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# Responsible by choice: An Action Plan for embedding RRI in the SHARED GREEN DEAL project



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October 2022

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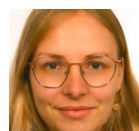
## An Action Plan for embedding RRI in the SHARED GREEN DEAL project

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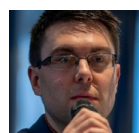
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# Executive summary

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**T**he purpose of this deliverable is to detail the preliminary plans for conducting Work Package (WP) 6 of the SHARED GREEN DEAL project. WP6 has been designed as a cross-cutting Work Package, and thus this deliverable aims to delineate the specific focus of WP6. At the same time, it shall provide a useful reference point for coordination with the analysis work packages – namely WP4 and WP5 – which similarly use data collected from the same sorts of activities conducted in other parts of the project.

WP6 has three main aims: First, it introduces the concept of Responsible Research and Innovation (RRI) to the SHARED GREEN DEAL project and its consortium members. More specifically, finding a common understanding of RRI between all SHARED GREEN DEAL partners. Second, WP6 will provide guidelines and tools on how to consider RRI in the SHARED GREEN DEAL project activities. Third, WP6 will analyse: how RRI has been used during the SHARED GREEN DEAL project; how RRI considerations have evolved among the consortium partners; and, finally, whether the inclusion of RRI considerations has helped to strengthen the usefulness and usability of project results, especially in light of a broader societal transition towards sustainability. The analysis within WP6 will focus on the work and interaction processes both within the consortium, as well as within the collaborative work that the partners do with external subcontractors and participants in the project's 'social experiments'.

The core of this deliverable is the 'SHARED GREEN DEAL RRI vision' (see section 3, 'Our Responsible Research & Innovation vision for the SHARED GREEN DEAL project'). This vision defines RRI and its guiding principles, following joint elaboration and exploration with all consortium partners. It has been developed over the last eight months of the project, including at two consortium meetings.

The audience of this deliverable is the following: first, we meet our contractual obligations towards the EC and show both what we have done so far and the planning for the years to come. Second, the deliverable (especially the RRI vision) is addressed directly to the members of the SHARED GREEN DEAL consortium themselves, many of whom may be less familiar with RRI concepts. Third, Section 3's action plan will be of internal use for further project management purposes, especially in discussing synergies and crossovers with other work packages. We note here that Section 3 should be seen only as a preliminary starting point for activities to come, and thus will inevitably be evolved during the course of the project's five-year lifetime, especially in the months leading up to the launch of the project's social experiments. Fourth and finally, we hope that this deliverable will also be useful for other projects and (transdisciplinary) research consortia, given that we take the time to explain RRI and demonstrate how its various concepts can concretely be applied at a project level.

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# 1. Introduction

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This first deliverable of Work Package 6 (WP6) aims to show (1) how Responsible Research and Innovation (RRI) will be used in our SHARED GREEN DEAL project and (2) what benefit we can expect from including RRI considerations. This deliverable will therefore help to establish a common understanding between all consortium members on RRI in general, as well as act as a set of guidelines for how RRI can (and should) be integrated into our project activities.

In order to fulfil such aims, this deliverable defines RRI in the context of the SHARED GREEN DEAL project and its consortium members, and then subsequently sketches out some guiding principles on how to include RRI. The consortium members have been part of the process that led to these guiding principles (Section 3), with particular reflections provided on their expectations and needs towards responsibility in the SHARED GREEN DEAL project.

With regard to the work to come, WP6 will analyse: how RRI has been used during the SHARED GREEN DEAL project; how RRI considerations have evolved among the consortium partners; and, finally, whether the inclusion of RRI considerations has helped to strengthen the usefulness and usability of project results, especially in light of a transition towards sustainability. The analysis will focus on analysing work and interaction processes at both consortium level, as well as on the level of the SHARED GREEN DEAL ‘social experiments’<sup>1</sup> (Section 4).

WP6 has been designed as a cross-cutting work package. Thus, we will continuously strive to coordinate with other SHARED GREEN DEAL activities to ensure consistency and synergies and avoid duplicate analysis. This action plan thus details (Section 4) the way forward for the specific RRI analysis and how the coordination with other SHARED GREEN DEAL work packages will be ensured. Particular attention will be put on RRI aspects within the: organisation and implementation of WP3 (entitled ‘Social experiments on Green Deal topics’); and two work packages dealing with data analysis, namely WP4 (‘Green Deal topic analyses’) and WP5 (‘Cross-topic comparisons, scaling and synthesis’).

The primary audience of this deliverable is members of the SHARED GREEN DEAL consortium. Besides using it internally though, we hope this deliverable can also be useful for other projects, especially those 73 projects funded under the Horizon 2020 Green Deal call. It can give ideas on how to include RRI thinking in transdisciplinary research projects and what benefits we assume will come from using RRI thinking.

The deliverable is structured as follows: Section 2 gives a general introduction to the RRI concept RRI and its current debate within the scientific community. Section 3 presents the consortium’s ‘RRI vision’ which has been discussed and co-created by all consortium members in two workshop sessions (February 2022 and October 2022). This vision defines what RRI means specifically to us, contributors to the SHARED GREEN DEAL project and lays down guiding principles we want to adhere to our daily project work. Finally, this deliverable ends with the action plan (Section 4) that lays down the next steps and the timetable for WP6.

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1 A central feature of the SHARED GREEN DEAL project (and indeed its work package structure) is its six social experiment streams. Each experiment stream will include four different experiment locations (covering North, South, East and West Europe) and focus on a specific EU Green Deal policy area. The streams’ six Green Deal policy areas are: sustainable mobility; circular economy; efficient renovations; clean energy; sustainable food; and, preserving biodiversity. Each stream adopts a different approach to ‘experimentation’, e.g. study circles that aim to shift cultural values in biodiversity, or knowledge networks that aim to drive practical know-how and understandings in doing energy efficient renovations. All streams will involve deep engagement with on-the-ground municipalities and non-governmental organisations (our ‘subcontractors’), who will be mentored, supported and funded to deliver these experiments.

## 2. What is Responsible Research and Innovation (RRI)?

This section provides a brief overview of the most commonly used definitions of RRI. In addition, we refer to the current discussion within the RRI community on possible ways to evolve RRI thinking, in addition to approaches to measuring and monitoring RRI. Finally, as one of the aims of the WP6 analysis will be to evaluate whether the inclusion and use of RRI principles change research processes, this section also briefly discusses the literature with regards to transdisciplinary research evaluation. We hope that this section therefore provides contextual grounding to the more practical, technical issues detailed in the latter sections of this deliverable.

### 2.1. Existing Responsible Research and Innovation (RRI) definitions

Responsible Research and Innovation can be characterised as a policy discourse in the field of science and innovation policy, which first emerged from the European Commission a decade ago and has since then been strategically prioritised and supported via research funding agendas of several EU Framework Programmes (Owen et al., 2021).

There are several definitions of Responsible Research and Innovation in existence. The most commonly used ones are the following:

- RRI is “a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products.” (Schomberg, 2013, p. 19).
- “Responsible research means taking collective care for the future, through stewardship of innovation in the present.” (Stilgoe et al., 2013, p. 1570)

Accordingly, the overall aim of RRI is to align research and innovation to the values, needs and expectations of society, and with a strong emphasis on addressing ‘societal grand challenges’ (Kuhlmann and Rip, 2014; 2015; Owen et al., 2021)

To accomplish these aims, a mission of RRI is to change research and innovation (R&I) processes, to emphasise co-creation and co-production with society (‘science with and for society’), and through a multidisciplinary approach that seeks to anticipate and assess broader R&I implications in an open, ethical, inclusive and responsive way (Owen and Pansera, 2019).

*Managing a more responsive, adaptive and integrated innovation process is challenging. This action plan aims to alleviate this challenge by providing guidelines to operationalise the RRI concept and demonstrate how projects can act on RRI.*

## 2.2. Operationalisation of Responsible Research and Innovation (RRI): four Dimensions and six Keys

Two main ways of operationalising the concept of RRI have been put forward in the last decade.

The first one was mainly driven by the European Commission and from a practical side. Six RRI topics were defined, which were monitored separately and would therefore yield independent results. These topics are:

- Ethics
- Open access
- Gender inclusion
- Public participation
- Science education
- Governance

In parallel, academics – mostly from a background in Philosophy – used a normative approach to qualify key characteristics of research processes. Indeed, four dimensions of RRI have been proposed by (Stilgoe et al., 2013). These dimensions do not float freely, but must connect as an integrated whole as they can be mutually reinforcing in practice. We now discuss each of these four dimensions in turn:

### Anticipation and reflection

Anticipation is for researchers and organisations to consider contingency, facts, and possibilities. Anticipation involves systematic thinking aimed at increasing resilience, while also revealing new opportunities for innovation and shaping agendas for socially-robust research. To achieve successful anticipation, academic literature points that anticipatory processes need: to be well-timed; to be built on good understanding of the dynamics that shape overall transformation; to produce plausible scenarios; to use robust tools; and, to recognise institutional and cultural resistance to anticipation.

### Reflexivity presented by Openness and Transparency

Reflexivity means transparency in exposing own activities, commitments and assumptions, while also ensuring openness by being conscious of the knowledge limits and mindful that a particular framing of an issue may not be universally held. Reflexivity asks scientists, in public, to blur the boundary between their role responsibilities and wider moral responsibilities. In addition, to ensure reflexivity, practitioners should give deeper and more systematic attention to the wider consequences and effects their R&I outputs may have on society and environment, including unintended and unexpected consequences.

### Diversity and inclusion

Inclusion of new voices in the governance of research and innovation, while keeping three criteria in mind: (1) intensity, i.e. how early members of the public are consulted and how much care is given to the composition of the discussion group; (2) openness, i.e. how diverse the group is and who is represented; and (3) quality, i.e. the gravity and continuity of the discussion. At the same time, diversity is an important feature of responsible innovation systems and should be specifically targeted and nurtured to ensure productive, resilient, adaptable innovation systems.

### Responsiveness and adaptive change

Responsive and adaptive change is the capacity to change shape or direction in response to stakeholder and public values, new knowledge, emerging perspectives, views and norms, societal challenges and changing circumstances. In this sense, this last dimension broadens the view over the



project activity and takes into account external influences to which the activity is exposed. It draws on the three above mentioned dimensions.

*Different processes should be targeted to advance those multiple dimensions simultaneously. This action plan aims to define those processes and provide a way to evaluate their success in integrating RRI dimensions into research and innovation projects.*

## 2.3. Responsible Research and Innovation (RRI) indicators

In the course of the more extensive use of the RRI concepts in (EU funded) research projects, the discussion arose on how to measure the effects of RRI. The most widely used concept is developed in a report called 'Monitoring the evolution and benefits of Responsible Research and Innovation', in short: a MoRRI-report (Peter et al., 2018). This report developed a list of indicators for each RRI key. The European Commission has taken up these MoRRI indicators, and now EU funded R&I projects are being increasingly asked to evaluate their projects against the MoRRI indicators, and this is occurring across a range of funding calls.

However, the MoRRI indicators have been designed to inform changes on a national level (e.g. practices regarding gender, open access, and ethics on an aggregated national level). Thus, applying them at a project level is challenging. Furthermore, the proposed indicators characterise and measure achievement in the six thematic RRI keys (e.g. changes in gender distribution in an organisation). Hence, they do not indicate how to assess research processes, and thus sidestep much of what is offered by the dimensions literatures.

Complicating matters still further: a recent publication (Meijer and Amanatidis, 2022) analysed the monitoring practices and use of indicators in RRI projects. It concluded that there were no indicators on which all projects could agree on. Instead, each project developed a set of indicators suitable for the specific topic and (geographical) context.

In the course of developing the current EU Framework Programme Horizon Europe, another proposition of measurement for RRI was put forward by Strand and Spaapen (2020, p. 42–60), emphasising the changes in research practices and routines and priorities of organisations induced by including RRI considerations in the projects. They proposed the following three indicators, which have, in part, been taken up by the European Commission in their project reporting templates.

- Documentation of institutional attention to normative tensions related to research integrity policies and actions.
- Documented change in R&I priorities (research or research funding) attributable to multi-stakeholder and/or transdisciplinary processes of appraisal of societal relevance and ethical acceptability
- Presence of mechanisms for multi-stakeholder and/or transdisciplinary processes of appraisal of societal relevance and ethical acceptability

As can be seen, these newly proposed 'indicators' take the shape of descriptors that need to be assessed qualitatively. All three are furthermore process indicators.

*For research projects especially projects dealing with non-technological innovations, no standard RRI indicators exist so far that could meaningfully be applied by SHARED GREEN DEAL. One of WP6's next steps will be to define useful and meaningful measurement categories (including indicators and descriptors) that show the effects of including RRI thinking in our project.*



## 2.4. Evaluation of transdisciplinary research processes

As SHARED GREEN DEAL is set up as a transdisciplinary research project, which aims to provide insights on how to implement the EU Green Deal, we describe in this section the literature on frameworks used to evaluate transdisciplinary research. A specific focus is put on literature that evaluates transdisciplinary settings aiming, in particular relating to sustainability transitions.

For the SHARED GREEN DEAL project we chose to apply a definition of transdisciplinarity from Holzer et al. (2018, p.809): transdisciplinary research “*aim[s] to address complex, real-world problems, meaningful collaboration, particularly between academic researcher and non-academic, and [has] an openness to adapting methods as projects proceed*”. This definition shows the core aspects of transdisciplinarity, which according to Zscheischler and Rogga (2015, p. 34) are: (i) research that aims to solve complex real-world problems, is considered as starting point for transdisciplinary research processes (TDR); (ii) evolving methodology, indicating the continual development of methodology during the research process and the openness to integrate various disciplinary methodologies; and (iii) collaborations, referring to the interdisciplinary cooperation between researchers and with non-academics.

Considering transdisciplinary research as a specific research setting with objectives going beyond producing traditional research results, the question of how to assess the effectiveness of this type of research emerged inevitably. Consequently, since the early 1990s, a literature strand has developed searching for evaluation criteria and evaluation frameworks, approaches and methods for these research processes (Zscheischler and Rogga, 2015; Lawrence et al., 2022). In recent years, publications have emerged analysing transdisciplinary processes as an instrument to contribute to sustainability transition.

In their publication – ‘Measuring sustainability: An evaluation framework for sustainably transition experiments’ – Williams and Robinson (2020) put forward a three step approach, differentiating between three levels of effects. These are a) processes, b) short term outputs and outcomes (misleadingly worded as “societal effects”, p. 63, and c) sustainability transition impacts. We adhere to the logic of the three steps to evaluate the full potential of transdisciplinary research, however, we have chosen to focus the WP6 analysis solely on the first step, i.e. the analysis of processes. The two other steps are covered in other parts of the SHARED GREEN DEAL project.

With regard to what are the relevant process criteria to include in an evaluation framework for transdisciplinary research, no common set of processes could be found in the literature screened. Instead, each study comes up with its own set of process criteria and a specific analysis structure. Process criteria that recur in various frameworks and are mentioned by Blackstock et al. (2007) include representation, transparency, and accountability (cf. Williams and Robinson, 2020; Schuck-Zöller et al., 2022).

We rely on Lawrence and colleagues, who conclude that there is:

*“no one-size-fits-all recipe for evaluating the effectiveness of TDR” and “evaluation frameworks [...] need to be flexible enough for researchers to adapt them to their context, while nevertheless being rigorous enough and retaining sufficient structure to allow a thorough analysis of the results and especially for comparing results across cases.”* (Lawrence et al., 2022, p.57)

Besides the definition of the process criteria as a core subject, authors of TDR evaluation frameworks use different concepts and framings depending on their scientific background. Belcher et al. (2016), for example, follow a classical evaluation approach, naming relevance, credibility, legitimacy, as well as effectiveness, as evaluation principles that can cover transdisciplinary research broadly. Another structuring element is the one around the ‘function’ of evaluation, especially the

poles between accountability and learning. This determines the design of the evaluation, being more formative vs. being more summative (Blackstock et al., 2007; Holzer et al., 2018).

A publication designed as guidelines for evaluating TDR is the one developed by Bergmann et al. (2005), which differentiates (consecutive) phases of the research processes. Here, the main phases are: A) Actors & Project Construction and Project Formulation. This includes the composition of the project team, the problem formulation and setting the goals of the projects. It also includes the project planning and financing; B) Project Execution, including setting up the methodology and a joint planning, as well as communication and reflexion mechanisms; and finally, C) Results, Products and Publications, looking at scientific results but also the transferability and usability of research results.

*This short literature review shows that transdisciplinary processes are evaluated using very different foci and methodological frameworks. During the course of the Autumn / Winter 2022/2023, WP6 will propose and discuss a set of most relevant processes of the SHARED GREEN DEAL project that will be the focus of the evaluation. We will draw on the RRI vision especially the RRI guiding principles (see next section) to define these processes.*

## 3. Our Responsible Research and Innovation (RRI) vision for the SHARED GREEN DEAL project

### 3.1. Introduction

SHARED GREEN DEAL consortium partners have jointly reflected and agreed on a shared vision of how to integrate principles of Responsible Research and Innovation (RRI) into their activities and work processes within the SHARED GREEN DEAL project. This shared RRI vision outlines our understanding of RRI and the benefit we expect from integrating RRI into work in the SHARED GREEN DEAL project. We aim to implement our project in a way that supports reflection within the team on our approaches and raises awareness for crosscutting issues. For us, RRI can become a powerful tool to achieve the expected impacts of SHARED GREEN DEAL.

This vision includes the guiding principles for the interaction of the consortium members and between the consortium members and partners, stakeholders, and participants in the project and thus offers practical guidance on how to 'do' RRI in the end.

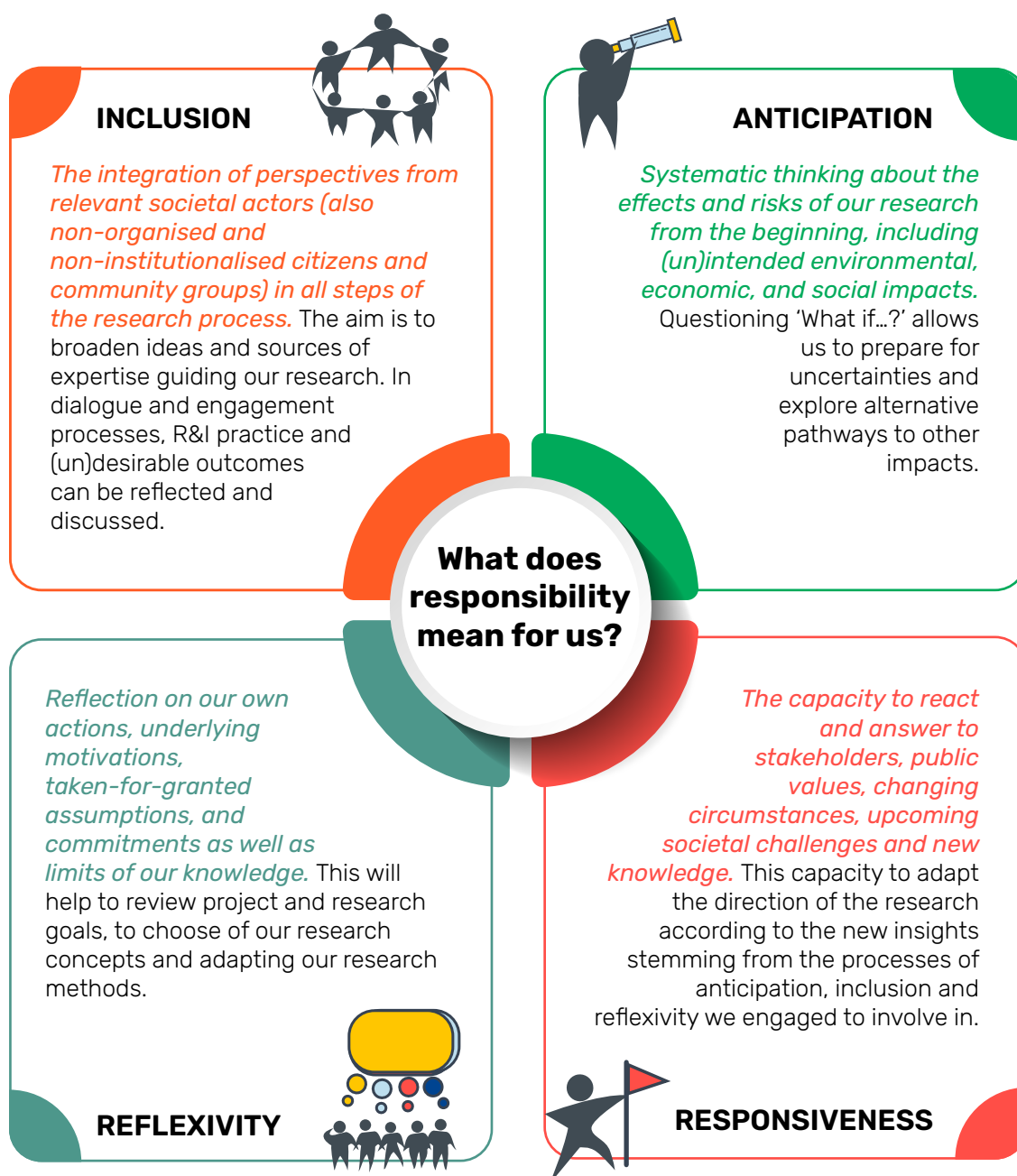
*Making of the SHARED GREEN DEAL RRI vision:* The rationale for the vision as well as the definition of RRI (parts 1 and 2 of the vision) are based on the RRI literature and the current shared principles of RRI. The guiding principles however are a summary of the discussions during the first RRI workshop during the February 2022 Consortium Meeting. The formulated guiding principles have been discussed and challenged by the consortium members during the second consortium meeting in October 2022. The guideline thus reflects the needs and priorities of the consortium partners specifically for the SHARED GREEN DEAL project.

### 3.2. Why are we using Responsible Research and Innovation (RRI)?

- We want to produce **research results** that are relevant and useful for society. With our project, we aim to provide solutions for societal challenges and help better implement the European Green Deal.
- We are using RRI to **change our research processes**. RRI allows exploring new interaction practices and test them during the SHARED GREEN DEAL project. These practices, if proven useful, can be further embedded into our research and organisations in the future.
- We encourage a **critical approach to RRI**. While using RRI in our project, we will tailor it to our need and make sure it is used in a way to strengthen the SHARED GREEN DEAL project. We aim at spreading our lessons learnt also to other research projects especially linked to the Green Deal.

### 3.3. What does responsibility mean for the consortium?

We structure our understanding of responsibility and our activities in the SHARED GREEN DEAL project based on the four process dimensions of RRI<sup>2</sup> and their theoretical<sup>3</sup> and practical interpretations<sup>4</sup>. Responsibility in our day-to-day project work means to us:



**Figure 1.** Four dimensions of Responsible Research and Innovation

- 2 Stilgoe, J., Owen, R., & Macnaghten, P. (2013). Developing a framework for responsible innovation. In: *Research Policy* 42 (9), S. 1568–1680.
- 3 Owen, R., Macnaghten, P., & Stilgoe, J. (2012). Responsible research and innovation: From science in society to science for society, with society. In: *Science and Public Policy* 39 (6), S. 751–760.
- 4 [https://rri-tools.eu/about-rri?p\\_p\\_id=2\\_WAR\\_kaleodesignerportlet&p\\_p\\_lifecycle=0](https://rri-tools.eu/about-rri?p_p_id=2_WAR_kaleodesignerportlet&p_p_lifecycle=0); <https://thinkingtool.eu/>; <https://www.rri-leaders.eu/co-creation-process/>

### 3.4. Guiding principles

In the following, we present a set of guiding principles which are derived from the above outlined shared understanding of responsibility and the project's objectives to which RRI should contribute to. They have been derived from our common working sessions on RRI during the first Consortium Meeting, February 2022.<sup>5</sup> These principles are fundamental to our research practice as well as to the interaction of the consortium members and between the consortium members and external partners:

We are committed to a socially and environmentally **sustainable research process**:

- We use **inclusive, just, and socially acceptable approaches, methods and tools**.
- We are **aware of past findings**.
- We discuss **how we can contribute** with our action to **sustainability transitions** and make use of this normative perspective. We look at the societal impacts of the project as enabling factors to this transitions.
- We reflect on which **stakeholder groups' perceptions are given priority in experiments** and consider **social inequalities**. We ensure **diversity and inclusivity** in the group of participants in our experiments.
- Working in different contexts, we take into account **local conditions** in our experiments and use coherent, context-specific specific principles shared by the participants of the experiments and seek a representation of **local actors**
- Using **RRI will be learning process** for all consortium members. We strive to get more knowledgeable and skilled about RRI and how it can be applied in our project, while at the same time be aware of its boundaries.
- Applying a responsible and reflexive approach to research might generate **unforeseen and negative effects of our research**. We are prepared to address the unforeseen.

We aim for **responsible internal project management**:

- We seek **reliability and accountability** in our project management, like completing tasks on time and taking ownership of our work.
- We **acknowledge** our own and the work of the team, pay attention to the **well-being** of the team and cultivate **respectful and mindful interaction**.
- We are **aware of difficulties in the research practice**, like recruiting for the social experiments and have practical **alternative plans**. We acknowledge the **right to fail** in reaching the effects we have aimed at during the experiments and to commit ourselves **to reflect and draw conclusions** from unintended consequences. Being responsible means also to be **flexible and adaptive to changes in our own processes**.
- We aim for a **clear set of measurements** and a transparent definition allowing to include RRI right from the start. Our measurements are **adaptable to the different disciplines** in the project, allow meaningful comparisons across the six streams and are quantitative as well as qualitative, according to the needs.
- We aim at contributing to **environmental sustainability** and use environmental friendly products and processes (e.g. travels) in our internal project management.

<sup>5</sup> The content of these guidelines was wholly sourced inductively from the discussion with consortium partners during the first consortium meeting, February 2022. We only took the liberty to reorganise them in the following cluster and adjust wording. The first two clusters are of general nature and were key to a lot of consortium partners with regard to RRI and in general responsible project work. This is why they are named first. In order to align with the six EC RRI dimensions, the last four clusters are dedicated to the four RRI dimensions that are most relevant to the SHARED GREEN DEAL project.

The European Commission understanding of RRI resonates also in the SHARED GREEN DEAL project. The following four dimensions are of particular relevance for the Share Green Deal project: Thus, we...

... are committed to **PUBLIC ENGAGEMENT**:

- We seek **transparency** about the project goals and results as well as our interests and values.
- Our research results shall be **useful and usable by end users**. They should especially provide evidences for future policy making (of the Green Deal). Therefore we **actively involve external stakeholders – citizens and intermediate organisation** such as grassroots organisations or local administrations during the experiments and **policy makers** for the uptake of the project's results – in our research and pay attention to **balance different requirements**.
- We reflect regularly with participants on whether the **research is taking into consideration needs, concerns and values** of all participants.
- We ensure **equality of roles** between researchers, participants, stakeholders and further partners. This includes to jointly discuss and elaborate (research") problem definition. We aim at **co-creation during the different stages of the research** process, not only at the end of the project.

... aim for **OPEN ACCESS** to our research and **DISSEMINATION** of our results to different societal stakeholders

- **Research data and analysis are shared** wherever useful to the research community and with sufficient anonymisation, explanations and metadata.
- Results are **disseminated to a wider public** in a sensitive but impactful way.
- We attach great importance to a **simple understanding and practical use of our results**, for example with easy-to-read and accessible publications and target-group adapted communications.

... comply with the standards of **research ETHICS** in our research work and collaborations internal and with external partners:

- This includes **informed consent** as well as **awareness of (our own) power positions** and possible biases.
- We agree on the **formal ethic commitments** that the consortium has subscribed to, in particular concepts such as anonymity and confidentiality of participants. We adhere to the internal work processes of quality review and internal deadlines.
- We think of possible unintended **consequences and unforeseen future risks** of our research and publications.

... recognise that **GENDER EQUALITY** adds value to research and innovation in terms of excellence, creativity, and societal relevance of the knowledge produced<sup>6</sup>:

- We promote equal opportunities for women and men and gender balance in the teams in academic and non-academic partner organisations.
- We ensure the **inclusion of women's expertise in the internal structures of the project** including managing positions (WP leads), general assembly, and advisory boards.
- We aim to reflect on and integrate **gender dimensions in the content of the project activities**, identifying and addressing gender inequalities and needs in the context of the experimental streams.
- We acknowledge that gender interacts with other categories of identity and adopt an **intersectional approach** to issues of equity and justice.

6 Gender is a one of the key cross-cutting topics of the SHARED GREEN DEAL project. Thus, separate there is a separate gender action plan, gender guidelines and gender training. However, as gender is an integral part of RRI thinking, we chose to introduce it also here and to re-state its key principles.



## 4. How to put Responsible Research and Innovation (RRI) into action in the SHARED GREEN DEAL project?

The analysis within WP6 will concentrate on how RRI has been used during the SHARED GREEN DEAL project. The analysis will focus on how RRI considerations have been taken into account in the GREEN DEAL project, its different activities, and the stakeholders involved in the project. The analytical framework for the analyses shall be derived from the four RRI dimensions (Anticipation, Responsiveness, Reflexivity & Inclusion) and the derived guiding principles (Section 3).

### 4.1. The conceptual framework of Work Package 6

In the following, we detail the main guiding research questions of WP6. These will be further elaborated and operationalised, taking into account the core processes WP6 will look at (these processes are still to be agreed on).

In particular, it will strive to answer the following questions:

- a. How have RRI considerations evolved among the consortium partners?
- b. Whether the inclusion of RRI considerations have positively shaped (and changed) the research process over the project's lifetime?
- c. Whether RRI considerations helped strengthen the usefulness and usability of project results, especially in light of a transition towards sustainability?

For the analysis of RRI considerations in the project's processes, we propose to distinguish two different levels of activities, namely:

- *Level A:* The interactions of the consortium partners (between academic partners & practitioners) throughout the whole duration of the project. This would include e.g. planning of the experiments, setting research questions, participants selection process, data analysis and outputs production (scientific publication & non-scientific communications) and the results dissemination & diffusion process.
- *Level B:* The interactions of the partners involved in the social experiments (consortium partner, local sub-contractors, (participants). The focus is on how RRI considerations resonate during experiments' implementation and activities' development.

As the activities in the SHARED GREEN DEAL project are of very different nature, we differentiate between two levels of analysis: the consortium level and activities that are carried out already and until the end of the project. And the experiment level, which will be a shorter term activity of about 1 year and involve a new set of stakeholders. First ideas (to be further developed) of the focus of the analysis are the following:



### Level A: The consortium level

The main focus of the analysis of interaction processes at the consortium level will be to investigate whether and how introducing 'RRI considerations' leads to changes in how research is conducted. In addition to understanding how that influences the output of the projects (e.g. academic outputs (publications and further research collaboration) and its dissemination and outreach activities.

Furthermore, this analysis will inform on selected RRI-MoRRI indicators on the overall project level. Here we will focus on the following RRI key dimensions that have been agreed as being the most relevant for the SHARED GREEN DEAL project: a) gender, b) ethics, c) public engagement.

We have chosen the following main research questions that will guide the consortium-level analysis:

- How have RRI considerations, as formulated in the RRI vision, been applied during the duration of the project?
- What challenges arose with regard to applying the RRI vision? How have these challenges been overcome?
- To what extent has the inclusion of an explicit focus on responsibility strengthened the SHARED GREEN DEAL project's results?
- Which (research & management) practices were altered during the SHARED GREEN DEAL project in response to introducing RRI? In the project implementation itself? In personal habits? In organisation?

### Level B: The social experiments level

The implementation of the experiments is central to the SHARED GREEN DEAL project: they involve a new and different set of stakeholder in the SHARED GREEN DEAL project. The participants of the experiments will not be researchers however are meant to perform research (citizen science / action research). Thus during the experiments most of the (research) data for the future analysis will be generated. WP6 will not look into the results related to the content of the six Green Deal topics covered by the experiments<sup>7</sup>. Instead, WP6 will analysis the interaction mechanisms between the consortium members who are designing and steering the experiments and the stakeholder involved in the experiment (i.e. local subcontractors and participants).

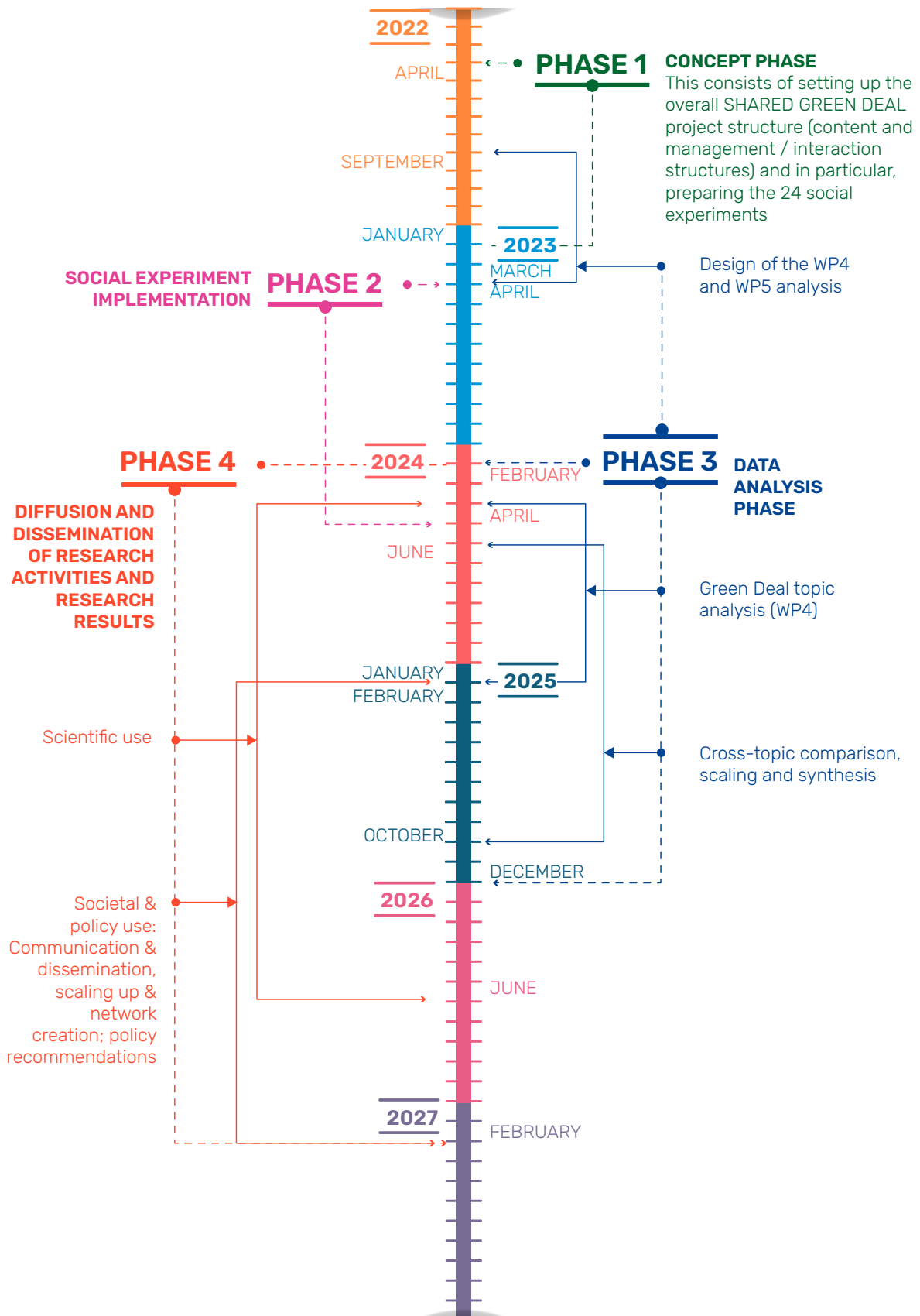
WP6 objectives is to assess whether RRI considerations (specifically through the RRI training and the RRI Toolbox) were helpful guidelines for the experimental process and whether and how the use of RRI guiding principles and methods has influenced the results of the experiments.

The following research questions should guide the analysis:

- How have RRI considerations (formulated in the RRI vision; translated via the RRI training and the RRI Toolbox) been used for conducting social experiments?
- To what extent have RRI considerations contributed to change interaction routines between different stakeholder groups (esp. consortium partners and local participants?) How have these changes altered the generation of results & outcomes of the experiment?

<sup>7</sup> This will be the task of WP4.

In order to structure the analysis, we split the SHARED GREEN DEAL project into four (mostly consecutive) phases which are:



**Figure 2.** Work Package 6 planned work flow

## 4.2. Overview of preliminary steps and tasks for Work Package 6

Table 1 outlines the actions we foresee within WP6. It describes the objectives of each task, the indicative timing and the consortium partners we would need to involve. The table lays down five consecutive steps. Step one is finalised with this deliverable. Step 2 and Step 3 are closely linked and will set up the methodological framework of WP6. It will draw on the RRI vision and the guiding principles to finalise the research questions and the measurement categories.

**Table 1.** WP6 Plan of Activities

Step	Description of the step's objectives and its different tasks	Indicative timings and deliverables	Involved partners
Step 1: Developing the conceptual basis of the WP6	Task T1.1. Developing a RRI vision: A RRI vision will be developed. It lays down the consortium's definition of responsibility and the guiding principles, including responsibility in our research practices.  The draft RRI vision will be discussed during the 2 <sup>nd</sup> consortium meeting on 4-5 October 2022.	Duration of work: June – October 2022 Finalisation: End of October 2022 <a href="#">Deliverable (public):</a> D6.1. RRI action plan	• WECF • ARU
	Tasks: T1.2. Discussion and finalisation of the research questions	October 2022 (during the review process of the RRI action plan & the consortium meeting)	• ARU • DRIFT
	T1.3. Defining indicators/descriptors to answer the research questions.  We will discuss the design of the indicators with those consortium members in charge of specific aspects (and respectively data collection on those aspects), including WECF (gender aspects) and ICLEI (dissemination).	September – December 2022: mainly developed by ISI, discussion with WECF (gender) and ARU (general set of indicators) <a href="#">Deliverable (internal):</a> updated & refined research methodology, part of the updated RRI Action Plan	• ARU • ICS • WECF • ICLEI
	T1.4. Planning data collection instruments for the analysis of process & coordination with consortium partners of WP dealing with analysis.  This includes especially interview guidelines and survey templates. Possibly addition to the field notes template will be suggested.  Data collection methods will be coordinated with those already used in the experiments.  Ethical considerations such as consent forms will be elaborated on and explication provided to all participating consortium members.	October – December 2022 (during the consortium meeting & WP leader monthly meeting) <a href="#">Deliverable (internal):</a> updated & refined research methodology, part of the updated RRI Action Plan	• ARU • ICS

Step	Description of the step's objectives and its different tasks	Indicative timings and deliverables	Involved partners
Step 2: RRI Toolbox & RRI training	Task 2.1. A toolbox of concepts, methods and tools for implementing and monitoring RRI practices will be compiled. It consists of a selection of RRI tools designed and put into practice in other RRI projects of the past years. It will be complemented by methods used in the transition management field, such as participatory monitoring (input from DRIFT). It can include specific tools and methods to consider gender aspects (input from WECF).	June 2022 – February 2023 <a href="#">Deliverable (public)</a> '6.2. Suite of RRI impact evaluation tool'	<ul style="list-style-type: none"> <li>• WECF</li> <li>• DRIFT</li> </ul>
	Task 2.2.: RRI training: RRI thinking is to be mainstreamed in the training session for local subcontractors. Fraunhofer ISI will not be part of any training. A contribution could be foreseen as pre-recorded webinar. Other training modules for the training can include RRI thinking	March/April 2023 (as part of the train the trainer session preceding the subcontractors' trainings of each experiment stream	
	Task 2.3. Include RRI consideration in SHARED GREEN DEALs deliverables and management e.g. ethical consideration in the data management plan (D.10.3 and follow up versions) and mainstreaming gender.  For gender, the activities will be in accordance with the Gender Action Plan (GAP) (included in the project handbook D. 10.1.)	Ongoing	<ul style="list-style-type: none"> <li>• ARU</li> <li>• WECF</li> </ul>
Step 3: Process evaluation	<i>This corresponds to Tasks 6.2 &amp; 6.3 of the proposal. It is split into the analysis of the consortium level interaction (Part A) and the analysis of interactions during the social experiments (Part B)</i>	August 2022 – February 2027	All partners

Step	Description of the step's objectives and its different tasks	Indicative timings and deliverables	Involved partners
Step 3a: Process evaluation: consortium level	<p>Data collection method no. 1: 'RRI reflexion sessions' during the consortium meetings</p> <p>These sessions will be proposed according to the needs of the consortium partners. It is foreseen to hold at least 1 session per year for 1-2 hours. It will be designed as an interactive workshop where current questions with regard to RRI can be discussed.</p> <p>The session can be preceded by a short survey to consortium partners to gather a) the progress, challenges, changes with regards to RRI implementation b) their needs and questions with regards to RRI inclusion.</p>	Yearly during consortium meetings	All partners
	Data collection method no. 2: regular survey to consortium members (e.g. in preparation or as direct follow-up of the reflexive sessions during the consortium meetings).	Yearly during consortium meetings	All partners
	<p>Data collection method no. 3: Interviews with selected consortium members (both research partners and non-research partners). Two rounds of interviews are foreseen:</p> <ul style="list-style-type: none"> <li>Round 1 (mid-term): 19 interviews at the end of the experimental phase. (these interviews are the same than the one foreseen for the experimental phase, see below).</li> <li>Round 2 (end of project): interviews with consortium members, including members mostly involved with data analysis. These interviews are foreseen as part of a consortium meeting.</li> </ul> <p>Informal interviews during the consortium meetings with consortium members can be envisaged to cover certain phases of the project (e.g. the planning phase of the experiments)</p>	<p>March 2024</p> <p>December 2025 – June 2026</p>	All partners

Step	Description of the step's objectives and its different tasks	Indicative timings and deliverables	Involved partners
Step 3b: Process evaluation social experiments	Data collection method no. 4: Survey to local subcontractors  The survey will be addressed to local subcontractors and ask them for their opinions on the usefulness of tools, and the interactions with the consortium partner. Two survey rounds are foreseen, one before the start of the experiments (probably included in the March/April 2023 training session; the other one at the end of the experimental phase (April 2024) and balance the views of the interviews. The surveys will include also open questions	April 2024 – January 2025 (survey date March/April 2024)	Local sub-contractors
	Data collection method no. 5: Analysis of monthly reporting template: two questions related to the interactions processes and /or the usefulness of guidance provided will be included in every second monthly template in order to gather the perspectives of the participants and assess possible evolution over the lifetime of the experiments. In order to allow a cross-cutting analysis throughout the experiments, the questions will be the same for each experiment stream. The questions will be jointly agreed on with the leader of the experiments	April 2024 – January 2025	<ul style="list-style-type: none"> <li>• NUIG</li> <li>• ENPC</li> <li>• ARU</li> <li>• TUW</li> <li>• DRIFT</li> <li>• ZRC</li> </ul>
	Data collection method no. 3: Interviews with selected consortium members (both research partners and non-research partners). Only round 1 interviews are relevant to the experiment level (see above).  Round 1: (mid-term): 19 interviews at the end of the experimental phase. (these interviews are the same than the one foreseen for the experimental phase, see below).	April 2024 – January 2025	All partners

Step	Description of the step's objectives and its different tasks	Indicative timings and deliverables	Involved partners
Step 4: Reporting WP6	<p>Analysis of evaluation results, elaboration of conclusions and development of recommendations</p> <p>The reporting will be split in two parts, following the two level of analysis.</p> <ul style="list-style-type: none"> <li>The deliverable D6.3. will report on the analysis at experiment level. Furthermore, it will contain a mid-term review of the activities at consortium level analysis</li> <li>The analysis of RRI and processes at consortium level will be summarised and published. We intent to write a journal publication.</li> </ul>	<p>April 2024 – December 2024</p> <p><b>Deliverable (public):</b> '6.3. Final evaluation report and recommendations' (February 2025)</p> <p>September 2026 – February 2027</p> <p><b>Deliverable:</b> journal publication.</p>	<ul style="list-style-type: none"> <li>• WECF</li> <li>• ARU</li> <li>• ICS</li> <li>• ALDA</li> <li>• IEEP</li> </ul>





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