



**CASI: Public Participation in Developing a Common Framework
for Assessment and Management of Sustainable Innovation**

THEME SIS.2013.1.2-1

Mobilisation and Mutual Learning (MML) Action Plans: Mainstreaming Science in Society Actions in Research

CASI

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STAKEHOLDER WORKSHOPS REPORT

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The CASI project

The CASI project (“**Public participation in Developing a Common Framework for Assessment and Management of Sustainable Innovation**”) aims to respond to one of the Grand Challenges set out in the Horizon 2020 programme of the European Union, namely “Climate action, environment resource efficiency and raw materials”. It represents an EU-wide cross-sectoral partnership on innovation-related challenges and considers not only the impacts of social and technological innovation, but also the types of actors involved and their inherent interests. It thus effectively integrates the perspectives of civil society, SMEs, industry, policy stakeholders, and leading academics.

CASI is based on the understanding of innovation as a key driver of societal progress in the age of technology and of imminent uncertainties about the future. Sustainable innovation, on the other hand, further enhances this understanding by introducing sustainability as a focal core of the innovation process and as an objective of innovation diffusion through social and market opportunities. At the same time, this is not an attempt to introduce yet another distinctive type of innovation. Rather, **CASI fosters a debate on conceptual dimensions, policy boundaries, and good practices combining innovative pursuits with sustainability objectives.**

The collaboration of partners investigates the scope of sustainable innovation as a societal phenomenon and enables the elaboration of an **assessment and management framework of sustainable innovation practices**, based on a sound conceptual framework and a shared understanding of sustainability in innovation processes among stakeholders. CASI further **explores the impacts of innovative practices, as well as of specific technological and social innovations**, vis-à-vis the persisting challenges of climate change and resource depletion, and the societal effects thereof. Thus, it **makes a thorough inquiry into the balance between the social, economic and environmental impacts of innovations**, and **helps determine the scope and priorities for national and EU policy making.**

CASI is supported by the Science in Society Programme of FP7, Theme SiS.2013.1.2-1 “Mobilisation and Mutual Learning (MML) Action Plans: mainstreaming Science in Society actions in research”. It is coordinated by the Applied Research and Communications Fund (ARC Fund), a Bulgarian non-governmental policy and innovation research institute. The project’s consortium includes **19 partner organisations from 12 EU countries** and relies on an extended network of national experts in the remaining 16 countries not represented in the consortium to ensure coverage and inquiry in every EU member state.

CASI includes a rich and intensive set of activities carried out across the EU. The methodology of the project is structured into the following work packages:

CASI – Organigramme of WPs

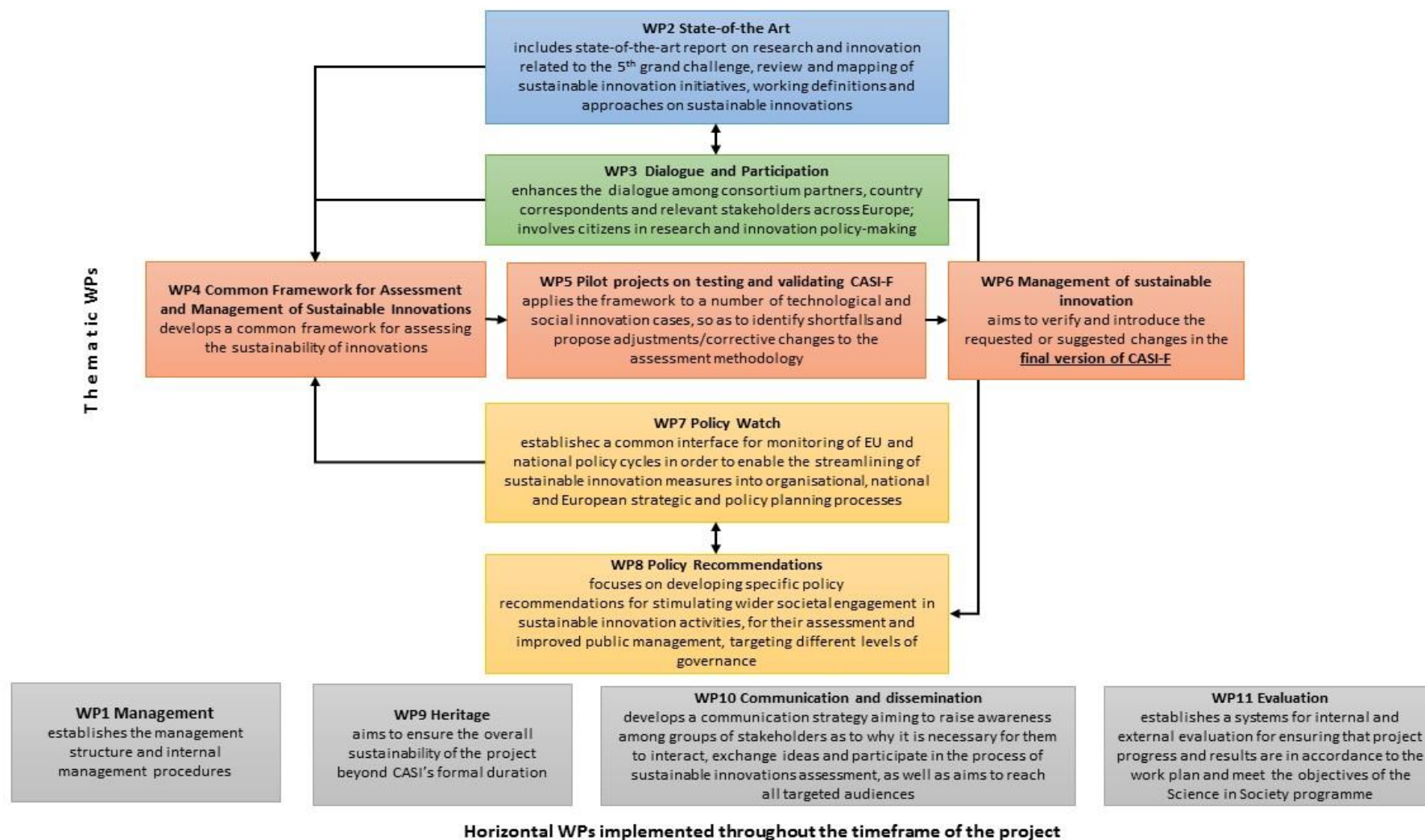


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List of abbreviations

| | |
|-----------|--|
| AT | Austria |
| BE | Belgium |
| BG | Bulgaria |
| CASI-F | Framework for assessment and management of sustainable innovations |
| CASIPEDIA | Database of SI cases set up by CASI |
| CC | (Workshop with the) CASI country correspondents |
| CZ | Czech Republic |
| DE | Germany |
| DK | Denmark |
| FI | Finland |
| IPR | Intellectual Property Rights |
| IT | Italy |
| PL | Poland |
| PT | Portugal |
| SI | Sustainable Innovation |
| SL | Slovenia |
| UK | United Kingdom |
| WP | Work Packages |

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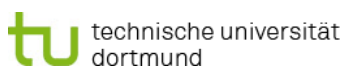
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1 Abstract

Within the CASI project a 'Common Framework for the Assessment and Management of Sustainable Innovation – CASI-F' has been drafted and released in May 2015. CASI-F is intended as framework 'to assess the critical issues (including opportunities, risks, drivers and barriers) of sustainable innovation (SI), particularly the social, environmental and economic dimensions, taking into account citizens' visions, so as to support SI management decisions through actionable multi-level advice at: Top level (Strategic actions); Middle level (Tactical actions); and Front-line level (Operational actions)' (Source: CASI Deliverable 3.2).

In order to make it useful for its manifold users, the involvement of various stakeholders at an early stage of the development of the framework was considered important. Thus, twelve workshops with stakeholders affiliated to government, business (incl. social enterprises), civil society, research and educational institutions and one workshop with the CASI country correspondents (coming from all 16 EU member states, which are not represented within the CASI consortium) were conducted between September and November 2015 in order to achieve a general feedback on CASI-F draft. The stakeholder workshops were held in Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, Germany, Italy, Poland, Portugal, Slovenia, and United Kingdom.

The workshops aimed at eliciting strengths and weaknesses of the CASI matrix and at gathering stakeholders' suggestions for improving the effectiveness and usability of the framework, as well as open questions related to the draft. The added value of the stakeholder workshops was their explorative character, where general feedback on the CASI-F and the matrix was gathered and ideas for improvements were generated.

Each CASI partner responsible for the stakeholder workshop submitted a workshop report afterwards. These reports were then coded by using the software MAXQDA, analysed and findings summarised according to the most important and most frequent issues that were reported.

The deliverable in hand presents the overall workshop findings and shows that the CASI-F draft received comprehensive feedback regarding the participating stakeholders' requirements, needs and expectations.

These stakeholder workshops served as a first validation step of the CASI-F draft and are followed by:

1. piloting the CASI-F draft in depth, mostly with selected innovators of SI (in WP5);
2. assessments of the pilots using a questionnaire (in WP6).

Based on the integration of the outcomes of these three validation approaches, CASI-F will be revised and presented in CASI's Deliverable 6.2 in 2016.

2 Introduction

The involvement of stakeholders in the design process of CASI-F not only supports the empowerment of the involved groups of actors but also leads to an improvement of its concept and to greater acceptance of the resulting framework. This is the reason why CASI involved stakeholders in the **early stage of the CASI-F development**. By engaging stakeholders the project also aims at meeting their requirements and needs in terms of the framework's usability and effectiveness.

2.1 Insight into the CASI-F draft

The 'Common Framework for Assessment and Management of Sustainable Innovation - CASI-F' draft is embedded within Work Package 4 of CASI's working programme, which aims at developing a common framework for assessing the advantages, disadvantages, relevance, benefits and risks of sustainable innovation, particularly social, environmental and economic dimensions, while taking into account general public concerns.

This section outlines the draft proposal of CASI-F and is based on Deliverable 4.2 'Draft proposal of Common Framework for Assessment and Management of Sustainable Innovation (CASI-F)'¹.

The intended purpose of CASI-F is to:

- assess the relevance of SI evidence, visions and policies for governance, business, civil society and research and education actors;
- assess the effectiveness of SI evidence-, vision- and policy-based actions in terms of implementability and sustainability;
- provide multi-level advice on SI management for governance, business, and civil society and research and education actors at: strategic level, tactical/programme level, and operational level;
- identify good practices based on the assessment;
- generate new knowledge to support the management of SI.

CASI-F focuses on:

- the 4 themes within Grand Societal Challenge 5: climate action, environment, resource efficiency and raw materials, and their
- 22 sub-themes:
 1. Alternative raw materials
 2. Awareness on raw materials shortage
 3. Biodiversity examination and understanding
 4. Climate action by sustainable lifestyle
 5. Climate action eco-innovation policies
 6. Climate change adaptation solutions
 7. Climate change mitigation solutions
 8. Climate change projections and scenarios
 9. Eco-innovation and green economy transition
 10. Eco-solutions to reduce raw materials use
 11. Effective raw materials policies
 12. ICT mapping natural resources and trends
 13. ICT systems improving resource efficiency

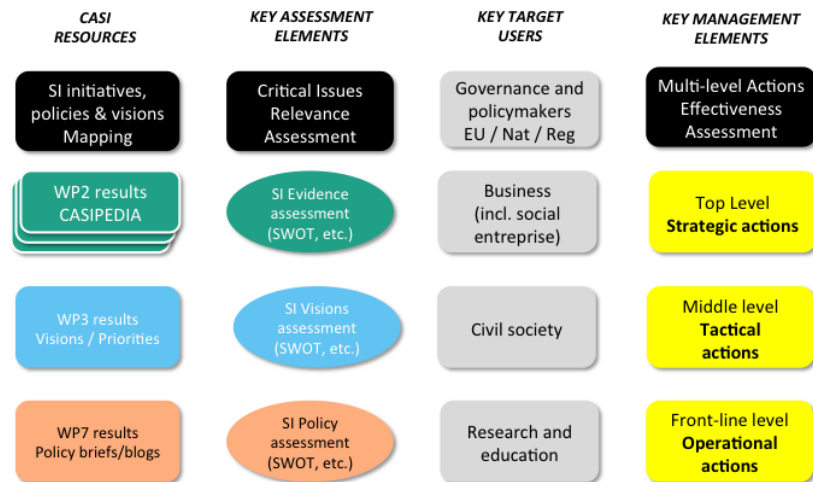
¹ Rafael Popper, Guillermo Velasco, Joe Ravetz, Effie Amanatidou, Maria Schwarz-Woelzl, Zoya Damianova, Ventseslav Kozarev (2015): 'Draft proposal of Common Framework for Assessment and Management of Sustainable Innovation (CASI-F). Deliverable 4.2. Retrieved from: (11-01-2016)

14. ICT systems to map raw materials trends
 15. ICT to assess and predict climate actions
 16. Long-term raw materials availability
 17. Raw materials conscious sustainable lifestyle
 18. Resource efficient sustainable lifestyles
 19. Solutions for cultural heritage assets
 20. Solutions for water imbalances
 21. Solutions to explore, extract, process and recycle
 22. Strategic intelligence and citizens' participation
- 7 types of innovation: product / service / marketing / organisation / governance / social / system level;
 - SI cases from the 28 EU member states, as well as several cases of sustainable innovation practices from the rest of the world.

CASI-F draft is composed from the following elements (see Figure 1):

- **CASI resources:** CASI-F is based on the mapping of three main sources of information focused on sustainable innovations. These resources are based on the mapping conducted in WP2 ([CASIPEDIA](#)), WP3 (visions and related research priorities) and WP7 (policy briefs/[blogs](#)). In detail, the resources contain:
 - **Innovations:** 193 fully mapped innovations and 500+ in basic form;
 - **Policies:** policy briefs at national and EU levels (during the lifetime of the CASI project);
 - **Visions:** 50 citizens' visions developed using a participatory approach.
- **Key assessment elements:** CASI-F uses the abovementioned CASI resources to conduct critical issues relevance assessment. Such an assessment is based on desk research and insights of CASI team members involved in the analysis of strengths, weaknesses, opportunities, threats and other critical issues associated to other results of the project (mainly gained in work packages 2, 3 and 7 of CASI's work programme).
- **Key target users:** CASI-F is aimed to support SI assessment and management decisions of four main types of users, namely: 1) governance and policy making actors at the EU, national and regional levels; 2) business actors, including social entrepreneurs; 3) civil society actors, including NGOs; and 4) research and education actors, including private and public research and technology organisations.
- **Key management elements:** CASI-F takes into account the needs of the four types of target users in order to generate: 1) *strategic actions* to support top level management, 2) *tactical actions* to support middle level management, and 3) *operational actions* to support front-line management. The combined set of multi-level actions constitute the building blocks of the online 'actions bank', where registered users are able to conduct multi-level actions 'effectiveness assessment' in terms of implementability and sustainability.

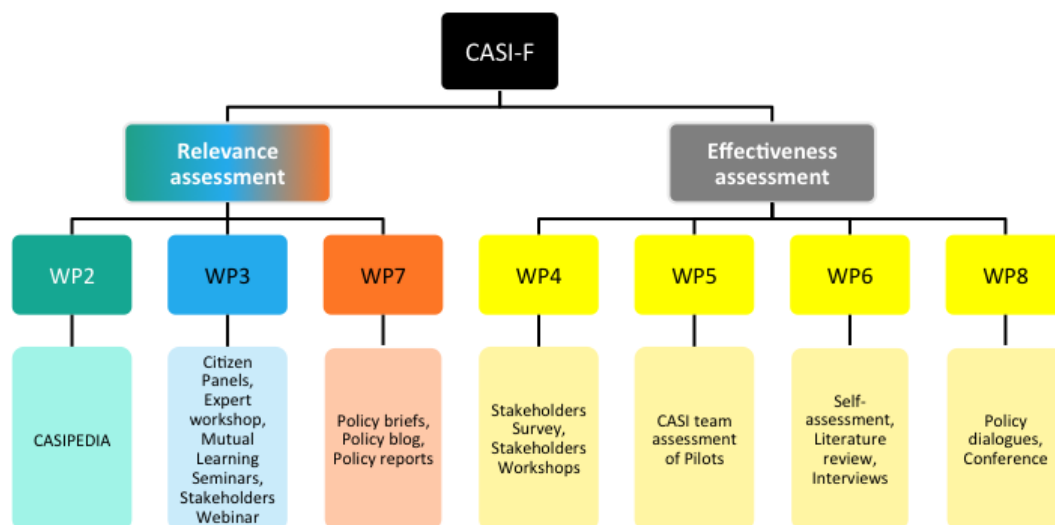
Figure 1 The basic elements of the CASI-F



Source: CASI Deliverable 2.2

These building elements of the CASI-F draft are based on outputs from other CASI WPs. Figure 2 shows the context of CASI-F in relation to other WPs.

Figure 2 The basic CASI-F elements in relation to other WPs



Source: CASI Deliverable2.2

The assessment framework is composed of two approaches:

1. **Relevance assessment**, which is focused on four stakeholders and on three levels (Table 1) and is conducted by CASI partners (in order to populate the CASI '[actions bank](#)').

Table 1 Relevance assessment of SI, citizen visions, policy briefs and blogs

| Relevance for: | Relevance on three levels: |
|------------------------|----------------------------|
| Governance | Strategic level |
| Business | Tactical level |
| Civil society | Operational level |
| Research and education | |

Linked to critical issues (as identified in WP2), proposed SI actions are mapped by CASI partners by using a matrix (Table 2). The 'Actions' are targeted on different user types (Governance, Business, Civil society and Research and education), who play different and sometimes multiple roles: innovators, enablers, sponsors, and beneficiaries. Two types of effectiveness will be assessed by CASI-F:

- In terms of implementability:
 - Importance (Necessary & Sufficient)
 - TEEPSE Feasibility
- In terms of sustainability:
 - Social
 - Economic
 - Environmental

Table 2 Matrix of actions for the four stakeholder groups on three levels

| SI / vision/ policy brief or- blog | GOVERNANCE | BUSINESS | CIVIL SOCIETY | RES & EDU |
|--|-------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Strategic actions | ○ Action ○ Action ○ ... | ○ Action ○ Action ... | ○ Action ○ Action ... | ○ Action ○ Action ... |
| Programming actions | ○ Action ○ Action ... | ○ Action ○ Action ... | ○ Action ○ Action ... | ○ Action ○ Action ... |
| Implementation actions | ○ Action ○ Action ... | ○ Action ○ Action ... | ○ Action ○ Action ... | ○ Action ○ Action ... |

2. **Effectiveness assessment** is user-oriented, and thus conducted by individual stakeholders registered to the CASI 'actions bank'. Apart from the stakeholder workshops findings, the development of the assessment framework will be further informed by: i) citizens' visions developed within CASI (Task 3.4 from CASI work programme), ii) a list of research priorities based on the citizens' visions (Task 3.4); iii) analysis of the results of an online survey (Task 4.1 of CASI work programme).

Table 3 Key steps in the CASI-F development process

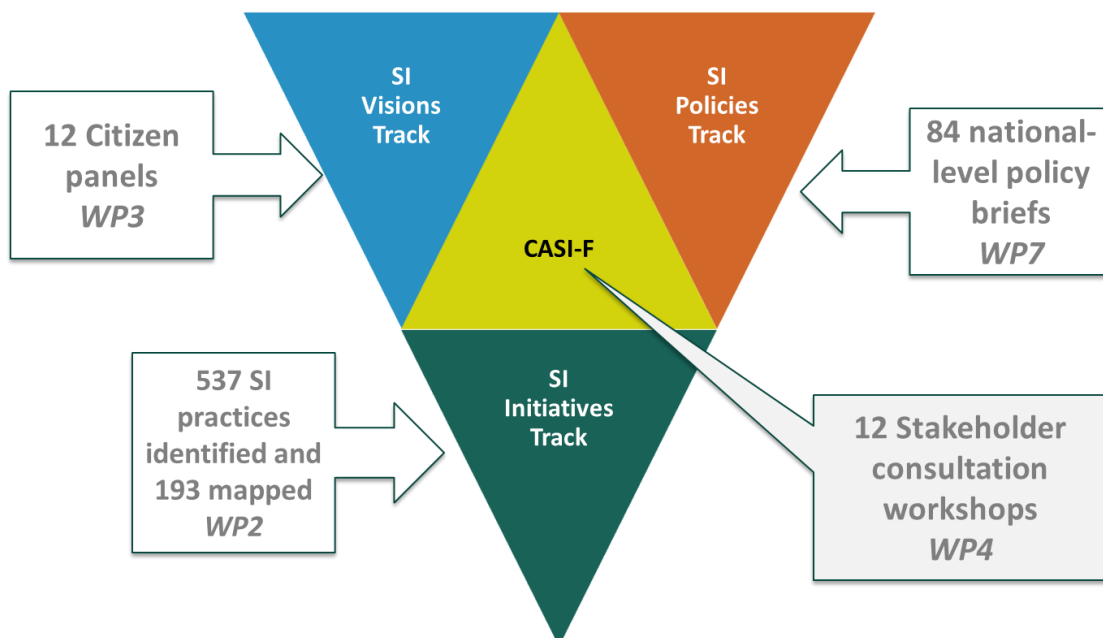
| Step 1 | Step 2 | Step 3 |
|---|--|--|
| Assessing SI <ul style="list-style-type: none"> ○ SI initiatives ○ SI policies ○ SI visions | Mapping SI critical issues <ul style="list-style-type: none"> ○ Critical issues on SI initiatives ○ Critical issues on SI policies ○ Critical issues on SI visions | Managing SI actions <ul style="list-style-type: none"> ○ SI Strategic actions ○ SI Tactical actions ○ SI Operational actions |
| Literature review Citizens' visions Interviews + CASI intelligence | SWOT analysis TEEPSES drivers analysis + CASI intelligence | Multi-stakeholders simulation 40+ Pilot exercises + CASI intelligence |

The CASI-F draft is built on synergies with other WPs. Work that has been done in other WPs for preparing CASI-F integrates the following:

- obtaining critical issues from the 193 SI cases in order to deduce recommended actions (WP2);
- extracting actions from citizens' visions of a sustainable future (12 panels conducted in 12 countries) as well as from research priorities, created by a high level expert group (WP3);
- extracting further actions from both the national policy briefs and the CASI policy blog (WP7).

Fehler! Verweisquelle konnte nicht gefunden werden. illustrates the sources of CASI-F.

Figure 3 The CASI-F building blocs



Another activity related to the CASI-F development was setting up a working group (in spring 2015) to examine:

- The role and purpose of assessment of sustainable innovation;
- The societal participation in the assessment process;

- The appropriate assessment tools that can be used for different stakeholders;
- The stages of the R&I process where assessment through public participation will be most useful;
- The indicators for assessment.

2.2 Methodology of the stakeholder workshops

Between September and November 2015, 13 workshops were conducted in the 12 countries represented in the CASI project. The methodology was developed by partner ZSI and the same methodology was used at all workshops: the workshop with the 16 CASI country correspondents, and the 12 stakeholder workshops in the CASI-represented countries, namely: AT, BE, BG, CZ, DE, DK, FI, IT, PL, PT, SI, and UK. 12-15 persons were planned to be involved in each stakeholder workshop. The CASI-partners had to strive for balanced representation of the following four stakeholder groups:

- Policy makers and public authorities (including funding agencies);
- Civil society organisations (including foundations, associations, social movements, community based organisations, networks and charities);
- Business and industry as well as innovation intermediaries (e.g. Enterprise Europe Network, funders/sponsors of SI);
- Research organisations focussing on climate actions, environment, resource efficiency, and raw materials, as well as on participatory methods and sustainability.

The overall aim of the stakeholder consultation workshops was to ensure that CASI-F meets the requirements and needs of the stakeholders at the end of the development process. The rationale of involving stakeholders already in an early stage of the CASI-F concept design process was not only to support their empowerment, but also to improve the CASI-F draft which will lead to higher acceptance of results.

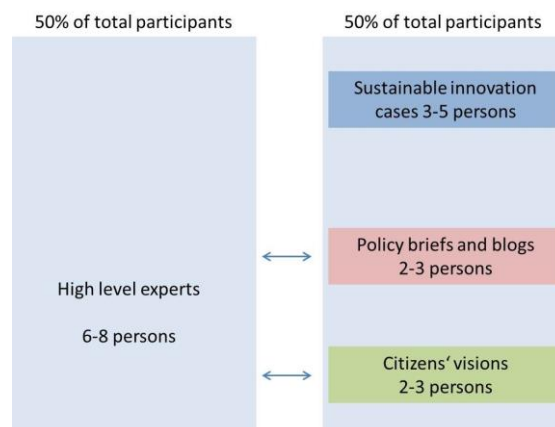
The stakeholder consultation workshops were only the starting point of informing the CASI-F development process - the elicited feedback to the CASI-F draft will serve subsequent CASI work and deliverables as well (e.g. WP5: Pilot projects on testing and validating CASI-F and WP6: Management of sustainable innovation).

In detail, the objectives of the workshops were:

- To inform target users of the CASI-F concept;
- To get feedback on the strengths and weaknesses of the CASI-F draft's matrix approach;
- To elicit the stakeholders' concerns related to the CASI-F draft;
- To elicit the stakeholders' suggestions of improving the CASI-F draft;
- To collect open questions from participants' perspectives.

The partners started with a stakeholder **identification process** of individuals who are likely to make use of the CASI-F. About 50% of workshop participants of the four stakeholder groups (6-8 stakeholders) were chosen from the group of people who have already been identified in the Sustainable Innovation (SI) cases, policy briefs/blogs and the citizens' visions. The remaining 50% comprised high-level experts (e.g. policy makers) in order to guarantee contributions to the 'strategy and programming level' of the assessment of SI.

Figure 4 Recruitment strategy for the stakeholder workshops – shares of stakeholder types



The following criteria were followed by the partners when inviting workshop participants:

- at least 12-15 persons;
- a good mix of experts in the field of climate action, environment, resource efficiency, and raw materials, as well as (sustainable) innovation and public participation;
- a good mix of cities/regions, if relevant;
- an even balance of men and women;
- 1/3 of participants must not be older than 35 years²;
- individuals who can advocate for the group they are representing and who will be able to communicate the results of the consultation.

Two weeks prior the workshops, the CASI-F draft was distributed to the participating stakeholders.

The consultations were organised as participatory workshops, lasting for around 5.5 hours. The workshops methodology was designed using different participatory techniques and exercises that stimulate and steer discussions and, at the same time, provide structured and visible outcomes.

The eight guiding questions during the workshops were:

1. Are the stakeholders better informed about the CASI-F concept after the workshop?
2. What are the strengths of the CASI-F matrix, which offers actions on a strategic, programming and operational level for each stakeholder group?
3. What are the weaknesses of the CASI-F matrix?
4. Can CASI-F help to move SI forward?
5. Can CASI-F support the work of stakeholders in future?
6. What are the most important concerns related to CASI-F?
7. What are suggestions for improving CASI-F?
8. What are the most important open questions?

First, an **interactive introduction round** was made, where participants were invited to position themselves on an imaginary map on the floor of the room according to the town/region they come from, the stakeholder group they belong to, and the level of SI they are working for. The CASI-F draft functions and applications were introduced, based on materials produced and provided by partner UNIMAN (leader of the CASI-F development).

In order to elicit the **strengths and weaknesses of the CASI-F matrix** approach, three matrixes with relevant actions were introduced to the participants. The matrixes were prepared in advance and were

² According to the Description of Work of the CASI project

based on 3 SI cases from CASIPEDIA which partners found relevant for the purpose of the workshop. Participants worked in heterogeneous groups and **made hands-on experiences** with the scheme of arranging recommended actions into separate boxes according to the level and stakeholder group they are most relevant to. Participants were split into three groups, discussing and validating each single recommended action. On an empty sheet each group wrote down further actions that came up during the discussions. The groups dealt with one matrix for 30 minutes. In a plenary session, all collected experiences were discussed and clustered on two pin boards or flipcharts using post-its: one for the strengths and one for the weaknesses of the matrix approach.

By using the method of ‘brainwalk’³, and by inviting the participants to go cognitively back to the whole picture of CASI-F as presented in the ‘introduction of the CASI-F’ session, the stakeholders were asked to reflect individually on what they personally found most relevant from their point of view regarding CASI-F. At the end of the workshop, the individual reflections were documented and shared to create a common inventory about the most relevant aspects. The objectives of the ‘brainwalk’ session were to:

- collect perceptions whether CASI-F can help to move SI forward;
- collect perceptions whether CASI-F is supportive to stakeholders;
- collect the most important concerns of the CASI-F draft from participants’ perspective;
- collect the most important suggestions of the CASI-F draft from participants’ perspective;
- collect the most important open questions from participants’ perspective.

The participants had 20 minutes time to reflect on the following five questions:

- Do you think that CASI-F can help sustainable innovations move forward? Why?
- In your opinion, can the CASI-F support you in your job with regard to sustainability and sustainable innovation? If yes, why? If not, why?
- What are the most important concerns related to CASI-F?
- What are your suggestions for improving the CASI-F?
- And what are the most important open questions?

Individual answers to these questions were written on cards (or post-its) and pinned on five pin boards (or flipcharts) – each pin board (or flipchart) presenting one of the five questions. After adding feedback from every participant, the moderator structured and summarised all contributions in the plenary.

2.2.1 Evaluation of the workshop methodology

In the **closing session** the participants were invited to give feedback to the workshops’ methodology.

According to the partners’ reports, the design of the workshops led to active engagement and vibrant discussions that elicited different opinions and perspectives. The participants’ feedback revealed that the setting as well as the scope and quality of discussions was highly appreciated. The group work for the assessment of the matrix structure was considered as a suitable format for understanding the CASI-F’s matrix scheme. Further, the puzzling of actions into the matrix was perceived as bargaining process between the four stakeholder groups and therefore had a high value in simulating the diversity of interests and needs that CASI-F deals with.

³ A method where participants silently walk through the room (from one flipchart to the others) and note down their thoughts on specified topics. These are then presented and discussed afterwards.

The workshops effectively ensured participation of stakeholders and transparency in developing the CASI-F. Moreover, involving stakeholders in the CASI-F development process was considered not only as a sign of transparency but also as a type of quality control.

2.3 Profile of the stakeholder workshops' participants

In total 158 stakeholders and country correspondents participated in the CASI-F consultation process - 74 of them were female and 84 were male; 31% were younger than 35 years and 81% came from an urban area. With regard to the group they were representing, 38% of the participants belonged to the field of 'Research and Education', 32% represented 'Business' actors, 15% came from 'Civil Society Organisations' and 15% were affiliated to the 'Governance' group.

Table 4 Profile of participating stakeholders

| | Men | Women | Younger than 35 years | Urban | Rural |
|--------------|------------|----------|-----------------------|----------------------|----------|
| Total Number | 84 | 74 | 49 | 128 | 30 |
| % of total | 53,16 | 46,84 | 31,01 | 81,01 | 18,99 |
| | Governance | Business | Civil Society | Research & Education | In Total |
| Total Number | 23 | 51 | 24 | 60 | 158 |
| % of total | 14,56 | 32,28 | 15,19 | 37,97 | 100 |

Table 4 shows that nearly 1/3 of the attendees were younger than 35 years old. The share of female and male participants in the workshops was also nearly balanced. There was a considerable overweight of participants living in urban areas (which can be justified with the location of the workshops and concentration of innovations in cities or specific country contexts), but this did not influence the outcomes of the workshops.

Table 5 shows participants' distribution by country according to the group they were representing.

Table 5 Profile of participating stakeholders per country

| | AT | BE | BG | CZ | DK | FI | DE | IT | PL | PT | SI | UK | CC | Total |
|----------------------|-----------|----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Governance | 1 | 3 | 1 | 2 | 1 | 2 | 1 | 3 | 3 | 3 | 3 | 0 | 0 | 23 |
| Business | 2 | 0 | 3 | 3 | 2 | 3 | 1 | 9 | 2 | 7 | 6 | 3 | 10 | 51 |
| Civil Society | 2 | 0 | 5 | 1 | 3 | 1 | 2 | 1 | 2 | 4 | 1 | 1 | 1 | 24 |
| Research & Education | 6 | 6 | 5 | 4 | 4 | 3 | 4 | 5 | 3 | 1 | 3 | 9 | 7 | 60 |
| In Total | 11 | 9 | 14 | 10 | 10 | 9 | 8 | 16 | 10 | 15 | 13 | 13 | 18 | 158 |

As seen from the table above, the majority of countries have managed to achieve the intended goal of 12-15 stakeholders participating in the workshop. Even in the countries where the desired number of participants was not reached, the partners reported that the discussions were fruitful and insightful.

Although a balanced recruitment strategy was designed and applied in all countries, the attendance of different stakeholder groups at the workshops revealed certain tendencies: stakeholders affiliated to the categories 'Research and Education' and 'Business' were better represented than those from the

‘Governance’ and ‘Civil Society’ groups. A possible reason could be that, so far, representatives from the former categories perceive the CASI-F draft as more relevant to them.

3 About this deliverable

This deliverable presents the results from the 12 national level stakeholder workshops and the workshop conducted with CASI country correspondents. Each workshop partner delivered a report containing all items presented on moderation cards/post-it notes during the workshops and summaries of the discussions that took place during the workshops.

The workshop reports were coded using MAXQDA⁴ software. This was followed by an analysis and systematic summarisation of the findings. The **778** coded segments were then analysed by using the qualitative content analysis method of Mayring⁵. The deliverable, consequently, does not only offer an interpretative framework of the findings but also contains the elaboration of trends and a systematisation based on relevance and frequency.

Annex 1 provides the code system elaborated to categorise the results of the stakeholder workshops per guiding question. Still, in the process of the code analysis the allocation of codes was slightly rearranged due to some responses being more relevant to other sections of the analysis.

Besides the presentation of the findings of the partners’ workshops this deliverable also endeavours to offer some conclusions concerning the further development of CASI-F with reference to the feedback of the CASI partners (see Chapter 6.)

3.1 Scope and limitations of this deliverable

The findings of the workshops are based on systematic documentation of stakeholders’ statements provided on post-it notes or moderation cards as well as on discussion summaries reported by the CASI partners. It is to be noted that due to this approach the feedback often consists of only key words or phrases. Therefore some of the examples (i.e. quotations) in the analysis are only key words and not – like usually used in qualitative research - elaborated quotations.

However, the interactive process between workshop facilitators and participating stakeholders – a classical characteristic of qualitative research – was not in the focus of the workshops; rather these can be understood as a manner to ‘test the ground’ for CASI-F and the CASI-F matrix. Although this **limits** the opportunity of **contextualising and interpreting statements**, the methodological approach, nonetheless, allowed for drawing valuable data and feedback.

The initial intention in the workshop methodology was to gather the stakeholders’ feedback along the stakeholder groups. However, after the workshop with the CCs – which served also as a sort of pre-testing workshop of the methodology – this approach was found as not fully adequate, as a significant number of participants defined themselves as affiliated to more than one stakeholder group. This phenomenon was repeated, for example, in the AT workshop, where in the introduction session around half of the participants affiliated themselves to more than one stakeholder group. Thus, this deliverable **cannot** continuously **interpret the elicited data along the different stakeholder categories**.

Another main characteristic of qualitative research is the renunciation of the quantitative paradigm of representativeness of the results. In adaptation of this principle this deliverable does not put its main focus on the numeric occurrence of certain key words but rather tries to elicit tendencies and cluster the

⁴ MAXQDA is software supporting the analysis of qualitative data.

⁵ Mayring, P. (2003). *Qualitative Inhaltsanalyse. Grundlagen und Techniken*. Weinheim: Beltz.

perception of CASI-F. Even though the results are also presented through figures that are based upon numeric allocation the **deliverable does also include single cases** (i.e. statements/opinions) as they can provide valuable impact for the further development of CASI-F. This approach seems especially fitting taking into account the specific situation of stakeholder workshops in 12 different countries which create their own specific dynamics, even if the provided workshop methodology aimed at securing cross-country comparability.

4 The Results

In the following the findings of the analysis both of the stakeholder workshops conducted by the 12 CASI partners and of the CCs workshop are presented. The analysis is structured according to the gained insights into the thematic scope and the focal points of the received reports. Due to the large amount of feedback collected, the analysis will focus on the most important and most frequent issues. Less frequently mentioned topics will also be discussed - or simply listed - although not in the same detail as the main narratives.

4.1 Feeling informed about CASI-F

A major objective of the workshops was to inform target users of the CASI-F concept. As outlined in the methodology in Section 2.2 the participants received the CASI-F draft two weeks prior to the workshops. The information material was considered comprehensive by the majority of the participants, as seen on Table 6.

Table 6 The information materials was comprehensive

| | Total Number | % |
|-------------------|--------------|------|
| Strongly agree | 43 | 29% |
| Agree | 84 | 56% |
| Disagree | 10 | 7% |
| Strongly disagree | 6 | 4% |
| Don't know | 7 | 5% |
| Total | 150 | 100% |

Table 7 I felt well prepared after reading the information material

| | Total Number | % |
|-------------------|--------------|------|
| Strongly agree | 26 | 18% |
| Agree | 70 | 48% |
| Disagree | 33 | 22% |
| Strongly disagree | 9 | 6% |
| Don't know | 8 | 5% |
| Total | 147 | 100% |

The participants were asked to indicate their perception in a quantitative evaluation sheet. Table 8 shows that the majority 'agreed' with the statement 'After the workshop I feel well informed about the CASI-F concept'⁶. This leads to the conclusion that the goal of informing stakeholders about CASI-F was reached and that the vast majority of attendees felt well informed after the workshops were conducted.

⁶ The question 'After the workshop I feel well informed about the CASI-F' was not posed in the CC workshop and the Danish workshop, therefore the total number of responses to this question is lower than the total number of workshop participants.

Table 8 Feeling informed about CASI-F

| | Total Number | % of total |
|-------------------|--------------|------------|
| Strongly agree | 52 | 42,28 |
| Agree | 65 | 52,85 |
| Disagree | 4 | 3,25 |
| Strongly disagree | 0 | 0,00 |
| Don't know | 2 | 1,63 |
| Total | 123 | 100,00 |

4.2 Source of inspiration – strengths of the CASI-F draft

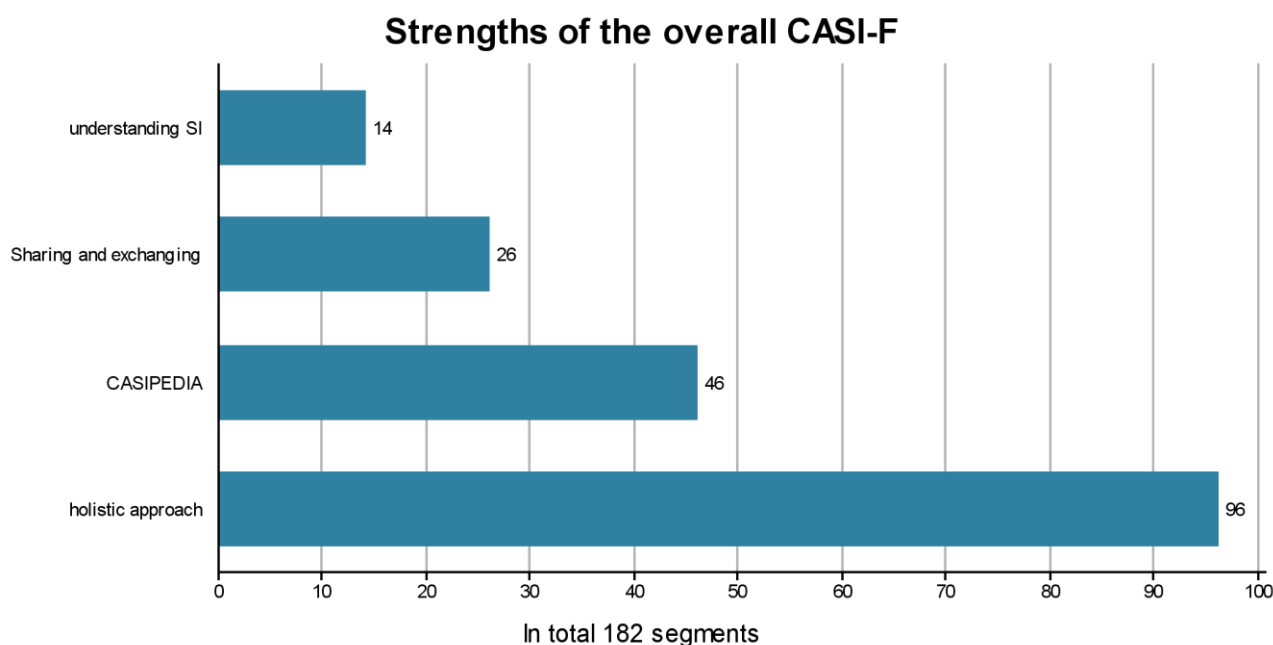
The following section comprises the feedback that was received from the stakeholder workshop session: *'Brainwalk – experiences with the CASI-F draft'* as well as from the feedback received from the questions *'Do you think that the CASI-F tool can help sustainable innovations move forward? Why do think it could? Why do you think it can't?'* and *'In your opinion, can the CASI-F tool support you in your job with regard to sustainability and sustainable innovation? If yes, why? If not, why?'*

The strengths of CASI-F are clearly acknowledged (AT, CC, BG, CZ, DE, DK, FI, IT, PL, PT, UK), as CASI-F is a multifunctional framework that provides inspirations, comparability (BE), perspectives from *'outside'* (AT) and thus incentives for new SI. It is considered a very useful and elaborated concept, backed up with *'CASI intelligence'* (CZ). It has a potential to support strategic decision-making through better understanding of SI. Especially CASIPEDIA can be used for inspiration (DK), as it offers orientation, stimulation, feedback, reflection and outside perspective (AT, PT). The possibility to learn about similar projects may mitigate fears when starting a new SI (AT).

Figure 5 Strengths of the overall CASI-F' illustrates the main strands of identified strengths of the overall CASI-F draft. The CASI-F was especially praised for its 'holistic approach' that includes multiple functionalities and is well elaborated, detailed, in-depth going and holistic. Comments refer to the potential contributions of CASI-F to the planning and structuring of a SI, the integration of different stakeholder groups and the incorporation of policies, visions and SI cases into one framework. As the second bar labelled 'CASIPEDIA' shows, the participants frequently highlighted their appreciation of the database CASIPEDIA with sustainable innovation practices. Not only the concrete manifestation as a database was acknowledged, but also the general function of CASI-F as a 'knowledge hub' that offers the possibility to foster a SI stakeholder network. Comments regarding this knowledge functionality of CASI-F were labelled 'sharing and exchanging'. The code 'understanding SI' can be seen as a consequence of this functionality. Among this code all segments were subsumed which demonstrates that the CASI-F contributes to a better understanding of SI by stakeholders.

It is to be mentioned that these codes are not mutually exclusive. To enable the drawing of conclusions it was nonetheless indispensable to distinguish between different strands of argumentation.

Figure 5 Strengths of the overall CASI-F draft



4.2.1 A multifunctional framework – the holistic approach of the CASI-F draft

CASI-F is clearly considered to be very well elaborated, detailed, in-depth going and holistic (AT, BG, CZ, DE, FI, PL, PT, SI, UK). One of the positive characteristics of CASI-F's holistic approach is that it supports the planning, structuring, preparing and even evaluating SI (AT, BG, CZ, DE, IT, PT, SI, UK). The 'pragmatic' (CZ) and 'standardised' (IT) approach is useful both in the conceptualisation and management of a SI (FI). CASI-F contributes to the development of a *'macro-framework for management of sustainable innovations'* (BG). Additionally, CASI-F simplifies the collection of necessary data to assess the own SI's relevance towards sustainable innovation and supports identifying strategic actions (IT) as well as strategic thinking and planning (CZ, PT). While it enables strategic thinking, CASI-F also fosters brainstorming and the generation of new ideas (BG, DE, IT). With its comprehensive approach *'CASI-F is complex enough to point out strong and weak points of any SI'* (CZ, PL) and therefore contributes to benchmarking SIs (CZ, IT). CASI-F allows assessing the SI impact at economic, social and sustainable level for different stakeholders (PT). The approach to base the CASI-F *'on actual sustainable innovation cases'* (FI) is seen as a good starting point and bears the potential to get to *'complex evaluations of possible results'* of SI (CZ).

Furthermore, the CASI-F provides a useful framework for bringing together different stakeholder groups (AT, CZ, DE, DK, IT, UK). It has a structural influence on discussions about SI (DE) and raises awareness about different stakeholder groups relevant to SI (DK, IT). CASI-F integrates *'different perspectives, international contexts and different structures'* (DE) and provides incentives to users to reason about aspects they would probably *'skip when planning'* (PL). Hereby the CASI-F also helps to promote SI in general and to different stakeholder groups in particular (BG, CZ). At the same time it helps the different stakeholder groups to grasp the context of SI and to assign responsibilities (CZ).

The *'integration of policies, visions and sustainable innovation initiatives'* (CZ) into CASI-F is appreciated as an added value (CZ, UK), because it helps to increase the understanding of *key dimensions, aspects and critical factors* of SI (CZ) and the *'roles of the seven types of innovations towards the EU sustainability goals'* (CZ). Visions are seen to be an important leverage to engage citizens, to raise awareness for sustainable innovations, to gain knowledge about tendencies or trends (CZ, PL) and to get *'out-of-the-box thinking'* into the innovation process (UK). By providing space to share visions among different stakeholder groups CASI-F could also help to promote the buy-in or take-up of actions (UK) and add supportive services for a product

(FI, CZ). Additionally, the whole concept identifies a *'gap in potential new markets'* or business (UK) and can potentially be very useful for start-ups.

4.2.2 Sharing and exchanging – the potential to foster a SI stakeholder network

CASI-F does not only have the potential to be a knowledge sharing platform for SI cases (AT, CZ, DK, PL, PT, UK) but also *'helps to create a common space of ideas for all types of actors'* (BG). It supports networking with similar projects and enables the exchange of information and knowledge (AT, CZ). The CASI-F has the potential to foster collaboration and exchange of experiences (CZ, DK, UK) as well as add value through enabling cooperation and generating synergies (AT, CZ).

Stakeholders pointed out that the opportunity to learn or get *'recommendations'* (PL) from all over Europe (AT) is an essential feature to prevent mistakes others have made (PL).

Educational programmes at universities could follow the logic of the framework (BG) which in turn could help systematising the innovative ideas (BG).

4.2.3 Improving the understanding of SI – the contribution of the CASI-F draft

Another strength is the overall contribution to a better understanding of SI, which will contribute to the *'better formulation and implementation of policies and measures'* in the field of SI both on national and regional level, as well as of better implementation of EU projects in this field (BG, CZ, FI, IT).

Beyond that CASI-F is seen as an initiative that contributes to the *'debate, organisation and dissemination'* of concepts of SI (PT). In this sense CASI-F is also seen as a framework contributing to the EU Horizon 2020 sustainability goals (CZ).

4.2.4 A rich source of information – CASIPEDIA

One of the three building blocks of CASI-F – the online database CASIPEDIA – has received special attention at some of the stakeholder workshops. Participants commended CASIPEDIA for its richness of data (AT, BE, BG, CZ, DE, DK, FI, UK). It is seen as *'systematic, structured and understandable approach in generating and presenting good practices'* (BG) and could serve as inspiration for innovators (CZ, DK, PL, PT). CASIPEDIA *'contains very rich and interesting information for policy analysis and scientific analysis on SI initiatives'* (BE). In this regard CASIPEDIA allows innovators to learn about SIs faced with similar challenges (DE, CZ, UK). It is a *'fantastic tool for researchers'* (identifying example case studies for training activities, informing lectures, seminars) (UK) and helps to spread one's SI (FI, PL).

Furthermore, CASIPEDIA has great potential for inspiring new ideas and enabling the transfer of practices from one field to another bridging the gap between sectorial approaches (AT, BG, DE).

Moreover, it was stated that if the data in CASIPEDIA would be further analysed by researchers the information could be very interesting for policy-makers (BE). To fully exploit CASIPEDIA's potential sophisticated search mechanism with keywords, categories and advanced filters can be added (AT, PL).

4.3 Further potential – Concerns and open questions about the CASI-F draft

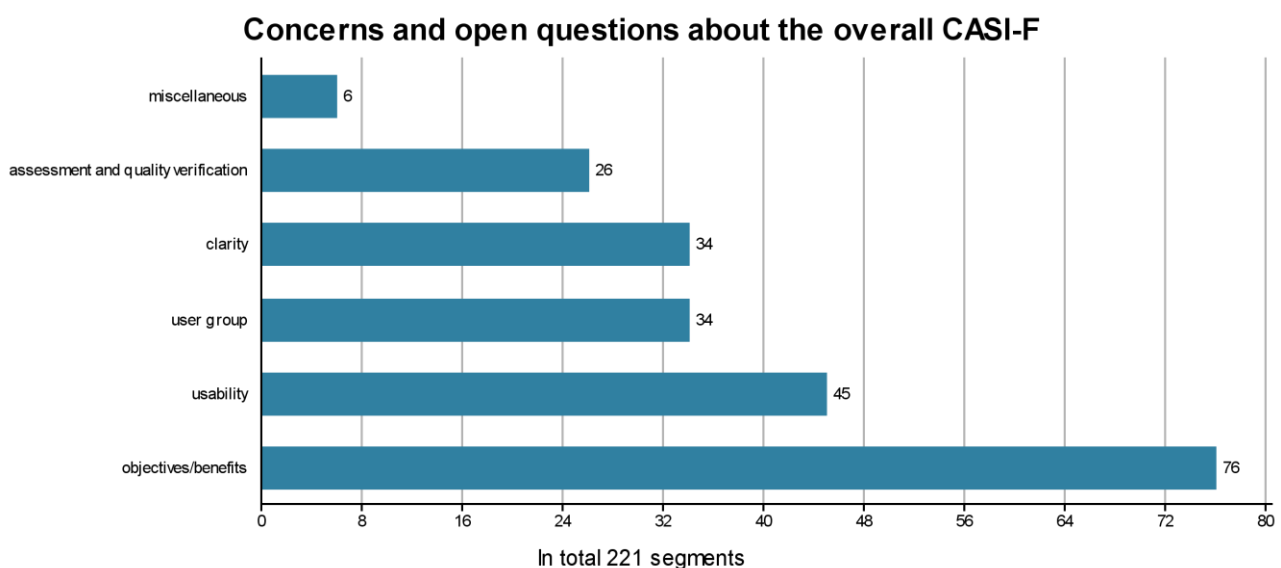
The following section comprises the feedback that was received from the stakeholder workshop sessions: 'Brainwalk – experiences with the CASI-F draft' as well as the feedback received from the questions: *'Do you think that the CASI-F tool can help sustainable innovations move forward? Why do you think it could? Why do you think it can't?'* and *'In your opinion, can the CASI-F tool support you in your job with regard to sustainability and sustainable innovation? Yes, why? No, why?'* Feedback provided in the session 'strengths and weakness of CASI-F's matrix scheme' was also incorporated into this section when referring to the CASI-F matrix.

The concerns and open questions are clustered into the following areas: clarity, objectives and benefits, usability, user group, assessment and quality verification, stakeholder/actor involvement, terms/concepts, miscellaneous.

As seen in **Fehler! Verweisquelle konnte nicht gefunden werden.6**, the group with the highest number of statements assigned to is the one of 'Objectives/benefits'. The statements allocated to this code refer to basic questions about what CASI-F exactly aims to achieve and how CASI-F is beneficial for its users. The second bar - 'usability' - consists of concerns and open questions regarding the applicability of CASI-F as well as its specific areas of use and its user-friendliness. Another aspect that was deemed unclear in some of the stakeholder workshops was the target group of CASI-F. These statements belong to the code 'user group'. In the group 'clarity' the reader can find subsumed all comments that ask for further specification or more precise presentation of CASI-F as a whole.

As in the previous section, these codes are not mutually exclusive, but rather overlapping.

Figure 6 Concerns and open questions about the overall CASI-F draft



4.3.1 What are the objectives and benefits of CASI-F?

In a number of countries there were stakeholders according to whom the core aims of CASI-F were somewhat intangible (AT, BE, BG, CC, DE, DK, FI, PT, UK) and need to be better formulated, as to what the outcome of CASI-F is and which issues it aims to address/which goals it aims to achieve (e.g. BE, DK, FI, SI). Therefore, clear incentives and information about the knowledge and the benefits to be expected from the framework are needed to successfully address the stakeholders.

Other comments referred to the scale to which CASI-F can be applied (CC, FI) – small and/or large scale businesses and organisations - and the process of evaluating its effectiveness. Further attention was brought to the need to assess innovations' long-term and indirect impacts along with the shorter-term and more direct effects. The need to further study aspects such as values, norms and cultural factors was also mentioned as potentially adding value to the instrumental rationality which CASI-F displays (UK).

Some other comments were related to the potential benefits of CASI-F and the factors that might impede the full realisation of these benefits (AT, CC, CZ, DK, FI, SI, UK). These factors, according to some of the participants, include the time required for gathering and inserting data into the platform as well as limiting the scope of CASI-F to certain aspects of the innovation management process. Furthermore, it was mentioned that some innovators might be unwilling to share ideas and perceived challenges in the platform due to fear of competition.

4.3.2 How to improve the usability of CASI-F?

The usability of the CASI-F draft is another area which was discussed by the participants in the stakeholder workshops (AT, BE, DE, DK, FI, SI, IT, PT, UK). Reducing complexity so that non-experts can fill in the data without experts' assistance was highlighted as important for the successful application of the framework (DK, IT, SI). Therefore, it was recommended to provide *'a solid and user-adapted description of how to use the cases in processes that aim to strengthen sustainability or innovation'* (DK, AT, BG, PL, IT).

Further questions which were discussed by the participants in the workshops included, for instance, the possibility of CASI-F becoming a platform for exchange of experiences (PL), the availability of a benchmarking functionality within the framework (AT), the capacity of users to provide all necessary input to effectively use CASI-F (DK, IT, UK), the appropriate timing of applying CASI-F (DE) in regard to a specific innovation, the generation of an action plan by the platform (IT), the application of the proposed actions in practice (SI), as well as the knowledge and learning it has the potential to generate (BE).

4.3.3 Who are the intended users of CASI-F?

Considering that different stakeholder groups may have different approaches and needs (in regard to knowledge, language, results, access), improving the definition of the user groups targeted by CASI-F was mentioned by stakeholders in a number of countries (AT, BE, BG, CC, DE, DK, FI, IT, SI, UK) as necessary to improve the framework's usability and effectiveness. The approach to consider all stakeholder groups equally in the planning of SI was mentioned as potentially impeding the effectiveness of CASI-F (DK, FI, IT). At the same time, if all stakeholder groups are potential future users, it was recommended to further improve the user-friendliness of CASI-F (BE, CC, FI, UK). It was also suggested addressing different stakeholder groups with different approaches or versions of CASI-F (BE).

4.3.4 How to make CASI-F more precise?

At some workshops (AT, CZ, DE, DK, PL, PT, SI) stakeholders have recommended to further reduce the complexity and improve the clarity of CASI-F. Avoiding the use of too generic and academic language in the framework will allow *'to generalise individual cases in concrete recommendation for particular stakeholder/country/situation'* (CZ) and will give room to relate to specific contexts and situations (DK).

The identification of the innovator within an innovation process was also discussed as potentially challenging when applying CASI-F (e.g. an example was given with public tenders where it is unclear whether the innovator is the public administration which has defined the criteria of the tender or the applicant which has realised the project). Based on the experiences during the workshops of puzzling the actions into the matrix, the question of how this interaction process between the four stakeholders groups could be adopted into the management frame was raised (DE).

In several countries the integration of sustainability considerations into the assessment framework was underlined as requiring more emphasis (AT, BE, DE, FI), as well as specific criteria on evaluating the sustainability of the selected cases. Furthermore, there were a few comments on the definitions used within the framework, such as 'innovation' (DE), 'sustainable innovation' (AT) and 'sustainability' (DE). Another question referred to social entrepreneurs and the group of stakeholders they belong to, according to the used categories within the framework (BE).

4.3.5 What about quality verification within CASI-F?

Comments clustered under this point follow two different narratives. First, quality control of the cases in CASIPEDIA was raised as essential for the successful application and promotion of CASI-F. Reducing the number of *'unchecked success stories without verification'* (PL) by proper monitoring and quality check procedures was highlighted as key for the effectiveness of the framework. Avoiding possible selection biases in the cases was also discussed by some participants (AT, UK).

The need for monitoring and evaluation of the recommendations and results of the SI based on sustainability criteria was also stressed in a number of countries (AT, CZ, DE, IT, PT, UK). Another point raised was that although cases included in CASIPEDIA are currently perceived as good practices, they may prove unsuccessful in the long run (CZ). A question arose also on the prioritisation of innovation goals based on the societal and environment impacts (UK).

4.3.6 Miscellaneous open questions regarding the CASI-F

A number of questions on the CASI-F could not be clustered in the above sections. To provide a comprehensive picture of the discussions which took place in the national level workshops they are presented below:

- Does CASI-F incorporate the demand-side of SI? (BE)
- Does CASI-F incorporate social justice? (BE)
- Does CASI-F help innovators to map/identify/measure societal impact? (BE)
- How to fit the real intention (versus green washing intentions) into the framework? (CC)
- Does CASI-F pay attention to behavioural organisation change and cultural change? (BE)
- Will the frame capture the dynamism of SI? (UK)

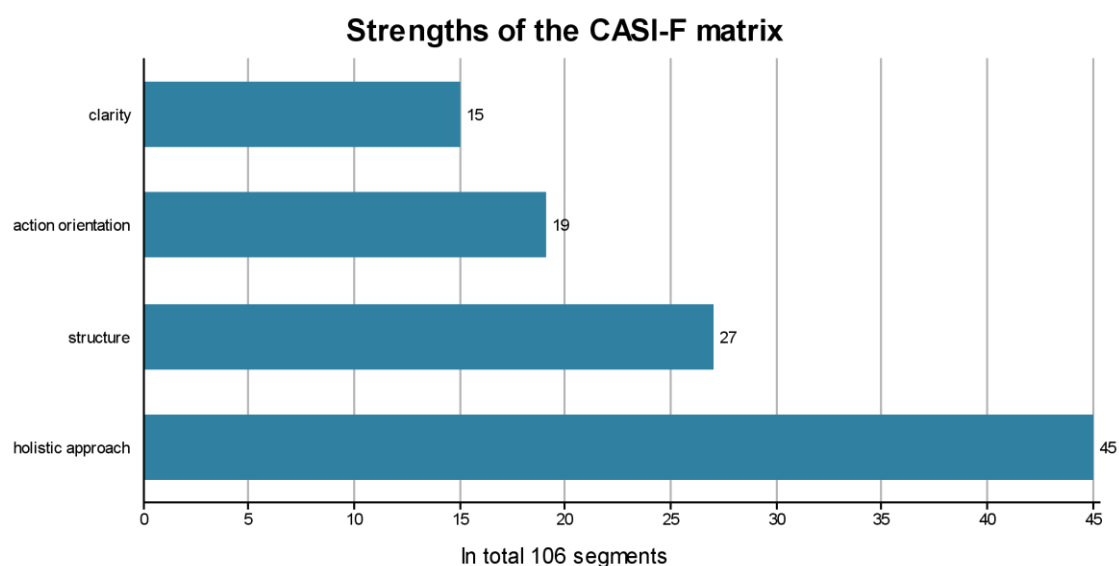
4.4 A good overview – strengths of the CASI-F matrix draft

Feedback related to the strengths of the matrix structure mainly focussed on four areas: its holistic approach, the structure of the matrix, its clarity, and its action-orientation.

Figure offers an insight into the distribution of expressed statements regarding the draft version of the CASI-F matrix. It shows that out of 106 segments assigned to the category 'strengths of the CASI-F matrix' most of the comments (45) were subsumed under the code 'holistic approach'. This code was created for all comments that referred to the CASI-F matrix as a very useful scheme to account for different interests and objectives of various stakeholders and how these could influence the process of developing a SI. Another code was formed containing comments related to the matrix structure itself. 27 segments belong to this code named 'structure' and express the satisfaction of the stakeholders with the concrete matrix. Further established codes were 'action orientation' and 'clarity'. The first one was derived from comments pointing out the usefulness of the matrix in planning and implementing a project; the second stems from statements describing the matrix as an easy understandable scheme.

Regarding the codes it is to say that these are not mutually exclusive. On the contrary they are interconnected and overlapping. To be able to draw conclusions it was nonetheless indispensable to distinguish between different strands of argumentation in the participants' statements.

Figure 7 Strengths of the CASI-F matrix draft



4.4.1 It takes into account different interests and objectives – holistic approach of the CASI-F matrix draft

First of all the structure of the matrix offers the opportunity to think about different stakeholder perspectives and interconnections between the four groups (BE, CC, CZ, DK, FI, PL, SI, IT, UK, DE, PT). Users can easily take into account *'different interests and objectives'* (DE) of various stakeholders which in turn allows to consider the SI as a whole (PT). Through the multi-stakeholder perspective it gets possible to take the *'implications and interdependencies'* (CZ) of an SI into consideration.

Moreover, the matrix could foster dialogue between different stakeholder groups and thus also could contribute to a *'change in attitude'* (PL) of different stakeholders/actors (DK, PL). The matrix therefore contributes to a SI conceptualisation and enables the innovators and stakeholders to identify common goals and discrepancies.

4.4.2 It allows to get the 'big picture' – structure of the CASI-F matrix

The matrix allows the user to get the *'big picture'* (FI) of SI by allowing the incorporation of the different stakeholders' perspectives in a structured, systematic and transparent way (BG, CC, PT, SI UK). The stakeholders recognise the matrix to offer a *'good overview'* (SI) about SI; hereby, the matrix makes it possible to structure and manage the SI while taking necessary contextual information into consideration. The matrix is considered as a *'logically developed and structurally sound'* framework (BG), which takes into account *'essential issues and aspects'* (FI) of SI.

Moreover this approach invites innovators to think about the applicability of innovations in other areas and for other stakeholders (BG, CC) and permits to get a quick and structured overview about important implications for the management of SI (PT, UK).

4.4.3 Easily understandable - clarity of the CASI-F matrix draft

The matrix is easily understandable (BG, CC, CZ, DE, FI, IT, SI, PL, UK) and its structure allows to *'simplify and synthesise complex phenomena'* (IT) through the reduction via a step by step approach (DE, IT). Furthermore, the matrix is recognised as clear and readable (BG, CC, PL). Different stakeholders of one and the same SI may easily understand their role in the larger scope of a SI and its societal impact (CZ). Next, the matrix scheme was considered a *'structured, systematic and transparent approach'* (SI) in some of the

stakeholder workshops (CC, BG, FI, SI). It was said that the matrix supports the simplification of complex processes through an easy to fill-in scheme (CC, IT, SI).

4.4.4 Action orientation of the CASI-F matrix draft

Various stakeholders claimed that the strong focus on action planning is a remarkable strength of the CASI-F matrix (BE, CC, CZ, DE, UK, IT, PT). This does not only help to improve the process of planning and implementing the SI practice, it also represents a simplification of the project context and hereby contributes to an exhaustive mapping of potential actions of the various stakeholders and the elaboration of a detailed action plan (PT, UK). The three levels of actions (strategic, tactical/programming, front-line/operational) were regarded by some as a time line, which could assist in an improved planning of the specific actions at specific stages of project development. This allows them to anticipate the possible impacts of the actions on different stakeholders (CZ, FI, SI, PT). This makes the matrix additionally valuable (DE, PT). Furthermore, the actions allow basic orientation and define measures needed that are aligned with the objectives and goals of an organisation (PT). Another positive side effect of the action orientation is the assessment process, which offers a reflection process on the relevance and feasibility of initiatives and how sustainable they are (PT).

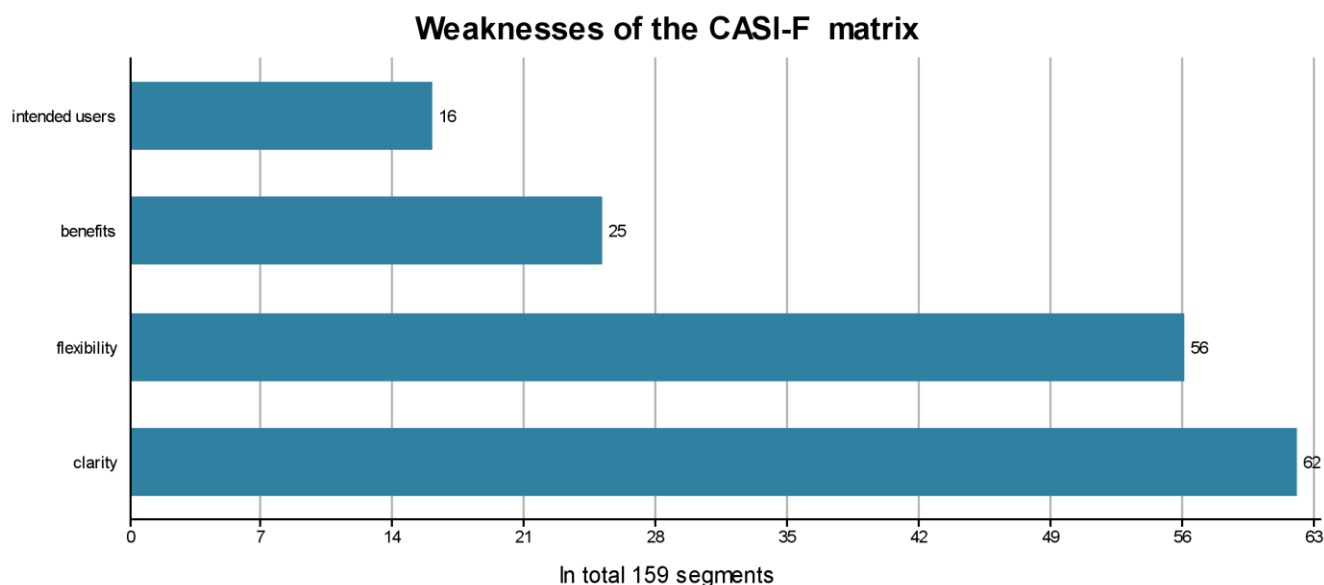
4.5 Need for improved clarity and flexibility – Perceived weaknesses of the CASI-F matrix draft

The discussed shortcomings of the draft of the CASI-F matrix can be clustered in five main areas: need for improved clarity, structural rigidity, action orientation, indistinct user groups and need for better delineation of the user benefits. Some of the main points of concern collide with some of the most emphasised strengths of the CASI-F matrix (structure, action orientation, clarity), which indicates that stakeholders perceive the matrix in different ways, depending on their background and their intended use of the matrix. Due to the described limitations of the deliverable (see Chapter 3.1) the gathered feedback cannot always be assigned to a specific stakeholder group.

Figure 8 presents the codes regarding the elicited shortcomings of the CASI-F matrix. The code to which the highest number of segments was assigned is named 'clarity' and contains statements related to the core aims and objectives of the matrix as well as terms and categories of the matrix. Almost as many segments were related to the 'flexibility' of the matrix. These segments dealt with concerns about representation of interconnections, overlaps and processes. Under the code 'benefits and intended users' all statements regarding questions about the targeted user groups of the CASI-F matrix and the benefits of the use of the matrix were gathered.

Once again it is to be taken into account that these codes are not mutually exclusive. On the contrary they are interconnected and overlapping.

Figure 8 Perceived weaknesses of the CASI-F matrix draft



4.5.1 Objectives and concept – Need for improved clarity of the CASI-F matrix draft

In general, a significant number of participants considered the draft of the CASI-F matrix as somewhat ambiguous in regard to its core aims and objectives (AT, BE, CC, DE, DK, FI, SI, PT, UK). The matrix scheme, according to some, needs to be simplified and made more user-friendly (BE, SI).

In a great number of countries stakeholders had questions regarding the definitions and categories used within the framework (AT, BE, BG, CC, DE, DK, FI, IT, PL, SI, UK) - both concerning the horizontal levels (Strategic-Tactical/Programming-Front-Line/Operational) and the vertical stakeholder categories (Governance-Business-Civil Society-Research & Education). Besides, the importance of the different stakeholder groups for the different SI was discussed in a number of workshops, as well as the heterogeneity within the stakeholder groups (different actors with different interests, which are the relevant ones for the project; e.g. big corporations vs. social enterprises)?

While the categories 'Governance' and 'Civil Society' were the ones which were most frequently discussed, it was stated that the other two categories, 'Business' and 'Research & Education' also need further clarifications such as which actors belong to this groups (BE, DE, DK, FI, IT). Furthermore, it was debated if every relevant stakeholder fits into one of the categories and how to identify the relevant stakeholders for a specific SI within the predefined categories (AT, CZ, PL), e.g. Prosumers (AT).

Comments on the action levels are mainly focussed on the need to improve the distinction between the three different horizontal levels (AT, BG, DE, FI, IT, UK). Participants raised questions regarding both the separation between the strategic and the tactical level (DE, IT, SI, UK) as well as the tactical and the operational level (PL, IT). It was suggested that a well-designed glossary explaining terms and levels (CC, SI) would be of great help for the future promotion of CASI-F (see also Section 5).

4.5.2 A static model – Need for more flexibility of the CASI-F matrix draft

Another topic that was stressed by participants of most of the stakeholder workshops is the need for improved flexibility of the draft matrix (BE, BG, CC, CZ, DE, DK, FI, IT, SI, UK). The matrix is described as '*a static model*' (IT), which does not allow relating one action to more than one stakeholder (BE, DE). Thus, more room is needed for the representation of the interconnectedness of actions, stakeholders and innovators (DE, SI, IT, UK). The strict separation of the groups hinders '*an integrated perspective*' (DE) and hereby makes the illustration of the interactions and overlaps between the different stakeholders, for

example, through intermediate zones, more difficult (SI, IT). Furthermore it was observed that it is hard to represent both dynamic and static actions as well as horizontal cooperation in the matrix (UK, BG).

4.5.3 Who is going to use it? – Intended users and target groups of the CASI- F matrix draft

A number of comments referred to the intended users and target groups of the CASI-F matrix (BE, BG, FI, CC, IT, SI). It was recognised by some participants that it would be difficult for the matrix to serve four different groups of stakeholders given the stakeholders' different interests and needs (DK, DE, FI, IT). The issue of involving intermediary or consultants to support the process of using the framework was also discussed by stakeholders (BE, DE).

4.5.4 What is the motivation to use it? – Benefits for the users of the CASI-F matrix

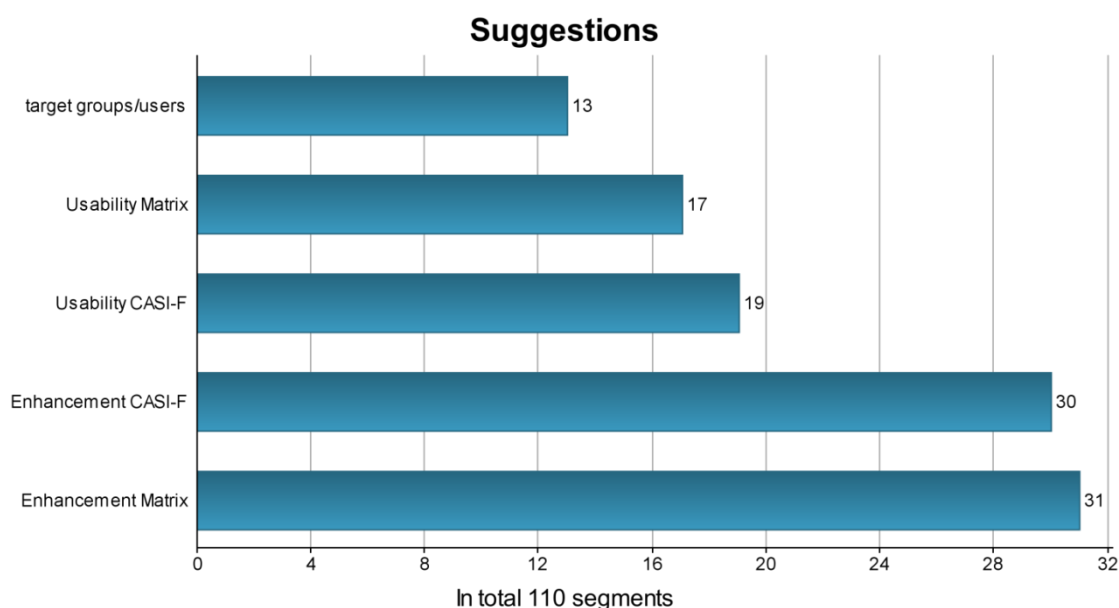
The benefits and added value of the matrix were also a topic of discussion during a number of workshops (AT, BE, CC, CZ, IT, PT, SI). It was highlighted that a contextualisation of the matrix would be needed to fit its use to different cultural and political backgrounds (DE, FI). Additionally, the possibility to derive measurable data from the matrix would be an added value for the users (CC). The practicalities of the way the matrix could function as a management tool for SI in the future (DE, CZ), as well as the monitoring of the data entered (SI) were also discussed by the participants.

4.6 Moving in the right direction - Suggestions to improve CASI-F draft

The participants were asked to make suggestions for the improvement of the CASI-F. Both suggestions to the improvement of the CASI-F in general and the matrix scheme were made and are presented in the following section.

Figure 9 gives an overview of the diversity of suggestions which were made. It shows that participants recommended enhancing the scope of both the CASI-F draft and the matrix by e.g. including financing issues (CASI-F) or a time-frame (the matrix). Other suggestions dealt with improving the usability of the matrix and the CASI-F. Including glossary and clarifying the terms and categories used within the framework and the matrix was recommended. While in the figure the suggestions are separated alongside their reference to the CASI-F or the matrix, in the text they are merged together (e.g. the codes 'Usability Matrix' and 'Usability CASI-F' are presented in Annex 1). The last code 'target groups/users' contains comments that bring forward suggestions regarding the user groups of CASI-F.

Figure 9 Suggestions for further development of the CASI-F draft



4.6.1 Clarity and guidance - Suggestions towards more user-friendliness of the CASI-F

A number of issues which could improve the usability of **CASI-F** were identified by the stakeholders. First of all, CASI-F should be as easily usable as possible (CC, DK, FI, PL, PT). Clear definitions of CASI-F's objectives and targets, its concept and its context (AT, DK, FI, IT, SI, UK) would be a benefit as well. The issue of clarity relates also to the focus and the scope of CASI-F (AT, DE, DK, SI, UK). At the moment, CASI-F is seen more as a self-evaluation instrument used in preparation of SI than as an evaluation tool for assessment of SI (SI). Instead, it was suggested to put more focus on management and coordination requirements, such as decisions concerning *'resources, conflict constellations, trade-off between the different dimensions of sustainability'* (DE).

A better communication of the benefits and the process of using the CASI-F is advised (AT, SI, PL, UK). What needs to be clear for stakeholders is *'Why going through the process, how it is going to engage, what it is expecting and who is being involved'* (UK).

- Clear instructions in general (SI) and in particular on how to map a SI in **CASIPEDIA** and how to use the CASI-F (AT, PL) – preferably in different language versions (PL) - are prerequisites to make CASI-F more accessible.
- It is also suggested to develop some sort of user manual for the assessment process (PL).
- The user interface on CASIPEDIA should be a step-by-step guide rather than a broad and complete overview (DK, FI).
- Better search and sorting functions are recommended, e.g. related to the success factors of a particular SI (AT).
- Furthermore, the language used in the CASI-F draft should be less academic (AT, BG, DK) to make it more usable for non-expert users or users from civil society.

More clarity regarding the terms/tags used in the **matrix** was proposed (AT, IT, UK). The most unclear terms are 'tactical', (AT, IT) 'civil society' (IT, UK) and 'governance' (which was already renamed into 'government' following stakeholders' feedback). It is suggested to distinguish between the decision levels as following (IT):

- Strategic
- Implementation
 - Programming
 - Operational

Another suggestion is to split 'civil society' into (UK):

- Funded/providing organisations
- Popular/campaigning political groups

Apart from ideas on how to optimise the matrix structure, provision of guidance on the terms and categories was requested.

- For a better understanding, a setup of *'an info-box for every category /action level definition'* (AT) or a simple provision of a legend (IT) was recommended. Providing examples of stakeholders in each category who may be involved in the innovation would be useful as well. *'Who may take on the action at the strategic/programming/operational level?'* (CC).
- Furthermore, advice is required on how to induce actions for other stakeholders (CZ) and related to the *'structure, degree of detail of the information delivered through the matrix'* (AT).
- However, actions should be defined as recommendations; otherwise the *'content is not interpretable'* (AT).
- Another area of suggestions propose a more dynamic framework (BG, BE, CC, DE, DK, FI, IT, SI, UK), which reflects the *'dynamics occurring during the process of planning and implementation'* (DE) and between different stakeholder groups (CZ, DE, DK, FI, IT). In other words, the columns should be

interconnected both vertically and horizontally (CZ, IT). In order to illustrate the interconnection between the three levels and stakeholder groups, the use of graphic images would be helpful (BE, BG).

- The process character of actions should be presented by the integration of a timeline (CC, DE, DK, IT).
- Actions could be marked by symbols (e.g. positive or negative) *'distinguishing concretely the improvement and opportunities'* (PT).
- Furthermore, the matrix should support the allocation of actions which are jointly created by different stakeholder groups (DE, IT).

4.6.2 Use the full potential – Suggestions towards enhancement of CASI-F

On the other hand, a substantial number of recommendations propose to even extend **CASI-F** by a number of features to make it more user-friendly (CC, CZ, DE, DK, FI, IT; PT, SI, UK).

- The provision of relevant networks (FI), and links to other tools (FI), would be useful. Functionalities to learn about the compatibility with EU policies on the SI (PL) and a resource library should be added (UK).
- Information in terms of financial issues (CC) could be delivered. *'Economic comparisons'* (CZ), as well as calculation methods regarding financial benefits of each type of sustainable innovation should be added (SI) and advice on how to measure the resources necessary for the implementation of actions (PT).
- The usability could be further improved, *'if it made use of information from other similar projects, and their expert assessments offering directly three most usable actions'* and one *'would only need to fill in the basic data of the project'* (FI).
- The potential of supporting the exchange and cooperation of different types of actors (AT, BE, CZ, DK), for example related to the question of *'how to prioritise between sustainability and economics'* (DK) should be addressed in the further development.
- CASI-F should also take into account *'why good ideas have failed to succeed'* (UK) and/or why specific sustainable innovations were not-funded to learn from the barriers and obstacles encountered by other innovators (CZ, UK).
- The framework should be complemented with indicators for monitoring and assessment of the results (PT).
- As an alternative to asking users about information, interactive games could be an added value (UK).
- Moreover, given the existence of disruptive innovations, CASI-F should capture how goals and targets evolve and change over time (UK).
- More emphasis should be put on sustainability aspects (DE, DK, UK). In assessment of SI, the analysis of social and environmental impacts should be prioritised. CASI-F furthermore should help *'to come to the level of a sustainable relaunch of core processes instead of green washing'* (DE).
- CASIPEDIA could be enriched with good practice SI cases in general to achieve a critical mass (CC, CZ, PL) and in particular to *'influence other stakeholders'* to *'move along the desirable path'* (CZ). Students could help to enlarge the database (CC). A brief description of the institutional, geographical and political context of the SI country should be added, in order to support the users to comprehensively evaluate whether the SI fits to their SI (CZ).

Also the **matrix** could be enhanced by additional dimensions:

- It could be complemented by features, such as time-frame of actions, weights of actions, relevance for different stakeholder groups, required finance; barriers and next steps should also be integrated (CC, BG, DK; IT, PT, SI). For each action, numbers, measures and indicators should be introduced (IT) as well as the legitimization of action choices (UK).
- The matrix should also provide a sum of one's own actions and the actions of others (FI) together with an impact assessment of actions (FI, PT). For example, *'a field to conclude/summarise the impact (positive or negative) for the stakeholders (suggestion to include a line at the end for the impact)'* could be integrated (PT).

- Additional free fields to the matrix would stimulate further thinking of possible actions (DE). A possibility would be to include a field to identify eligible actor(s) in charge of each action proposed (UK).
- Furthermore, CASI-F evaluation of the benefits on regular basis should be facilitated (AT).

4.6.3 Determine the end-users – Suggestions related to the target groups

The suggestions related to the target groups varied significantly in the different countries (BE, BG, CC, DK, FI, IT, UK). Some participants recommended to focus on the specific end-users (DK), arguing that *'if [CASI-F] is developed for policy-makers, we need to make an effort in terms of analysing all the data available in CASIPEDIA. (...) If it is developed for innovators, we need to rethink the current framework and come up with a form that is more dynamic, creative, user-friendly, open-source and bottom-up (e.g. a WIKI format). If both policy-makers and innovators are defined as target users of CASI-F, it is necessary in our view to develop two different types of CASI-F'* (BE).

There were also suggestions to **reduce** the number of stakeholders, as *'one tool can't serve four target groups'* (BE). Especially in the course of the CASI-F development phase it was suggested focusing first on one target group only (FI). While for some participants the emphasis should be *'more on business, research & education institutions'* (BG), for others the emphasis should equally rely on the civil society. For example, 'Government' actors are considered as facilitators: *'The first target group for assessment should be the businesses, civil society or researchers & education, while public agents should be considered as 'just facilitators' of actions'* (PT). Furthermore, if innovators are the main target group of CASI-F, a bottom-up framework (open source, WIKI) (BE) is suggested.

Other participants tend to even **extend** the stakeholder groups by involving service designers and funding agencies (AT, FI). But CASI-F should also be useful for small scale SI and SMEs (CC), and it is thus important *'to consider the different scales of innovation (small vs medium/large firms)'*, which should be equally addressed (UK).

5 Summary

The core aim of the CASI project is to develop a 'common framework for assessment and management of sustainable innovation – CASI-F' in close cooperation with stakeholders affiliated to government, business (incl. social enterprises), civil society, and research and education.

In order to get a sound feedback to the work done so far in the CASI-F draft development and to improve the existing draft, 12 stakeholder workshops (in Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, Germany, Italy, Poland, Portugal, Slovenia, United Kingdom) and one workshop with the CASI country correspondents were conducted between September and November 2015. The workshop methodology was perceived as well suited to stimulate interactivity and feedback of meaningful quality.

The feedback received in the course of the stakeholder consultation process is clustered along the following issues: strengths of the CASI-F draft (chapter 4.2); concerns and open questions about the CASI-F draft (chapter 4.3); strengths of the CASI-F matrix draft (chapter 4.4); weaknesses of the CASI-F matrix draft (chapter 4.5); as well as suggestions for improvements and enhancement of CASI-F (chapter 4.6).

The perceptions of the stakeholders varied significantly. Some aspects of the **CASI-F** draft were perceived as a weakness and as a strength at the same time. For example, some participants recommended reducing the stakeholder groups, as CASI-F can hardly be of equal benefit for all of them, while others suggested to even extend the stakeholder groups. Regarding the **matrix draft** some stakeholders perceived it as too complex, while for others it was not detailed enough. While some stakeholders recommended keeping the matrix simple, others would like to see more dimensions included, such as timing of actions, financial and human resources.

The **strengths of the CASI-F** are that it is understandable, logically developed and structurally sound. The holistic approach it takes can be supportive in planning, structuring and even evaluating SI cases and make the user aware of SI impacts on different stakeholder groups. Thus, it has the potential to foster collaboration and knowledge exchange among the relevant actors. As the framework is backed up with a vast amount of already gathered knowledge (CASI intelligence-visions, policy briefs, initiatives) it improves the user's understanding of SI. In this context the participants especially highlighted the data-richness accessible through CASIPEDIA.

The most important strengths of the CASI-F are considered to be the following:

- i. It is a **well elaborated concept**, understandable, detailed, pragmatic, holistic, in depth going, coherent, and useful (BG, CC, CZ, DE, FI, IT, SI, PL, UK).
- ii. It serves as an **inspiring knowledge** pool and provides a good collection of SI cases (CASIPEDIA) (AT, CC, BG, CZ, DE, DK, FI, IT, PL, PT, UK).
- iii. It is a useful framework for **structuring** SI processes (AT, CC, CZ, DE, IT, UK).
- iv. It brings together different stakeholders, supports **networking** and enables the exchange of information and knowledge (AT, BE, CZ, DE, IT, UK).
- v. It improves the users' **understanding of SI** (BG, CZ, FI, SI).

The somehow intangible objectives and benefits were identified as a main **critical issue of the CASI-F**. For non-experts CASI-F was perceived as too complex and the language (for example in the CASI-F draft D4.2) as too academic. Further it was added that the target groups of CASI-F should be defined more precisely.

The following issues - based on the **concerns regarding to the CASI-F** - should be taken into consideration for the further development of the CASI-F:

- i. (more precise) definition of the **objectives** (AT, BE, BG, CC, DE, DK, FI, PT, UK);
- ii. better communication of the **benefits** of applying CASI-F (AT, CC, CZ, DK, FI, SI, UK);
- iii. (more precise) definition of the **indented users** (AT, BE, BG, CC, DE, DK, FI, IT, SI, UK);
- iv. improved **usability** of CASI-F in general and in particular for non-expert/non-academic users (AT, BE, DE, DK, FI, IT, PL);
- v. **monitoring** and evaluation of SI (AT, CZ, DE, IT, PT, UK);

- vi. (more profound) integration of the **sustainability** aspect in general (DK, FI) and in particular the sustainability impact dimension in the assessment of SI (AT, BE, DE, FI).

The **CASI-F matrix** provided at the stakeholder workshops was praised because of its inclusion of multiple stakeholder perspectives and its multidimensionality. It was also conceived very positive that the matrix offers a good way to establish action plans for SI.

The following **strengths of the CASI-F matrix** were identified:

- i. the structure of the matrix offers the opportunity to **think about various** stakeholder **perspectives** and allows to think about different interests and objectives (BE, CC, CZ, DK, FI, PL, SI, IT, UK, DE, PT);
- ii. it is a **comprehensive**, well **structured**, multidimensional and transparent instrument (AT, CC, CZ, BG, DE, DK, FI, PT UK);
- iii. it is easily **understandable** (BG, CC, CZ, DE, FI, IT, SI, PL, UK), clear and readable (BG, CC, PL);
- iv. it facilitates the development of **action plans** (AT, CC, CZ, BE, DE, UK, IT, PT);
- v. it allows the users to **anticipate** the possible **impacts** of the actions on different stakeholders (CZ, FI, SI, PT).

One of the identified **weaknesses of the matrix draft** is the insufficient clarity of its aims and objectives. Also the benefits for the users remained unclear to a significant part of the participants. Furthermore, participants asked for a more precise definition of the terms and categories in the matrix. There is also a need to illustrate interconnectedness both of actions and stakeholders, reflecting the dynamic character of SI, and to better define the target group(s) of the matrix. Including criteria for the actions' evaluation would also be of great benefit to the matrix, according to a number of participants.

The following **weaknesses of the draft of the CASI-F matrix** were identified:

- i. somewhat ambiguous regarding **its core aims and objectives** (AT, BE, CC, DE, DK, FI, SI, PT, UK);
- ii. used **terms and categories** are not fully clear (AT, BE, BG, CC, DE, DK, FI, IT, PL, SI, UK);
- iii. the **benefits** for the users are somewhat unclear (AT, BE, CC, CZ, IT, PT, SI);
- iv. the **(rigid) structure** does not reflect the dynamic character, the interconnected processes of SI, as well as the interconnection between the different stakeholders (BE, BG, CC, CZ, DE, DK, FI, IT, SI, UK);
- v. the intended users and **target groups** of the CASI-F matrix are somewhat unclear (BE, BG, FI, CC, IT, SI);
- vi. recommended **actions** can be **subjective** and **speculative** (AT, CC, CZ, IT);
- vii. the **sustainability dimension** in the assessment of SI seems to **not** be (fully) **reflected** (AT, CC, DE, FI, DK).

Stakeholders' **feedback** opens a rich pool of recommendations for the **CASI-F's** further development. There seems to be broad consensus that the **intended target group(s)** should be more clearly defined (BE, BG, CC, DK, FI, IT, UK). However, while some participants at the workshops suggested to reduce the number of stakeholders, as the framework hardly can serve different stakeholder groups with different interests at once (BE, DK, FI, PT), others suggested extending the stakeholder groups by e.g. service designers and funding agencies (AT, FI). Further the needs of SMEs and of small scale should be reflected in the CASI-F (CC, UK).

The same dilemma occurred in regard to the scope of the CASI-F. While some stakeholders suggested to design CASI-F as straightforward and easily understandable as possible (CC, DK, FI, PL, PT), others recommended extending it by additional features (CC, CZ, DE, DK, FI, IT; PT, SI, UK), such as the provision of financial assessment services (CC; CZ, PT), exchange and cooperation facilitations (AT, BE, CZ, DK) and many other issues.

Following are the main suggestions on how to **improve the user-friendliness of CASI-F**:

- i. provide **clear definitions** of CASI-F's objectives, benefits and on the process of using CASI-F (AT, DK, FI, IT, SI, UK);
- ii. Provide **clear definitions** on the focus and scope (AT, DE, DK, SI, UK).

The main suggestions on how to **improve the matrix** were to:

- i. take the **dynamic character** of SI into account (BG, BE, CC, DE, DK, FI, IT, SI, UK);
- ii. improve the **clarity of the terms and categories** (AT, IT, UK) by providing a guiding document, e.g. glossary, info-box, or legend (AT, CC, IT).

Apart from suggestions towards improvements of CASI-F a number of issues were brought up towards **enhancement of CASI-F**:

- i. **provide support** for exchange and cooperation of different actors (AT, BE, CZ, DK);
- ii. **enrich CASIPEDIA** with further good practice SI cases to achieve a critical mass (CC, CZ, PL);
- iii. **provide information on financial issues**, e.g. on calculation methods (CC, CZ, SI) and how to measure the necessary resource for the implementation of SI (PT);
- iv. provide **links to other relevant tools**, networks and resource libraries (FI, UK).

The main suggestions towards **enhancement of the matrix** were to:

- v. add **further criteria to the matrix** (e.g. numbers, measures, dimensions and indicators per action) and add free fields to the matrix (CC, BG, DE, IT, PT, SI). In particular, add timing (for the actions), capital, human resources, weights of the actions, and possible interactions within different stakeholders (IT, UK);
- vi. make the matrix **more dynamic** (BG, BE, CC, DE, DK, FI, IT, SI, UK): the columns should be interconnected both vertically and horizontally (CZ);
- vii. add features, such as **timeframe** (process character of actions), **weights and relevance** of actions for each stakeholder group and required resources for the implementation of SI (BG, BE, CC, DE, DK, FI, IT, PT, SI, UK);
- viii. reconsider the **focus, the levels, the categories** and the **terms** in the matrix (AT, CZ, DK, IT);
- ix. allow interconnections between actions (FI).

Table 9 Strengths and weaknesses in a nutshell

| | Strengths | Concerns |
|--------|---|---|
| CASI-F | <ul style="list-style-type: none"> • holistic approach • well elaborated • detailed • in depth going • inspiring knowledge hub • enables exchange of knowledge and experiences • integrative perspective (visions, policies, initiatives) • improving the understanding of SI | <ul style="list-style-type: none"> • definition of aims, benefits and target group needed • complexity and usability (e.g. for non-academic users) • lack of quality control and evaluation of SI results • assessment and quality verification within CASI-F |
| Matrix | <ul style="list-style-type: none"> • multi-stakeholder approach • logically sound structure • facilitates action plan development • easy understandable | <ul style="list-style-type: none"> • definition of benefits; target group, terms and categories needed • inflexible structure • absence of quality verification measures • missing dimensions (e.g. needed resources) |

6 Conclusion

Reflecting the most prominent findings from the stakeholder workshop this deliverable will now offer advice for the further development of the CASI-F draft.

Table 10 List of conclusions for the further development of the CASI-F draft

| | What did the stakeholders say? | What are the conclusions for the development of CASI-F? |
|---|--|---|
| Where are the identified strengths of CASI-F? | <ul style="list-style-type: none"> • Holistic approach <ul style="list-style-type: none"> ⇒ well elaborated ⇒ detailed ⇒ in depth going ⇒ supports planning, structuring & evaluating ⇒ integration of visions, policies and initiatives ⇒ brings different stakeholders together • Sharing and exchanging <ul style="list-style-type: none"> ⇒ knowledge sharing ⇒ networking ⇒ synergies ⇒ Common space for ideas • CASIPEDIA – rich source of inspirations | <p>The elicited feedback shows that CASI-F already has a lot to offer for potential users.</p> <p>Both for the requested descriptions of benefits of CASI-F (see below) and for promotional purposes of CASI-F this list of strength provides a thorough pool of inputs; for example for WP9, a promotional leaflets could be produced, customized to different types of stakeholders.</p> <p>Building upon this solid base of strengths CASI-F bears a lot of potential for further development.</p> |

| | | |
|---|--|--|
| | <ul style="list-style-type: none"> Understanding SI <ul style="list-style-type: none"> ⇒ helps to understand SI ⇒ fosters debate | |
| Which are the areas where CASI-F still can be improved? | <ul style="list-style-type: none"> Objectives and aims <ul style="list-style-type: none"> ⇒ Clarifications needed ⇒ What is the outcome? ⇒ What problems are tried to be solved? Benefits <ul style="list-style-type: none"> ⇒ How does a user benefit? ⇒ What is the mineable knowledge? | <ul style="list-style-type: none"> CASI should provide a clear and quickly understandable description explaining how CASI-F works, what its purpose is and what the users can get out of it. Advantages that innovators get from CASI-F and its added value need to be highlighted in the communication with stakeholders. Specific guidelines in regard to the use of CASI-F are needed. In the further development of CASI-F it should be considered on the one hand how to stimulate sharing data (even with potential competitors), particularly for the business sector, and on the other hand how to safeguard privacy and data security issues. |
| | <ul style="list-style-type: none"> Usability <ul style="list-style-type: none"> ⇒ complex framework ⇒ how will it be applied | <ul style="list-style-type: none"> In short, the user-friendliness should be upgraded, e.g. by integrating more elaborated search functions. Guidance for CASI-F's application (e.g. how to map an SI, how to fill in the matrix, how to conduct an assessment process) should be added. The two terms ('tactical' and 'governance') in the matrix should be reformulated. Especially for non-expert user groups it is important that language is more user-friendly. However, a stronger focus should be put on management of SI. |
| | <ul style="list-style-type: none"> User group <ul style="list-style-type: none"> ⇒ Who is the targeted user group? Reduce <ul style="list-style-type: none"> ⇒ Stakeholders ⇒ Focus on certain group(s) (e.g. business) | CASI should decide who the intended users are. Different stakeholder groups may have different approaches and needs (in regard to knowledge, language, results, access). At least for the further development activities within the project run, CASI should focus on one particular group only, e.g. innovators in the business sector. |
| | <ul style="list-style-type: none"> Structure of the matrix <ul style="list-style-type: none"> ⇒ Lack of flexibility ⇒ Interdependence of actions | <ul style="list-style-type: none"> For the tool development CASI should think about how the matrix could become more dynamic and represent the interconnectedness of actions and stakeholders. The application of graphic images which indicate interconnection would be an easy to implement but useful |

| | | |
|--|---|---|
| | | <p>asset.</p> <ul style="list-style-type: none"> • By now the matrix assesses importance, feasibility and impact but does not incorporate the criteria of sustainability. It should be considered if an inclusion of this dimension into the matrix makes sense. Even if the matrix is only one pillar of CASI-F it could be useful to directly relate it to sustainable innovation. |
| Inputs for CASI-F beyond the scope of the CASI project | <p>With the overall goal of becoming a leading SI management platform for emerging / critical issues, CASI should sort out which of these suggestions could be realised within a follow-up project:</p> <ul style="list-style-type: none"> • To insert a time line in the matrix; • To create dynamic and robust (e.g. key performance indicators) action plans; • To extend stakeholder groups by adding more actors (e.g. funding organisations, service designers) • To enhance the CASI-F by <ul style="list-style-type: none"> ○ adding networks, links and resource library ○ including financing issues ○ assessing and monitoring the impacts of CASI-F • In order to address the requirements, interests and capabilities of CASI-F's different users - the development of a basic and an advanced version of CASI-F could be considered. For one variation of CASI-F could serve the needs and requirements of small scale SIs and/or innovators with less profound experience in SI. For users with advanced knowledge in SI CASI-F could be more complex and offer multi-criteria functionalities (e.g. evaluation of actions, resource impact analysis, interdependencies of stakeholder groups, interconnected and dynamic processes). | |

7 Annex

7.1 Annex 1: List of elaborated codes

Annex 1 provides the code system elaborated to categorise the results of the stakeholder workshops per guiding question. Still, in the process of the code analysis the allocation of codes was rearranged. This was deemed necessary as referring to question 2 and 3 (see Section 2.2) where stakeholders were asked to provide feedback on the strengths and weaknesses of the matrix, many also referred to CASI-F in general or to CASIPEDIA in particular. It was thus necessary to present these statements separately. Hence, the findings gained from the answers of questions 2 and 3 were separated in two distinguishable chapters: i) strengths and weaknesses of the CASI-F matrix; ii) strengths and weaknesses of the overall CASI-F.

Moreover, there were redundant answers related to questions 4 to 8. The predominantly reformulated content of these responses made an analytical separation dispensable, e.g. answers regarding the ‘concerns’ were often only transformed into questions. For this reason answers were merged and systematically structured on the basis of relevance.

Table 11 Table of elaborated codes

| Code | Sub-code | # of segments |
|---|-------------------------|---------------|
| Strengths of the overall CASI-F | | |
| holistic approach | | 48 |
| | holistic approach | 40 |
| | stakeholder involvement | 8 |
| CASIPEDIA | | 46 |
| Sharing and exchanging | | 26 |
| understanding SI | | 14 |
| Concerns and open questions about the overall CASI-F | | |
| objectives/benefits | | 22 |
| | benefits | 32 |
| | objectives | 22 |
| usability | | 30 |
| | usability | 10 |
| | applicability | 5 |
| clarity | | 34 |
| user group | | 0 |
| | perspectivity | 20 |
| | target group | 14 |
| assessment and quality | | 11 |
| | quality verification | 15 |
| miscellaneous | | 6 |
| Strengths of the CASI-F matrix | | |
| holistic approach | | 25 |
| | multi-stakeholder- | 20 |

| | |
|--|------------|
| structure | 27 |
| action orientation | 19 |
| clarity | 15 |
| Weaknesses of the CASI-F matrix | |
| clarity | 11 |
| aims/general concept | 14 |
| terms/categories/levels | 37 |
| flexibility | 15 |
| rigidness | 41 |
| benefits | 21 |
| role of sustainability | 4 |
| intended users | 16 |
| Suggestions | 0 |
| Enhancement Matrix | 31 |
| Enhancement CASI-F | 30 |
| Usability CASI-F | 19 |
| Usability Matrix | 12 |
| Interconnectivity | 5 |
| target groups/users | 13 |
| Total # of coded segments | 778 |

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