

# Assessment and Management of Sustainable Innovation

## CASI-F principles and approach

**Dr. Rafael Popper**

Principal Scientist in Business, Innovation and Foresight  
VTT Technical Research Centre of Finland


[Rafael.Popper@vtt.fi](mailto:Rafael.Popper@vtt.fi)

### Acknowledgements:

Special thanks to **Guillermo Velasco** and **Monika Popper** for their contributions to this presentation and related publications (see references).

# Contents

- CASI-F in a nutshell
- CASI-F principles
- CASI-F approach to assessment and management of sustainable innovation (SI)
  - Step 1: Sustainability relevance & scanning
  - Step 2: Multi-criteria analysis & assessment
  - Step 3: Critical issue analysis & assessment
  - Step 4: Multi-level advice management
  - Step 5: Action roadmaps management
- CASI-F in action
  - Overview of CASI-F applied to 500+ innovations, 100+ policy briefs and 100+ citizen visions
- CASI-F Timeline: A 5 step approach to Sustainable Innovation Assessment and Management



## CASI-F in a nutshell

- **CASI-F is a common framework for the assessment and management of sustainable innovation.**
- Overall, CASI-F was envisaged as a holistic tool to support forward-looking decision-making at strategic, tactical and operational levels for government, business, civil society and research and education actors.
- Moreover, CASI-F is a living 'knowledge co-creation, co-assessment and co-management tool' aiming to improve the economic, social and environmental sustainability of the following seven types of innovations: product, service, social, organisational, governance, system and marketing.

# CASI-F analytical approaches or tracks

- Three parallel and complementary analytical approaches or tracks are combined in CASI-F:
  1. The tracking of sustainable **innovations** in terms of their practices, outcomes and players (**Track 1**).
  2. The tracking of sustainable **policies** through the analysis of national and European level policy developments on climate action, environment, resource efficiency and raw materials (**Track 2**).
  3. The tracking of sustainable **aspirations** of citizens and experts engaged in visioning and priority-setting exercises (**Track 3**).

## Track 1

- Assessing and managing innovations

## Track 2

- Assessing and managing policies

## Track 3

- Assessing and managing aspirations





## **CASI-F principles**

# 1<sup>st</sup> Principle: Responsible governance

- CASI-F was developed to support government, business, civil society, and research and education actors (also known as the **'quadruple helix'** of SI stakeholders) in promoting responsible research and innovation (RRI) and increasing the sustainability of their activities by allowing:

- ✓ Openness
- ✓ Participation
- ✓ Accountability
- ✓ Effectiveness
- ✓ Coherence

Responsible Governance Principles	CASI-F Track 1 Innovations	CASI-F Track 2 Policies	CASI-F Track 3 Aspirations
Openness	Sharing SI initiatives through the CASIPEDIA database	Facilitating access to CASI policy briefs and policy blogs	Sharing citizen visions through CASI Visions Bank
Participation	Engaging with stakeholders, innovators and experts	Promoting policy debates through CASI policy blog	Eliciting desirable futures from civil society actors
Accountability	Dynamic assessment and tracking of SI practices, outcomes and players	Disseminating EU/national SI policy developments	Assessing expert-based research priorities' alignment with citizen visions
Effectiveness	Generating SI actions from systematic SI initiatives analysis	Comparing policy initiatives and supporting policy advice	Translating citizen visions into research priorities
Coherence	Co-producing advice at strategic, tactical and operational levels	Aligning policy advice with emerging policy goals, e.g. avoiding redundancies	Identifying the economic, social and environmental benefits of citizens' visions

## 2<sup>nd</sup> Principle: Practical advice orientation

- The development of CASI-F has also considered the five RACER criteria of the European Commission's Impact Assessment Guidelines by being:

- ✓ Relevant
- ✓ Accepted
- ✓ Credible
- ✓ Easy
- ✓ Robust

RACER Impact Assessment Criteria	CASI-F Track 1 Innovations	CASI-F Track 2 Policies	CASI-F Track 3 Aspirations
<b>Relevant</b> (closely linked to European sustainability objectives)	All CASI-F tracks are focused on the Horizon 2020 Societal Challenge on 'climate action, environment, resource efficiency and raw materials'		
<b>Accepted</b> (by key stakeholders, especially innovators)	All types of stakeholders	Especially policy makers	Especially citizens and experts
<b>Credible</b> (with transparent and trustable sources)	Ongoing innovations	Current policies	Shared visions
<b>Easy</b> (in terms of data collection and analysis at reasonable cost)	Open mapping Desk research Interviews	Desk research Briefing templates Editing board	Citizen panels Expert panel Desk research
<b>Robust</b> (replicable and systematic process)	CASIPEDIA Ideas Bank Actions Bank	Policy Briefs Policy Blogs	Visions Bank Ideas Bank Actions Bank



## 3<sup>rd</sup> Principle: Multiple sources of knowledge

- CASI-F gathers knowledge and information from a wide range of sources combining:

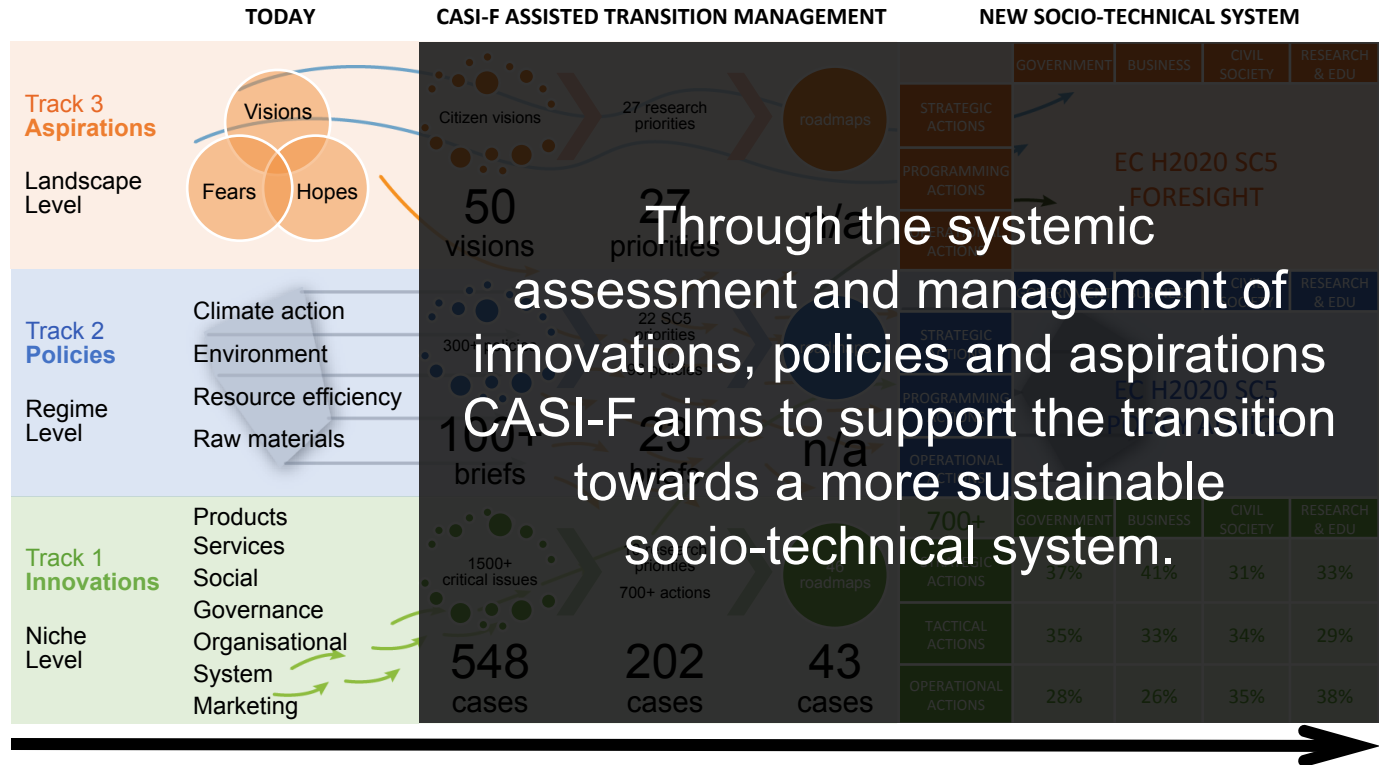
- ✓ Evidence
- ✓ Expertise
- ✓ Creativity
- ✓ Interaction

Sources of knowledge	CASI-F Track 1 Innovations	CASI-F Track 2 Policies	CASI-F Track 3 Aspirations
Evidence	500+ innovations from EU+	National and EU policies	Hopes and fears of citizens
Expertise	Innovators and CASI team	CASI team	Sustainability experts
Creativity	Innovators and CASI team	CASI partner	50 visions from EU citizens
Interaction	Interviewing and coaching	CASI editorial task forces	Citizen-Expert-Citizen process



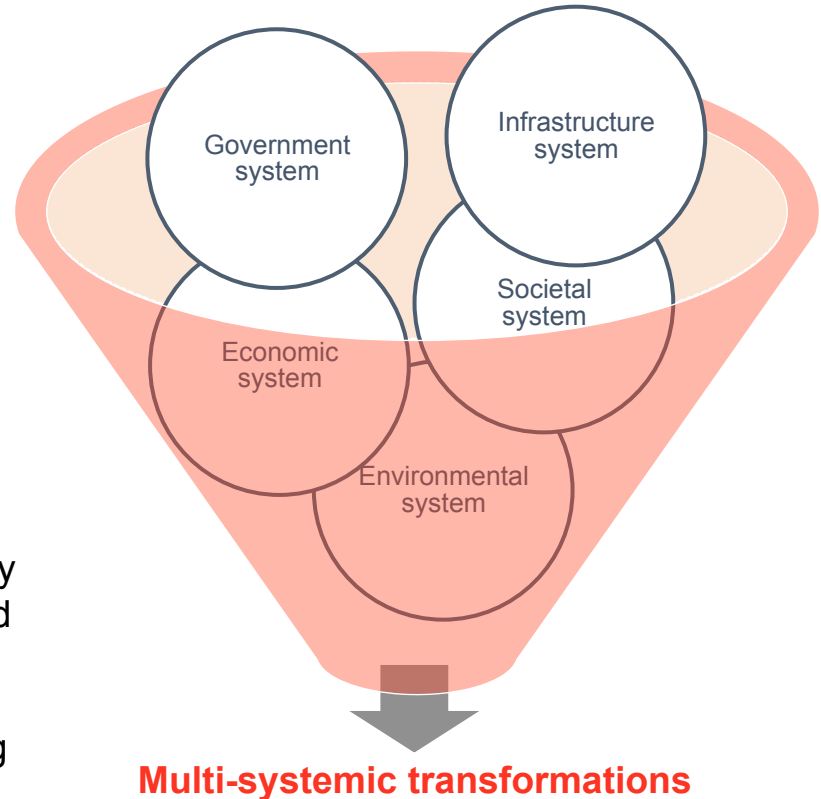
# 4<sup>th</sup> Principle: Multi-level perspectives and transitions

- CASI-F supports the assessment and management of critical issues shaping 7 types of **innovations** (i.e. niche level), national and supranational **policies** (regime level) and the **aspirations** of the quadruple helix of SI stakeholders (landscape level).

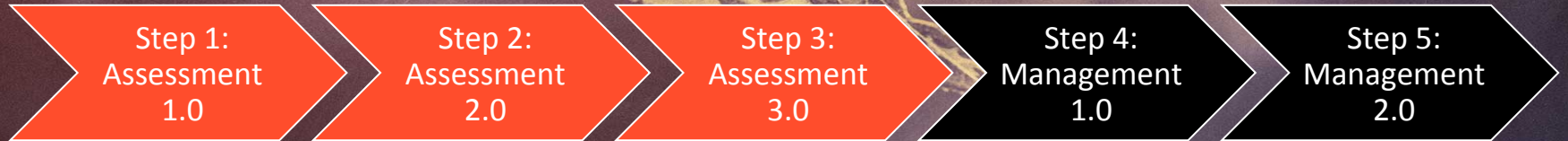


## 5<sup>th</sup> Principle: **Multi-systemic transformations assessment & management**


- CASI-F uses 44 criteria to assess ‘**positive**’ transformations in five interconnected systems:
  - ✓ **Environmental system**
  - ✓ **Economic system**
  - ✓ **Societal system**
  - ✓ **Government system**
  - ✓ **Infrastructure system**
- The assessment of ‘**negative**’ multi-systemic transformations, such as the cross-sectoral ecological impact of the construction, energy, emission, food and water footprints, is also extremely important. However, CASI-F was conceptualised and developed as a complementary framework rather than an alternative framework to the wide-ranging and widely used set of methods and tools supporting sustainability assessment.



# CASI-F **protocols** for SI assessment and management







## Future-oriented assessment and management of sustainable innovations

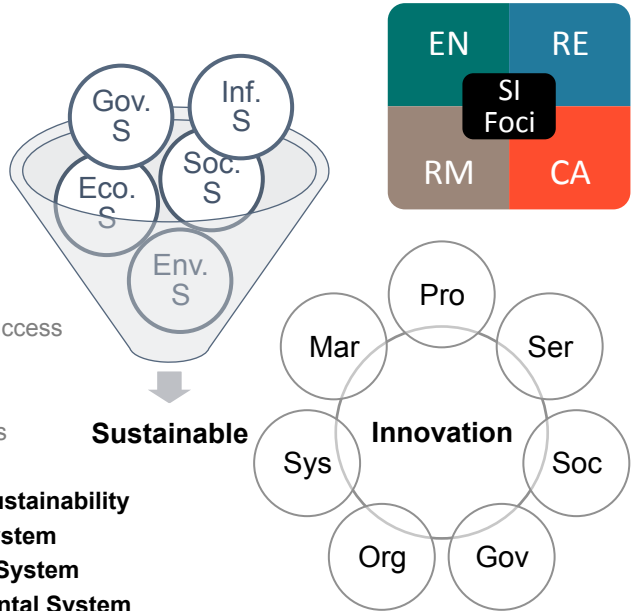
*“The development of CASI-F as a methodological framework for assessing sustainable innovation and managing multi-disciplinary solutions through public engagement in the research, technology development and innovation (RTDI) system, by ensuring the commitment of a broad spectrum of societal stakeholders into its implementation, including:*

- *government*
- *business*
- *civil society organisations and the general public*
- *research organisations and academia.”*

# Step 1: Assessment 1.0 (sustainability relevance & scanning)

## Protocol 1: Sustainability relevance & scanning

- SI Name
- SI Description
- SI URL
- SI Leader
- SI Leader URL
- SI Scope
- **SI Priorities**
- **SI Type**
- SI Objectives
- SI Factors of success
- SI Barriers
- SI Drivers
- SI Opportunities
- SI Threats
- **SI Systemic sustainability**
  - **Societal System**
  - **Economic System**
  - **Environmental System**
  - **Government System**
  - **Infrastructure System**



## What to do?

### • Sustainability relevance

#### 1. Identify relevant SI priorities

- RE: Resource efficiency
- CA: Climate action
- RM: Raw materials
- EN: Environment

#### 2. Identify relevant SI Types

- Pro: Product
- Ser: Service
- Soc: Social
- Gov: Governance
- Org: Organisational
- Sys: System
- Mar: Marketing

#### 3. Identify relevant SI Systemic sustainability transformations

### • Scanning

1. Describe the innovation profile
2. Describe the innovation targets
3. Describe the innovation shapers

## Step 2: Assessment 2.0 (multi-criteria analysis & assessment)

### Protocol 2: Multi-criteria analysis & assessment

#### What to do?

#### **Assessing SI Practices**

- SI Name
- SI Description
- SI URL
- SI Leader
- SI Leader URL
- SI Scope
- SI Timeline
- SI Priorities
- SI Type
- SI Objectives
- SI Origins
- SI Factors of success
- SI **Barriers**
- SI **Drivers**
- SI Tensions
- SI Funding/market potential
- SI Mobilisation degree
- SI Mutual learning processes
- SI Transferability
- SI Lookalikes elsewhere
- SI Assessment methods

#### **Assessing SI Outcomes**

- Strength & Weaknesses
- **Opportunities & Threats**
- Policies
- Spin-offs
- Publications
- Skills and competences
- **Systemic sustainability**
  - Societal System
  - Economic System
  - Environmental System
  - Government System
  - Infrastructure System

#### **Assessing SI Players**

- Innovators
- Funders/Sponsors
- Supporters/Brokers
- Beneficiaries/Users

#### • Assessment of **practices**

1. Interviews + documentary analysis
  - Flesh out the innovation profile
  - Flesh out the innovation targets
  - Flesh out the innovation shapers

#### • Assessment of **outcomes**

2. Literature review + multi-criteria analysis + benchmarking
  - Justify multi-systemic transformations
  - Flesh out the innovation's potential opportunities
  - Flesh out the innovation's potential threats

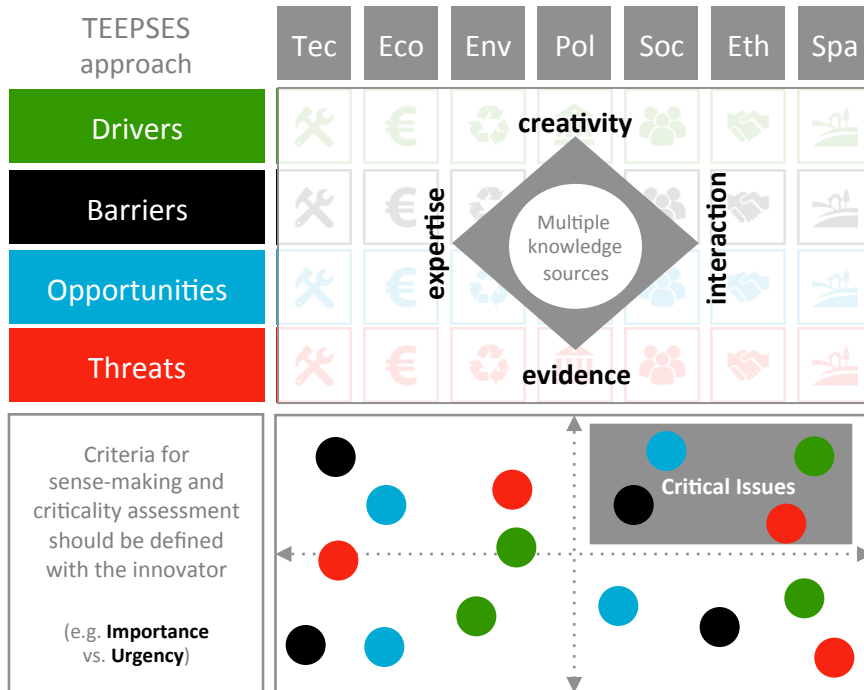
#### • Assessment of **players**

3. Interviews + stakeholder analysis
  - Understand the role of key players



## Step 3: Assessment 3.0 (critical issue analysis & assessment)

### Protocol 3: Critical Issue analysis & assessment



### What to do?

- Analysis of shapers and **Critical Issues (CI)**
  - Creativity**-based
    - Using scenarios, brainstorming, surveys, etc.
  - Interaction**-based
    - Using workshops, citizen panels, conferences, etc.
  - Evidence**-based
    - Using modelling, literature review, extrapolation, etc.
  - Expertise**-based
    - Using expert panel, interviews, critical technologies, etc.
- Assessment of shapers and **Critical Issues (CI)**
  - Define two or more criteria for criticality assessment
    - E.g. **Importance**, **Uncertainty**, **Urgency**, etc.
  - Rate TEEPSES issues against selected criteria
    - Using a **Likert-like scale** of 1 to 5 or 1 to 7
  - Plot TEEPSES issues against a criticality chart
    - Selecting **critical issues** for management

# Step 4: Management 1.0 (multi-level advice management)

## Protocol 4: Multi-level advice management

Multi-level & Multi-Actor  
(ML-MA) Approach

Government

Business

Civil  
society

Research &  
education

Top-level  
management:  
**Strategic  
actions**

**Strategic actions** involve the definition of high-level aims, challenges, goals, objectives and priorities that require strategic attention or orientation from top-level decision-makers in government, business, civil society, research and education organisations.

Mid-level  
management:  
**Tactical  
actions**

**Tactical actions** require mid-level decision-makers to translate strategic level objectives and priorities into tactical interventions, such as investment, research or knowledge transfer programmes and calls, funding schemes or instruments as well as development and implementation mechanisms.

Front-line  
management:  
**Operational  
actions**

**Operational actions** require the intervention of front-line decision-makers - policy makers, civil servants, entrepreneurs, citizens, researchers and workforce- who are directly responsible for the operationalisation of day-to-day activities linked to tactical and strategic actions.

## What to do?

- Management of **multi-actor advice**
  1. Advice with and for the quadruple-helix of SI actors
    - Responses to CI with and for Government
    - Responses to CI with and for Business
    - Responses to CI with and for Civil society
    - Responses to CI with and for Research and education
- Management of **multi-level advice**
  2. Cluster advice around **strategic actions**
    - E.g. aims, challenges, goals, objectives and priorities
  3. Cluster advice around **tactical actions**
    - E.g. research programmes, funding schemes or instruments
  4. Cluster advice around **operational actions**
    - E.g. conducting research, technology development, etc.
- Prioritisation of clustered **actions**
  5. Rate the actions against commonly agreed set of criteria
    - E.g. **Importance, Feasibility, Impact**, etc.

# Step 5: Management 2.0 (action roadmaps management)

## Protocol 5: Action roadmaps management

Management Dimensions	Management Key Aspects			
<b>CONTEXT</b> dimension	Momentum	Foresight	Resources	Mobilisation
<b>PEOPLE</b> dimension	Aptitude		Attitude	
<b>PROCESS</b> dimension	Catalysts		Fosterers	
<b>IMPACT</b> dimension	Transformation		Sustainability	

## What to do?

- Management of **action roadmaps**
  1. Generate sub-actions for each SI management dimension
    - I.e. Context, People, Process, Impact
- Management of **sub-actions by key aspect**
  2. Generate sub-actions for each SI management key aspect
    - ✓ For **Momentum**: political setting, exemplars, problems.
    - ✓ For **Foresight**: horizon scanning, trends, strategic targets.
    - ✓ For **Resources**: geography, funding, infrastructure, data, scalability.
    - ✓ For **Mobilisation**: champions, 4-helix, proactive participation.
    - ✓ For **Aptitude**: leadership, charisma, creativity, knowledge.
    - ✓ For **Attitude**: enthusiasm, empathy, involvement, commitment.
    - ✓ For **Catalysts**: comprehensibility, crowd-sourcing, learning-by-doing, supportive services, absorptive capacity, piloting, ex-ante impact evaluation.
    - ✓ For **Fosterers**: incentives, coordination, networking and synergy, knowledge management, IP management, ex-post impact evaluation, communication, dissemination.
    - ✓ For **Transformation**: stakeholder and community development, knowledge-based products and services, values & lifestyle changes, capacities & skills, multi-challenge approaches, entrepreneurship.
    - ✓ For **Sustainability**: societal, economic, environmental, government, infrastructure systems.
  3. Indicate sub-actions implementation **timeframe (S-M-L-terms)**
    - Short-(up to 12 months), Medium-(12-24 m), Long-term (24+ m)





**CASI-F tools** for SI assessment and management

# CASIPEDIA

A unique bank of sustainable innovation (SI) initiatives mapped by CASI community members, where activists, experts and supporters of sustainability agendas can find various initiatives combining the environmental, economic and social dimensions of sustainability.

CASIPEDIA supports the mapping of...






- **practices**
- **outcomes**
- **players**

... related to **seven types of SI**.

CASIPEDIA is fully interconnected with other CASI-F tools including:

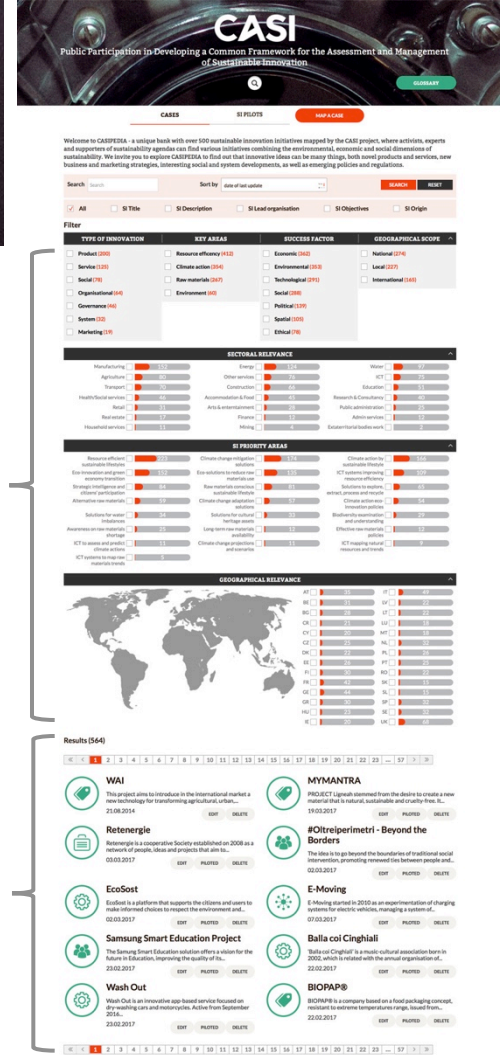
- **Ideas Bank**
- **Actions Bank**

Source: <http://www.casi2020.eu/casipedia/>

-  Product
-  Service
-  Social
-  Organisational
-  Governance
-  System
-  Marketing

## CASIPEDIA filters

## CASIPEDIA cases



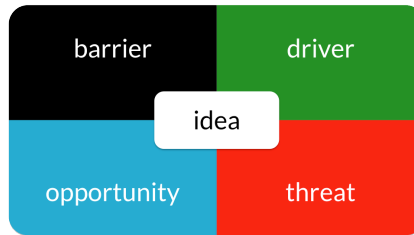
The screenshot shows the CASIPEDIA website interface. At the top, there's a navigation bar with 'CASES', 'SI PILOTS', and 'NEW CASES'. Below that, a search bar and a 'Filter' section are visible. The 'Filter' section includes tabs for 'TYPE OF INITIATION', 'KEY AREAS', 'SUCCESS FACTOR', and 'GEOGRAPHICAL SCOPE'. Under 'TYPE OF INITIATION', there are checkboxes for Product (100), Service (100), Social (70), Organisational (140), Governance (70), System (100), and Marketing (100). Under 'KEY AREAS', there are checkboxes for Product (100), Service (100), Social (100), Environmental (100), and Ethical (100). Under 'SUCCESS FACTOR', there are checkboxes for Innovation (100), Environmental (100), Social (100), Political (100), and Ethical (100). Under 'GEOGRAPHICAL SCOPE', there are checkboxes for Local (100) and International (100). Below the filters, there are three main sections: 'SECTORIAL RELEVANCE', 'SI PRIORITY AREAS', and 'GEOGRAPHICAL RELEVANCE'. Each section contains a grid of bars representing different categories and their values. At the bottom, there's a 'Results (54)' section with a list of cases, each with a title, description, date, and action buttons (EDIT, FILTER, DELETE).



# Ideas Bank

An idea (aka critical issue) co-creation and management tool, which draws on over 500 Sustainable Innovation cases from across Europe and the world. Of these, the 202 most CASI-relevant cases were selected for further analysis, which helped gather a wide range of ideas that contributed to the co-creation of the CASI Ideas Bank. These ideas or critical issues represent existing and potential...

- Barriers
- Drivers
- Opportunities
- Threats



... that can influence the success (i.e. uptake, implementation or diffusion) of sustainable innovation.

Source: <http://www.casi2020.eu/ideas-bank/>

Ideas Bank filters

Ideas Bank critical issues



CASI has mapped 500+ cases of Sustainable Innovations from across EU and beyond. From these, the 202 most CASI-relevant cases were selected for further analysis, which helped to gather a wide range of ideas that contributed to the development of the CASI Ideas Bank. These ideas are colour-coded and represent existing or potential: (1) barriers, (2) drivers, (3) opportunities, or (4) threats, which can influence the success (i.e. uptake/implementation/diffusion) of sustainable innovation.

- To explore the Ideas Bank:
- ✓ Browse the Ideas using the various filters
  - ✓ Find out the type of idea and associated success factor clustered around TEESPEE categories (technological, economic, environmental, political, social, ethical, spatial) by hovering over ideas' icons
  - ✓ Add your own ideas

Search:  Sort by:

Filter

TYPE OF INNOVATION	TYPE OF IDEA	TEESPEE
Product / Process (119)	SI Barrier (442)	Technological (201)
Service / Process (110)	SI Driver (461)	Economic (191)
Organisational / Business model (176)	SI Opportunity (485)	Environmental (242)
Marketing (10)	SI Threat (333)	Political (26)
Social (16)		Social (428)
System (330)		Ethical (46)
Governance (200)		Spatial (74)

SI PRIORITY AREAS

Area	Count	Area	Count	Area	Count
Resource efficient sustainable therapies	11	Climate resilient sustainable therapies	27	Eco-innovation and green infrastructure	200
Climate change mitigation sustainable therapies	12	Strategic intelligence and resilient participation	11	Eco-innovation in the service industry	402
Climate adaptation sustainable therapies	13	ICT enabling smart resource efficiency	24	Climate resilient innovation policies	21
Climate change adaptation solutions	17	Software enabling services, process and people	13	Alternative low-carbon mobility	144
Software for smart heritage assets	14	Awareness and innovation through heritage	1	Resilience for smart infrastructure	17
Blockchain enabled and understanding	12	ICT enabled analysis of resources and trends	43	Climate change mitigation and sustainable	42
ICT to assess and predict climate actions	1	Long term low-carbon availability	13	Effective low-carbon policies	30
ICT to monitor and evaluate sustainable trends	6				

GEOGRAPHICAL RELEVANCE

Country	Count	Country	Count	Country	Count
United Kingdom	211	Italy	224	Germany	111
China	175	Spain	175	Netherlands	111
Sweden	112	Netherlands	112	Austria	112
France	92	Poland	51	Romania	51
Estonia	72	Canada	49	Czech Republic	49
Belgium	72	Belgium	49	Hungary	49
Hungary	49	Slovenia	49	Ireland	49
Luxembourg	49	Ukraine	49	Slovakia	49
Finland	49	Bulgaria	49	Latvia	49
Croatia	49				

Results (1721)

Commercial agreements  
The potential markets (consumers) of the eco-material (i.e. the markets to be directly addressed) by the waste...  
07/09/2015 | Actions (2) |

Technological  
the company has developed new technologies to arrive at the creation of Lignash that may become useful in the future...  
04/04/2017 | Actions (1) |

In search of biodegradability  
Will they use biodegradable materials, but there is difficulty in finding all the components of biodegradable...  
04/04/2017 | Actions (1) |

Social  
SI offers the PEOPLE to buy sustainable products, cruelty free and biodegradable while Customers know that they...  
04/04/2017 | Actions (0) |

Distrust  
Initially the society showed distrust and disbelief as they did not believe the creation of SI material from wood...  
04/04/2017 | Actions (0) |

crucially free  
lessen the impact of factory farming and the leather industry on the environment...  
04/04/2017 | Actions (0) |

no money  
financial problems: m>About the amount of money initially substantial expenditure for the Realization of...  
04/04/2017 | Actions (1) |

Financial constraints  
Economic Difficulties Initial data from EXPENDITURE for EXPENDITURE RISE The New Machinery...  
31/03/2017 | Actions (0) |

Environmental  
OOD is a partner of Free Nation and supports its information projects into combat climate change and...  
04/04/2017 | Actions (1) |

Sustainable future  
the main drivers for the development of the project lies in the strong attention and interest of Maria & Marcell...  
04/04/2017 | Actions (1) |



# Actions Bank

An action or advice co-creation tool that explores ways in which critical issues may be managed at strategic, tactical and operational levels, and develops policy roadmaps for prioritised actions.

The Actions Bank promotes more systematic and multi-level advice management for SI initiatives:

- **strategic actions** (top-level management)
- **tactical actions** (mid-level management)
- **operational actions** (front-line management)

While most actions in the Actions Bank are automatically extracted from CASIPEDIA results, users can also access a separate input form and add actions by clicking on the 'add action' button without mapping a case.

Source: <http://www.casi2020.eu/actions-bank/>

## Actions Bank filters

## Actions Bank actions



**ACTIONS BANK** **ADD ACTION**

The CASI Actions Bank is an action or advice co-creation tool that helps to explore ways in which critical issues could be managed at strategic, tactical and operational levels, and developing policy roadmaps for prioritised actions. The Actions Bank promotes a more systematic and multi-level advice management for sustainable innovation initiatives. The management of advice is structured around three most common management levels of advice, namely strategic (top-level management), tactical (mid-level management) and operational (front-line management). In addition, during the fourth step of CASI methodology, actions are tagged at the following four axes representing the quadruple helix of sustainable innovation (1) government, (2) business, (3) civil society, and (4) research and education. The tagging of these actions can be conducted individually by the reviewer (level assessment), a national mapping (SI) team member or country representative or collectively by a group of experts or CASI community members invited to contribute to a given SI initiative. Whilst most actions in the Actions Bank are automatically extracted from CASIPEDIA mapping results, users can also access separate input forms and add actions by clicking on the 'add action' button without mapping a case.

Search:  Sort by:

**Filter**

LEVEL	ACTOR	TYPE OF INNOVATION
<input type="checkbox"/> Strategic (204)	<input type="checkbox"/> Government (204)	<input type="checkbox"/> Product (95)
<input type="checkbox"/> Programming/Tactical (204)	<input type="checkbox"/> Business (207)	<input type="checkbox"/> Service (245)
<input type="checkbox"/> Operational (245)	<input type="checkbox"/> Civil society (170)	<input type="checkbox"/> Organisational (313)
	<input type="checkbox"/> Research and education actors (245)	<input type="checkbox"/> Marketing (16)
		<input type="checkbox"/> Social (245)
		<input type="checkbox"/> Systems (45)
		<input type="checkbox"/> Governance (56)

**SECTORIAL RELEVANCE**

Sector	Value	Sector	Value	Sector	Value
Education	12	Other services	11	Manufacturing services	11
ICT	12	Energy	11	Manufacturing	11
Transport	11	Art & Entertainment	11	Accommodation & Food	11
Agriculture	11	Health	11	Public administration	11
Construction	11	Research & Consulting	11	Retail	11
Administrative	11	Finance	11	Real estate	11

**KEY MANAGEMENT ASPECTS**

CONTEXT	PEOPLE	PROCESS	IMPACT
<input type="checkbox"/> Mobilisation (246)	<input type="checkbox"/> Attitudes (45)	<input type="checkbox"/> Culture (79)	<input type="checkbox"/> Transformations (45)
<input type="checkbox"/> Resources (253)	<input type="checkbox"/> Aptitude (45)	<input type="checkbox"/> Resilience (253)	<input type="checkbox"/> Sustainability (45)
<input type="checkbox"/> Foreign (42)			
<input type="checkbox"/> Monitoring (76)			

**GEOGRAPHICAL RELEVANCE**

Country	Value	Country	Value	Country	Value
Austria	12	Italy	12	Czech Republic	11
France	12	United Kingdom	11	Germany	11
Belgium	11	Finland	11	Belgium	11
Denmark	11	Sweden	11	Portugal	11
Sweden	11	Netherlands	11	Spain	11
Spain	11	Luxembourg	11	Luxembourg	11
Canada	11	Poland	11	Canada	11

Results (787)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

08.03.2016 Networking both at national and European level with initiatives in similar fields

08.03.2016 Maintain social cohesion in the festival regions after the projects end

08.03.2016 Look for implementation partners for the next festival period

08.03.2016 Integrate the provision of infrastructure (including funding, locations, materials) into the CSR strategy

07.03.2016 Establish awards for successful projects to stimulate their visibility

08.03.2016 Establish a platform to enable networking of initiatives at national and European level.

08.03.2016 Enabling citizens science and open data utilisation

08.03.2016 Disseminate knowledge of different regional approaches to other regions (at national and European level)

08.03.2016 Develop a concept to foster the engagement of civil society regarding integration of immigrants and refugees

08.03.2016 Create a legal framework that has a positive influence on taxation policies regarding financial contributions to the social sector

07.03.2016

# Visions Bank

VISIONS BANK

ADD A VISION

A vision, as defined in the CASI project, is a picture or an imagination of a desirable future, which can be based upon hopes and dreams - but also upon concerns and fears in relation to problems or imagined threats, which are not desirable.

The aim of the 'Visions Bank' is twofold:

- ✓ To openly share the results of a highly participatory citizens engagement process resulting in 50 visions on sustainable futures, with a time span of 30-40 years from now, developed during CASI citizen panels in the following 12 EU countries: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, Germany, Italy, Poland, Portugal, Slovenia and the United Kingdom.
- ✓ To activate the vision-based track of our CASI framework for the assessment and management of sustainable innovation (CASI-F) so as to allow for a systematic mapping of critical issues (barriers, drivers, opportunities and threats) associated to SI visions, and promote a more public assessment and management of possible actions linked to such issues.

Here you will be able to explore the original 50 visions, add your own vision into the 'Visions bank' and share your views about the most critical issues associated to any vision.

50 visions

~5,000 views

Search

Sort by 30

SEARCH
RESET

**Filter**

THEMES	GEOGRAPHICAL RELEVANCE
<input type="checkbox"/> Energy and production (6) <input type="checkbox"/> System resources (7) <input type="checkbox"/> Change for the future (8) <input type="checkbox"/> Living and spaces (5)	<input type="checkbox"/> Social development and people (10) <input type="checkbox"/> Local needs and support (2) <input type="checkbox"/> Values and politics (7) <input type="checkbox"/> Urban life (4)
<input type="checkbox"/> Austria (5) <input type="checkbox"/> Bulgaria (4) <input type="checkbox"/> Poland (4) <input type="checkbox"/> Germany (4)	<input type="checkbox"/> Italy (4) <input type="checkbox"/> Czech Republic (4) <input type="checkbox"/> Portugal (4) <input type="checkbox"/> Slovenia (5) <input type="checkbox"/> Belgium (4) <input type="checkbox"/> Denmark (4) <input type="checkbox"/> Finland (4) <input type="checkbox"/> United Kingdom (4)

SECTORAL RELEVANCE v

TOP 10 EXPERT-BASED RESEARCH PRIORITIES INSPIRED BY THE VISIONS v

Results (50)



The happy life. Healthy and contending life as the driver of a holistically...



Societal reset

Back to nature and traditional values; move away from individualism. People consider planet as a social heritage and...

## THE HAPPY LIFE, HEALTHY AND CONTENTING LIFE AS THE DRIVER OF A HOLISTICALLY SUSTAINABLE DEVELOPMENT

Country: Austria  
Theme: Social development and people  
Sectors: Education



Consuming, owning, climbing social ladders, or craving for recognition is not what makes us happy, but rather a healthy and fulfilling life. We recognise the world we live in as a holistic system evenly containing the good and the bad. Success means living a life in balance between the two poles and not the accumulation and exploitation of resources.

What are the benefits of this vision? For whom?

We live a happy and contending life in a circular flow economy based on:

- self-fulfilment
- happiness
- deceleration / a pace of grace

Content citizens lower costs for the society, live healthier, and work more productive. More transparency brings with it distributive justice. Interdependencies are in focus. We do not complain but instead take action ourselves. In our economy many more people feel themselves appropriate for their jobs, are more motivated, and thus create better results at work. This all leads to a better environment/surroundings. In our society the livelihoods are improved in many ways. Changed values lead to a sustainable environment and society through market mechanisms and changed behaviour of people. Limited resources are being less exploited. This helps future generations (human capital) and the exploited resources.

What are the negative repercussions of the vision? On whom?

- It is unclear, what happiness means to the individual person and what measures need to be taken.
- Not all people can live up to the expectations of the happy and contending life.
- Yesterday's institutions and lobbies needed to be forced to give up their influence and power (consumerism and money).
- Established structures (our consumption focus in society) need lots of time to be changed.
- Short-term welfare decrease through value shift/change.

What is necessary for this future?

Knowledge:

- indicating/monitoring through science
- facilitation of self-responsibility and self-fulfilment
- Policies:
- legal implementation
- education initiatives
- include ethics and moral reasoning into education and political thinking
- we have established the economy for the common good
- we have change the educational system towards the happy life vision
- we have established the happiness index
- individualised framework structures

Resources:

- socialisation processes
- education towards self-responsibility

Skills:

- perspective of the raison d'être instead of pre-cooked measures
- apprehensive education and intense focus on ethical and moral education (social behaviour)

### LEVEL OF TRANSFORMATION

TECHNOLOGICAL  
ECONOMIC  
ENVIRONMENTAL  
POLITICAL  
SOCIAL  
ETHICAL  
SPATIAL



### CRITICAL ISSUES FROM SI ASSESSMENT:

ADD A CRITICAL ISSUE





**CASI-F in action**





# CASI-F applied to a **product innovation** (Steps 1 to 3)

- A total of **194 product innovation cases** went through a *sustainability relevance and scanning* process
- Some **38 product innovation cases** were selected for a more systematic *critical issue analysis and assessment*
- **274 issues** or shapers (i.e. barriers, drivers, opportunities and threats) were identified following a critical issue analysis and assessment of the selected product innovations

Example of steps 1 to 3 of CASI-F applied to a product innovation

**Step 1:**  
Sustainability  
relevance &  
scanning  
+  
**Step 2:**  
Multi-criteria  
analysis &  
assessment

**Step 3:**  
Critical issue  
analysis &  
assessment

WAI	
CASIPEDIA source: <a href="http://www.casi2020.eu/casipedia/cases/1089">http://www.casi2020.eu/casipedia/cases/1089</a>	Innovation Type 
SI Description	Product/ process
This product innovation aims to introduce to the international market a new technology for transforming agricultural, urban, industrial, and forestry waste into a new eco-material with outstanding mechanical and calorific characteristics. Its mechanical properties make the material very attractive as a substitute for wood and other natural resources, and its calorific features give the material great potential to be used as an eco-fuel.	
SI Lead organisation	
WASTE'S ALCHEMY IBÉRICA SL (Spain)	
SI Objectives	
<ul style="list-style-type: none"><li>• Develop a technology for transforming waste into an eco-material with remarkable calorific, mechanical and ecological characteristics</li><li>• Commercialise this technology to the waste treatment sector, both nationally and internationally</li><li>• Establish strategic alliances to commercialize the eco-material, through waste treatment entities, to electric power plants and high-energy-consumption industries (use of the material as an eco-fuel)</li><li>• Establish strategic alliances to commercialise the eco-material in the construction and derived sectors and to consumer-goods manufacturers (material used as a substitute for natural sources, e.g. wood)</li></ul>	
Critical issues	
	<b>Commercial agreements (political driver):</b> The potential markets (consumers) of the eco-material (i.e. markets to be directly addressed by the waste treatment entities, and eventually by WAI through strategic agreements) are: a) electric power plants introducing renewable and low-carbon alternatives in their systems and to increase their energy-production efficiency (apart from the high calorific properties, the homogeneity and malleability of the WAI eco fuel adds another important advantage in terms of electric production efficiency); b) industries requiring large amounts of energy in their production processes, such as paper-mills and the cement industry; c) consumer-goods manufacturers, construction firms and derived sectors aiming to substitute natural and non-renewable materials.
	<b>Environmental concerns and EU awareness (environmental driver):</b> WAI's technology contributes to solving four European problems: (1) recovering urban and industrial wastes contributes to relieving the environmental pressure and ecosystem instabilities caused by the residues accumulated in landfill sites; (2) the use of the eco-material contributes to preserving natural resources (e.g. wood, coal) and reducing the use of plastics and non-recyclable materials; (3) the use of the material as a fuel constitutes a climate change mitigation action by the replacement of contaminant fossil fuels and reduction of CO2 emissions; (4) the renewable material will contribute to making the transition to a reliable, affordable, publicly accepted, competitive and sustainable European energy system, with less dependence on international imports.
	<b>Limited capacity for international expansion (social barrier):</b> The company should reinforce the international network and the necessary skills for internationalisation.



# CASI-F applied to a **product innovation** (Steps 4 to 5)

- A total of **67 actions** were suggested using the **multi-level advice management** approach
- Some **6 roadmaps** were produced using the **action roadmaps management** approach addressing the context, people, process and impact dimensions and ten related key management aspects

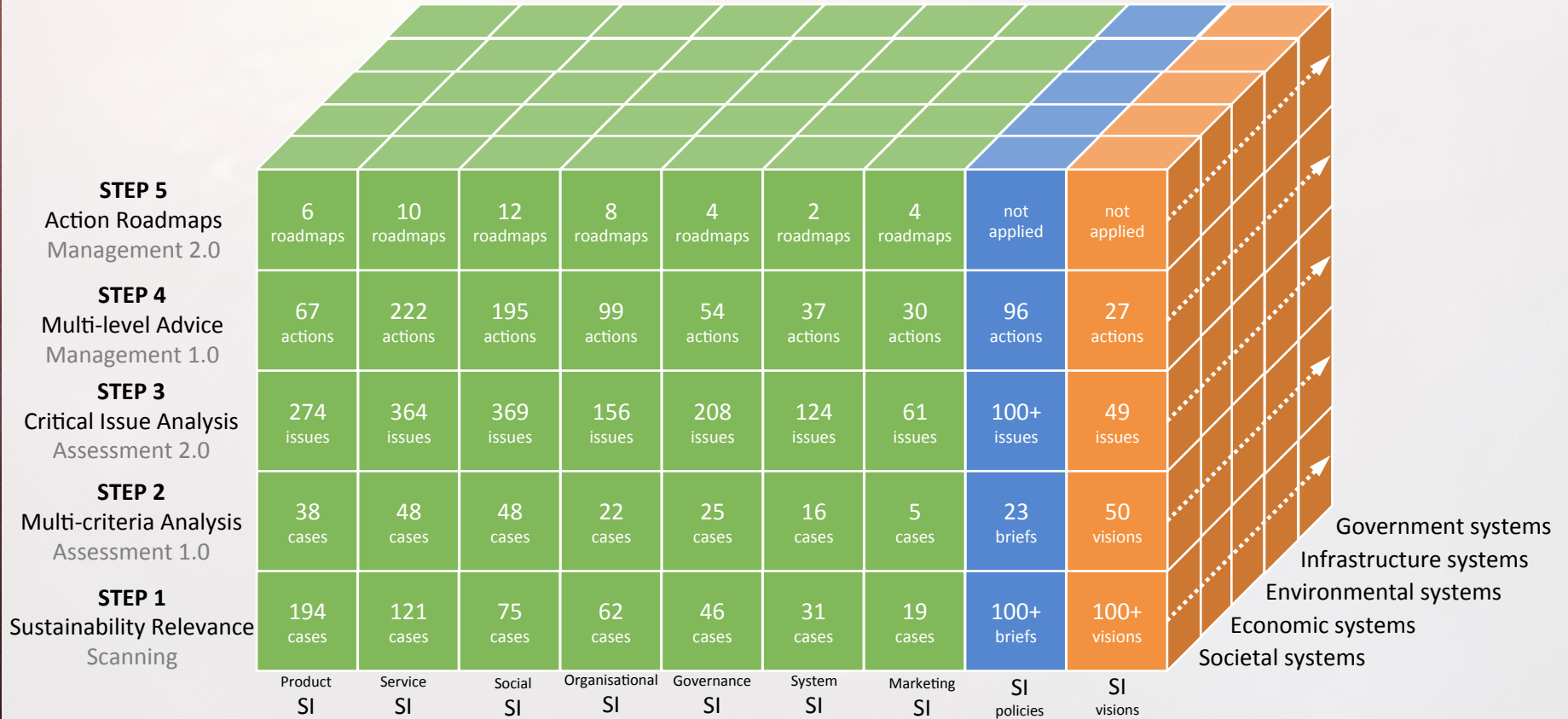
Example of steps 4 to 5 of CASI-F applied to a product innovation

Step 4:  
Multi-level advice management

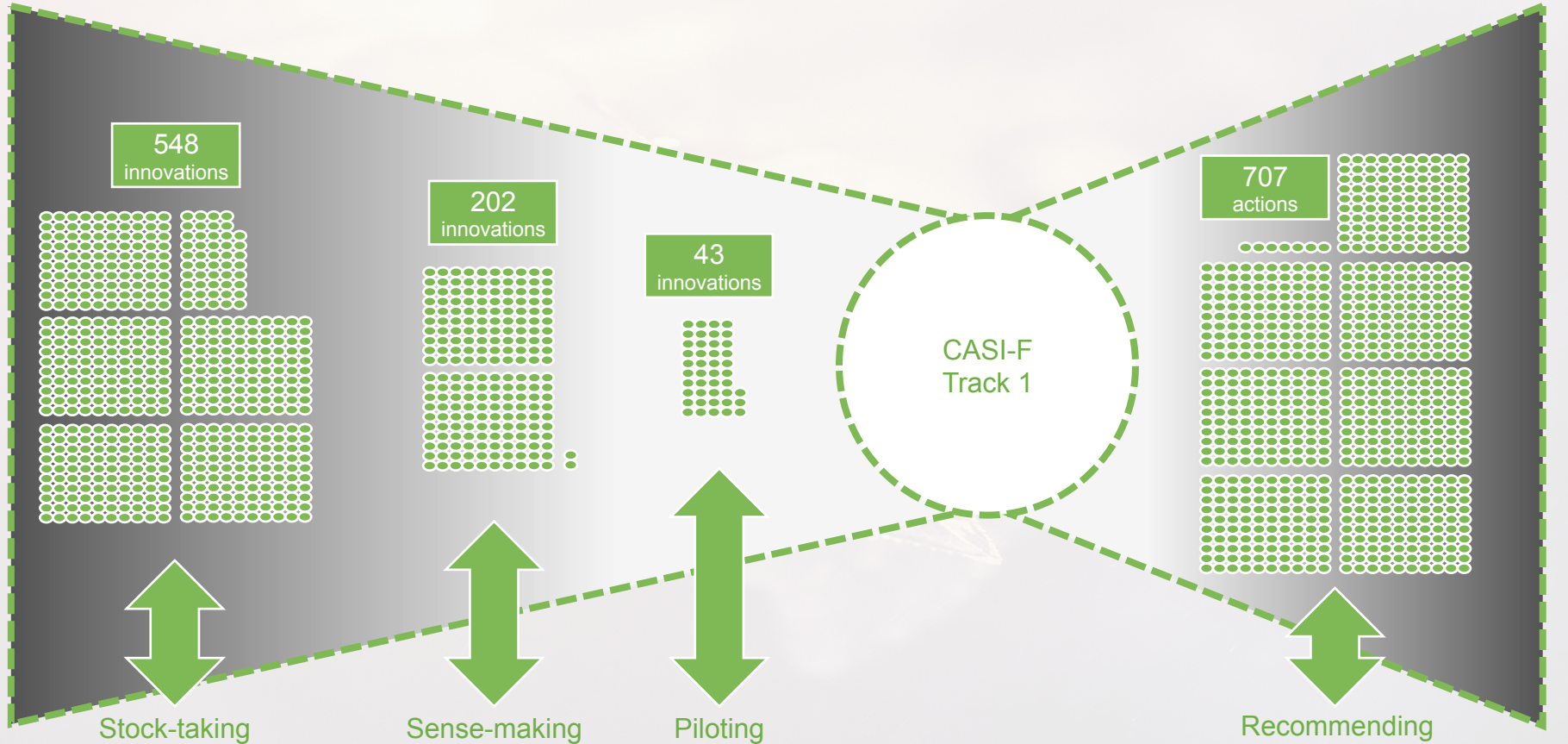
Step 5:  
Action roadmaps management

SI Management Action	Increase staff innovation management skills and capabilities			
Action Type	Top level management (strategic action) - Initiate (carry out tasks never done in the past)			
Relevant actor	Business actor (Innovator)			
CONTEXT dimension sub-actions	<p><b>MOMENTUM</b> Identify and analyse database of existing innovation management programmes in international business schools and attend education fairs <b>Timeframe:</b> Medium-term</p>	<p><b>FORESIGHT</b> Identify emerging management skills and capacities in the sector, through journals, conferences <b>Timeframe:</b> Short-term</p>	<p><b>RESOURCES</b> Apply to local/national funds for management skills development <b>Timeframe:</b> Medium-term</p>	<p><b>MOBILISATION</b> Establish new contacts with local/regional business schools, and researchers dealing with management skills and capabilities development (become a case study in schools) and incorporate action research in the company <b>Timeframe:</b> Medium-term</p>
PEOPLE dimension sub-actions	<p><b>APTITUDE</b> Create an internal repository to facilitate knowledge transfer within the company, differentiating management skills from technical education <b>Timeframe:</b> Short-term</p>		<p><b>ATTITUDE</b> Foster staff creativity with participatory workshops, e.g. generate future actions through highly-transformed scenarios <b>Timeframe:</b> Long-term</p>	
PROCESS dimension sub-actions	<p><b>CATALYSTS</b> Involve key stakeholders in piloting and experimenting with the firm's innovation phases <b>Timeframe:</b> Short-term</p>		<p><b>FOSTERERS</b> Establish incentive procedures to reward staff professional development <b>Timeframe:</b> Medium-term</p>	
IMPACT dimension sub-actions	<p><b>TRANSFORMATIONS</b> Analyse staff potential and training objectives in relation to local jobs and competences <b>Timeframe:</b> Short-term</p>		<p><b>SUSTAINABILITY</b> Develop staff education plans for the employers' family so as to bring together professional and personal development <b>Timeframe:</b> Long-term</p>	

# CASI-F was fully applied to 7 types of innovations and partially applied to the assessment and management of SI policy briefs and visions

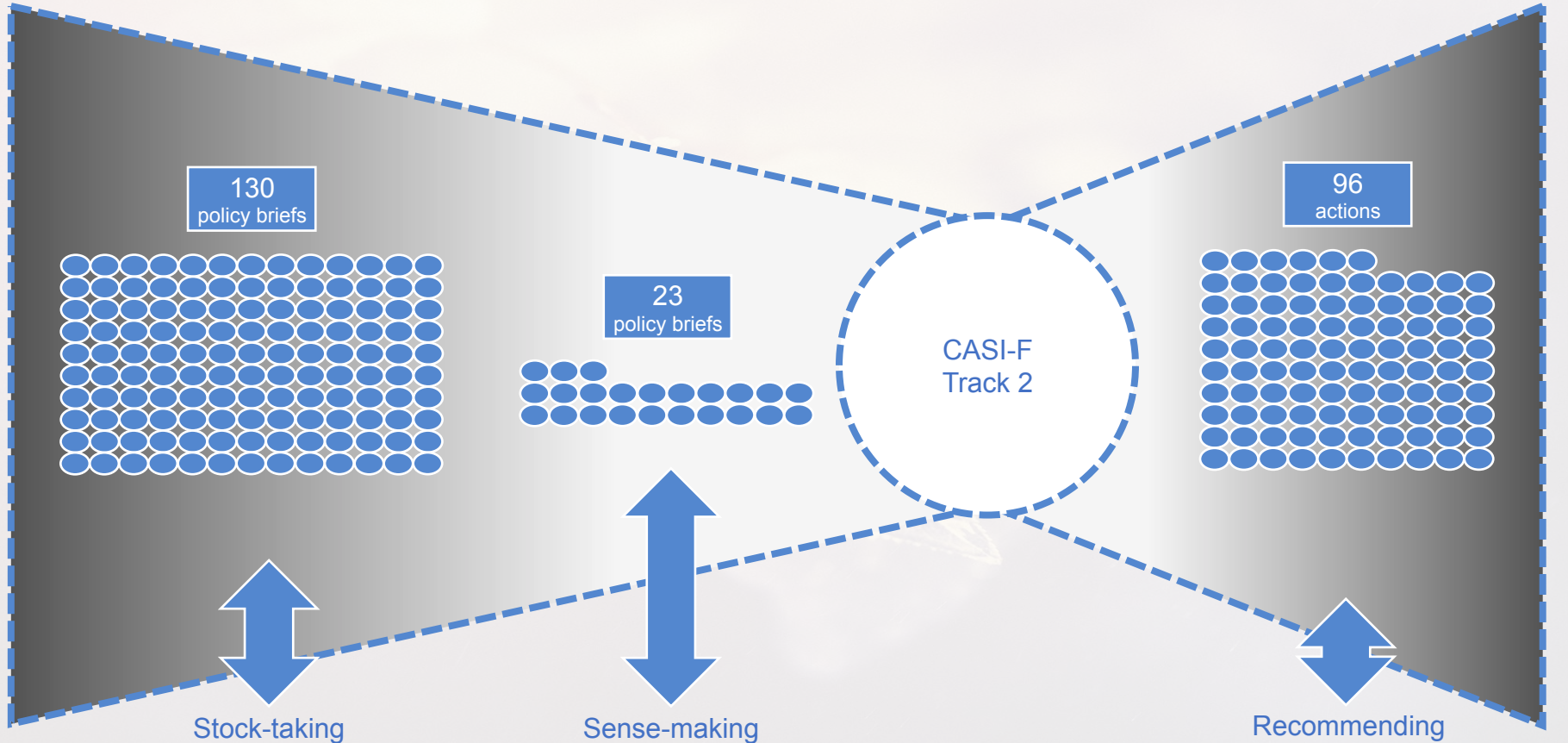


# Track 1: On the assessment and management of innovations



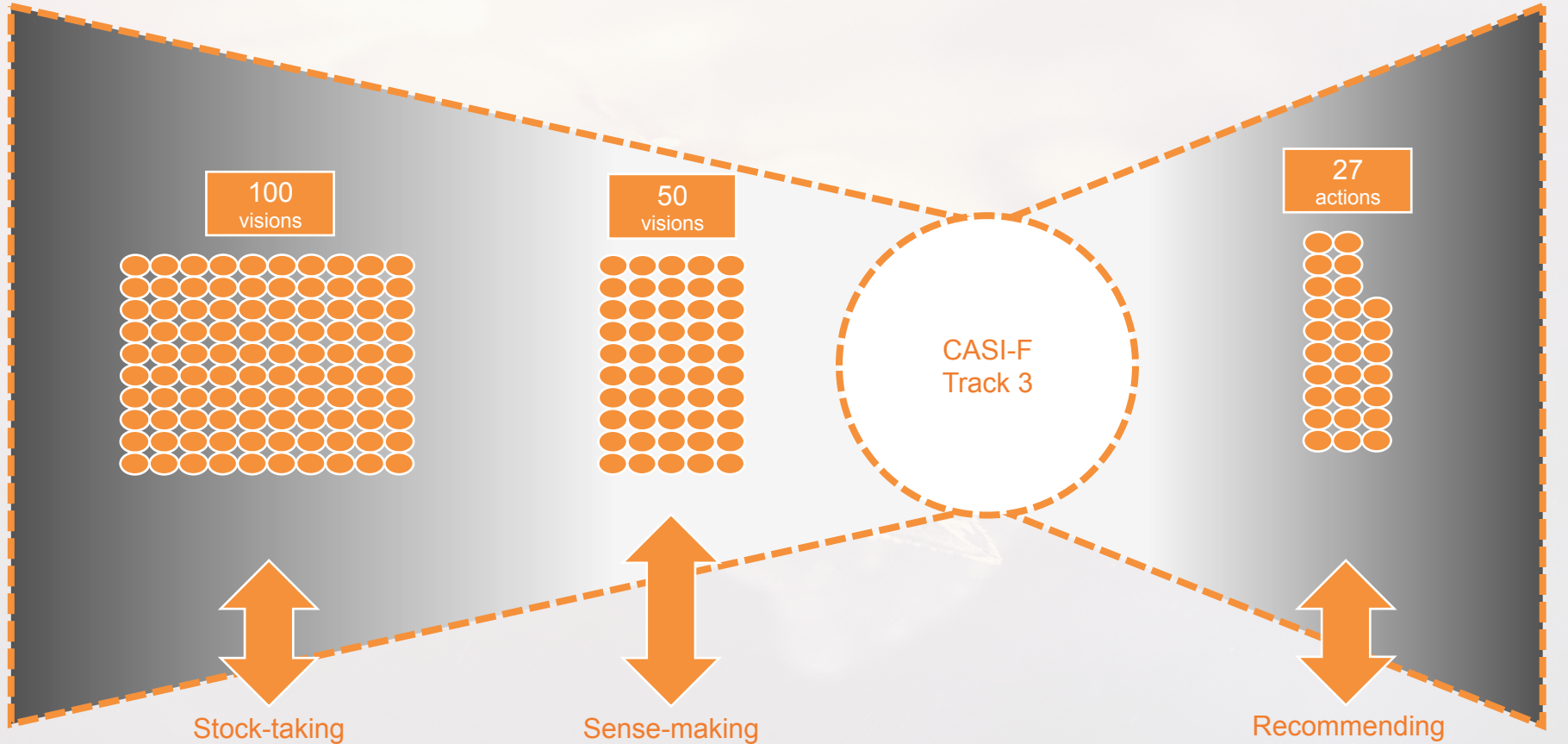


## Track 2: On the assessment and management of policies



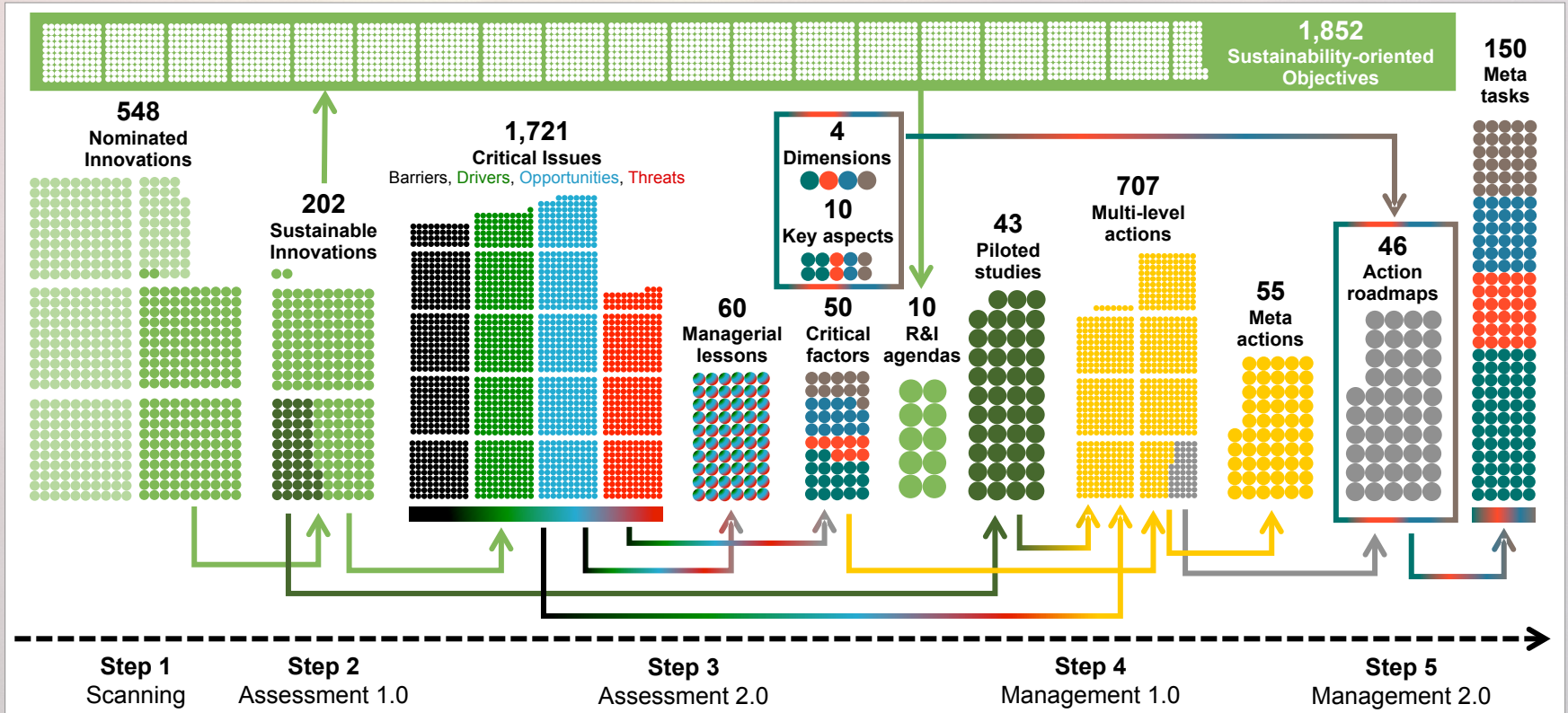


# Track 3: On the assessment and management of aspirations



# CASI-F Timeline:

## A 5 step approach to Sustainable Innovation Assessment and Management



# References



## How to cite the CASI-F report?

Popper, R., Velasco, G. and Popper, M. (2017). **CASI-F: Common Framework for the Assessment and Management of Sustainable Innovation**, CASI project report. Deliverable 6.2.

The development of CASI-F involved:

- Engaging government, business, civil society and research and education actors in the identification 'critical issues' for sustainable innovations.
- Providing sound multi-level 'policy advice' on how to best assess and manage the context, people, process and impact dimensions of seven types of sustainable innovations including product, service, social, organisational, governance, system and marketing.

See also <http://www.casi2020.eu/casi-f/>

# **CASI-F Online Training**

<http://www.casi2020.eu/tutorial/>

**CASI**





## Course outline

The CASI project aims at assessing Sustainable Innovations (SI) that respond to Societal Challenge 5 of Horizon 2020, namely 'Climate action, environment, resource efficiency and raw materials', in order to develop a framework supporting better management of SI initiatives.

**This free online course offers a comprehensive review of sustainable innovation related topics organised around 6 Modules and 12 Units.**



# Modules 1 & 2



## Module 1: CASI-F in action

- **CASI-F principles and methodology** - A five-step guide to future-proof action plans: Understand the why, what and how of sustainable innovation assessment and management.
- **CASI-F Tools** - Web-based solutions supporting open innovation practices: Use CASI-F tools and optimize your innovation potential through learning by doing.

## Module 2: Sustainable Innovation Concepts

- **SI assessment of innovations, systems and issues** - A must-have set of criteria for more holistic sustainability appraisals: Learn about 7 types of innovations and new assessment indicators.
- **SI management actions, dimensions and key aspects** - A comprehensive set of decision-support concepts: Discover different types of managerial needs and innovative ways of framing solutions.

# Modules 3 & 4



## Module 3: Sustainable Innovation in the EU

- **SI evolution in EC FP5, FP6 and FP7** - An overview of European Commission funded sustainability-oriented efforts between 1998-2013: Compare objectives, priorities and budgets.
- **SI priorities in H2020 SC5** - A guide to the EC Societal Challenge on Climate action, Environment, Resource efficiency and Raw materials: Explore SI priorities and more.

## Module 4: Sustainable Innovation State-of-the-art

- **State-of-the-art of SI by type of innovation** - Key results from the assessment of 500+ SI by type: Zoom the objectives, priorities, multi-systemic impacts and sectoral relevance of seven types of sustainable innovations.
- **A quadruple helix approach to R&I agendas for SI** - Top 10 research and innovation agendas for sustainability: Recognise the importance of the quadruple helix of SI actors in agenda-setting.



# Modules 5 & 6



## Module 5: Sustainable Innovation Pilot Study

- **SI actions and meta-actions from the CASI pilots** - A set of 55 lessons resulting from the 1st phase of CASI-F applied to 43 pilots: Learn from innovators' most common managerial choices.
- **150 meta-tasks from CASI Action Roadmaps** - 150 systematically generated lessons from the 2nd phase of CASI-F: Improve key context, people, process and impact aspects of innovation.

## Module 6: Sustainable Innovation Advice

- **Lessons from the analysis of 1700+ SI critical issues** - 60 Tweet-like recommendations from technological, economic, social, environmental, political, ethical and spatial perspectives. Get inspired!
- **Policy messages on SI assessment and management** - 18 policy messages to better manage and assess sustainable innovation: Benefit from joint lessons and views on the way forward for CASI-F.

# Certification

To qualify for a Certificate on 'Sustainable Innovation Assessment and Management', signed by the Course Director from The University of Manchester, you should study and complete all modules (each lasting a maximum of 90 minutes) and score at least 60% in the self-assessment activities provided under each unit. **Detailed information about your progress and score will be available under 'My course' tab of your user profile where you will also be able to retake each module (no more than once), if needed.**

## Certificate for satisfactorily completed course

By completing the full course with a **60-79% score** in the self-assessment tasks you will receive a certificate of satisfactory completion.

## Certificate for outstandingly completed course

By completing the full course with a score of **80% or above** in the self-assessment tasks you will receive a certificate of outstanding completion.





Thank you  
[rafael.popper@vtt.fi](mailto:rafael.popper@vtt.fi)  
[rafael.popper@manchester.ac.uk](mailto:rafael.popper@manchester.ac.uk)

The CASI project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement number **612113**.