WP8. The latter work-package specifically focuses on a techno-economic analysis together with LCA/SCLA and regulatory issues, further detail can be found in D8.2.

Finally, with respect to those analytical tasks it is important to highlight that those initial assessments and evaluations undertaken in both WP2 and WP8 will not result in a single product, rather they will constitute the basis to refine stakeholder engagement strategies across all three pilot cities and will – if necessary - be continuously refined.

Key Qualitative Analytical Tools

As briefly outlined in the previous section, SCALIBUR's impact assessments and evaluations (WP2 & WP8) focus on the tailoring of local activities to generate positive environmental and social impacts on local communities with respect to activities along the whole biowaste value chain. In WP2, the conduction of the impact assessment and evaluation will be done through a series of qualitative analytical approaches: trend analysis; surveys; and qualitative content analysis, each described in detail below.

The outcomes derived from these exercises will be used to further refine, shape and implement the local engagement activities thanks to the comparison of stakeholders' knowledge, awareness level, perceptions and behaviours before and after the implementation of different SCALIBUR activities.

Survey sampling methods & Trend Analysis

The first step of the applied qualitative analytical approach is the development of tailored surveys per pilot city, one for each of the SCALIBUR identified target groups tailored to each pilot city (Annex 1 & 2). These surveys will be complemented by the conduction of in-depth interviews with selected actors. The combined application of these two tools will enable the development of a benchmark and the consequent application of longitudinal data analysis, often also called "trend analysis". This type of analysis represents a tracking of how findings for specific questions change over time. Once a benchmark is established, one can determine whether and how perceptions and numbers shift.

The first step when conducting a survey is to determine the number of participants, so that the results are statistically relevant and each group is fairly and sufficiently represented. For the WP2 surveys and interview questionnaires, our sampling method is in accordance with the method used for the social life-cycle assessment conducted under WP8 and described in D8.2.

Given the large population of the SCALIBUR three pilot cities, it is impossible to engage all citizens all at the same time. Thus, it is necessary to operate with a sample size of the population which represents statistically the number of individuals within a given population that share certain characteristics from a set of possible ones. Accordingly, the sampling size for each target group for each pilot city has been calculated using the following formula:

$$n = z^2 * p * (1 - p) / e^2$$

- **n** = sample size
- **z** = level of confidence according to the standard normal distribution (for a level of confidence of 95%, $z = 1.96$)

- **p** = estimated proportion of the population that presents the characteristic expressed in decimal. Here $p = 0.5$ was applied
- **e** = tolerated margin of error: here an error of 5% was considered

Naturally, the reliability of the data is never absolute, but is connected to the level of confidence and to the sample size: the higher level of confidence is together with a low error rate the more accurate is the reflection of the proportion within the population as a whole.

Table 2 displays the sample size for each of the identified target groups, starting from Target Group 1 individual citizens/households per pilot city, whereas for the local value chain actor group calculations have been based on the number of Biowaste Club attendees up to October 2020. With respect to Target Group 3, one can notice that at this stage no specific sample size estimation has been included. This is because the objective of this first assessment and evaluation focused deliverable in WP2 is to determine the engagement level of local stakeholders while the engagement as well as assessment of Target Group 3 National & European actors will be kicked-off during the third year of the SCALIBUR project.

| | Individual Citizens | Local Value Chain Actors |
|----------------|---------------------|--------------------------|
| Kozani | 381 | 23 |
| Albano Laziale | 378 | 40 |
| Madrid | 383 | 35 |
| TOTAL | 1142 | 98 |

Finally, it is important to note here that even though the above-described formula has been applied to identify the sample size for Target Group 1 in each pilot city, the reported numbers will be used rather as a guiding than binding objective. Our aim is not to statistically assess the outcomes and outreach of the ex-ante and ex-post surveys, but rather to gather a deeper understanding of individual citizens' understanding and knowledge, needs and challenges

before and after the implementation of SCALIBUR pilot activities. Therefore, while achieving the numbers indicated in Table 2 will help us draw safe conclusions about the awareness and perceptions of the participants, lower numbers will also be acceptable to conduct the qualitative evaluation of the stakeholder engagement processes and activities as envisioned in WP2. Furthermore, the COVID-19 emergency has forced a shift of all data gathering via online tools (to comply with the current health preventive measures and regulations) which to a certain extent diminish the control of the project team on the actual gathering of data. This consequently could result in overall lower numbers for both Target Group 1 and 2. Nevertheless, the project team will mitigate this risk by:

- closely collaborating with the local partners in Kozani and Albano Laziale to identify the most effective communication and dissemination channels (as illustrated in Section 3);
- implementing a snowball sampling approach in which local partners reach out to specific actors who in turn will further disseminate the surveys to other members within their networks;
- translate each survey in the local language to ensure as high as possible response rate by eliminating the language barrier;
- ensuring that there is a fair representation of age, gender, socio-economic and educational background within the two analysed target groups.

Qualitative Content Analysis, Coding System & Comparative Analysis

Given that SCALIBUR multi-stakeholder engagement is a complex process implying a variety of actors, each having his/her own needs, challenges, expectations, background knowledge and thus variable determining single decisions and behaviours. In order to account for this complexity and to best analyse the data gathered through the trend analysis and surveys conduction, two methods will be employed: 1) qualitative content analysis and 2) and a simple coding system for the surveys' responses. Given their intrinsic characteristics - described in more detail in the following sections - these methods enable the analyses of stakeholders' motivations and barriers and thus to evaluate the whole engagement process within SCALIBUR and its respective impacts. Qualitative content analysis is a research method which examines textual data to single out patterns and structures to then derive categories and aggregate them into perceptible constructs (McTavish & Pirro, 1990; Tesch, 1990). Text data might be in verbal, print, or electronic form and might have been obtained from narrative responses, open-ended survey questions, interviews, focus groups, observations, or print media such as articles, books, or manuals (Kondracki & Wellman, 2002). Qualitative content analysis goes beyond merely counting words to examining language intensely for the purpose of classifying large amounts of text into an efficient number of categories that represent similar meanings (Weber, 1990). In

other words, the content analysis provides knowledge and understanding of the phenomenon under study (Downe-Wamboldt, 1992).

Specifically, for SCALIBUR a conventional also defined as inductive content analysis will be applied: is generally used with a study design whose aim is to describe a phenomenon, in this case the level of knowledge, understanding and information of engaged actors in terms of bio-waste management as well as bio-waste added value products at the local level. This type of design is usually appropriate when existing theory or research literature on a phenomenon is limited. Applied to our specific analysis it will enable the identification of options that are most or least desirable and to discern key stakeholders' interests and needs, thus supporting the refinement of existing processes and development of new activities and events that will more effectively mobilise them.

Since data will be primarily collected through multiple-choices questions, open-ended questions and interviews data analysis will be based on a coding system. Coding is the process of labelling and organizing qualitative data to identify different themes and the relationships between them. When coding one assigns labels to words or phrases that represent important (and recurring) themes in each response. These labels can be words, phrases, or numbers that are reflective of more than one key thought (Tesch, 1990; Miles & Huberman, 1994). These emergent categories are used to organize and group codes into meaningful clusters (Patton, 2002).

Coding and creating clusters enable the findings of common themes and concepts and thus to later on conduct a thematic comparative analysis. The comparative analysis as a method allows for an "item-by-item" comparison across the data. Given the diversity of the pilots' local context, a comparative analysis can provide an explanation as to why similar processes yield different results, but also help pinpoint the elements responsible for these differences; it provides insights into the underlying causal patterns and complexities.

3 SCALIBUR TARGET GROUPS

This section presents in detail the criteria applied for the impact's assessment and evaluation of the SCALIBUR stakeholder engagement activities for each of three identified target groups. Specifically, all engagement activities are confronted against specific Key Performance Indicators (KPI) (as defined by the SCALIBUR Innovation Committee and then presented and finalized together with all project partners during the General Assembly in Pamplona which took place in November 2019) and in turn each KPI is assessed against defined measures of success through the application of specific analytical approaches/tools and implemented via defined communication channels. The analysis through the KPIs allows for strategic and operational improvement highlighting which activities should be prioritized to enhance the impact of the stakeholder engagement process.²

It is important to stress once more that the following overview for each target group does not constitute a final analysis but rather the first step for the assessment and evaluation of the SCALIBUR stakeholder engagement approach and related tools. Furthermore, the presented overviews already account for the current and possible adjustments to the SCALIBUR stakeholder engagement activities which have been and will be implemented in order to tackle the challenges presented by the COVID-19 worldwide health emergency.

3.1 Target Group 1: Citizens and Households

Citizen contribution is a key factor when it comes to managing biowaste, not only in separating and recycling biowaste, but also in decision-making processes. Thus, one of the main objectives of citizen engagement in SCALIBUR is to empower the citizens to take ownership of their own tasks in waste management, and to include them in the decision-making process in waste management. Accordingly, the SCALIBUR strategy for involving citizens orientates towards their active engagement in the project's activities and processes to better understand their needs, expectations and challenges. To do this, the SCALIBUR team has designed tailored activities in order to achieve the following goals:

- increase citizens' awareness of relevant issues of waste collection and sorting, thus improving their perception of biowaste as an important local resource.
- incentivize citizens' participation in separation and laying the basis for changes in citizens' collection and sorting behaviour

² <https://kpi.org/KPI-Basics>

- improve consumer acceptance of urban biowaste-derived products, including food and feed ingredients.

Accordingly, the survey targeting citizens has been structured in order to gather a deeper understanding of the current level of knowledge, existing perceptions and challenges with respect to bio-waste management and collection as well as to examine the effect that different factors have on creating and shaping behaviours. Furthermore, the survey's different sections have been developed in such a way as to ensure data comparability across pilot cities (see Annex 1 % 2 for the various survey templates).

Status quo and way forward

So far SCALIBUR 's activities directly targeting citizens have not started yet as they are planned for project years 3 and 4. Nonetheless, the analyses conducted in each pilot city as well as the so far implemented Biowaste Clubs meeting have contributed to the understanding of the status quo and context-based determinants including local actors' operational settings. The knowledge and learnings derived from these activities will function as the basis for a meaningful citizen engagement, having identified possible challenges and ways to overcome them.

Table 3 provides an overview of citizens' planned activities in each pilot city including analytical tools to measure impacts against the pre-defined set of KPIs.

| SCALIBUR Action | KPI | Overall measurement of success | Approach | Analytical Tools | Channel(s) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Live multi-stakeholder events in each pilot city: BCMs and other public events, e.g. "citizens' workshops", exhibitions, info stands, experiences | Number of events organized in each pilot (2018 -2020) | At least 1 "citizens' workshop" per pilot city per year from 2021 onwards. At least one "see, touch, taste exhibition" per pilot city during project lifetime | SCALIBUR stakeholder engagement approach: <i>Consult Phase</i> Quantitative Analysis | Local stakeholder engagement plans Comparative Analysis | Biowaste Club meetings |
| | Number of participants per event per pilot city (2018 -2020) | To be defined with each pilot city before each event, e.g. between 50 and 100 for public exhibition etc. | | | |
| | Number of participants per event representing different socio-economic backgrounds (2018 - 2020) | Diversity of participants (i.e. from different parts of city/ different socio-economic backgrounds/ different household compositions/ different age, gender, cultural groups) | SCALIBUR stakeholder engagement approach: <i>Consult Phase</i> Qualitative Analysis | Stakeholder mapping Comparative Analysis | Biowaste Club Meetings |
| | Number of participants reached out via direct feedback mechanisms | Results of direct feedback mechanisms gathered during events | SCALIBUR stakeholder engagement approach: <i>Consult Phase</i> Qualitative analyses | Surveys Comparative analysis | Biowaste Club Meetings Face-to-face & online surveys Face-to-face and online interviews |
| | Number of people who engage in specific activities at the local level | Number of local citizens who engage via e.g. online platform; set up local networks or initiatives; signed up on existing apps | Qualitative analyses | | |

| | | | | | |
|---------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| SCALIBUR online multi-stakeholder engagement activities | Number of online activities | At least one online activity per pilot during the project lifetime | SCALIBUR stakeholder engagement approach: <i>Consult Phase</i> Qualitative analyses | Local stakeholder engagement plans Comparative Analysis | Online workshops E-courses Webinars Podcasts |
| | Number of engaged participants via the respective online activity | To be defined with each pilot city before each event | | | |
| | Number of participants reached out via direct feedback mechanisms | Results of direct feedback mechanisms gathered in the aftermath of the online event | SCALIBUR stakeholder engagement approach: <i>Consult Phase</i> Qualitative analyses | Surveys Comparative analysis | Face-to-face & online surveys: e.g. survey monkey; short polls during the events Face-to-face and online interviews: skype/ZOOM calls |
| Citizens surveys + in-depth interviews | Number of reached participants via the online surveys & interviews | Between 30 and 400 of citizens engaged (as explained in Section 2.2) | Qualitative analyses | Surveys In-depth interview template Comparative analysis | Face-to-face & online surveys: e.g. survey monkey; short polls during the events Face-to-face and online interviews: skype/ZOOM calls |
| | Positive or negative difference in the number of engaged and active participants | Increased or decreased numbers of engaged | | | Comparative analysis |

3.2 Target Group 2: Value chain actors

In SCALIBUR, the second identified target group refers to actors that are directly involved and/or operate in the bio-waste value chain. The conducted stakeholder mappings show that this expert group includes local and regional authorities, waste managers and waste collection companies, representatives of the HoReCa sector, waste/ wastewater management utilities, energy providers, representatives of the bio-based industry, researchers and local SMEs. Understanding the operational settings, relationships, interests and motivations of these central actors in each pilot (as analysed in D2.1) has allowed for a better planning of engagement activities for them. An initial fruitful interaction has already been established through the Biowaste Clubs meetings. The goal for this target group's engagement approach consists in their active involvement: to identify innovations for the recycling and valorisations of biowaste that best fit the local context; to facilitate piloting the implementation of the new products and services; to expand the local network at city level as well as to contribute to replicate and uptake successful activities beyond the city.

Status quo and way forward

The engagement process for this target group, as already outlined, happens primarily through the Biowaste Clubs. Biowaste Clubs have been set up and conducted in all three pilots. In Albano Laziale a total of 4 Biowaste Clubs has been organized in the period May-November 2019, in Kozani 2 meetings were held in 2019, and in November 2019 the first Biowaste Club in Madrid took place.

Originally, it was foreseen that Biowaste Club Meetings would take place at least twice a year per pilot. However, due to the COVID-19 emergency the three pilots were in lockdown for several months and operating in emergency mode, making it impossible to conduct any physical as well as online meetings between March and October 2020. The cities of Albano, Kozani and Madrid were - and still are - facing severe socio-economic challenges and, thus, both the local SCALIBUR partners as well as the key local stakeholders had limited resources for the SCALIBUR pilot activities. Consequently, since the summer, the SCALIBUR team is exploring new possible online formats for the running of Biowaste Clubs meetings to avoid major divergences from the project's original timeline, until it becomes possible again to organize meetings with a higher number of participants. As an additional measure to mitigate the deviation between the planned and actual number of meetings the SCALIBUR team is investigating with the local partners the possibility to plan to organize a higher number of Biowaste Clubs meetings between 2021 and 2022, always in view of the evolving of the COVID-19 health emergency in each country.

Table 4 provides a summary of the planned activities for the second target group in each SCALIBUR pilot city including analytical tools to measure impacts against the pre-defined set of KPIs.

| Action | KPI | Overall measurement of success | Approach | Analytical Tools | Channel(s) |
|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------|
| Live multi-stakeholder events in each pilot city: regular BCMs in each pilot, replication workshops, trainings | Number of events organized in each pilot (2018-2020) | At least 2 BCMs per pilot per year (less in 2020 due to Covid-19; instead more in the other years) | SCALIBUR stakeholder engagement approach: <i>Consult Phase</i> Qualitative Analysis | Local stakeholder engagement plans Comparative Analysis | Biowaste Club meetings |
| | Number of participants from each stage of the value chain | To be defined with each pilot city before each event, e.g. between 5 and 15 according to BCM outreach (i.e. core meetings or bigger events) balanced representation of key organizations and all value chain stages | | Local stakeholder engagement plans Stakeholder mapping Comparative Analysis | |
| | Local circular projects implemented as a result of BCM discussions | At least 1 per pilot is successfully running upon the completion of SCALIBUR | SCALIBUR stakeholder engagement approach: <i>Collaborate Phase</i> Qualitative analyses | Surveys Comparative analysis | Biowaste Club meetings Online workshops |
| | Local projects implemented using waste as a resource | At least one project (in one of the three pilots) during project lifetime | SCALIBUR stakeholder engagement approach: <i>Collaborate Phase</i> | Surveys Comparative analysis | Polls during the events |

| | | | | | |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Regular reviews & analyses of stakeholder mappings | Positive or negative difference in the number of engaged and active actors | Increased or decreased numbers of engaged actors and activities planned by them according to their role and stage in the value chain | SCALIBUR stakeholder engagement approach: <i>Consult Phase</i> Qualitative analyses | Comparative analyses | Biowaste Club meetings Webinars |
| | Qualitative assessment of the most relevant actors involved, i.e. high interest In + high impact on the project | Visualization of actors, interests, impact, value chain stage Comparison between M24+48 | Qualitative analysis | Stakeholder mapping Comparative analyses | Biowaste Club meetings Face-to-face and online interviews |
| | Number of actors representing different stages of the value chain, in particular those identified as most critical or face the most challenges in each pilot (i.e. those where the pilot action(s) (T3.5) are focusing | Balanced representation of all the value chain stages. Comparison between key issues of baseline analysis (D2.1) and actors involved | SCALIBUR stakeholder engagement approach: <i>Identification Phase</i> Qualitative analysis | Local stakeholder engagement plans Stakeholder mapping Comparative analysis | Biowaste Club meetings |
| Visioning process with BC members | Special BCM focusing on: - what does the pilot city want to have achieved by end of the project/ - what do the BCM members consider as "successful interaction" (e.g. how many shared initiatives do they want to | 1 per pilot, latest in 2021 Short outcome report | Qualitative analysis | Local stakeholder engagement plans Comparative Analysis | Biowaste Club meeting |

| | | | | | |
|----------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| | bring on the way, what do they hope to achieve through the interaction with the other members) | | | | |
| Interviews with BC members | Do they feel well represented/ engaged enough/ do they need different formats or topics etc. | At least 5 interviews per pilot city in M24 Review with the same actors and at least 5 additional for M48 | Qualitative analyses | Surveys In-depth interview template Comparative analysis | Face-to-face & online surveys: e.g. survey monkey Face-to-face and online interviews: skype/ZOOM calls |

3.3 Target Group 3: National and European actors

SCALIBUR engagement activities also aim to identify further national and European actors as a more extensive network increases the project's positive impact and help to set in motion new shared initiatives between regions that aim to improve their bio-waste management. Accordingly, the SCALIBUR team with the support of local partners will reach out several national and European stakeholders and engaged them into the various project's activities to facilitate replicability in other Spanish, Italian and Greek cities as well as at a broader European level by increasing the visibility of locally implemented successful practices.

Status quo and way forward

SCALIBUR engagement processes targeting national and European actors have been planned for project years 3 and 4. Accordingly, the current interim D2.4 in month 24 focuses solely on the local stakeholder engagement in the 3 pilots, while the final D2.4 in month 48 will also include the analysis of the engaged national and European stakeholders. **Table 5** delineates an initial strategy for the activities the project team is planning for the second half of the project (M24-48) in order to engage those actors operating on national and European level.

Additional activities and indicators may be added in the coming months of the SCALIBUR project, depending on the envisioned cooperation across the respective work packages. The subsequent analysis of the outcomes from these target groups engagement process will be aligned with the outcomes of the online engagement activities undertaken via the WP7-platform and through the wider communication and engagement activities of WPs 9 & 1.

| Action | KPI | Overall measurement of success | Approach | Analytical Tools | Channel(s) |
|----------------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------|
| "Early Adopter Cities" programme | | | | | |
| Invite (potential) early adopter cities to special BCMs | Number of special BCMs | At least 1 per pilot | SCALIBUR stakeholder engagement approach: <i>Consult Phase</i> Qualitative Analysis | Local stakeholder engagement plans | Biowaste Club meetings |
| | | | | Comparative Analysis | |
| | Number of other cities/ regions participating | At least 5 per pilot | | Comparative Analysis | Face-to-face and online surveys |
| | Number and type of shared follow-up activities identified | To be defined with the early adopter cities | SCALIBUR stakeholder engagement approach: <i>Collaborate Phase</i> Qualitative Analysis | Local stakeholder engagement plans | Biowaste Club meetings |
| | | Comparative Analysis | | Face-to-face and online surveys | |
| Degree of interest of other cities/ regions to implement SCALIBUR best practices | | | | Stakeholder mapping | Face-to-face and online interviews_ skype/ ZOOM calls |
| | | | | Surveys | |
| | | | | In-depth interviews | |
| | | | | Comparative analysis | |

| | | | | | |
|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------|
| Commitment to join | Number of early adopter cities declare their commitment to join programme according to individual targets (e.g. implementation of most suitable best practice or social innovation) | At least 10 cities commit to programme, incl. at least 3 per pilot country | SCALIBUR stakeholder engagement approach: <i>Collaborate Phase</i> Qualitative Analysis | Comparative analysis | SCALIBUR platform |
| Intake questionnaire to assess the status quo and current needs & challenges of the early adopter cities | Number of participating cities/ regions | At least 10 during SCALIBUR project, incl. at least 3 per pilot country | Qualitative Analysis | Surveys In-depth interview template Comparative analysis | SCALIBUR platform Webinar Replication workshops |
| | Degree to which SCALIBUR efficiently addressed the needs and challenges of the early adopter cities (e.g. through fitting best practices or through a targeted webinar or replication workshop etc.) | For at least 10 during SCALIBUR project, incl. at least 3 per pilot country | | | |
| Replication workshops, webinars and trainings to up-scale best practices in the early adopter cities (together with WP9) | Number of local circular projects implemented as a result of BCM discussions | At least 5 replication workshops during project, incl. at least 1 per pilot country At least 1 local circular project per pilot is successfully running till end of SCALIBUR | SCALIBUR stakeholder engagement approach: <i>Collaborate Phase</i> Qualitative analysis | Local stakeholder engagement plans Comparative analysis | Biowaste Club meetings Online workshops Webinars |
| Further national and European stakeholder engagement | | | | | |

| | | | | | |
|-------------------------|-----------------------------------------------------|--------------------------------|----------------------|----------------------|------|
| National Action Manuals | Number of downloads | Between 50 and 100 per country | Qualitative Analysis | Comparative Analysis | N.A. |
| | Number of requests for exchange/ further support | Between 5 and 10 per country | | | N.A. |

4 NEXT STEPS & TIMELINE

Currently, specific timelines for the upcoming stakeholder engagement activities are under development in close collaboration with the local partners for two of the SCALIBUR pilot cities, namely Kozani and Albano Laziale. For Madrid, the team is still evaluating the best tools to adopt not only given the local challenges caused by the current COVID-19 health emergency, but also in view of the various evaluation activities already undertaken at the city level over the past years, assessing the successes of previous (non-SCALIBUR) awareness raising activities in Madrid, as presented during the first Biowaste Club meeting held in the city in November 2019.

4.1 Ex-ante surveys & in-depth interviews

As mentioned in the previous section, due to the COVID-19 situation, the ex-ante surveys and in-depth interviews will be conducted online to ensure the well-being of the participants and to comply with the current health preventive measures and regulations in each SCALIBUR pilot city. Together with the local partners in Kozani and Albano Laziale, the project team is currently working on the identification of the most effective communication and dissemination channels (snowball sampling) as well as on the development of tailored local communication campaigns. Several criteria have been considered for example, previous existence of outreach and communication tools as well as usage response of the target groups under analysis, namely citizens and value chain actors. These channels include, among others:

- Waste management company's websites;
- Local authorities' social media, such as Facebook, LinkedIn and Instagram
- Local journals
- Existing local apps focusing on biowaste management and collections
- Flyers
- Announcement in the local radio

The current timeline of these outreach activities is as follows:

- **November 2020 – mid January 2021:** identification of key local outreach channels and preparation of tailored communication campaigns;
- **Mid-January – Mid-February 2021:** conduction of the online surveys
- **Mid-February – Beginning of March 2021:** conduction of in-depth interviews with selected stakeholders in the two pilot cities

While the project partners will do everything possible to ensure the successful implementation of this timeline, the current global Covid-19 crisis may, however, once again affect the timelines if, for instance, one of the pilot cities/ regions experience another severe lockdown that forces local partners and the stakeholders to be addressed with the surveys to focus on issues related to crisis-response.

4.2 Biowaste Clubs Activities & Meetings

Parallel to the preparation of the ex-ante evaluation surveys, the identification of the distribution channels for each pilot city and the conduction of the in-depth interviews, the SCALIBUR team will be also discussing the next steps for the organization of the next the Biowaste Club meetings. The following is an overview indicating next steps and respective timeline for each pilot city:

Madrid: is running in emergency mode and is still in partial lockdown. In view of these pressing issues and respecting the needs of local authorities and citizens, we decided not to plan any Biowaste Club meeting until the end of 2020. All activities are now scheduled for 2021 and the focus points of the next Biowaste Club are under discussion including their formats given the likelihood of having to run events online also for the first half of 2021.

Albano Laziale: is already quite advanced with respect to the local Biowaste Clubs meeting as four events already took place in the city. Accordingly, and in view of the recent municipal elections, the SCALIBUR team agreed with the local partners that physical Biowaste Club meeting will be held in 2021 and will focus on the following topics:

- improving the collection strategy for HoReCa waste
- building resilient value chains
- assessing citizen awareness

Kozani: The local partners in Kozani together with the waste management company, DIADYMA S.A. are planning to launch the pilot activity for separate collection of bio-waste from open markets (the specific survey developed for this pilot activity is included here in Annex 2. As this activity requires coordination between SCALIBUR partners and other key stakeholders on the local level, it was suggested to host a Biowaste Club meeting with the participation of the deputy mayor, representatives of the Association of Producers, and DIADYMA. Both the Biowaste Club meeting and the kick-off of the pilot activity were planned for CW42 of 2020, however, due to a high number of COVID-19 cases in Kozani and a subsequent local lockdown, the activities have been postponed.

Finally, in view of potential changes to the above-mentioned schedule and in case no physical meetings will be allowed also in the first half of 2021, the SCALIBUR team is also already investigating in close collaboration with the municipalities and WP9 different online formats to deliver Biowaste Club meetings while still maintaining an inclusive and participatory approach. So far, the following suggestions have emerged which will be further scrutinised also in view of the evolving COVID-19 health emergency in each city: e.g. live streaming; webinars, virtual conferences, e-courses; podcasts etc.

Figure 4 shows the implementation plan for the time following this publication and the first months of 2021. It is important to highlight that the following is only a preliminary plan and is subject to changes according to the evolving COVID-19 emergency in each SCALIBUR pilot city as mentioned-above. The project team will anyhow work to ensure the planning and implementation of corrective measures to best tackle upcoming possible challenges.

| | ALBANO | KOZANI | MADRID |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| OCT-DEC 2020 | <ul style="list-style-type: none"> Setting up of the dissemination networks for the surveys (e.g. short communication campaign, reaching out to BCM members, etc.) | <ul style="list-style-type: none"> Setting up of the dissemination networks for the surveys (e.g. short communication campaign, reaching out to BCM members, etc.) Launch separate bio-waste collection from open markets BCM with key stakeholders from the open markets | <ul style="list-style-type: none"> T.B.D |
| JAN-MAR 2021 | <ul style="list-style-type: none"> Launch surveys for Target Groups 1 &2 Analysis and evaluation of survey results Organize at least 1 BCM (or online event) | <ul style="list-style-type: none"> Launch surveys for Target Groups 1 &2 Analysis and evaluation of survey results Organize at least 1 BCM (or online event) | <ul style="list-style-type: none"> Launch engagement process with MERCADONA supermarket Organize at least 1 BCM (or online event) |

CONCLUDING REMARKS

Multi-stakeholder engagement is at the core of WP2 and among the key objectives of the SCALIBUR project. As demonstrated in this deliverable, as well as in D2.1, different local, national and European stakeholders are crucial to enable the successful implementation of innovative bio-waste management solutions as well as for the adoption of bio-waste added-value products including the further diffusion and replication of these practices at the European level.

Accordingly, this deliverable aimed at highlighting the various components of the stakeholder engagement approach in SCALIBUR, with a special focus on social innovation and behaviour change, which will act catalytically when it comes to the adoption and further exploitation of the project's process and products. Furthermore, a thorough description of the overall methodology that will be employed to assess the impact of the planned SCALIBUR engagement activities for the three different target groups was provided, along with the tools that will facilitate the assessment, evaluation and monitoring, the latter via a set of key performance indicators.

The results that will be derived from the assessment of all data gathered in the SCALIBUR pilot cities and regions, will enable to refine existing and/or to develop new stakeholder engagement activities, track progresses, successes and challenges and as a whole evaluate the impacts on local level of the SCALIBUR project in terms of increasing awareness and acceptance, behaviour change, information sharing, networking and engagement activities.

REFERENCES

Downe-Wamboldt, B. (1992). Content analysis: Method, applications, and issues. *Health Care for Women International*, 13, 313-321.

Grace, G. G. (2007). *Participation Handbook*.

Holt, C. L., & Chambers, D. A. (2017). Opportunities and challenges in conducting community-engaged dissemination/implementation research. *Translational Behavioral Medicine*, 7(3), 389–392. <https://doi.org/10.1007/s13142-017-0520-2>

Howaldt, Jürgen 2018: *Atlas of Social Innovation. New Practices for a Better Future*.

Kondracki, N. L., & Wellman, N. S. (2002). Content analysis: Review of methods and their applications in nutrition education. *Journal of Nutrition Education and Behavior*, 34, 224-230.

McTavish, D.-G., & Pirro, E.-B. (1990). Contextual content analysis. *Quality and Quantity*, 24, 245-265.

Metrics and Indicators of Responsible Research and Innovation Progress report D3.2 Monitoring the Evolution and Benefits of Responsible Research and Innovation (MoRRI) <https://www.rri-tools.eu/documents/10184/47609/MORRI-D3.2/>

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Thousand Oaks, CA: Sage.

Ostling, A. &. (2016). *From Informing to Empowering: Improving Government-Civil Society Interactions within Open Government Partnership (OGP)*.

Patton, M. Q. (2002). *Qualitative research and evaluation methods*. Thousand Oaks, CA: Sage.

Tesch, R. (1990). *Qualitative research: Analysis types and software tools*. Bristol, PA: Falmer.

Weber, R. P. (1990). *Basic content analysis*. Beverly Hills, CA: Sage.

ANNEX 1: SURVEYS FOR TARGET GROUP 1

Survey Template city of Albano

The city of Albano together with xyz waste company and XXX has partnered in an international, 4-years EU-funded project called SCALIBUR (SCALable TechnologIes for Bio-Urban Waste Recovery). The goal of the project is to improve bio-waste collection, sorting and transport systems and thus enhancing the quality of the to-be-recycled materials and contributing to lower waste management costs in your city. You as a citizen can give your contribution by filling out the following survey.

Agreement & Key Information

Participating in this survey is voluntary. You can stop the survey at any point in time. In case of a termination, you don't have to state any reason whatsoever for doing so. By participating in this survey, you consent to the use of the gathered answers only for the research activities of the SCALIBUR project. We would like to highlight that all answers will be completely anonymous and in no way will be published or can be linked to you personally. In case you choose to participate you agree on the following points:

- That you have read and understood the objective and scope of the survey
- That your consent is voluntary
- You are currently a citizen of Albano and live there primarily
- You are 18 years or older
- We can use your answers for the SCALIBUR activities

Survey Instructions

Please note: Filling out the survey should not take longer than 15 minutes!

IMPORTANT: Please fill out this survey only once!

Please read every question and answer thoroughly before advancing to the next page. In case you filled out something wrong, there is an option for you to move back to the previous page(s). When moving backwards, we would like to ask you to not change your answers based on new realizations or knowledge from the next questions. In addition, we want to highlight that there are right or wrong answers and assure you that there will always be an option to answer the question. This can be done through a "don't know" answer or similar options. In case you have

not answered any of the questions you get a reminder to answer every question before advancing to the next page.

Section 1: Personal Information

1. Please indicate your gender

Female

Male

Other

I don't want to answer

2. What is the highest level of education you have attained?

Less than primary education

Primary education

Lower secondary education

Upper secondary education

Post-secondary non-tertiary education

Short cycle tertiary education

Bachelor's or equivalent level

Master's or equivalent level

Doctoral degree

Other

3. What is your age range?

18 – 25

25 – 35

35 – 50

50 – 65

65 – 75

75 – 80

80 – 85

Older than 85

4. Including yourself, how many people live in your household at present?

1

2

3

4

5

6

7 and more

5. How long have you been living in Albano?

1 – 5 years

5 – 10 years

10 – 20 years

more than 20 years

Section 2: Bio-waste knowledge & opinions

6. Which are the first 3 words/ associations that come to your mind when you think about biowaste?

| # | Answers |
|---|------------------------------------|
| 1 | |
| 2 | |
| 3 | |
| 4 | Don't know or any additional words |

7. Which positive impact do you think the recycling of biowaste has on the following sustainability topics? (Please provide your answer by crossing one of the options ranging from "No positive impact" to "High positive impact")

| # | Topic | No positive impact | Low positive impact | Medium positive impact | High positive impact | Don't know |
|-----|---------------------------------------------------------------------------------------------------------|--------------------|---------------------|------------------------|----------------------|------------|
| 1 | Environmental topics: | | | | | |
| 1.1 | Reducing pollution in natural habitats (e.g. rivers, lakes, lagoons, forests, grasslands, swamps, etc.) | | | | | |
| 1.2 | Reducing pollution in agriculture lands and rural areas | | | | | |

| | | | | | | |
|----------|---------------------------------------------------------------------|--|--|--|--|--|
| 1.3 | Reducing pollution in cities and urban/industrialised areas | | | | | |
| 1.4 | Reducing energy consumption and GHG emissions | | | | | |
| 1.5 | Reducing biodiversity loss | | | | | |
| | | | | | | |
| 2 | Socio-economic Topics | | | | | |
| 2.1 | Increasing jobs opportunities | | | | | |
| 2.2 | Increasing business models and start-ups | | | | | |
| 2.3 | Reducing energy consumption costs | | | | | |
| 2.4 | Reducing dependence on raw materials derived from natural resources | | | | | |

| | | | | | | |
|-----|--------------------------------------------------|--|--|--|--|--|
| 2.5 | Increasing health and well-being of citizens | | | | | |
| 2.6 | Increasing education and environmental awareness | | | | | |
| 2.7 | Reducing taxes | | | | | |
| | | | | | | |

Section 3: Separation behaviour and challenges

8. Please choose on the following scale how much attention you pay on separating your waste in your everyday life. (Only one answer possible)

| | | | | | | | | |
|-----------------------------------------------|---|---|---|---|---|---|-----------------------------------------------|------------|
| I don't pay any attention to separating waste | | | | | | | I separate everything as thorough as possible | Don't know |
| | 1 | 2 | 3 | 4 | 5 | 6 | | |
| | | | | | | | | |

9. What are key challenges for you when separating bio-waste? Please choose the 3 main challenges for you in the provided list.

| # | Challenge | Answer |
|----|-------------------------------------------------------------------------------------------------------|--------|
| 1 | I don't have the time to separate bio-waste better | |
| 2 | Separating bio-waste is too dirty for me to separate better | |
| 3 | I don't see any point in separating bio-waste thoroughly | |
| 4 | I lack the right bins to separate better | |
| 5 | It is unclear what counts as bio-waste and how to separate properly | |
| 6 | It is not required by clear rules | |
| 7 | I don't see any benefits, incentives or penalties for separation behaviour | |
| 8 | I don't have the space in my house to separate better | |
| 9 | Biowaste pickup frequency problems (not enough space, bad smell, fruit flies and other insects, etc.) | |
| 10 | Other, please specify: | |

| | | |
|----|-----------------------------|--|
| 11 | I don't face any challenges | |
| 12 | Don't know | |

10. Can you please indicate what already helps you, would help you or wouldn't help you to better separate biowaste? (Please fill out one answer in each row)

| # | (Potential) help | Already helps | Would help | Not helpful | Don't know |
|---|----------------------------------------------------------------------------------|---------------|------------|-------------|------------|
| 1 | Time to separate properly | | | | |
| 2 | Knowledge about the purpose of separating and recycling or how to do it properly | | | | |
| 3 | Change of personal habits | | | | |
| 4 | Better or more bins for separating | | | | |
| 5 | Knowledge about what biowaste is | | | | |
| 6 | Easier to separate product design | | | | |
| 7 | Clearer rules/regulations on separation | | | | |

| | | | | | |
|----|---------------------------------------------------------------|--|--|--|--|
| 8 | Benefits or incentives (including penalties for misbehaviour) | | | | |
| 9 | More space in my house | | | | |
| 10 | Higher pickup frequency | | | | |
| 11 | Other, please specify: | | | | |
| 12 | I don't need any help | | | | |

11. Do you think that companies in your environment care about reducing the negative environmental consequences of their activity?

Yes

No

I don't know

Section 4: Covid-19 Impacts & Outlook on biowaste recycling

12. How do you consider your biowaste separation behaviour since the beginning of the Covid-19 crisis? Please provide one answer.

| 1. | 2. | 3. | 4. |
|------------------------|-------------------|-----------------------|------------|
| I am separating better | It stays the same | I am separating worse | Don't know |
| | | | |

For answers 1 & 3 the survey will continue with 11.1. – For Answers 2 & 4 the survey will continue with Question 12.

12.1. Can you select the 3 reasons that have mostly influenced your biowaste separation habits/behaviours during the COVID-19 crisis?

| # | Reason | Answer |
|---|-----------------------------------------------|--------|
| 1 | Changed home cooking behaviour | |
| 2 | More time to separate biowaste | |
| 3 | More attention on separating due to the virus | |
| 4 | New instructions from the city | |

| | | |
|---|------------------------|--|
| 5 | Other, please specify: | |
| 6 | Don't know | |

13. When it comes to new information on biowaste in Albano including what citizens can and have to do, how would you like to be informed? (Multiple answers possible)

| # | Channel | Answer |
|---|----------------------------------------------------------------------------------------------------------------------------|--------|
| 1 | Municipality website or social media | |
| 2 | Waste management company website or social media | |
| 3 | News channels (radio, tv, newspapers etc.) | |
| 4 | Local events | |
| 5 | The channels already used by the municipality/waste management company of Albano are enough to obtain adequate information | |
| 6 | Other, please specify: | |
| 7 | Don't know | |

14. Which are the top 3 ways to enhance your knowledge and improve your behavior in terms of biowaste separation and recycling? (Multiple answers possible)

| # | Participation options | Choices |
|---|--------------------------------------------------------------------|---------|
| 1 | Keep informing myself on biowaste, bio-based products or recycling | |
| 2 | Pay more attention to my own behaviour | |
| 3 | Engage my friends and family to indicate behaviour change | |
| 4 | Buy bio-based products whenever possible | |
| 5 | Inform myself on activities in my city | |
| 6 | Inform myself on the SCALIBUR project | |
| 7 | Other, please specify: | |
| 8 | I'm not interested | |
| 9 | Don't know | |

Section 5: Bio-based Products, Health and Safety, and Product Transparency

15. Which of the following bio-based products would you use while knowing that they are made from bio-waste? You can only answer once in each row. In case you answer with "depends on" please give us a brief explanation of what it depends on for you.

| Product | Answer yes | Answer no | Depends on* | Don't know | *Explanation for what it depends on: |
|-------------------------------------------------------------|------------|-----------|-------------|------------|--------------------------------------|
| Hygiene items packaging (e.g. shampoo in bio-based bottles) | | | | | |
| Food packaging | | | | | |
| Food grown with bio-based fertilizers | | | | | |

16. Do you usually look at the safety product information? One answer possible

| # | Behaviour | Answer |
|---|--------------------------------------------------------------------------------------------------------------|--------|
| 1 | No, I never look at the safety product information. I do not think it will affect my opinion of buying it. | |
| 2 | No, I never look at the safety product information. Although I think it will affect my opinion of buying it. | |
| 3 | Sometimes I look at the safety information, but it does not affect my opinion if I finally buy the product | |

| | | |
|---|----------------------------------------------------------------------------------------------|--|
| 4 | I usually look at the safety information because It affects to my opinion to buy the product | |
| 5 | Don't know | |

17. Safety information of the products is often not well explained or sufficient: have you ever complained about product safety information? (Only one answer possible)

| # | Behaviour | Answer |
|---|------------------------------------------------------------------------------------------------------|--------|
| 1 | No, I have never complained about product safety. | |
| 2 | Yes, I have complained one time about the product safety information as it was not enough. | |
| 3 | Yes, I have complained more than one time about the product safety information as it was not enough. | |
| 4 | Don't know | |

18. Some people pay attention to the safety and environmental information given by organisations. Do you recognise yourself under this description? (Only one answer possible)

| # | Behaviour | Answer |
|---|---------------------------------------------------------------------------------------------------------------------|--------|
| 1 | No. I never pay attention to the information related to safety and environmental issues given by the organisations. | |

| | | |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 2 | I sometimes pay attention to the information related to safety and environmental issues given by the organisations. | |
| 3 | I always pay attention to the information related to safety and environmental issues given by the organisations. I consider this information as highly important. | |
| 4 | Don't know | |

Section 6: Feedback Mechanism & Privacy

19. Do you like to give your feedback to the companies whenever you buy a product? (Only one answer possible)

| # | Behaviour | Answer |
|---|---------------------------------------------------------------------------------------------------------------------------|--------|
| 1 | No. I never give any feedback to the company when I buy a product. | |
| 2 | I will try to give my feedback to the companies if it was easier and I knew where I can give my opinion. | |
| 3 | Yes. I sometimes like to give my feedback when I buy a product. | |
| 4 | Yes. I always try to give my feedback on the products that I buy. I tend to fill in consumer satisfaction questionnaires. | |
| 5 | Don't know | |

20. Do you think that the private information (address, telephone number, e-mail, bank account...) you give to the different companies is well stored? Please mark the option where you feel recognized (Only one answer possible)

| # | Opinion | Answer |
|---|------------|--------|
| 1 | No | |
| 2 | Yes | |
| 3 | Don't know | |

Section 7: End of life responsibility

21. Are there in your community initiatives regarding environmental issues where you can participate (urban orchard, picking up waste, planting trees...)? (Multiple answers possible)

| # | Knowledge/Behaviour | Answer |
|---|------------------------------------------------------------------------------------------------|--------|
| 1 | No, I have not heard of any community initiatives regarding environmental issues | |
| 2 | Yes, I heard that there are community initiatives but I have never participated in any of them | |
| 3 | Yes, I have participated in planting trees, or creating urban orchards. | |
| 4 | Yes, I have participated in picking up waste from the floor or the beach. | |

| | | |
|---|-----------------------------------------------------------------------------------|--|
| 5 | Yes, I have participated in an environmental awareness campaign. | |
| 6 | Yes, I have participated in other initiatives than the ones here (Please specify) | |
| 7 | Don't know | |

Thank you for your participation in the survey!

If you would like to further help our project and your city, feel free to share the survey link with your friends, colleagues and neighbours living in Albano!

For any questions regarding the survey or the SCALIBUR project feel free to contact XXX at "xyz@xyz" and check out:

- the project website (<http://www.scalibur.eu/>)
- xyz social media platform" or "xyz other website"

Furthermore, if you are interested and would like to hear more about bio-waste related activities and initiatives in Albano as well as be more engaged write to XXX so that we will include you in the contact list of the Albano Biowaste Club.

Survey Template city of Kozani

The city of Kozani together with xyz waste company and XXX has partnered in an international, 4-years EU-funded project called SCALIBUR (SCALable Technologies for Bio-Urban Waste Recovery). The goal of the project is to improve bio-waste collection, sorting and transport systems and thus enhancing the quality of the to-be-recycled materials and contributing to lower waste management costs in your city. You as a citizen can give your contribution by filling out the following survey.

Agreement & Key Information

Participating in this survey is voluntary. You can stop the survey at any point in time. In case of a termination, you don't have to state any reason whatsoever for doing so.

By participating in this survey, you consent to the use of the gathered answers only for the research activities of the SCALIBUR project. We would like to highlight that all answers will be completely anonymous and in no way will be published or can be linked to you personally. In case you choose to participate you agree on the following points:

- That you have read and understood the objective and scope of the survey
- That your consent is voluntary
- You are currently a citizen of Kozani and live there primarily
- You are 18 years or older
- We can use your answers for the SCALIBUR activities

Survey Instructions

Please note: Filling out the survey should not take longer than 15 minutes!

IMPORTANT: Please fill out this survey only once!

Please read every question and answer thoroughly before advancing to the next page. In case you filled out something wrong, there is an option for you to move back to the previous page(s). When moving backwards, we would like to ask you to not change your answers based on new realizations or knowledge from the next questions. In addition, we want to highlight that there are right or wrong answers and assure that there will always be an option to answer the question. This can be done through a "don't know" answer or similar options. In case you have not answered any of the questions you get a reminder to answer every question before advancing to the next page.

Section 1: Personal Information

1. *Please indicate your gender*

Female

Male

Other

I don't want to answer

2. *What is the highest level of education you have attained?*

Less than primary education

Primary education

Lower secondary education

Upper secondary education

Post-secondary non-tertiary education

Short cycle tertiary education

Bachelor's or equivalent level

Master's or equivalent level

Doctoral degree

Other

3. *What is your age range?*

18 – 25

25 – 35

35 – 50

50 – 65

65 – 75

75 – 80

80 – 85

Older than 85

4. Including yourself, how many people live in your household at present?

1

2

3

4

5

6

7 and more

5. How long have you been living in Kozani?

1 – 5 years

5 – 10 years

10 – 20 years

more than 20 years

6. In 2017 the city of Kozani together with DIADYMA has launched a pilot activity in Kozani in which a number of citizens and households received new biowaste bins and later a small reward for the participation. Was your household involved and has been provided a new bin?

Yes

No

Section 2: Bio-waste knowledge & opinions

7. Which are the first 3 words/ associations that come to your mind when you think about biowaste?

| # | Answers |
|----|------------------------------------|
| 1. | |
| 2. | |
| 3. | |
| 4. | Don't know or any additional words |

8. Which positive impacts do you think the recycling of bio-waste has on the following sustainability topics? (Please provide your answer by crossing one of the options ranging from "No positive impact" to "High positive impact")

| # | Topic | No positive impact | Low positive impact | Some positive impact | High positive impact | Don't know |
|----|---------------------------------------------|--------------------|---------------------|----------------------|----------------------|------------|
| 1. | Contributing to human well-being and health | | | | | |
| 2. | Reducing pollution in the environment | | | | | |

| | | | | | | |
|----|-----------------------------------|--|--|--|--|--|
| 3. | Contributing to the local economy | | | | | |
|----|-----------------------------------|--|--|--|--|--|

Section 3: Separation behaviour and challenges

9. Please choose on the following scale how much attention you pay on separating your waste in your everyday life. (Only one answer possible)

| | | | | | | | | |
|-----------------------------------------------|---|---|---|---|---|---|-----------------------------------------------|------------|
| I don't pay any attention to separating waste | | | | | | | I separate everything as thorough as possible | Don't know |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| | | | | | | | | |

10. What are key challenges for you when separating bio-waste? Please choose the 3 main challenges for you in the provided list.

| # | Challenge | Answer |
|---|-------------------------------------------------------------|--------|
| 1 | I don't have the time to separate bio-waste better | |
| 2 | Separating bio-waste is too dirty for me to separate better | |
| 3 | I don't see any point in separating bio-waste thoroughly | |

| | | |
|----|-------------------------------------------------------------------------------------------------------|--|
| 4 | I lack the right bins to separate better | |
| 5 | It is unclear what counts as bio-waste and how to separate properly | |
| 6 | It is not required by clear rules | |
| 7 | I don't see any benefits, incentives or penalties for separation behaviour | |
| 8 | I don't have the space in my house to separate better | |
| 9 | Biowaste pickup frequency problems (not enough space, bad smell, fruit flies and other insects, etc.) | |
| 10 | Other, please specify: | |
| 11 | I don't face any challenges | |
| 12 | Don't know | |

11. Can you please indicate what already helps you, would help you or wouldn't help you to better separate biowaste? (Please fill out one answer in each row)

| # | (Potential) help | Already helps | Would help | Not helpful | Don't know |
|----|----------------------------------------------------------------------------------|---------------|------------|-------------|------------|
| 1 | Time to separate properly | | | | |
| 2 | Knowledge about the purpose of separating and recycling or how to do it properly | | | | |
| 3 | Change of personal habits | | | | |
| 4 | Better or more bins for separating | | | | |
| 5 | Knowledge about what biowaste is | | | | |
| 6 | Easier to separate product design | | | | |
| 7 | Clearer rules/regulations on separation | | | | |
| 8 | Benefits or incentives (including penalties for misbehaviour) | | | | |
| 9 | More space in my house | | | | |
| 10 | Higher pickup frequency | | | | |

| | | | | | |
|----|------------------------|--|--|--|--|
| 11 | Other, please specify: | | | | |
| 12 | I don't need any help | | | | |

12. Do you think that companies in your environment care about reducing the negative environmental consequences of their activity?

Yes

No

I don't know

Section 4: Covid-19 Impacts & Outlook on biowaste recycling

13. How do you consider your biowaste separation behaviour since the beginning of the Covid-19 crisis? Please provide one answer.

| 1 | 2 | 3 | 4 |
|------------------------|-------------------|-----------------------|------------|
| I am separating better | It stays the same | I am separating worse | Don't know |
| | | | |

For answers 1 & 3 the survey will continue with 12.1. – For Answers 2 & 4 the survey will continue with Question 13.1

13.1 Can you select the 3 reasons that have mostly influenced your biowaste separation habits/behaviour during the COVID-19 crisis?

| # | Reason | Answer |
|---|-----------------------------------------------|--------|
| 1 | Changed home cooking behaviour | |
| 2 | More time to separate biowaste | |
| 3 | More attention on separating due to the virus | |
| 4 | New instructions from the city | |
| 5 | Other, please specify: | |
| 6 | Don't know | |

14. When it comes to new information on biowaste in Kozani including what citizens can and have to do, how would you like to be informed? (Multiple answers possible)

| # | Channel | Answer |
|---|--------------------------------------------------|--------|
| 1 | Municipality website or social media | |
| 2 | Waste management company website or social media | |

| | | |
|---|------------------------------------------------------------------------------------------------------------------|--|
| 3 | News channels (radio, tv, newspapers etc.) | |
| 4 | Local events | |
| 5 | The channels already used by the municipality/Waste management company are enough to obtain adequate information | |
| 5 | Other, please specify: | |
| 6 | Don't know | |

15. Which are the top 3 ways to enhance your knowledge and improve your behaviour in terms of biowaste separation and recycling? (Multiple answers possible)

| # | Participation options | Choices |
|---|--------------------------------------------------------------------|---------|
| 1 | Keep informing myself on biowaste, bio-based products or recycling | |
| 2 | Pay more attention to my own behaviour | |
| 3 | Engage my friends and family to indicate behaviour change | |
| 4 | Buy bio-based products whenever possible | |
| 5 | Inform myself on activities and events in my city | |

| | | |
|---|---------------------------------------|--|
| 6 | Inform myself on the SCALIBUR project | |
| 7 | Other, please specify: | |
| 8 | I'm not interested | |
| 9 | Don't know | |

Section 5: Bio-based Products, Health and Safety, and Product Transparency

16. Which of the following bio-based products would you use while knowing that they are made from bio-waste? You can only answer once in each row. In case you answer with "depends on" please give us a brief explanation of what it depends on for you.

| Product | Answer yes | Answer no | Depends on* | Don't know | *Explanation for what it depends on: |
|----------------------------------------------------------------------|---------------|--------------|----------------|---------------|-----------------------------------------|
| Hygiene items packaging (e.g. shampoo in bio-based bottles) | | | | | |
| Edible food items (e.g. insect products grown on biowaste) | | | | | |
| Food packaging | | | | | |

| | | | | | |
|---------------------------------------|--|--|--|--|--|
| Food grown with bio-based fertilizers | | | | | |
| Bio-waste fed animal food products | | | | | |

17. Do you usually look at the safety product information? (Only one answer possible)

| # | Behaviour | Answer |
|---|--------------------------------------------------------------------------------------------------------------|--------|
| 1 | No, I never look at the safety product information. I do not think it will affect my opinion of buying it. | |
| 2 | No, I never look at the safety product information. Although I think it will affect my opinion of buying it. | |
| 3 | Sometimes I look at the safety information, but it does not affect my opinion if I finally buy the product | |
| 4 | I usually look at the safety information because It affects to my opinion to buy the product | |
| 5 | Don't know | |

18. Safety information of the products is often not well explained or sufficient: have you ever complained about product safety information? (Only one answer possible)

| # | Behaviour | Answer |
|---|------------------------------------------------------------------------------------------------------|--------|
| 1 | No, I have never complained about product safety. | |
| 2 | Yes, I have complained one time about the product safety information as it was not enough. | |
| 3 | Yes, I have complained more than one time about the product safety information as it was not enough. | |
| 4 | Don't know | |

19. Some people pay attention to the safety and environmental information given by organisations. Do you recognise yourself under this description? (Only one answer possible)

| # | Behaviour | Answer |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 1 | No. I never pay attention to the information related to safety and environmental issues given by the organisations. | |
| 2 | I sometimes pay attention to the information related to safety and environmental issues given by the organisations. | |
| 3 | I always pay attention to the information related to safety and environmental issues given by the organisations. I consider this information as highly important. | |

| | | |
|---|------------|--|
| 4 | Don't know | |
|---|------------|--|

Section: Feedback Mechanism & Privacy

20. Do you like to give your feedback to the companies whenever you buy a product? (Only one answer possible)

| # | Behaviour | Answer |
|---|---------------------------------------------------------------------------------------------------------------------------|--------|
| 1 | No. I never give any feedback to the company when I buy a product. | |
| 2 | I will try to give my feedback to the companies if it was easier and I knew where I can give my opinion. | |
| 3 | Yes. I sometimes like to give my feedback when I buy a product. | |
| 4 | Yes. I always try to give my feedback on the products that I buy. I tend to fill in consumer satisfaction questionnaires. | |
| 5 | Don't know | |

21. Do you think that the private information (address, telephone number, e-mail, bank account...) you give to the different companies is well stored? Please mark the option where you feel recognized. Only one answer possible.

| # | Opinion | Answer |
|---|---------|--------|
| | | |

| | | |
|---|------------|--|
| 1 | No | |
| 2 | Yes | |
| 3 | Don't know | |

Section: End of life responsibility

22. Are there in your community initiatives regarding environmental issues where you can participate (urban orchard, picking up waste, planting trees...)? (Multiple answers possible)

| # | Knowledge/Behaviour | Answer |
|---|------------------------------------------------------------------------------------------------|--------|
| 1 | No, I have not heard of any community initiatives regarding environmental issues | |
| 2 | Yes, I heard that there are community initiatives but I have never participated in any of them | |
| 3 | Yes, I have participated in planting trees, or creating urban orchards. | |
| 4 | Yes, I have participated in picking up waste from the floor or the beach. | |
| 5 | Yes, I have participated in an environmental awareness campaign. | |
| 6 | Yes, I have participated in other initiatives than the ones here (Please specify) | |

| | | |
|---|------------|--|
| 7 | Don't know | |
|---|------------|--|

Thank you for your participation in the survey!

If you would like to further help our project and your city, feel free to share the survey link with your friends, colleagues and neighbours living in Kozani!

For any questions regarding the survey or the SCALIBUR project feel free to contact XXX at "xyz@xyz" and check out:

- the project website (<http://www.scalibur.eu/>)
- xyz social media platform" or "xyz other website"

Furthermore, if you are interested and would like to hear more about bio-waste related activities and initiatives in Kozani as well as be more engaged write to XXX so that we will include you in the contact list of the Kozani Biowaste Club.

ANNEX 2: SURVEYS FOR TARGET GROUP 2

Survey Template for Value Chain Actors

The city of XXX together with xyz waste company and XXX has partnered in an international, 4-years EU-funded project SCALIBUR (SCALable Technologies for Bio-Urban Waste Recovery). The goal of the project is to improve bio-waste collection, sorting and transport systems and thus enhancing the quality of the to-be-recycled materials and consequently contributing to lower waste management costs in your city. The survey is directed at a wide range of experts and other stakeholders that are in some way involved directly or indirectly with the topics of biowaste, bio-based products or anything related to this or just experts on the topics without direct involvement for the city of XXX. If you are a part of this in XXX you can give your contribution by filling out this survey.

Agreement & Key Information

Participating in this survey is voluntary. You can stop the survey at any point in time. In case of a termination, you don't have to state any reason whatsoever for doing so. If you can't answer a question or don't want to answer, there is always a possibility to select e.g. "don't know" option.

By participating in the survey, you consent to the use of the gathered answers for the research activities of the SCALIBUR project. We would like to highlight that all answers will be completely anonymous and in no way will be published or can be linked to you personally. In case you choose to participate you agree on the following points:

- That you have read and understood the objective and scope of the survey
- That your consent is voluntary
- You are 18 years or older
- We can use your answers for the SCALIBUR activities

Survey Instructions

Please note: Filling out the survey should not take longer than 15 minutes!

IMPORTANT: Please fill out this survey only once!

Please read every question and answer thoroughly before advancing to the next page. In case you filled out something wrong, there is an option for you to move back to the previous page(s). When moving backwards, we would like to ask you to not change your answers based on new realizations or knowledge from the next questions. In addition, we want to highlight that there are right or wrong answers and assure that there will always be an option to answer the question. This can be done through a "don't know" answer or similar options. In case you have not answered any of the questions you get a reminder to answer every question before advancing to the next page.

Section 1: Personal information

1. What type of organization are you representing/ do you work for? (Multiple answers possible)

[Value Chain Actors]

- Service providers, focus waste (e.g. waste collectors, treatment plants, waste management)
- Other service providers (e.g. energy)
- Industry (large scale (e.g. corporations)
- Industry experts/sector professionals
- Business (medium-to small-scale): SMEs and/or local business owners
- Business (small-scale): entrepreneurs/start-ups

[Other Group]

- Investors
- Research & Development
- Local public bodies (e.g. city council or municipality)
- Regional public bodies (e.g. regional government)
- National public bodies (e.g. ministries)
- Other:

Please note: in the following sections specific questions in blue are meant only for key value chain experts. These additional questions will not be answered by stakeholders classified as "Other Group". When developing the survey online, this process will be automatized and depending on his/her answers each respondent will see specific questions!

2. Please indicate your field(s) of expertise (Multiple answers possible)

Waste and Recycling

Politics

Environment

Energy

Agriculture or other producing sectors

(Bio-)Technology

Food and other Groceries (Hotels, Restaurants, Catering, Retail, etc.)

Packaging and other industries

Transportation

Citizen engagement or consumer communication

Research or education

Other, please specify:

3. Please indicate your gender

Female

Male

Other

I don't want to answer this.

4. What is your age range?

18 – 25

25 – 35

35 – 50

50 – 65

65 – 75

75 – 80

80 – 85

Older than 85

Section 2: Performances, challenges, opportunities & Waste Management

5. How would you rate the current performance of the different actors in the following aspects from your professional/expert point of view? Answer by stating how much you agree with the following statements using the scale from 1 (No Agreement) to 5 (Full agreement). (Please answer only once per row. If you are not sure, feel free to use the "Don't know" answer.)

| # | Aspect | I don't agree at all | | | | I fully agree | Don't know |
|-----|--------------------------------------------------------------------------|----------------------|---|---|---|---------------|------------|
| | | 1 | 2 | 3 | 4 | 5 | |
| 1 | Citizens: | | | | | | |
| 1.1 | Citizens are informed when it comes to biowaste separation and recycling | | | | | | |

| | | | | | | | |
|-----|----------------------------------------------------------------------------------------------|--|--|--|--|--|--|
| 1.2 | Citizens are able to communicate their needs, wishes and problems regarding waste management | | | | | | |
| 1.3 | The current system is enabling citizens to separate their biowaste properly | | | | | | |
| 1.4 | Citizens are currently separating their biowaste properly | | | | | | |
| 1.5 | Citizens perception of bio-based products is good | | | | | | |
| 1.6 | Citizens know what bio-based products are | | | | | | |
| | | | | | | | |
| 2 | Biowaste: | | | | | | |
| 2.1 | The quality of biowaste collected and managed in the city is good | | | | | | |

| | | | | | | | |
|----------|--------------------------------------------------------------------------------------|--|--|--|--|--|--|
| 2.2 | The right amount of biowaste is produced in the city | | | | | | |
| | | | | | | | |
| 3 | Bio-based products & value chains | | | | | | |
| 3.1 | The city offers a good number of bio-based products | | | | | | |
| 3.2 | The supply of local bio-based products is consistent | | | | | | |
| 3.3 | Stakeholders have knowledge about bio-based products produced in my town | | | | | | |
| 3.4 | Currently, there are business activities related to bio-based products in my town | | | | | | |
| 3.5 | I see potential for new bio-based value chains and business opportunities in my city | | | | | | |

| | | | | | | | |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|
| 3.6 | I am in frequent exchange with all key stakeholders along my cities (bio) waste value chain | | | | | | |
| | <p>Out of those points, which are in your opinion the three most urgent ones to improve upon and why?</p> <p>1.</p> <p>2.</p> <p>3.</p> | | | | | | |

6. Where do you see the biggest current challenges and current opportunities to achieve the goals of increasing and improving biowaste recycling and implementing bio-based products in XXX?

| | |
|-----------------------|--|
| Challenges: | |
| Opportunities: | |

7. Do you consider that sustainability issues are relevant to the daily life of the company?

| # | Relevancy | Answer |
|---|-----------------------------------------------------------------------------|--------|
| 1 | No, sustainability issues are not an issue that motivates the company | |
| 2 | Yes, sustainability issues are an issue that slightly motivates the company | |
| 3 | Yes, sustainability issues are an issue that highly motivates the company | |
| 4 | Don't know | |

8. Have you complained regarding the waste management system within the last year?

| # | Behaviour | Answer |
|---|------------------------------------------|--------|
| 1 | No, I have not complained | |
| 2 | Yes, I have complained once | |
| 3 | Yes, I have complained between 1-3 | |
| 4 | Yes, I have complained more than 3 times | |
| 5 | Don't know | |

Section 3: SCALIBUR & Outlook

9. Have you ever heard about the SCALIBUR project, before participating in this survey?

| # | Option | Answer |
|---|--------|--------|
| 1 | Yes | |
| 2 | No | |

10. How useful do you consider a European project like SCALIBUR for the local implementation of measures on biowaste-recycling and bio-based product value chains? Why?

| Unnecessary | | | | Useful | Don't know |
|-------------------------|---|---|---|--------|------------|
| 1 | 2 | 3 | 4 | 5 | |
| Can you please explain: | | | | | |
| | | | | | |

Please note: depending on the answers to question 7 the survey will continue:

- For answer 1 the survey will continue with question 9

- For answer 2 the survey will continue with end page.

11. How did you hear about the project?

| # | Channel | Answer |
|----|-------------------------------------------------|--------|
| 1 | Work environment | |
| 2. | Personal relations | |
| 3 | Citizens survey | |
| 4 | Online resources (social media, websites, etc.) | |
| 6 | News or commercials | |
| 7 | Invitation to Biowaste Club | |
| 8 | Other, please specify: | |
| 9 | Don't know | |

12. What are you expecting from the SCALIBUR project? (Multiple answers possible)

| # | Interest | Answer |
|---|----------|--------|
| | | |

| | | |
|----|--------------------------------------------------------------------------------------------------------------------|--|
| 1 | I want to participate in activities related to the project (like Biowaste Club meetings and other upcoming events) | |
| 2 | I am hoping for business opportunities for my business | |
| 3 | I expect SCALIBUR to raise awareness about environment and sustainability issues in my town | |
| 4 | The topic and research results are relevant to my work | |
| 5 | I want to learn what my city is doing to improve the (bio) waste value chain | |
| 6 | I want to learn about European best practises and good examples in (bio) waste recycling | |
| 7 | I want to exchange with further key stakeholders from my city | |
| 8 | I want to exchange with further key stakeholders across Europe | |
| 9 | I want to know about my cities' activities in general | |
| 10 | Other, please specify: | |
| 11 | I do not have specific interests in the SCALIBUR project | |

Section 4: Health and Safety

Please note: this part of the survey is focused on the health and safety issues of the companies. The answers will help to analyse which kind of problems regarding health and safety companies involved in the project face.

*13. How does the organization demonstrate the awareness of health and safety issues?
(Multiple answers possible)*

| # | Demonstration method | Answer |
|---|-------------------------------------------------------------------------------------------------|--------|
| 1 | The organization gives information to the workers every year regarding health and safety issues | |
| 2 | The organization trains the workers every year regarding health and safety issues | |
| 3 | The organization organizes health and safety workshops | |
| 4 | The organization has a health and safety management system established | |
| 5 | Other: please specify | |
| 6 | Don't know | |

14. Have you complained about safety and health issues within the last year? (Multiple answer possible)

| # | Number of Complaints | Answer |
|---|----------------------|--------|
| | | |

| | | |
|---|-----------------------------------------------------------------|--|
| 1 | Yes, about the measures against Covid as they were not enough | |
| 2 | Yes, about the installations because they are not in well state | |
| 3 | Yes, because the protective equipment was not enough | |
| 4 | Others (Please specify) | |
| 5 | Don't know | |

Section 5: Feedback Mechanisms & Privacy

15. Does the company have consumer satisfaction questionnaires? (Only one answer possible)

| # | Existence of questionnaire | Answer |
|---|----------------------------|--------|
| 1 | No: | |
| 2 | Yes: | |
| 3 | Don't know: | |

16. Have you received any complaint regarding privacy data loss? (Only one answer possible)

| # | Number of Complaints | Answer |
|---|----------------------|--------|
| | | |

| | | |
|---|-----------------------------------------------|--|
| 1 | No, we have not received any complain | |
| 2 | Yes, we have received less than 5 complaints | |
| 3 | Yes, we have received more than 5 complaints. | |
| 4 | Don't know | |

Section 6: End of life responsibility

17. Has the company participated or organized any community initiatives regarding waste management or end-of-life options within the last 3 years? (Multiple answers possible)

| # | Initiatives | Answer |
|---|----------------------------------------------------------------------------------------------------------|--------|
| 1 | No, we have not organised or participate in any community initiative | |
| 2 | Yes, we have organised or participated in initiatives such as planting trees or creating urban orchards. | |
| 3 | Yes, we have participated or organised initiatives such as picking up waste from the floor or the beach. | |
| 4 | Yes, we have participated in or organised environmental awareness campaigns. | |
| 5 | Others (Please specify) | |

Section 7: Human rights

18. Does the company have an explicit code of conduct that protects human rights? (Only one answer possible)

| # | Existence of Code | Answer |
|---|------------------------------------------------------------------------------|--------|
| 1 | No, it does not have an explicit code of conduct that protects human rights. | |
| 2 | Yes, it has an explicit code of conduct that protects human rights. | |
| 3 | Other, please specify: | |
| 4 | Don't know | |

19. Does the company have a gender equality policy? (Only one answer possible)

| # | Existence of policy | Answer |
|---|------------------------------------------------|--------|
| 1 | No, it does not have a gender equality policy. | |
| 2 | Yes, it has a gender equality policy | |
| 3 | Other. Please specify | |

20. What is the percentage of women in the labour force of the company? In case you don't know the answer, please respond with the number of women in your department. (Only one answer possible)

| | | |
|---|------------------------------------------------------------|--|
| # | Existence of policy | |
| 1 | Percentage of the women in the labour force of the company | |
| 2 | Number of women in my department | |

20.1 If the respondent will select answer 1 to question 20, he/she will be asked to indicate the percentage of women in the labour force of the company:

| # | Percentage of women | % |
|---|---------------------|---|
| | | |

20.2 If the respondent will select answer 2 to question 20, he/she will be asked to indicate the following:

| # | Number of women in the department | Answer |
|---|--------------------------------------|--------|
| 1 | Department where you work | |
| 2 | Total number of people working in it | |
| 3 | Total number of women working in it | |

21. Are there in your company/organization workers identified as members of associations able to organize themselves and/or bargain collectively? (Only one answer possible)

| # | Possibility | Answer |
|---|-------------------|--------|
| 1 | No, there are not | |
| 2 | Yes, there are | |
| 3 | Don't know | |

Section 8: Socio-economic repercussion

22. Does the company have a social responsibility policy? (Only one answer possible)

| # | Existence of code | Answer |
|---|------------------------|--------|
| 1 | No, | |
| 2 | Yes, | |
| 3 | Other, please specify: | |
| 4 | Don't know | |

23. Does your company have a social responsibility or sustainability memory?

| # | Existence of code | Answer |
|---|-------------------|--------|
| 1 | No | |
| 2 | Yes, | |
| 3 | Don't know | |

24. Which of the following sustainable development goals do you believe your company is promoting and acting?

| # | Sustainable development goals | Answer |
|---|-------------------------------|--------|
| 1 | No poverty | |
| 2 | Zero hunger | |
| 3 | Good health and well-being | |
| 4 | Quality education | |
| 5 | Gender equality | |
| 6 | Clean water and sanitation | |

| | | |
|----|-----------------------------------------|--|
| 7 | Affordable and clean energy | |
| 8 | Decent work and economic growth | |
| 9 | Industry, innovation and infrastructure | |
| 10 | Reduced inequalities | |
| 11 | Sustainability cities and communities | |
| 12 | Responsible consumption and production | |
| 13 | Climate action | |
| 14 | Life below water | |
| 15 | Life on land | |
| 16 | Peace, justice and strong institutions | |
| 17 | Partnerships for the goals | |

25. Do you think that the products obtained in SCALIBUR from biowaste could have an impact in employment and economy?

| # | Number of Jobs created | Answer |
|---|-------------------------|--------|
| 1 | Yes, please specify why | |
| 2 | No, please specify why | |

Section 9: Working Conditions

26. Some companies offer social benefits to their workers, could you please mark the social benefits that you are offered? (Multiple choice possible)

| # | Number of Jobs created | Answer |
|---|-------------------------------------------------------------|--------|
| 1 | I have tickets for lunch. I do not have to pay it on my own | |
| 2 | I have a bonus transport | |
| 3 | The company offers the nursery voucher | |
| 4 | The company offers health insurance | |
| 5 | The company offers us training courses | |

| | | |
|----|------------------------------------------------------------------------------------|--|
| 6 | We have a gym in the office | |
| 7 | We have the day off in our birthday | |
| 8 | We have flexible work hours | |
| 9 | We are offered tickets for different events: concerts, cinemas, sporting events... | |
| 10 | We have summer reduced working hours | |
| 11 | I do not know | |
| 12 | We do not have social benefits | |
| 13 | Others. Please specify | |

27. Do you consider that working in your company can be stressful?

| | | | | | |
|-------------------------|---|----------------------------------|---|--------------------------|------------|
| No, it is not stressful | | Yes, sometimes we do extra hours | | Yes, is always stressful | Don't know |
| 1 | 2 | 3 | 4 | 5 | |

Can you please further elaborate:

Thank you for your participation in the survey!

For any questions regarding the survey or the related SCALIBUR project feel free to contact XXX at "xyz@xyz" and check out:

- the project website (<http://www.scalibur.eu/>)
- xyz social media platform" or "xyz other website"

Furthermore, if you are interested and would like to hear more about bio-waste related activities and initiatives in XXX as well as to be more engaged write to XXX so that we will include you in the contact list of the XXX Biowaste Club.

Survey Template for the Open Markets in Kozani

The city of Kozani together with DIADYMA S.A waste company and CLuBE has partnered in an international, 4-years EU-funded project called SCALIBUR (SCALable Technologies for Bio-Urban Waste Recovery). The goal of the project is to improve bio-waste collection, sorting and transport systems by enhancing the quality of the to-be-recycled materials and consequently contribute to lower waste management costs in your city. You as a key stakeholder involved in the biowaste value chain of Kozani can give your contribution by filling out this survey.

Agreement & Key Information

Participating in this survey is voluntary. You can stop the survey at any point in time. In case of a termination, you don't have to state any reason whatsoever for doing so. By participating in this survey, you consent to the use of the gathered answers only for the research activities of the SCALIBUR project. We would like to highlight that all answers will be completely anonymous and in no way will be published or can be linked to you personally. In case you choose to participate you agree on the following points:

- That you have read and understood the objective and scope of the survey
- That your consent is voluntary
- You are currently a citizen of Kozani and live there primarily
- You are 18 years or older
- We can use your answers for the SCALIBUR activities

Survey Instructions

Please note: Filling out the survey should not take longer than 10 minutes!

IMPORTANT: Please fill out this survey only once!

Please read every question and answer thoroughly before advancing to the next page. In case you filled out something wrong, there is an option for you to move back to the previous page(s). When moving backwards, we would like to ask you to not change your answers based on new realizations or knowledge from the next questions. In addition, we want to highlight that there are right or wrong answers and assure you that there will always be an option to answer the question. This can be done through a "don't know" answer or similar options. In case you have not answered any of the questions you get a reminder to answer every question before advancing to the next page.

Section 1: Personal Information

1. *Please indicate your gender*

Female

Male

Other

Don't want to answer

2. *What is your age?*

18 – 25

25 – 35

35 – 50

50 – 65

65 – 75

75 – 80

80 – 85

Older than 85

3. *Are you a citizen of the city of Kozani?*

Yes

No

4. *What is your role in this business?*

Owner

Employee

Other, please define:

Don't want to answer

5. How long have you been participating as a seller in the open market in Kozani?

1 – 5 years

5 – 10 years

10 – 20 years

more than 20 years

6. Are you also active on other markets in the area?

Yes

No

7. In 2017, the city of Kozani together with DIADYMA, launched a pilot activity in Kozani in which a number of citizens and households received new biowaste bins and a small reward for their participation. Was your household involved in this activity and has been provided a new bin?

Yes

No

Section 2: Bio-waste awareness, perceptions and challenges

8. How important do you consider the recycling of biowaste in Kozani with respect to the following aspects? (One answer in each row)

| # | | Not important | Semi-important | Important | Very Important | Don't know |
|-----|------------------------------------------------------------|---------------|----------------|-----------|----------------|------------|
| 1.1 | Cleanness of waterways & waterbodies (e.g. rivers & lakes) | | | | | |

| | | | | | | |
|-----|------------------------------------------|--|--|--|--|--|
| 1.2 | Cleanness of agricultural land & forests | | | | | |
| 1.3 | Cleanness of cities | | | | | |
| 2.1 | Climate change aspects | | | | | |
| 2.2 | Animal & plant habitats | | | | | |
| 3.1 | Creation of business and jobs | | | | | |
| 3.2 | Energy consumption | | | | | |
| 3.3 | Natural resource consumption | | | | | |

9. Please choose on the following scale how much attention you pay on separating your waste in your everyday private life. (Only one answer possible)

| | | | | | | | |
|-----------------------------------------------|---|---|---|---|---|-----------------------------------------------|------------|
| I don't pay any attention to separating waste | | | | | | I separate everything as thorough as possible | Don't know |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| | | | | | | | |

10, Do you monitor the biowaste resulting from your business activities?

Yes

No

(optional) Why not, please specify:

11. What are key challenges for you when separating bio-waste (both in your everyday life, private life and in your business activities)? Please choose the boxes that are in line with your answers. (Multiple answers possible)

| # | Challenge | Answer |
|---|-------------------------------------------------------------|--------|
| 1 | I don't have the time to separate bio-waste better | |
| 2 | Separating bio-waste is too dirty for me to separate better | |
| 3 | I don't see any point in separating bio-waste thoroughly | |

| | | |
|----|-------------------------------------------------------------------------------------------------------|--|
| 4 | I lack the right bins to separate better | |
| 5 | It is unclear what counts as bio-waste and how to separate properly | |
| 6 | It is not required by clear rules | |
| 7 | I don't see any benefits, incentives or penalties for separation behaviour | |
| 8 | I don't have the space in my house to separate better | |
| 9 | Biowaste pickup frequency problems (not enough space, bad smell, fruit flies and other insects, etc.) | |
| 10 | Other, please specify: | |
| 11 | I don't face any challenges | |
| 12 | Don't know | |

12. Are you familiar with the following products deriving from the valorisation and processing of bio-waste? Would you or do you already use any of these products for your business, where applicable? (Multiple answers possible)

| | I am familiar with the product | I am not familiar with the product | I already use something similar | I would use this product | I would not use this product | Don't know |
|--|--------------------------------|-------------------------------------------|---------------------------------|--------------------------|-------------------------------------|------------|
| | | | | | | |

| | | | | for my business | for my business | |
|---------------------------------------------|--|--|--|-----------------|-----------------|--|
| Bioplastics (usually used for packaging) | | | | | | |
| Biofertilizers | | | | | | |
| Biopesticides | | | | | | |
| Energy (e.g. biogas) | | | | | | |
| Bio-waste fed food | | | | | | |
| Food packaging | | | | | | |
| Food grown with bio-based fertilizers | | | | | | |
| Bio-waste fed food | | | | | | |

Section 3: SCALIBUR & Outlook

13. Do you expect this newly launched activity (i.e. distributed special bags for the separate collection of biowaste) to impact your business?

| | Answer Yes/No | Why: short explanation/ Comments |
|--------------------------------------------------------------|------------------|-------------------------------------|
| I expect it to benefit my business | | |
| I expect it to have a negative impact | | |
| I don't think it will have any impact (positive or negative) | | |
| I don't know | | |

14. Would you like to be informed on and actively participate in future SCALIBUR activities? (e.g. exhibitions or workshops targeted at e.g. citizens or farmers or HoReCa)?

Yes

No

15. If yes, how would you like to be informed? (Multiple answers possible)

| # | Channel | Answer |
|---|---------|--------|
| | | |

| | | |
|----|--------------------------------------------------|--|
| 1 | Municipality website or social media | |
| 2 | Waste management company website or social media | |
| 3 | News channels (radio, tv, newspapers etc.) | |
| 4 | Local events | |
| 5. | Other, please specify: | |
| 6. | Don't know | |

Thank you for your participation in the survey!

If you would like to further help our project and your city, feel free to share the survey link with people you work with.

For any questions regarding the survey or the SCALIBUR project feel free to contact XXX at "xyz@xyz" and check out:

- the project website (<http://www.scalibur.eu/>)
- xyz social media platform" or "xyz other website"

Furthermore, if you are interested and would like to hear more about and be further involved in bio-waste related activities and initiatives in Kozani, please write to XXX so that we will include you in the contact list of the Kozani Biowaste Club.

SCALIBUR (Scalable technologies for bio-urban waste recovery) brings together a unique blend of organisations and expertise, led by **ITENE Packaging, Transport & Logistics Research Center**. The project began in November 2018 and will run for four years.



COORDINATOR

Cesar Aliaga
cesar.aliaga@itene.com

COMMUNICATIONS

Valeria Mazzagatti

 @SCALIBUR_H2020

 SCALIBUR project

www.scalibur.eu