Action Research for Sustainability
Reflections on transition management in practice

Key points:

• Current societal challenges and discussions on the relevancy of science increase the need and opportunity for action research

• Action researchers pursuing sustainability address real-life challenges and generate theoretical insights.

• (Action) Researchers working in the pursuit of sustainability are not neutral analysts and should engage in self-inquiry and reflection

• The practical experience from InContext shows that transparency, trust building and adapting to the local context are crucial in opening up and maintaining communicative spaces

• Action researchers who deal with communicative spaces should be sensitive for power differences, ethical dilemmas and possible conflicts

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HOW CAN WE UNLEASH THE TRANSFORMATIVE POTENTIAL OF LOCAL COMMUNITIES?—THE INCONTEXT PROJECT

In an exemplary manner, InContext has identified framework conditions that enable societal transitions towards an environmentally sound, economically successful, and culturally diverse future. The goal was to better understand how sustainable behaviour is shaped by an interplay between external factors (e.g. social norms, policies, and infrastructure) and internal conditions (e.g. values and beliefs). Research was carried out in four case studies and three pilot projects: The case studies looked at existing cases of alternative practices in energy and food consumption. The pilot projects developed an innovative action-research method, the 'community arena', and applied it in three local communities. The processes aimed at empowering individuals to develop a long-term vision for a sustainable community and to take immediate action.

The three-year project was carried out by Ecologic Institute, Dutch Research Institute for Transitions (DRIFT), ICLEI- Local Governments for Sustainability, Institute for Agriculture and Forest Environment of the Polish Academy of Sciences (PAN), Sustainable Europe Research Institute (SERI), Delft University of Technology (TU-Delft), Helmholtz Centre for Environmental Research (UFZ) and L'Université libre de Bruxelles (ULB).

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1 Introduction

Action research is the collaborative production of scientifically and socially relevant knowledge through a participatory process. Real-life problems are addressed and new theoretical insights gained. When aiming simultaneously for social change and knowledge advancement, action research offers itself as a suitable approach. Since in action research the boundaries between science and practice as well as between action and reflection often are blurred, it shows characteristics of non-traditional science, such as sustainability science (Kates et al. 2001), mode-2 science (Gibbons et al. 1994) or post-normal science (Ravetz 1999). At the same time action research and its legitimacy, usefulness and value is contested, although the number of action research strands is increasing together with a lively academic (and public) debate (Dick 2004).

Adding to this debate, this brief takes the particular perspective of the action researcher to introduce and reflect upon action research in the context of sustainability transitions. It gives the floor to the action researchers of the European funded FP7-InContext project to reflect on their practice of conducting an action research process in three communities across Europe. By engaging with issues that are considered key issues in conducting action research, the researchers paint a rich, intimate and pervasive picture of the intricacies of the daily practice of action research. The brief is addressed to researchers interested in exploring an action research approach; to local, national and European institutions engaged in promoting research beyond the traditional approach to science (such as in the JPI Urban Europe call of 2012); and to national, European and international research bodies or institutions willing to fund action research.

As part of InContext, innovative methods for dealing with societal challenges have been developed and applied. An action research methodology (referred to as community arena methodology) integrating insights from transition management, backcasting and social psychology was developed and put into practice in three communities. The community arena process is a co-creation process where tacit knowledge of engaged citizens is integrated with scientific and process knowledge of researchers to result in a long-term vision and agenda for a sustainable community as well as immediate action. The aim was to spark processes of reflection at the individual and group level allowing for the emergence of new more sustainable behaviour as well as experiments with innovative practices and to gain theoretical and methodological insights in an iterative process.

This brief first introduces the concepts of action research, sustainability transitions, and transition management (section 2). This is followed by what the authors consider key issues for conducting action research (section 3) and how these have been dealt with in the practice of the research teams in the three communities of the InContext project (section 4). Subsequently section 5 provides a synthesis and a reflection on what it means for researchers to engage in this kind of research.

2 What is action research for sustainability transitions?

Along with an understanding of our society as complex, heading towards an uncertain future undergoing non-linear processes of radical change—so called transitions—comes the search for new modes of governance. In the context of sustainability sciences, the search is for modes of governance that support the learning process through which our society can become more sustainable. Scientists, and more specifically action researchers, can play a role in shaping parts of this learning process and transition management can be one of the tools. This section defines the concepts and briefly explores their interrelation.

Figure 1:
Overview of InContext pilot projects

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Wolfhagen is a rural town situated in the centre of Germany in the federal state of Hesse. It comprises a core city and eleven rural districts, which leads to a high amount of commuters. The city, while being a frontrunner in the development and use of renewable energy, is marked by a vacated city centre and a decline in population (currently some 13,800 inhabitants). The focus of the community arena process was on the quality of life in the inner city. The vision process is put into practice by the arena group that aims to open a multi-faceted community centre in a historically important building in the inner city.

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Carnisse is an urban neighbourhood in the city of Rotterdam, situated at the Western coast of the Netherlands. Some 10,000 (out of Rotterdam's 600,000) inhabitants live in Carnisse. It is known as a deprived neighbourhood scoring low on a number of municipal indexes, marked by a high turnaround of inhabitants which together represent about 170 nationalities. Severe budget cuts of the municipality are threatening the continuation of social work as well as community facilities. The focus of the community arena process was on the quality of life in the neighbourhood and it was co-financed by the Dutch government. The vision is put into practice by a group that aims to re-open one of the community facilities in self-management. Members of the community arena are also organising a number of deliberative meetings with different stakeholder groups.

— 3
Finkenstein am Faaker See is located in Austria, on the border to Slovenia and Italy. It is one of the largest communities in Carinthia (one of the nine Austrian Länder). About 8,500 people live in Finkenstein - distributed over about 28 villages and settlements and divided into a Slovenian-speaking minority and a German-speaking majority. Main economic sectors are tourism and (small) industry and agriculture. The focus of the community arena process was on quality of life. The process was co-financed by the municipality of Finkenstein and the vision is put into practice through action-oriented projects or deliberative processes in a number of Working Groups, e.g. on economics, sustainability, and social issues.

2.1   WHAT IS ACTION RESEARCH?

To set a frame for the exploration of action research for sustainability, it is helpful to introduce some basic tenets of action research. Greenwood and Levin (2007: 1), two intensively cited scholars in action research literature, view action research as:

"a way of working in the field, of utilizing multiple research techniques aimed at enhancing change and generating data for scientific knowledge production. AR rests on processes of collaborative knowledge development and action design involving local stakeholders as full partners in mutual learning processes."

In the discourse on modes of science addressing sustainability, action research is perceived to be close to non-traditional approaches to science such as mode-2 or post-normal science. It is also close to critical theory with both

approaches blurring the traditional division between objectivity and subjectivity and seeking *"to empower research subjects to influence decision making for their own aspirations"* (Bradbury and Reason 2003: 157). Action research is a broad field spanning approaches to collaborative research from different traditions, such as political economy, pragmatic philosophy, community development, education, participatory rural development. According to Greenwood and Levin (2007) what all these approaches have in common is that they cover three elements: action, research and participation.

The term 'action' in action research refers to the real-world change the researchers and the participants aim for. 'Research' refers to the new scientific knowledge that is generated in a participatory way: scientists work *with* people and practitioners rather than *on* or *for* them and thereby bring together different types of knowledge. In general, action research is the collaborative production of scientifically and socially relevant knowledge through a participatory process.

The boundaries between researchers and practitioners are often blurred in this process; as is the constructed separation between research and application of knowledge. Action research is relational and the validity of the research is partially defined by the (context of) the researchers and participants. Action research puts more emphasis on doing (knowing by doing) than on doubting and thinking (knowing by thinking) (Bradbury and Reason 2003). All this means that different quality standards are required than in conventional approaches to science (Reason and Bradbury, 2001; Erlandson et al., 1993; Miles and Huberman, 1994). These standards are important for securing external funding and recognition within the conventional scientific community—both following more traditional epistemological assumptions. This may lead to substantial tensions when action researchers aim to meet not only the expectations of those involved in the actual process but also those of their peers, the wider scientific community or funding bodies (see Heikinnen et al 2007 for possible quality criteria).

2.2 WHAT ARE SUSTAINABILITY TRANSITIONS AND TRANSITION MANAGEMENT?

In the last years, transition research emerged as an interdisciplinary field combining innovation studies, history, ecology and modelling with sociology, political science and psychology. The transitions approach proposes that so-called 'wicked' problems that persist over time require a fundamental change in the structures (e.g. institutional setting), cultures (e.g. prevailing perspective) and practices (e.g. rules, routines and habits) of a societal system for the system to become sustainable (Frantzeskaki and Haan 2009). The non-linear long-term process of transformative change is called sustainability transition (Grin et al. 2010).

Based on an understanding of reality as complex, uncertain and non-linear, sustainability transitions cannot be governed in a regular way but are said to require an iterative, reflective and explorative way of governing aimed at societal learning (Frantzeskaki et al 2012). Transition management is one such governance approach. It is based on a number of tenets[1] that are translated in a conceptual framework; the so-called transition management cycle (Loorbach 2007, 2010). The iterative cycle can serve as analytical framework or it can be translated into a process methodology for action research. It is made up of the following components: (i) problem structuring/reframing of an existing societal issue and organisation of a transition arena; (ii) development of a transition agenda, images of sustainability and transition paths; (iii) organisation of transition experiments

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These include: 1) to deal with uncertainties, 2) to keep options open and deal with fragmented policies, 3) to have a long-term orientation and to use this for short-term policies, 4) to pay attention to the different levels and scales of change processes and find solutions on the right scale, 5) to engage actors from different backgrounds.

and mobilisation of transition networks; (iv) monitoring, evaluation and learning from the process.

The underlying premise is that sustainability transitions require new ways of thinking and acting and that these are intertwined. A key instrument is the transition arena, a specific network of frontrunners that opens up space for joint learning processes. Through co-creation of a common language and future orientation, participants reflect and potentially change everyday practices and build a network engaging in public debate and experimentation. By implementing transition management in a structured action research process, new insights emerge on the individual and societal level and new experiments or innovations are initiated. All this is reflected upon in an iterative process. Because of the focus on integrated sustainability problems and the applied nature of transition management research, the natural interaction between science and policy has led to a continuously co-evolving theory and practice of transition management.

In the InContext project, a particular version of the transition arena termed the community arena was developed, contextualising the transition management process for local communities. Like other action research approaches, it is confronted with a number of issues critical for the quality of the research done. This will be the focus of the following two sections.

3 Key issues in action research processes— the theory

This section discusses key issues for conducting action research, namely 1) Self-inquiry of the researcher, 2) Ethics, 3) Role of the researcher, 4) Opening communicative space, 5) Dealing with communicative space and 6) Dealing with power differences. This selection is based on a selective literature review of the field, focusing on possible processes through which to deal with and address these issues. While we have separated them for the sake of presentation, the reader should bear in mind that they of course overlap.

3.1 SELF-INQUIRY OF THE ACTION RESEARCHER

While the remainder of the key issues refers to the interaction between the scientist and other action research participants, this issue focuses on the researcher herself. Being one's own research instrument colours the research in nearly every aspect: the focus, generation, recording, and presentation of data. Action research includes meeting, talking to, and working with people as well as willingly or unwillingly influencing this process through one's own beliefs, assumptions, values, and norms. This also includes writing and documenting action research processes (Heikinnen 2007). All of this makes self-inquiry an important part as it supports the researcher in making decisions explicit and transparent: why are certain facilitation techniques used and not others, why is one approach appropriate for one context and not for another. Becoming aware of and making explicit one's own assumptions and biases in an early stage of the process

can function as a reminder for staying aware when taking action or carrying out analysis (Levin 2012). To ensure quality of the research and allow for constant improvement, the researcher needs to reflect on her role, choices, and the consequences thereof (Bradbury and Reason 2003).

3.2 ETHICS

A fundamental characteristic of action research is its process character and its deep interrelation with everyday action. This makes it difficult to foresee ethical issues or the consequences of an action research process (c.p. Morton,1999; Walker and Haslett, 2002). Nevertheless, if action research is an open-ended process and ethical questions appear to be particularly relevant when something un-desired has already happened—how should unforeseeable issues be dealt with?

Ethical challenges can be addressed in two ways according to Williamson and Prosser (2002), namely 1) ensuring that the participants are equal co-own-ers of the process and the results and 2) establishing an ethical code. The lat-ter could include broad ethical principles such as proposed by Gellerman et al (1990), e.g. treating others as we would like to be treated by them. Another approach is to address a number of questions in an initial discussion between action researchers and participants. These could include questions of confiden-tiality and anonymity, the meaning of informed consent in an evolving unfore-seeable environment and ways that prevent the researcher from harming partici-pants (Williamson and Prosser 2002).

3.3 ROLE OF THE RESEARCHER

The action researcher should decide on the type of role(s) that he takes in rela-tion to the different stakeholders and over the course of the project. It might not be only one single role, and roles might change and differ depending on the established relationship and the phase of the project.

Tensions might arise as researchers may have expectations of which role they should play that differ from 1) the expectations of the participants and 2) from procedural demands on which role needs to be fulfilled. This can lead to role conflicts, where the researcher cannot comply with both at the same time, or to role ambiguity, where the role an action researcher is supposed to take is vague (Katz and Kahn 1978). The action researcher is, as put by Greenwood and Levin (2007), a friendly outsider, that does have the necessary external perspec-tive and at the same time acts as a mirror to the participants, including sharing constructive, well-meant criticism and feedback.

Tensions also arise from being a process facilitator and academic research-er at the same time. While researchers aim to publish results, facilitators aim to guarantee processes that are personal, confidential and safe. Another source of potential tension is the normative aims of the researcher involved (e.g. liberation as in many action research approaches or sustainability as in the InContext pro-ject) and the claim to be facilitating an open-ended process. One factor contrib-uting to this tension is the accountability to funders and/or local authorities.

3.4   OPENING COMMUNICATIVE SPACE

This issue refers to the initial contacts between participants and action researchers. Establishing relations with participants is the basis for the action research process. To do so action researchers need to gain access and to establish legitimacy in the eyes of the people they work with as well as other key persons (Wick and Reason 2009).

"A communicative space is constituted as issues or problems are opened up for discussion, and when participants experience their interaction as fostering the democratic expression of diverse views … [and as permitting] people to achieve mutual understanding and consensus about what to do … (Kemmis, 2001, p. 100)"

Preconditions for all action research projects are collaboration, partnership and openness of practitioners for action research. To facilitate cooperation, researchers should generally work *"to align the interests and agendas"* of all stakeholders involved (Bradbury and Reason 2003: 157). While some scholars (e.g. Schein, 2001) stress that action researchers should always be invited by practitioners, others describe their work as a continuous process, starting with qualitative, less action-oriented inquiry to develop trust and relationships and eventually a fully-fledged action research approach. Greenwood at al. (1993) show that it is important to distinguish between the type of participation intended and the one that is actually achieved. Participation is not something that can be imposed upon a group or individual; rather it increases over the project's lifetime and depends e.g. on the nature of the problem, the context, and the skills of the facilitator alike (ibid.). Instances remain where action research is not possible, e.g. because research subjects and action researcher do not explicitly agree on cooperating (Bradbury and Reason 2003).

Finally, a shared understanding of the project goals should be developed with all stakeholders involved, although this might not prevent possible misunderstandings.

3.5   DEALING WITH COMMUNICATIVE SPACES

According to Wicks and Reason (2009), when opening and maintaining communicative spaces, action research has to deal with a number of paradoxes and contradictions that emerge from its nature.

Included amongst these are the dilemma between tightly defining the process and keeping it flexible enough to cater to unexpected changes. Defining the process establishes a sense of security that can be one element in creating a space for safe engagement. At the same time, this safe space should remain connected to the context in which it is embedded. Additionally, there might be contradictions in the way participants envision participation and engagement.

Another paradox concerns leadership: while the action researcher might lead the process, she needs to ensure that participants have enough space to become owners and leaders of the process and its content in the course of the collaboration. This is particularly important if the initiated process is to outlast the research project. The action researcher, therefore, has to manage expectations e.g. with regard to results, ownership, or finances and find a responsible withdrawal strategy. Thus an action researcher is engaging in an open-ended, adaptable process while at the same time offering sufficient structure to prevent chaos. The safe space should allow participants to also express possible anxiety with the developments.

A final paradox concerns the tension between a liberatory or critical and a practical orientation of the action research. The action researcher focuses on the one hand on practically solving problems and addressing the issues at hand. On the other hand, he strives for emancipation through critical reflection for example on existing power relations. These two orientations raise tensions. Depending on the perspective of the researcher and the research context one might be more relevant and become dominant (Johansson and Lindhult 2008).

3.6 DEALING WITH POWER DIFFERENCES

Questions of power appear 1) within the group and 2) with regard to the political context in which the process is taking part.

1): Participants of action research processes are very likely to differ in their power to influence the process and its outcome, due to e.g. differences in status, education, networks, gender, and age. Action research practices aim at allowing all voices to be expressed (Bradbury and Reason 2003). This can be done by developing a quality relationship to and among the participants, one *"that fosters mutual support, trust, a common commitment, and solidarity"* (Clinton 1991). In this relationship participants voice their views, and design ideas and their implementation with researchers. Therefore it may become necessary to follow up on emerging contradictions and find ways to discuss *"undiscussables"* (Bradbury and Reason 2003: 165) or sensitive issues, so that new, unconventional viewpoints can be expressed.

2): Action researchers need to understand the power relations at hand to be able to appropriately interact with power holders. They could be said to be power relationship managers (Greiner and Schein 1988) who *"need to be prepared to work the political system"* (Coglan and Shani 2006: 537). When becoming these political entrepreneurs (Buchanan and Badham 1999), action researchers should maintain a *"reflective self-critical perspective"* (Coglan and Shani 2006: 537; also see section 3.1).

4 Action research in InContext

In this section we turn from theory to practice, namely the practical experiences of the InContext action researchers. Firstly, we outline the approach taken within InContext to then reflect upon each of the six key issues against the backdrop of our experience. The picture is necessarily incomplete as we can highlight only fragments of two years of experiences but we are confident that these fragments provide useful insights.

4.1 THE ACTION RESEARCH APPROACH OF INCONTEXT

The Methodological Guidelines drawn up at the beginning of the InContext project, outline the community arena methodology. The following excerpt explains how the researchers understood their role as action researcher, articulated at the beginning of the project:

"Action research, in our understanding, is at the same time the use of scientific knowledge to empower the community as well as a research method for testing and developing theory. Action research wants to 'contribute to the development of new thinking about validity and quality in research, to show that good knowing rests on collaborative relationships, on a wide variety of ways of knowing, and understanding of value and purpose, as well as more traditional forms of intellectual and empirical rigour.' (Reason & Bradbury 2010: 8)

We start from the assumption that the action researcher, like other researchers, is not a neutral analyst and can never be external to the system he/she studies. As an action researcher you are your own research instrument and you acquire knowledge through interpretation of what you perceive via your senses. This interpretation is formed by the researcher's background (previous experiences, values, feelings, beliefs, trainings, etc.). Therefore it is important for the researcher to be very aware of his/her own background (assumptions, experiences, etc.) and to reflect on how this influences his/her work. Many professional associations have an ethical code of conduct regarding 'being in the field'. In the transition field, one has to be clear about an overall normative ambition of seeking to promote paradigmatic change and creation of innovation networks as an instrument to guide and accelerate societal change towards sustainability. This normative objective is methodologically and scientifically operationalized by means of the transition and backcasting methodology. Neither of which prescribes a specific definition of sustainability nor specific types of solutions. Rather, these methodologies seek to ensure a broad and diverse search process for a joint and temporary definition of sustainability. In the action research practice therefore the transition researcher tries to seek a balance between making explicit and reflecting upon his/her own overall normative ambition while ensuring an open and diverse participatory process based on a sound methodology.

We need to realise that the action researcher in community arenas is not there to bring in his or her personal normative stance regarding what is considered as sustainable or not, but should act as a facilitator of the (social) process in the transition arena, which is bound and focused (1) by the articulation of shared preferences as the result of a group process among the arena participants, and (2) by the process design which includes milestones like visions, backcasting and

transition agendas. The real commitment of the action researcher here is to facilitate in such a way that milestones are achieved in accordance with the process design as well as agreements of the participants as a group. The facilitation may involve normative aspects, a reflection on which could be included in the evaluation and monitoring part. This part should not only include monitoring and learning by the participants, but also by the organisers (transition team including the action researchers).” (Wittmayer et al. 2011a: 6)

This **community arena methodology**, integrating insights from transition management, backcasting and social psychology, was applied in the three pilot communities described in Figure 1. It is implemented by a so-called **transition team** consisting of the InContext action researchers and locally relevant persons. This team not only prepares, documents, analyses, monitors, co-ordinates, manages, facilitates, and evaluates the whole process, but also selects participants. It brings together the various parties, is responsible for the internal and external communication, acts as intermediary in discordant situations and has an overview of all the activities in and between arena meetings.

After having done some preliminary analysis, the transition team brings some 15 people of the local community together for a participatory, searching and learning co-creation process. These **change agents** hold divergent worldviews and are brought together to meet several times in the **community arena setting**. Throughout this deliberative process, the change agents are discussing the current status quo (what is the problem and what are the current challenges to sustainability?), they envision a sustainable future in about 30-50 years from now and then follow a backcasting methodology to come up with pathways and milestones. The process results into a change narrative and immediate action points, the so-called **transition agenda**. Subsequently the agenda is put into practice in experiments or projects.

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Table: Overview of the Community arena methodology

	Phases of the Community Arena Key activities	Key output
0. Pre-preparation	A. Case orientation B. Transition team formation	A. Initial case description for each pilot B. Transition team
1. Preparation & Exploration	A. Process design B. System analysis C. Actor analysis (long-list and short-list of relevant actors) incl. interviews D. Set up Monitoring framework	A. Community Arena process plan B. Insightful overview of major issues/tensions to focus on C. Actor identification and categorisation + insight inner context D. Monitoring framework
2. Problem structuring & Envisioning	A. Community Arena formation B. Participatory problem structuring C. Selection of key priorities D. Participatory vision building	A. Frontrunner network B. Individual and shared problem perceptions & change topics C. Guiding sustainability principles D. Individual and shared visions
3. Backcasting, Pathways & Agenda Building	A. Participatory backcasting & definition of transition paths B. Formulation agenda and specific activities C. Monitoring interviews	A. Backcasting analysis & transition paths B. Transition agenda and formation of possible sub-groups C. Learning & process feedback
4. Experimenting & Implementing	A. Dissemination of visions, pathways and agenda B. Coalition forming & broadening the network C. Conducting experiments	A. Broader public awareness & extended involvement B. Change agents network & experiment portfolio C. Learning & implementation
5. Monitoring & Evaluation	A. Participatory evaluation of method, content and process* B. Monitoring interviews	A. Adapted methodological framework, strategy and lessons learned for local and EU-level governance B. Insight in drivers and barriers for sustainable behaviour

4.2   ACTION RESEARCH WITHIN INCONTEXT: REFLECTION ON CRITICAL ISSUES

SELF-INQUIRY OF THE ACTION RESEARCHER

> *Notes from Finkenstein:*
> During one community arena meeting, an external person entered the workshop as a guest presenter. There were 12 participants, two facilitators and two researchers present in the room. Later she said: "It was apparent to me who belongs to the transition team even before I saw the interaction. It was the style of shoes you wear that is different."

This note from Finkenstein demonstrates that differences in values and worldviews often manifest in unexpected ways. They constantly influence one's choices. As outlined above, being one's own research instrument (accompanied by all one's beliefs, assumptions, values, and norms), colours the research in nearly every aspect. For action research in transition management this also includes selecting people for participation in the community arena process.

Self-inquiry is therefore important for making decisions explicit and transparent. To support this practice of self-inquiry, the InContext action researchers decided to keep one diary for each pilot area noting down the following: personal and institutional contacts (incl. institutional embedding, adoption of ideas), personal reflections and decisions (incl. what could not be accomplished, decisions taken during the process and the motivations for the decisions, what failed, what could have been done in a perfect world), and points regarding diffusion and impact.

Of course in practice, researchers have much less influence over situations than the ideal. The Carnisse team noted down individual reflections in personal field notes rather than in a common diary. The team found it difficult to keep up an explicitly reflective practice in the midst of the daily workload, routine and habits. Sending an e-mail to one another noting down reflections on certain aspects or developments helped maintain discipline, especially in hectic times. Above all, the latter turned out to be a very practical instrument for (self-) reflection as it could be done in the heat of the daily work, e.g., during a call with one of the participants, one could note down simultaneously the content and one's reflection on it immediately after. This led to an archive of reflections in email inboxes, which is revisited for analysis. Also supportive in the practice of communal self-inquiry were regular conference calls with all InContext action researchers to exchange ideas and doubts and reflect on strategies or facilitation methods with peers. An interesting question to ask in this context is: What would have happened (differently) if other researchers would have done this research?

Practical recommendations:

Be clear with yourself and others about who you are, and what you can and cannot do in an action research setting.

Be part of a learning community of action researchers—others are doing similar things and understand your struggle and your successes.

ETHICS

> *Notes from Carnisse:*
> The foundation for running the community centre was two weeks old when the first discrepancies between the board members arose. Again two weeks later the board split into two groups with the same goal: self-maintenance of the community centre for the best of the community, but they disagreed on how this could be achieved. This divide included the break-up of a friendship. At that point in time, the InContext researchers had handed over the process to community members and were no longer actively involved. When it was clear that the discrepancies between the two groups were not bridgeable anymore, both groups approached the researchers to tell their version of what had happened and how they would proceed. The researchers decided to remain neutral; at the same time the question arose whether they supported the stronger group by staying 'neutral'.

As this note from Carnisse shows, action research is a journey with consequences that cannot be predicted from the beginning. There was no explicit written code of conduct other than the paragraph on being an action researcher cited above (section 4.1.) and the code of conducts of the researchers' respective disciplinary backgrounds e.g. with regard to confidentiality and anonymity. The team addressed ethical issues by aiming to design as well as to communicate and frame the process and its implications as transparently as possible. In practice, this meant that the participants knew e.g. who was (co-) funding the research, how the researchers related to local politicians and to the public administration, and what the content of the assignment was.

In general, recordings and transcriptions of sessions and/or interviews where individuals can be clearly identified were not made publicly available for any of the pilots. All analysis following from the sessions and interviews was written so as to prevent identification of individuals unless there was individual consent. Most participants did not appear to be concerned about putting pictures of meetings or interview summaries online. In the Dutch pilot, they supported and welcomed the attention when the interview with a picture was put on the project's weblog. Would a researcher put participants at harm when publishing data, or does he or she support them in gaining a voice in debates about their environment? There is no clear-cut answer. However, this does not leave the researcher without responsibility for the process, the results, and their utilization by others.

Action research as done in InContext entails an understanding of participants as change agents who are intrinsically motivated to change their surroundings for the better. They publicly commit themselves to the jointly developed vision by presenting it to the broader community. Confidentiality and anonymity as well as informed consent take on another dimension in action research when participants take ownership even if they (or the researchers) cannot completely control all the consequences this may entail (see the notes from Carnisse: did the participants consent to putting friendship at risk?). The process aims to create a shared understanding of the current and possible future situation as well as of the actions that could be taken now. On the basis of this shared understanding, the group consents to taking the next step. Individuals are free to leave the process at any time.

**Practical
recommendations:**

**Inform participants on
your professional back-
ground, the aims of the
project and the institu-
tions involved; also aim
to share all information
that supports partici-
pants in making mean-
ingful decisions about
whether and how to
engage in the project.**

**Agree with participants
on how to use personal
data, photos, record-
ings, and other gener-
ally confidential infor-
mation and share your
concerns.**

Aiming for transparency on the one hand and confidentiality on the other put the researchers under pressure in Finkenstein. While the participant list was not supposed to be disclosed to prevent political influence, the broader transition team, including municipal actors who were co-funding the process, insisted on publication. After gaining consent from the participants, the researchers disclosed the list. Rather than shying away from political influence, the participants wanted to assure that there was political will in supporting the outcomes.

ROLE OF THE RESEARCHER

Notes from Wolfhagen:
At the beginning of each arena meeting, we pointed out that we are here in Wolfhagen to find out if the transition management approach could be helpful for supporting engagement at the local level. We thought it was necessary to make it clear that we were not able to support the participants with fundraising. The only additional support beyond the arena meetings we offered was information exchange and networking with local officials (field notes, 20.03.2013).

The focus of this section is on the role of the action researcher vis á vis the community arena group (rather than, for example, vis á vis scientific peers or policy actors). Three questions proved to be relevant: 1) how the researchers framed their own role, 2) how others perceived this role, and 3) the boundaries set by the researcher.

1) In all three pilots the researchers were facilitating, moderating, and acting as a networking node. They framed themselves as action researchers in Carnisse and Wolfhagen, and as researchers with a normative stance in Finkenstein. In Finkenstein, they saw themselves as a host accompanying a process (reflecting the focus on empowerment) rather than experts steering the process. The researchers in Carnisse were labelled 'activating researchers' by the participants, whereas the researcher in Wolfhagen was perceived as activator and researcher with local expertise. While the co-financing allowed for additional

work in Carnisse and for a better linking with politicians and public administration in Finkenstein, it also influenced the perception of the role of the researchers. In Finkenstein, some local government members and also the informed public perceived the researchers as regional managers, expecting development and implementation of clear and concrete measures in order to contribute to the further development of the village and region (e.g., knowledge about subsidies, making concrete project plans). Combining these result-oriented expectations with the work of a researcher resulted in difficult and stressful situations for the research team who felt that at times the research was not as prominent as it should be.

2) Also important in shaping the perceptions of the research team is whether the researcher is living in the community. In Carnisse, after collaboratively presenting the vision during a broadening event, the first question the researchers received was whether they live in the neighbourhood. Answering this question in the negative equals loss of credibility and legitimacy in the eyes of most inhabitants joining the event organized with the municipality. Interestingly enough, the community arena participants spoke up for the research team establishing its legitimacy. In the Austrian pilot, the research institution is based in Vienna, some 400 km from Finkenstein, so the actual distance as well as how far away it felt was huge. In the beginning, this was expressed through the insistent use of the academic titles of the research team members. The fact that the researchers were not from Vienna but from other provinces and could therefore speak some local dialect helped remove some of this distance.

3) The research teams framed their boundaries on different occasions. In Wolfhagen, as outlined in the introductory notes above, the research team affirmed straight from the beginning that there were no resources for implementation as part of the project, and it also had to decline when the question arose asking for a similar process in another village. In Carnisse, there was more support possible due to co-financing. Nevertheless, the research team underestimated the time it would take to initiate and put self-maintenance of the local community centre on the right track—but it lived up to the expectations created. The co-financing led to close ties with the local administration and the politicians in Finkenstein, which opened the possibility to establish a link between this group and the community arena.

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Practical recommendations:

Be clear and transparent with regard to the roles you take during the process and with regard to what you can and cannot do.

OPENING AND MAINTAINING COMMUNICATIVE SPACE

Notes from Carnisse:
In a first round of interviews in the neighbourhood, the researchers had encountered an atmosphere of participation fatigue as well as mistrust and uncertainty. The latter were originating from the fact that facilities were closing down and the local welfare organisation went bankrupt, meaning that trusted professionals left the neighbourhood. In order to open up space for and confidence in the intended action research process, the researchers adapted the design of the process methodology together with participants to the local circumstances.

The first contact with the community within which the InContext researchers were to be active proved crucial in all three cases. It was not the community itself that had asked the researchers to support them, as is the case in other action research projects. The choice for the communities in question was made in the writing phase of an FP7-EU-funded research project through negotiations

with the respective public administrations. When the EU granted funding to InContext, two of the three municipalities had stepped back from their commitment. In Austria, the research institute searched for a new municipality that would co-fund and politically support the process, but municipalities who had finances available would not agree to start an open-ended process and those who would have agreed could not procure money. After one year of negotiations with different municipalities, Finkenstein took the offer. This approach was different from the other two pilots. Whereas in Finkenstein policy officers and/or politicians were part of the broader transition team, in Wolfhagen politicians were taking part in both the transition team and arena but on a personal title. In Carnisse politicians were neither part of the transition team nor the arena.

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Community arena meeting
in Finkenstein

As outlined in the methodological guidelines, the action researchers started with a system analysis, which included a secondary analysis of available policy, media, and other documents as well as interviews with change agents in the respective community. Through these activities, the researchers got to know the locality and the different interpretations of its status quo. The interviews in Finkenstein had activating elements that aimed at encouraging interviewees to continue thinking and discussing beyond the actual interview. The 'laddering technique' (using why-questions to gain insights into belief systems) was used during the interviews to encourage reflexivity and get to the core of their responses. In one of the interviews, the interviewee realised that she had a broader spectrum of options for action than she initially thought. The 'success' depended on the interviewee and the setting (personal interviews are more conducive to this technique than phone interviews).

In parallel, the research team in Finkenstein used local media to communicate the project's main goal: 'A realisable vision of a good life in Finkenstein'. Thereby, the researchers played into local dynamics rather than focusing on the term 'sustainability'. This stimulated discussion and more than one-hundred citizens showed up to the public project presentation in January 2012. The success of this introductory event was ambiguous: while some citizens disliked the event and turned their back on the project, others were inspired to engage in the project and for the community. The action researchers realized only afterwards how crucial this initial public event was. It opened the communicative space to those who liked the style and content of the presentations and closed it at the same time for those who expected something different, giving the project a

certain direction. The initial workshop of the community arena explicitly aimed at generating an environment of mutual understanding and trust. Hardly any of the fifteen arena members knew each other beforehand, so ice-breaking methods were used and expectations discussed. The dynamic facilitation method (facilitation that follows the energy of the group), at the core of this first workshop, made possible a constructive debate that led to clusters of topics, challenges, and solutions.

As outlined in the introductory note for this issue, the researchers in Carnisse encountered a radically different environment of mistrust and suspicion against researchers and 'another participatory process that would not yield results for the neighbourhood'. Therefore, the team decided to collaboratively design the process with a number of the participants through a first meeting—so as to further their ownership of the process and its outcomes as well as trust in the researchers. Trust was also gained through continuous presence in Carnisse and in all pilots through framing expectations and adhering to them, taking people and their concerns seriously, encouraging the expression of diverse views, and increasing mutual understanding while leaving space for disagreement.

DEALING WITH COMMUNICATIVE SPACES

> *Notes from Carnisse:*
> During the second meeting of the community arena, which should have focused on vision development, nine people joined the group uninvited. They joined because they had heard that the group was also thinking about ways of re-opening the community centre. Notwithstanding the misunderstanding (a second group was concerned with the re-opening of the community centre), the researchers used the momentum and started the evening with a reflection round on the importance of the community centre, including which needs it was fulfilling and what strategies could be employed to reopen the centre. The answers varied from very instrumental needs to emotional connections and childhood memories.

From the issues outlined under 3.4, we focus on two for the InContext practice, namely liberatory and practical orientation as well as leadership.

The first issue is the question of liberation, or in community arena terms—empowerment and social learning, as well as the normative orientation of the process towards 'sustainability'. The underlying hypothesis of the InContext project was that once one is aware of one's needs, one can distinguish these from one's strategies to fulfil those needs and choose strategies that are more sustainable. This requires extensive individual reflection and detailed knowledge about concepts of sustainability. Due to this depth of individual reflection, the action researchers felt it necessary to carefully respect the boundaries of each individual within the group—no-one was to be pushed, but at the same time would be challenged in a friendly manner. Also, the researchers had different boundaries with regard to how far they wanted to go and what they considered ethical to pursue, leading to a number of discussions. The action research work was explorative in nature and not meant to test the hypothesis in an experimental setting. Therefore, rather than focusing on concepts from this hypothesis, such as needs and strategies, the action researchers considered concepts such as empowerment and social learning that have more explanatory power in this context. Critical questioning of these concepts, such as 'empowerment for whom,

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Practical recommendations:

Do individual interviews before starting a group process. Speaking to the participants in a one-to-one situation helps create trust and eases the creation of a communicative space.

Keep the process open and start with locally relevant questions: this might not be 'CO$_2$ reduction' but rather a 'good life for all', which eventually leads back to CO$_2$ reduction.

by whom, and to which end?', was part of the researchers' reflection process and discussions. In Finkenstein, it was a fine line between enabling and pressuring citizens. Some participants expressed their concerns about having to bear the burden of responsibility for burning problems. This also relates to the normative orientation of the process towards sustainability—due to the ambiguity and the overuse of this term, the action researchers decided not to use it. Rather, they asked how a good life for all citizens in the future could look. The concept was operationalised in dimensions such as environmental thinking, social thinking (me/we vs. others), time horizon (short and long term) and interregional thinking. These dimensions were then used in the facilitation of the processes.

The second issue concerns process management and what the InContext action researchers came to call the 'exit strategy', the moment when the research team hands over the process and leaves. This is where the discrepancy of the project reality incl. resource management (money, time) and the lived reality in the action research setting manifests itself. In Carnisse, the co-funding that was available from a longer-running project allowed the research team to stay longer and complete the hand over gradually, providing more flexibility in dealing with emerging issues and in playing into and influencing existing dynamics than in Wolfhagen. There, the process had to be much more focused and clear cut. What clearly helped was to have a realistic estimate of what the research team could do in the given time with the given budget and to communicate it to everyone involved (see 4.2.2). In Finkenstein, the participants asked for guidance and leadership and consulted the action researchers frequently. Also, self-organization and ownership was encouraged wherever possible, but assistance was offered if called upon. Some working groups quickly established a well-functioning leadership while others got stuck along the way and asked for assistance more often.

As action researchers, the InContext action researchers felt far more involved in the outcomes of the process than they might have if they only observed it. Being an action researcher means engaging with the goal to contribute to solutions to real-world problems. This fact draws attention to a thought-through plan for leaving the research setting: the project time could run out just when the process is actually taking off. It is the researcher's responsibility to make sure throughout the process that participants take ownership of the process and its outcomes so that they are well-equipped to carry on. In Finkenstein, the planning of follow-up steps was always discussed in a participatory manner, although constrained by the projects organizational frames. Designing the process was a negotiation between the project goal of testing the 'community arena' methodology and the participants' goal to improve their community.

Practical recommendations:

Ask for feedback on the process in informal settings one-on-one (e.g., in the breaks or after a meeting). The informality of the setting makes it easier for participants to react and the feedback helps in adjusting the process.

Consider sustainability not only as a goal but also as a process by using sustainability dimensions as elements for reflections (e.g., interregional or intergenerational aspects).

DEALING WITH POWER DIFFERENCES

Notes from Finkenstein:
As the project gained momentum in Finkenstein, the political opposition party 'Freedom Party in Carinthia' published a statement in their April 2012 newsletter, complimenting the project goal but challenging the costs and the selection of participants. It was criticized, that one of the members of the community arena is the mother of a political functionary of the governing party and that no farmer was among the selected participants. Unpleasant as these critics are, they showed that the process was regarded as a powerful one and political implications were being anticipated.

Action research has political implications, even more so when the underlying aim is long-term societal change. An underlying assumption of transition management is that working in a protected setting with a number of change agents on a common future builds a group and a common narrative and language. Once the group identity and the narrative are mature, the group will leave the protection and re-connect with political, social, and economic realities. The question is, of course, 'to what extent there can ever be a protected space?' Even though all participants are strictly invited in their personal capacities, can they leave the hat of their association at home? To what extent are official organisations needed to put the vision into practice? In this section, we focus on two instances where power dynamics arise: 1) within the community arena and 2) in the arena's relation to the 'outside' world.

The inner city of Wolfhagen
(Copyright: G. Bednarek-Siegfried)

Questions with regard to the intra-group dynamics include: Who participates and on which basis? One of the underlying principles of transition management is selective (rather than open or broad) participation of so-called 'frontrunners' or change agents. The transition team selects the participants of the process on the basis of in-depth interviews. This selection process has democratic implications as it does not follow the principle of representativeness but instead excludes those that are not perceived as frontrunners (at least until the broadening of the initial group). It focuses on diversity and supports the transformation ambition of the approach. There were hardly any questions with regard to

inclusion or exclusion in the Carnisse pilot, but in Finkenstein this was an issue raised frequently within the arena and also outside (see Notes from Finkenstein). The transition management methodology gives some general guidelines for identifying frontrunners or change agents, but as the methodology has so far been mainly applied in sectoral transitions, the InContext researchers had to establish an understanding of a frontrunner in a community context. Next to a set of objective criteria, such as gender, age and occupation, the action researchers considered participants who had a broader focus, different interests, the ability to (self-) reflect, or being open to change as shown during the interviews. All three research teams decided not to refer to the research participants as frontrunners, instead calling them 'engaged citizens' in Finkenstein because this was expected to better represent their self-understanding. The researchers consider the term frontrunner to have an elitist connotation more associated with officials and functionaries who were not to be at the core of the arena group.

Once the arena group is formed, the facilitation techniques during the meetings play a big role in how power dynamics play out. During the participatory meetings, the Finkenstein participants felt that the facilitation methods were exceptional in terms of allowing for speaking up and being listened to. In smaller group works and in plenary rounds, the more silent group members were carefully encouraged to express themselves (e.g., because everybody had to take a turn). In Carnisse, it turned out that difficulties with writing and spelling inhibited one arena participant to take the lead in a small group work. Good preparation allows for catering to these circumstances. Examples are to include a theatre play or collage as was done in Finkenstein. In general, the Carnisse group was diverse in inter alia (strategic) know-how of Carnisse, (access to) financial, social and cultural resources, and skill level. Power (in-)equalities were not noticeable at the surface but led to certain tensions at a later stage.

Finkenstein gives a good example of how to deal with relations between the arena and the 'outside' world. Due to co-funding, the political leaders were represented in the broader transition team. The first meetings centred on how the work and results of the community arena could be taken forward through the political and administrative agenda. Prejudices concerning the citizens' inability to come up with feasible and meaningful solutions had to be discussed and overcome. Slowly, both sides started accepting the researchers' role as beneficial mediators between their interests and accepted the framework that was created for them to meet and talk to each other. This led, for example, to situations were dominating personalities in powerful positions (overwhelmingly male) were put in the role of listeners and had to pay attention to what citizens without any official role had to say. Engaged young people, women, and critics of the hegemonic community system had to be taken seriously. Arranging regular meetings between the two groups helped in accomplishing both goals: working in a safe space and not losing the connection to the context.

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Practical recommendations:

Get to know the local context and take time to study power structures and informal networks through thorough systems and actor analysis.

5 The action researcher in sustainability transitions

This brief set out to give the reader insight into what it means to conduct action research in the context of sustainability transitions. It did so by taking the reader along a number of key issues for action research and introducing processes through which these can be addressed. In this section, we provide a synthesis of this analysis and relate it to what it means for researchers to engage in this kind of research.

5.1 SYNTHESIS: ACTION RESEARCH IN SUSTAINABILITY TRANSITIONS

What can clearly be said is that the six key issues, generated through a selective literature review in the broad action research field, are also important when using an action research approach to implement a transition management methodology. In addition, we can put forth some recommendations for addressing the issues that might be distinct to action research for sustainability transitions:

- With regard to **self-inquiry,** working in a team was supportive for the researcher in making informed decisions and in making them explicit and transparent. In implementing a transition management methodology, a transition team should be set up that can also fulfil the role of a sounding board and cultivate a team practice of self-reflexivity.

- **Ethical questions** are addressed by ensuring that participants are equal co-owners of the process and the results. An ethical aspect that is characteristic of transition management is the ambition to transform not only the individual and the group but to change the structures, culture, and practices of our society. Using an action research approach to implement this ambition makes the participants agents of change. They elaborate and publicly commit to a vision for their community and put it into action. Questions with regard to confidentiality of data, anonymity, and informed consent are all concepts originating from a more traditional understanding of science that is not based on collaborative inquiry. However, this does not release the researcher from acting responsibly and ethically.

- With regard to the type of **role(s) that the action researcher** takes in relation to the different stakeholders and over the course of the project, transparency is important. Not different from other action research strands, the researcher fulfils a number of roles and above all is a process manager who links the local process with the broader environment.

- With regard to **opening and maintaining a communicative space**, transition management as put into practice in InContext includes a number of techniques that support trust creation (e.g., a quasi-ethnographic approach with participant observation, conducting individual interviews before having group meetings) and the creation of an open protected space (e.g., through the use of a variety of facilitation techniques). What is different from other understandings of action research is that the participants do not necessarily self-identify as problem owners beforehand, but are selected by the researchers (at least in the InContext project). Transition management has a double ambition: first to play into local dynamics and address

locally relevant questions in an open-ended process, and second to influence the process towards sustainability. Rather than being in contradiction, as one might expect, in all three pilots these two ambitions complemented each other.

- Unlike in Greenwood and Levin (2007), the action researchers using a transition management approach are not teaching participants research methods, which is seen as part of the liberatory orientation when **dealing with communicative space**. Rather, it is the transition team that gathers all the information and inputs by the participants from one session, analyses and presents them back during the next meeting. The liberatory aspect lies instead in the empowerment of the individual and the group to address structural problems and work towards a long-term sustainability vision.

- With regard to **power aspects**, the transition management approach is distinct in its emphasis on system and actor analysis, giving inter alia an overview of the local (power) relations. At the same time, the participants are not selected in a representative way; rather, the focus is on diversity and their transformative capacity. This could have consequences for local power relations and might be termed undemocratic depending on the understanding of democracy held.

These aspects are a first sketch of the characteristics of a strand of action research that focuses on bringing about a learning process for sustainability transitions. This emerging strand of action research warrants further research, especially with regard to its other claims, e.g., to have a stronger focus on theory building than other action research strands (Loorbach 2007).

5.2 LOOKING FORWARD: THE ACTION RESEARCHER FOR SUSTAINABILITY TRANSITIONS

Having introduced the perspective of the InContext action researchers, it becomes clear that in being a researcher, leaving one's desk and engaging with persistent sustainability problems is the more challenging option. This holds true not only for the action research practice in this special case, but more broadly. Researchers are engaged citizens, too. Rather than separating these roles, more and more often they combine their engagement with their professional skills. This leaves them in need of skills that are not taught at university and grappling with evaluation criteria stemming from different epistemological perspectives. It also leaves them struggling when aiming to gain the recognition of their peers, the wider scientific community and funding bodies.

In traditional social sciences, action research is still viewed as 'storytelling' and not 'real' science (Levin 2012). Sustainability science (Kates et al. 2001), aiming to produce knowledge usable for both science and society, is closer to action research since reflection and action occur simultaneously. Both research approaches form the basis for the transition research perspective, which has a number of cornerstones: 1) inter- and trans-disciplinary, 2) normative in aiming for sustainability, 3) appreciating both traditional and applied research, 4) the researcher is viewed as being embedded in a multi-actor setting, and 5) a focus on uncertainty, ambiguity, non-linearity, and sustainability (Loorbach, Frantzeskaki, & Thissen, 2011). In this transition research perspective, everybody, including scientific actors, is seen as a decision maker with the potential to influence societal dynamics. Focusing on sustainability includes acknowledging planetary boundaries and orienting towards a future that is fundamentally uncertain. In this

context, it becomes necessary for scientists to acknowledge that this orientation has normative implications and is biased, which leaves us questioning the concept of scientific objectivity. This acknowledgement should be accompanied with a reflection on the individual scientific practice and the role of the scientist and science in general. This brief hopes to have provided the reader with just these reflections on a specific scientific practice in the pursuit of a transformative science as it is called for by the German WBGU (2012). A science that not only describes, but supports the sustainability transformation or transition, i.e. the societal learning process in search for a more sustainable society.

As documented in this brief, action research aims to influence societal dynamics while simultaneously offering insights that increase our understanding of the complex reality with which we are dealing. If the scientific community follows the call of sustainability scientists (Kates et al. 2001), the advice of the WBGU on strengthening science for transformation (WBGU 2012), and the efforts of organisations such as the International Council for Science through its Future Earth program (ICSU 2013), it appears likely that collaborative and action research in the field of sustainability offers a promising niche for engaged researchers.

GLOSSARY

Action research	"[A] way of working in the field, of utilizing multiple research techniques aimed at enhancing change and generating data for scientific knowledge production. AR rests on processes of collaborative knowledge development and action design involving local stakeholders as full partners in mutual learning processes." (Greenwood and Levin 2007: 1)
Community arena	The community arena is a co-creation tool for sustainable behaviour by local communities integrating insights from transition management, backcasting and social psychology. Through collaboratively working on understanding the current challenges, envisioning a common future, identifying pathways and starting the first experiments to put these into practice, this tool supports a multi-actor learning process in the transition towards sustainability.
Transition management	Transition Management (TM) aims to deal with persistent societal problems by proposing an innovative governance concept based on complexity theory, social theories, and insights from the field of governance. TM focuses on creating space for and organizing a societal searching and learning process.
Backcasting	Backcasting can be defined as "generating a desirable future, and then looking backwards from that future to the present in order to strategize and to plan how it could be achieved" (Vergragt and Quist 2011: 747).
Transition team	The team prepares, documents, analyses, monitors, co-ordinates, manages, facilitates, and evaluates the whole process, but also selects participants. It consists of the researchers and contextually relevant persons.

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