The Community Arena:

A co-creation tool for sustainable behaviour by local communities

Methodological guidelines

WP 4 – Scenario and back-casting exercises by three communities: pilot projects

Deliverable 4.1 – Guidelines for the implementation of pilot projects

THEME FP7 – ENV. 2010.4.2.3-1: Foresight to enhance behavioural and societal changes enabling the transition towards sustainable paths in Europe.

Grant Agreement number: 265191

Funded by the European Union

ACKNOWLEDGEMENT

The research leading to these results has received funding from the European Union FP7 ENV.2010.4.2.3-1 grant agreement n° 265191.

AUTHORS

Julia Wittmayer, DRIFT

Frank van Steenbergen, DRIFT

Jaco Quist, TU Delft

Derk Loorbach, DRIFT

Carolien Hoogland, DRIFT

With contributions by:

Stefanie Baasch (University of Kassel, UFZ), Lisa Bohunovsky (SERI), Suzanne Maas (DRIFT), Chris Roorda (DRIFT)

With thanks to:

Niki Frantzeskaki, Sigrid Grüneberg, Jill Jäger, Ines Omann, Felix Rauschmayer, Niko Schäpke, Mattijs Taanman

Project coordination and editing provided by Ecologic Institute.

Manuscript completed in May, 2011

This document is available on the internet at:

Table of Contents

LIST OF ABBREVIATIONS iv

1 Introduction 5
- **1.1 Introducing work package 4** 5
- **1.2 The common methodology: the Community Arena** 5
- **1.3 Being an action researcher** 6
- **1.4 Outline of this report** 7

2 Theoretical & methodological background 8
- **2.1 Transition management** 8
  - 2.1.1 Overview 8
  - 2.1.2 Transition arena 11
  - 2.1.3 Transition experiments 12
  - 2.1.4 Transition monitoring 13
- **2.2 Backcasting** 14
  - 2.2.1 Overview 14
  - 2.2.2 Towards a methodological framework 14
  - 2.2.3 Example: Sustainable Household Nutrition 16
- **2.3 Social Learning** 19
- **2.4 Operationalizing Inner Context** 21
  - 2.4.1 Inner Context constructs 21
  - 2.4.2 Inner context and the Community Arena 22
  - 2.4.3 Inner Context indicators, definitions & measurement 23

3 The community arena – a methodological framework 26
- **3.1 Integrating transition management, backcasting, inner context and social learning** 26
- **3.2 Phases of the community arena** 28
  - 3.2.1 Level of comparativeness 28
  - 3.2.2 Phase 0: Pre-preparation 30
  - 3.2.3 Phase 1: Preparation & Exploration 31
  - 3.2.4 Phase 2: Problem structuring and envisioning 34
  - 3.2.5 Phase 3: Backcasting, Agenda Building & Transition Paths 36
  - 3.2.6 Phase 4: Experimenting & Implementing 38
  - 3.2.7 Phase 5: Monitoring & Evaluation 39
  - 3.2.8 Concluding remarks 40
- **3.3 Facilitation methods for the community arena** 41
  - 3.3.1 Meeting 1: Participatory problem structuring 42
  - 3.3.2 Meeting 2: Participatory vision building 46
  - 3.3.3 Meeting 4: Formulation agenda, specific activities & transition experiments 51
  - 3.3.4 Meeting 5: Participatory evaluation 52
- **3.4 Monitoring and evaluation framework for the community arena** 56

4 References 61

List of Tables and Figures

Chapter 2:

Figure 2.1: Transition management cycle 19
Figure 2.2: Backcasting approach and framework 25
Figure 2.3: The methodological framework for participatory backcasting 26
Table 2.1: Intelligent Cooking and Storing Vision and initial backcasting analysis 28
Figure 2.4: Relating inner context, outer context and behaviour. 35

Chapter 3

Table 3.1: Phases of the Community Arena 43
Table 3.2: Objectives meeting 1: Participatory problem structuring 60
Figure 3.1: Quotations on wall during first meeting in Oud-Charlois 61
Table 3.3: Objectives meeting 2: Participatory vision building 64
Figure 3.2: Individual preparation 67
Figure 3.3: Outcome at the wall 67
Table 3.4: Objectives meeting 3: Participatory backcasting 68
Table 3.5: Objectives meeting 4: Formulation agenda, specific activities & transition experiments 70
Table 3.6: Objectives meeting 5: Participatory evaluation 72
Table 3.7: Monitoring & evaluation framework (version 1) 83

LIST OF ABBREVIATIONS

ICS	Intelligent Cooking and Storing
NGO	Non-governmental organisation
NMP4	Fourth National Environmental Policy Plan of the Netherlands
SHN	Sustainable Household Nutrition
TM	Transition management
WP	Work Package

1 Introduction

1.1 Introducing Work Package 4

The challenge of InContext is to support the transition to sustainable behaviour in local communities. It aims to do so through processes of (joint) reflection by and empowerment of individual members of these communities in a so-called 'community arena'. InContext specifically aims for a better understanding of how the inner and outer context on individual and group level interrelate with individual and collective strategies and/or practices. It tries to examine these interrelations in the course of three years. The approach in Work Package (WP) 4 is called 'inside out', starting with exploring individual needs, capabilities and strategies. This means our work in InContext starts at the inner context, but that a major focus is on its outer context and the individual and group behaviour on the level of the community arena as well as the community. In this WP sustainable behaviour refers to behaviour resulting from more sustainable choices of the individual as well as behaviour directed at sustainable system or outer context changes.

The pilot project areas are located in Austria, Germany and The Netherlands. In order to shed light on the inner context we will work with communities in action research and participatory processes. We will go through a process of self-reflection and learning, envisioning, backcasting and experimenting and through this define changes and activities in three local communities. This work has to involve new participatory methods that allow exploring the inner perspective and thus has to go beyond the current state-of-the-art. Exploring the individual and collective inner context leads to action at individual and collective levels, which is vital in bringing the concept of sustainable development to life.

This document is deliverable 4.1 and presents the common methodological guidelines for the implementation of the pilot projects. As a 'living' document it gives direction to the work in the three pilot project areas of InContext while at the same time leaving room for further context-dependent development of the methodology that we refer to as 'community arena'. Choices have to be made by the pilot project teams on the concrete process design regarding facilitation methods (section 3.3) as well as the monitoring & evaluation framework (section 3.4). The local process design will be part of the following deliverable 4.2.

1.2 The common methodology: the Community Arena

The WP 4 methodology is co-developed with the common approach in WP2 and is called the 'community arena'. The community arena is a co-creation tool for sustainable behaviour by local communities and builds upon the insights of transition management and backcasting as well as literature on inner/outer contexts of behaviour and social learning. Scientific literature and practical experiences only provided us with the basic building blocks for a methodological approach to deal with behavioural change at the local level. The InContext project provided the necessary integrative space to further develop, test and refine the transition methodology at the local level, in terms of integrating literature and experiences on inner contexts, behavioural change and changes in collective thinking. The approach is transdisciplinary because it involves stakeholders and interdisciplinary because it involves a wide range of disciplines that are integrated in the approach: starting from a number of shared principles

and methodological building blocks, we develop and implement the community arena with an interdisciplinary team. The community arena process itself is a participatory process where everyday tacit knowledge of engaged and involved citizens will be integrated with the theoretical scientific knowledge of researchers and experts. By reflecting upon the process and its outcomes, we will be able to develop new insights into the methodological aspects as regards dealing with (changes in) inner and outer contexts and the interrelation of these with individual and collective strategies.

Implementing a co-creation tool for sustainable behaviour is no simple and one-track endeavour. The construction of common methodological guidelines for the pilot projects is necessary if we want to understand how inner and outer contexts interrelate with individual and collective strategies or practices. In 2009, transition researchers already started experimenting with a so-called 'neighbourhood arena' in the Rotterdam district Oud-Charlois. This was the first attempt to apply transition management to the local and community level. Experiences and lessons drawn from this neighbourhood arena are discussed in appendix B.1 and referred to throughout the document. The community arena is an updated and improved version of the neighbourhood arena and is closely intertwined with the concepts of backcasting and literature on the inner/outer context of behaviour and social learning. The ultimate goal of this common approach is to make the first steps towards closing the gap between sustainability awareness and behaviour.

1.3 Being an action researcher

The development and especially the implementation of the community arena is an action research process. Therefore it is useful to outline our assumptions connected to being an action researcher. 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).

1.4 Outline of this report

Following this introduction, the theoretical background of transition management, backcasting, social learning and an operationalization of inner context based on the common theoretical approach of WP2 are outlined.

The methodology of the community arena is outlined in section 3. Starting with a section on the integration of the three theoretical areas, it then outlines the phases of the community arena process. This is followed by an outline of objectives for each of the meetings of the community arena and possible facilitation methods. In a last section the first version of a monitoring & evaluation framework is sketched.

In the appendix (which can be found in a separate document) the interested reader can find in the first section a detailed description of how to perform a system (A.1) and an actor (A.2) analysis. Both are part of the preparation phase of the community arena. In the second section, two case studies are presented to give an impression on how such transition management processes (of which the community arena process is one version) were done in the past. One case study is on the neighbourhood arena in Rotterdam Oud-Charlois (B.1) and the other on the transition arena in long term care in the Netherlands (B.2). In the last section of the appendix, a first description of the three pilot project areas is presented (part of the pre-preparatory phase, C.1-4).

2 Theoretical & methodological background

Since the 1990s sustainable futures and visions have been explored in participatory studies, such as transition management (TM) studies and backcasting experiments. Thousands of stakeholders have been involved in developing shared normative visions and agendas and steps have been planned in line with envisaged sustainable futures. In this paragraph we introduce transition management, backcasting and social learning. We also operationalize the notion of inner context.

2.1 Transition management

2.1.1 Overview

Transition management has rapidly emerged over the past few years as a new approach dealing with complex societal problems and the governance of these problems. In the Netherlands, UK and Belgium, serious efforts have been and are being undertaken to develop transition policies in areas such as energy, building, health care, mobility and water management. This is the result of a much broader scientific development of transition research as an interdisciplinary field of study in which innovation studies, history, ecology and modelling are combined with sociology, political and governance studies and psychology. Because of the focus on integrated sustainability problems and the applied nature of transition research, the natural interaction between science and policy has led to a continuously co-evolving theory and practice of transition management, following the tradition of post-normal and sustainability science.

Since its introduction into the policy arena, transition management has been widely debated, challenged, tested and, because of this, further developed, enriched and grounded scientifically. The scientific debate has primarily focused on the theoretical side (Rotmans 2005, Loorbach 2007, 2010, Grin et al. 2010), also because empirical examples of the application have yet to be fully disclosed and published. A number of cases have been published (e.g. Loorbach & Rotmans 2010), but the majority of transition management practices have not yet been published. The transition arena, a specific network of frontrunners, is key in transition management. It opens up space for joint learning processes and through co-creation of a common language and future orientation, everyday practices can be slightly changing over a longer period of time. By building up a broadening network of diverse actors that engage in the debate, thinking and experimenting, conditions are created for up-scaling of innovation and breakthrough of innovations. This is at the heart of transition management: by actually implementing transition management in a structured co-creation process, new insights emerge on an individual and societal level and are implemented and reflected upon in a continuing process.

The fourth National Environmental Policy Plan [NMP4] introduced transition management as official government policy in the Netherlands. The NMP4 broke with dominant policy traditions and practices and created space for innovative policy experiments with transition management. The NMP4 did not set goals but formulated general societal ambitions, which were believed to require transitions, fundamental changes, in functional systems. The NMP4

was widely discussed within the scientific community in the Netherlands, leading to both support for as well as criticism of the concepts. In hindsight this was the start of an interdisciplinary debate leading up to a new research paradigm and community and inspired application of the approach in a rapidly broadening number of areas.

The NMP4 borrowed from Rotmans et al. (2001) the idea that management of transitions requires the following:

- To deal with uncertainties, for instance through the use of scenarios.
- To keep options open and deal with fragmented policies: to stimulate knowledge and technological change, to pursue innovation and incremental improvements, to take a multi-domain view with attention to all relevant actors.
- To have a long-term orientation and to use this for short-term policies.
- To pay attention to the international aspects of change processes and find solutions on the right scale.
- A set of specific tasks for the government, namely to stimulate, mediate, engage in brokering services, create the right conditions, enforce its laws and engage in steering.

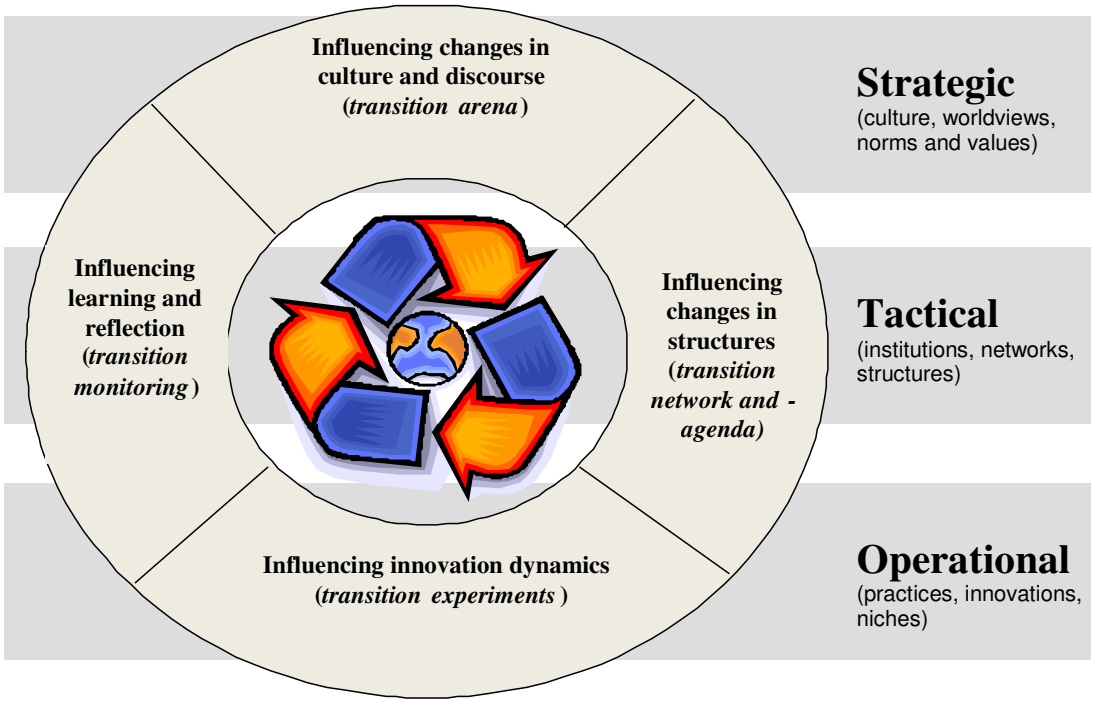
These very general basic principles were already at that time translated into an operational model for implementation; the so-called transition management cycle (see Figure 2.1). The components of the iterative cycle are[1]: (i) structure the problem in question and establish and organize the transition arena; (ii) develop a transition agenda, images of sustainability and derive the necessary transition paths; (iii) establish and carry out transition experiments and mobilize the resulting transition networks; (iv) monitor, evaluate and learn lessons from the transition experiments and, based on these, make adjustments in the vision, agenda and coalitions.

The core idea is that four different types of activities can be distinguished when observing actor behaviour in the context of societal transitions:

- Strategic: activities at the level of a societal system that take into account a long time horizon, relate to structuring a complex societal problem and creating alternative futures
- Tactical: activities at the level of sub-systems that relate to build-up and break-down of system structures (institutions, regulation, physical infrastructures, financial infrastructures and so on)
- Operational: activities that relate to short-term and everyday decisions and action. At this level actors either recreate system structures or they choose to restructure or change them
- Reflexive: activities that relate to evaluation of the existing situation at the various levels and their interrelation or misfit. Through debate, structured evaluation, assessment and research societal issues are continuously structured, reframed and dealt with

[1] For extensive description of these activities see Loorbach (2007), Loorbach & Rotmans (2006).

Figure 2.1: Transition management cycle



Adapted from Loorbach 2007, 2010.

These activities exhibit specific characteristics (in terms of the type of actors involved, the type of process they are associated with and the type of product they deliver) which makes it possible to (experimentally and exploratory) develop specific 'systemic instruments' and process strategies. Examples are participant selection, framing the specific transition challenge, type of process needed, use of different types of policy and process instruments. The very idea behind transition management is to create a societal movement through new coalitions, partnerships and networks around arenas that allow for building up continuous pressure on the political and market arena to safeguard the long-term orientation and goals of the transition process.

The starting point in a transition management process is to structure or reframe an existing societal issue in terms of the underlying problems to go beyond obvious and partial problems. The premise is that sustainability transitions require a new way of thinking and acting, which are intertwined. As different individuals or organisations have different ways of looking at reality (e.g. cultural theory, literature on problem structuring, literature on inner context), they often interpret sustainability problems differently and advocate different solutions. The core idea is that by making individual perspectives and paradigms explicit and confronting these with each other in a creative process of developing a joint problem definition on a common system level, individuals inner contexts are influenced. In other words, by opening up to other ways of defining a problem or reality and developing a broader more encompassing way to define a problem to which individuals can relate their frame, they open up mentally to a wider array of solutions as well as accepting the existence of other ways to address a similar problem.

2.1.2 Transition arena

The transition arena is a small network of frontrunners with different backgrounds, within which various perceptions of a specific persistent problem and possible directions for solutions can be deliberately confronted with each other and subsequently integrated. To be involved, the actors have their own perception of the transition issue in question from their specific background and perspective. These people participate on a personal basis and not as a representative of their institution or based on their organizational background (government, business, science, civil society). There should not be too many actors (10 – 15), and they are identified and selected based on their competencies, interests and backgrounds. The competencies expected of them are: (1) ability to consider complex problems at a high level of abstraction; (2) ability to look beyond the limits of their own discipline and background; (3) enjoy a certain level of authority within various networks; (4) ability to establish and explain visions of sustainable development within their own networks; (5) willingness to think together; (6) open for innovation instead of already having specific solutions in mind; (7) willingness to deal with their needs and inner context. These frontrunners do not necessarily need to be experts; they can also be networkers or opinion leaders. They should also be prepared to invest time and energy in the process of innovation and commit themselves to it. And finally, it is important that there is an equal number of frontrunners from the 'societal pentagon': government, companies, non-governmental organizations, knowledge institutes and intermediaries (consulting organizations, project organizations and mediators).

The fundamental issue here is that it is not the existing establishment and interests (incumbent regime) coming together within the transition arena, but rather innovative individuals who can operate more or less autonomously who are involved. Indeed, a certain representation from the existing regime is necessary, also with an eye to the legitimacy and financing of the process of innovation. A transition arena is not an administrative platform or a consultative body, but a societal network of innovation (Van Buuren & Loorbach 2009). This demands a critical selection of frontrunners—not by a 'gatekeeper' who selects who may or may not participate, but by a transition team in which experts on the process and on the transition subject are involved—that considers matters carefully. The arena process is an open, evolving process of innovation that implies variation and selection: after a certain period of time some people drop out and others join in. Management therefore means creating sufficient space and favourable conditions for the frontrunners or engaged and interested citizens, such that the envisaged process of innovation begins to take shape. It does not mean gathering together a wide range of bodies around the arena, such as a steering group, a consultation group, or advisory board, because that is exactly the recipe for limiting the newly created space for innovation and management.

When such a group of engaged citizens has been brought together to focus on a certain transition issue, an attempt is made to reach a joint perception of the problem by means of a strongly interactive process. By deploying a participative integrated systems approach, the complex problem(s) can be structured and made easier to understand (Hisschemöller & Hoppe 1996). The convergence of the various problems of perception is facilitated from the articulation of the diverging perspectives of the actors involved, which in turn will lead to new insights into the nature of the problem(s) and the underlying causal mechanisms. These insights form the prelude to a change in perspective, which is a necessary but insufficient pre-condition to realizing a transition. Based on this new perspective and through discussion and interaction, visions about a sustainable future are generated which primarily include the

shared basic principles for long-term sustainable development, leaving room for dissent upon short-and mid-term solutions, goals and strategies. While there is an emphasis on consensus or at least a willingness to cooperate within a common framework, this consensus is only valid within the context of the transition network. By necessity, these visions will oppose expectations and visions of regime actors, and in this sense these visions are explicitly seeking conflict with vested interests and powers to establish a fundamental debate upon future development, the necessity of fundamental change, and the possibilities of an envisaged transition.

Visions are an important management instrument for achieving new insights and starting points, and therefore a change of attractor. The visions created evolve and are instrumental: the process of envisioning is just as important as the ultimate visions themselves. Envisioning processes are very labour-intensive and time-consuming, but are crucial to achieving development in the desired direction. This direction, as long as a sufficiently large group of interested and engaged citizens supports it, provides a focus and creates the constraints, which determine the room for manoeuvre within which the future transition activities can take place. Based on the sustainability vision developed, a process can be initiated in which transition paths are developed and a common transition agenda is drawn up. A common transition agenda contains a number of joint objectives, action points, projects, and instruments to realize these objectives. It should be clear which party is responsible for which type of activity, project or instrument that is being developed or applied. Where the sustainability visions and the accompanying final transition images and transition objectives form the guidelines for the transition agenda which is to be developed, the transition agenda itself forms the compass for the frontrunners which they can refer to during their research and learning process.

2.1.3 Transition experiments

In essence, the transition arena is an instrument that has to enable a self-organizing and self-steering participatory process, which leads to a guiding and inspiring long-term orientation and short-term experiments that support it. These supporting short-term experiments represent the operational aspect of transition management. The focus at this operational level is to maximize the integrating, accelerating and guiding effect of the vision and agenda. A core notion of transition management is to develop and manage a portfolio of transition experiments that is connected to the strategic and tactical level (vision, pathways, agenda and network).

A transition experiment can be defined as an innovation project with a societal challenge as a starting point for learning aimed at contributing to a transition (Van den Bosch 2010). Transition experiments are by definition focused on experimenting and learning about different options and possibilities in the light of the long-term ambition and vision (Loorbach 2007). The strategies and activities in these experiments relate to short-term and everyday behaviour, decisions and action. At this level actors either recreate dominating structures, cultures and practices or they choose to restructure or change them. These experiments have a high level of uncertainty and are focused on new combinations and insights. They are searching and learning processes (doing by learning and learning by doing). Ideally, transition experiments offer room for experiment and creativity and are managed in terms of conditions (deepening, niche management) and in terms of diffusion (broadening and scaling-up) (Kemp & Van den Bosch 2006, Van den Bosch & Rotmans 2008). Hence, a transition experiment is

not a goal in itself, but an instrument to explore and learn about sustainability and radically different ways of meeting societal needs, now and in the future (Van den Bosch 2010).

2.1.4 Transition monitoring

Transition monitoring is the reflective activity of the transition management cycle (Loorbach 2007, 2010). Due to the nature of wicked problems that are tackled with transition management processes, the emphasis of this governance activity is not on assessment and judgement but on learning. The activities within the transition arena and the transition experiments as well as within transition programmes (which include several transition experiments) are monitored. This is not a one-off activity but a constant flexible engagement with the dynamics at hand and requires what Giddens refers to as reflexive monitoring, which is "the human capacity to routinely observe and understand what you are doing while you are doing it" (Taanman, forthcoming). It is learning in action.

When you monitor, you follow a transition management process over time, describe what is happening based on transition indicators, reflect upon it and recommend interventions or implement them. Transition monitoring is a cyclical and constant process supporting the learning experiences of the individual and the group who works on initiatives towards more sustainable futures. Also other stakeholders such as sponsors or target group benefit from monitoring. The results of transition monitoring processes help in (better) communicating about the initiative improving it and accounting for it.

2.2 Backcasting

2.2.1 Overview

Backcasting was proposed in the 1970s in energy studies (e.g. Lovins 1977, Robinson 1990) and later also applied to sustainability planning (e.g. Robinson 1990) and to sustainable organisations (Holmberg 1998). Since the early 1990s it has developed into a participatory approach, especially in the Netherlands (Quist & Vergragt 2006), Canada (Robinson 2003) and also Sweden (Holmberg 1998, Drehborg 1996, Carlsson-Kanyama et al 2007). In particular, backcasting shares with transition management the focus on implementation and the generation of follow-up activities contributing to bringing about the generated desirable sustainable futures. In the Netherlands participatory backcasting was for instance applied at the 'Sustainable Technology Development Programme' (Weaver et al. 2000), the 'Strategies towards the Sustainable Household (SusHouse)' (Quist et al. 2001, Green & Vergragt 2002), the COOL project dealing with options preventing climate change (Van de Kerkhof 2004), biomass dialogue (Cuppen 2010) livestock breeding research (Grin et al. 2004) and in education (Quist et al. 2006). Additional examples of participatory backcasting can be found in various European collaborative research projects (e.g. Kok et al 2006a, 2006b), while related participatory vision development and assessment projects can be found across Europe (e.g. Eames & Egmose 2011 in press; Sondeijker 2009).

Backcasting means looking back from the future. It is a normative approach to foresight using desirable or so-called 'alternative futures'. It is very different from regular forecasting, which looks to the future from the present and is not normative, or only to a very limited extent. 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 & Quist 2011: 747). Backcasting is particularly useful in the case of complex problems, where there is a need for major change, where dominant trends are part of the problem, where there are side-effects or externalities that cannot be satisfactorily solved in markets, and where long time horizons allow for future alternatives that need time to develop (Drehborg 1996). Moreover, Anthony Giddens (2009: 98-100) has proposed to use backcasting as a sustainable alternative to traditional planning, and as a tool for moving toward alternative futures when dealing with climate change.

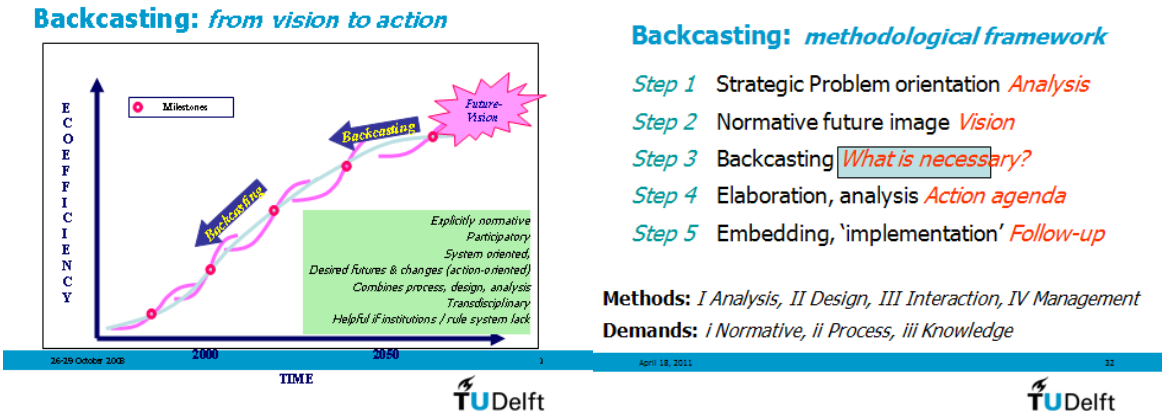
2.2.2 Towards a methodological framework

A more detailed overview of the development of backcasting has been provided elsewhere (Quist & Vergragt 2006, Quist 2007). The reviews showed that there is a considerable variety in backcasting approaches and how they are turned into methodologies. Variety can be found in if and how stakeholder participation has been organised, the kind of methods that have been applied within a backcasting framework, the kinds of topics that have been dealt with and on what scale (e.g. local, regional, national, consumption systems, or societal domains). In addition, it was concluded that the key to backcasting is the generation and assessment of normative or desirable visions or visionary images, In this way backcasting, including all its varieties, can be seen as part of a family of foresight approaches that share the development of normative or desirable visions or visionary images, and it is in this way also related to

transition management. Transition management is more recent and has also incorporated elements from participatory backcasting and the backcasting community. However, transition management always emphasises governance and management aspects of transition experiments and transitions, whereas that is less often done in backcasting and if it is included, it is dealt with to a lesser extent. However, good cases can be found in the Netherlands (STD programme, Sustainable Households project, work in the agricultural research institutes in the Netherlands (facilitated by John Grin & colleagues)).

The review mentioned above (Quist & Vergragt 2006, Quist 2007) also showed that key elements of participatory backcasting are (1) stakeholder involvement and dialogue, (2) participatory generation of desirable visions, and (3) stakeholder learning through involvement, interaction, vision development and vision assessment. Backcasting is also characterised by being problem-oriented and system-oriented and by turning visions into actions that can be started right away. Backcasting should be seen as an overall approach for which a methodological framework has been developed, consisting of five steps, four types of methods and different kinds of demands like process demands (what kind of stakeholder involvement), knowledge demands (what standards to use for disciplinary, inter-disciplinary and trans-disciplinary knowledge) and normative demands (relating to the future goals set for the vision). The figures 2.2 and 2.3 illustrate the principle of backcasting and backwards-looking, as well as the steps, groups of methods and different demands distinguished. However, it should be mentioned that several authors only refer to backcasting as the backwards looking step/analysis, while they use other names for the entire approach (e.g. Van de Kerhof 2004)

Figure 2.2: Backcasting approach and framework



Source: Jaco Quist

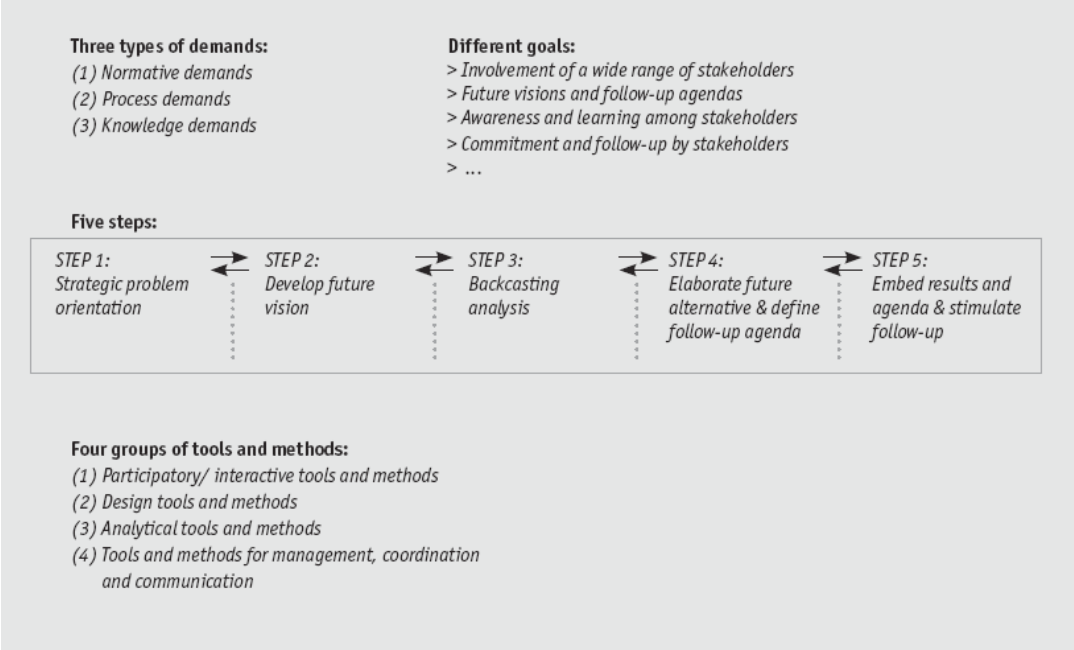
A more detailed depiction of the developed framework is given in Figure 2.3. The backcasting approach reflected by the framework is not only interdisciplinary (combining and integrating tools, methods and results from different disciplines), but also transdisciplinary in nature, in the sense that it involves stakeholders, stakeholder knowledge and stakeholder values.

The framework also distinguishes three types of demands: normative demands, process demands and knowledge demands. Normative demands reflect the goal-related requirements for the vision, process demands are requirements regarding stakeholder involvement and their level of influence in the way issues, problems and potential solutions are framed and resolved in the backcasting study. Knowledge demands are needed to set requirements for

the scientific and non-scientific knowledge strived for and how these are valued one to another.

In addition, different goals can be distinguished in backcasting studies, which can not only refer to process-related variables, but also to content-related variables, or to a range of other variables like knowledge and methodology development. Generally speaking, stakeholder heterogeneity is high in participatory backcasting, usually because stakeholders from different societal domains like business, research, government and society are involved, with the latter including both the wider public and public interest groups. Despite the fact that the steps are presented in a linear fashion in Figure 2.3 iteration and moving forward and backward between steps is likely to occur.

Figure 2.3: The methodological framework for participatory backcasting



Quist 2007: p232.

2.2.3 Example: Sustainable Household Nutrition[2]

The EU-funded SusHouse (Strategies towards the Sustainable Household, 1998-2000) project was concerned with developing and evaluating strategies for transitions to sustainable households. The starting point of the SusHouse project was that a combination of technological, cultural and structural changes is necessary to achieve a Factor 20 environmental gain in the next 50 years through system innovations, taking both consumption and its interconnection with production through products and product usage into account.

One of the cases was Sustainable Household Nutrition (SHN) in the Netherlands, which focused on the food system from a household and consumer perspective. The SHN backcasting experiment in the Netherlands (1998-2000) had a budget of around € 200,000 from an EU Framework programme and involved a broad range of stakeholders from research, business, government and societal groups in two one-day workshops.

[2] Taken from Quist & Vergragt (2006) and Quist et al (2010).

These were used for vision construction. The visions were also assessed in terms of environmental gain, consumer acceptance and economic credibility, and were also used for a vision-specific second round of stakeholder identification. Old and newly identified stakeholders were invited to a second set of workshops in which visions and assessment results were discussed followed by developing implementation proposals, research agendas and policy recommendations for achieving the visions. In both series of workshops backcasting techniques were applied, while backcasting was also done during vision construction by the research teams involved.

STEP 1 consisted of analyzing the current household food consumption system in the Netherlands and it included a stakeholder analysis, system analysis, and identification of major trends and sustainability issues. The stakeholder analysis covered stakeholders on the demand side, the supply side, research bodies, government and public interest groups. The research included both desk study and interviews with major stakeholders; the interviews were also meant for involvement into the project and raising awareness for the workshop.

In STEP 2 selected stakeholders were invited for stakeholder creativity workshops aiming to identify sustainable ways of future function fulfilment. Before the workshop, participants received an input document covering the main results of step 1. The workshop results consisted of clusters of ideas for sustainable household food consumption. These were further elaborated by the project researcher who also conducted the initial backcasting analysis, which is STEP 3. In fact STEP 2 and STEP 3 were closely connected to each other, as the stakeholder workshop included both vision development and backcasting techniques, whereas work after the workshop also included vision elaboration and backcasting. The table below summarises one of the visions and the initial backcasting analysis.

Three visions were developed. In the first vision, which was entitled ‘Intelligent Cooking & Storing’, environmental improvement was based on high-tech and ICT-based solutions facilitating a lifestyle that highly resembles existing urban life styles in developed countries. In the second vision, which was called ‘Super-Rant’, eating out and food shopping were integrated at neighbourhood level, also using more eco-efficient technologies. The third vision was called ‘Local and Green’ and was based on the idea of people growing vegetables themselves and on consumption from local and regional food chains as much as possible.

Table 2.1: Intelligent Cooking and Storing vision and initial backcasting analysis

Intelligent Cooking and Storing (ICS)

Intelligent Cooking and Storing (ICS) is about a household that can be characterised by high-tech, convenience, do-it-yourself and a fast way of living. Kitchen and food management is optimised with help of intelligent technology, which also organises ordering (electronically), and delivery with help of a so-called Intelligent Front Door. Water and energy are re-used where possible through cascade usage. Meals are either based on a mixture of sustainable ready-made and pre-prepared components (including vegetarian or novel protein foods replacing meat) or ready-made meals containing a microchip communicating cooking instructions with the microwave oven. Packaging is biodegradable and contains a (plastic) microchip with relevant consumer information about origin, treatment and preparation.

Proposals included (1) Intelligent kitchen, (2) Biodegradable and intelligent packaging; (3) Sustainable ready-made meals and meal components (4) Food delivery service and intelligent front door (5) Novel Protein Foods from non-animals sources

Stakeholder panorama

Key stakeholders in this vision are consumers, retailers, food processors, packaging producers, kitchen equipment and appliances producers and government.

Environmental profit stems from:

- Sustainably grown ingredients (inclusive new ingredients take over the function of unsustainable ingredients like novel protein foods).
- System optimisation (through integrated approach to the kitchen, waste reduction).
- Re-use of heat and water (cascade usage) in the household.
- Waste composting and biodegradable packaging.

Necessary changes (preliminary backcasting analysis)

- Technological: novel kitchen technology and appliances (including a huge efficiency increase), new ICT for kitchen systems and production chain management, plastic chips, biodegradable packaging, cascade usage for water and energy, sustainable transportation, distribution and delivery systems.
- Cultural/behavioural: sustainability is taken for granted, further shift towards ready-mades and convenience, acceptance of new technologies, shift towards more sustainable substitutes (e.g. vegetable based Novel Protein Foods instead of meat), shift towards services.
- Structural/Organisational: the role of supermarkets will change due to large-scale delivery and a shift towards food management services, kitchen manufacturers deliver complete automated systems that communicate instead of single kitchens and single appliances, close co-operation and joint management throughout the complete production chain plus making information available to consumers; sustainable food production (regional or efficient large scale production where this can be most environmentally efficient).

Quist 2007: p136.

In STEP 4 the assessments of the visions were conducted: an environmental assessment using a system analysis approach with indicators; an economic assessment using a questionnaire to assess each vision on socio-economic variables, and; a consumer acceptance analysis involving three different consumer focus groups to evaluate the acceptability of the visions to consumers and to identify adopter profiles. The assessments showed that the Intelligent Cooking and Storing vision and the Local and Green vision would reduce the environmental burden considerably. Surprisingly, with regard to the Super-Rant vision it turned out that, on the basis of the energy requirements of restaurants in the late 1990s, the environmental impact could actually increase considerably. Interestingly, the consumer groups liked the Local and Green most, especially because of the rural and suburban living and the houses with gardens. It was not possible to select the single most sustainable vision, but arguably they depicted more sustainable alternatives to existing ways of living.

In STEP 4 further stakeholder involvement took place through a second workshop. In the second stakeholder workshop the backcasting analysis was extended, while participants also evaluated the visions for which a specific evaluation technique was used and they also developed implementation proposals and policy recommendations for each of the three visions. The visions and the vision assessment results were also discussed. Whereas the Intelligent Cooking and Storing vision was seen as the dominant direction, the Super-Rant and Local and Green visions were appreciated because of their community and public values that would be important for a sustainable future, too.

STEP 5 consisted partly of the second stakeholder workshop described previously; the workshop had both the aim of generating content and the aim of stimulating endorsement and embedding. After the workshop (final) reports were written for the case study, while also spin-off meetings and initiatives with smaller groups of stakeholders were organised for developing research and demonstration proposals.

For instance, a workshop focusing on domestic appliances for treating meat alternatives at home, which was organised jointly by a research body and a company. After the workshop the organising parties developed a concrete research proposal on optimising kitchen appliances and food supply chains from an environmental point of view, together with other stakeholders from different societal groups. The Dutch research group originally involved in the SusHouse project also developed a programme proposal for a transition towards sustainability in eating-out and the food-service sector. Visions and other results were also used in a related project also dealing with sustainable food consumption. However, it proved hard to get proposals funded.

2.3 Social Learning

Having introduced the rather novel academic working fields of transition management and backcasting, we now turn to the more general field of ‘social learning’. In the following we introduce concisely that part of the field of social learning which is relevant to InContext.

Social learning is referred to by both TM and backcasting as something their methodological approaches facilitate and contribute to. We assume the concept of social learning as bridging the level of the individual (which is so far under-conceptualised in both TM and backcasting) and the level of the collective. Social learning is a key aspect within the transition approach; it is essential for dealing with complexity and uncertainty as second order learning is never a

purely individual experience, but always happens in a social setting. According to Garmendia & Stagl (2010) individuals are indeed the learners, but the learning process takes place in social settings and is socially conditioned.

Although learning may be understood in different ways, at its core it involves a lasting change in the interpretive frames (belief systems, cognitive frameworks, etc.) of an actor. These frames comprise interlocking empirical and normative values and beliefs, which guide action, including its communicative and expressive dimensions (Grin & Loeber 2007; Grin et al. 2010). Furthermore social learning is based on the capacity to question the assumptions that underlie one's actions, values, and claims to knowledge (Brookfield 1987; Flood 1990; Pahl-Wostl 2002; Garmendia & Stagl 2010).

A distinction can be made between single loop, double loop and deuteron[3] learning (Argyris & Schön 1978; 1996). In first order (or single loop or instrumental) learning, fundamental assumptions, values and identities do not change (Argyris & Schön 1978; 1996). This is the simplest mode of learning and has to do with the acquisition of new cognitive knowledge and refers to changes in strategies of action or assumptions underlying strategies in ways that leave the values of theory of action unchanged.

In contrast to first order learning, second order (or double-loop) learning implies changes in the underlying values and assumptions. Several authors have emphasized the relevance of this type of learning as a way to adapt to a continuously changing and increasingly complex environment, through collaborative action and dialogue that rest in the reflection of pre-existing values and assumptions (Isaacs 1993; Schein 1993; Kofman & Senge 1993; Garmendia & Stagl 2010). This type of learning is about individuals, groups or organizations that question and reflect on the values, assumptions and policies that drive their actions and thereby change them. Through negotiation, adaptation, co-creation and debate, actors change their own vision, redefine their own position and perceive the problem in a different manner (Grin et al. 2010). The most important conditions for second order learning work are a) surprises, b) outside views, and c) safe spaces (Grin & Van de Graaf 1996; Grin & Loeber 2007). While first order learning takes place within the cognitive space of earlier acquired basic convictions, second order learning takes actors beyond these convictions, as it is obviously often crucial in transitions. We assume that second order learning is a precondition for behavioural change.

Both transition management and backcasting aim to 'open communicative spaces' (see the work of Reason & Bradbury 2010) allowing people to learn and reflect. As such they can develop their capacities to change 'outer' as well as their 'inner' context. In such a 'communicative space' where people feel safe, there is room for building relationships, and subsequently people are invited to engage in second order (or double loop) learning. Furthermore, both approaches focus on empowerment and try to stimulate action though engagement, collective and critical self-reflection and back- and forecasting.

[3] In deuteron learning, learning experiences are made explicit in an organizational setting. The underlying assumption is that when learning orientations and goals are identified, the awareness and importance of the learning experience is recognized and strengthened. By making the learning experience explicit, the change on a shared learning experience is increased. Both employer and employee will try to invent and implement new learning strategies, and evaluate these. Subsequently, the creation of a learning culture which motivates and encourages learning is required. While deuteron learning refers predominantly to organizational practices, it does not apply for InContext.

2.4 Operationalizing Inner Context

The previous three sections introduced the theoretical notions of transition management, backcasting and social learning respectively. In projects based on transition management or backcasting, the 'inner context' has not been (explicitly) operationalized before. As such, this chapter is complementary to the previous chapters and the common theoretical approach of InContext, with the aim of equipping the InContext researchers for the pilots.

The aim of InContext is to understand behavioural change, and the aim of a community arena is to bring about behavioural change in the long term. Inner context is understood to be everything that goes on 'inside' individuals. This includes e.g. idiosyncratic processes inside one individual, but also shared processes between individuals who are part of a group, such as the community arena or the neighbourhood. As to relating the inner to the outer context, this understanding is holistic[4] and follows from the ambition to understand change as well as stable states of systems. In line with transition thinking, behaviour 'emerges' from the interaction between the inner and the outer context.

2.4.1 Inner Context constructs

Rather than repeating the common theoretical approach of InContext (which is outlined in the deliverable 2.1 of WP2), we operationalize the inner context here. We decided to only use a subset of the constructs proposed by the common approach in WP2 for the operationalization. The constructs we deem most crucial are 'needs', 'strategies' and 'capabilities'.

With these three constructs, we can try to understand how needs relate to strategies and if and how a community arena might open up a reflective space (where social learning is facilitated) in which participants can increase their sets of capabilities by widening their frame of reference as to how they might satisfy their needs. Through using the constructs of needs, strategies and capabilities, we are able to 'measure' the inner context aspects of the three pilots. By 'measuring' the inner context, relevant changes therein can be monitored[5] throughout the community arena process. This way we can make sense of results; make them comparable over the various pilots; and over time. They help us reducing our data so as to measure the effect of our interventions and to see if they support our hypotheses. This in turn allows us to assess the effectiveness of this approach, to improve it and communicate about it. However, the problem (if we want to measure inner context) is that we never know beforehand what kind of change is most needed by/will occur in the individual or collective 'inner context' (and therefore which variable e.g. 'beliefs', 'culture', 'values' may change). This makes it difficult to monitor the effects of the project on a concrete level. Should we learn – e.g. when analyzing transcript data – that the three constructs are not sufficient to relate the data to our research question, we can refer back to the common theoretical approach (deliverable 2.1) and add more/other constructs.

---

[4] Though we stress that everything is interconnected, it remains important (or becomes even more important) to distinguish certain parts or concepts for analysis which we use to understand this complexity; otherwise we run the risk of loop-reasoning (e.g. "culture" might become the antecedent of change as well as the object of change) or repeated misunderstanding, be it within the group of InContext, or when communicating with other researchers.

[5] The complete monitoring and evaluation framework can be found in section 3.4.

2.4.2 Inner context and the Community Arena

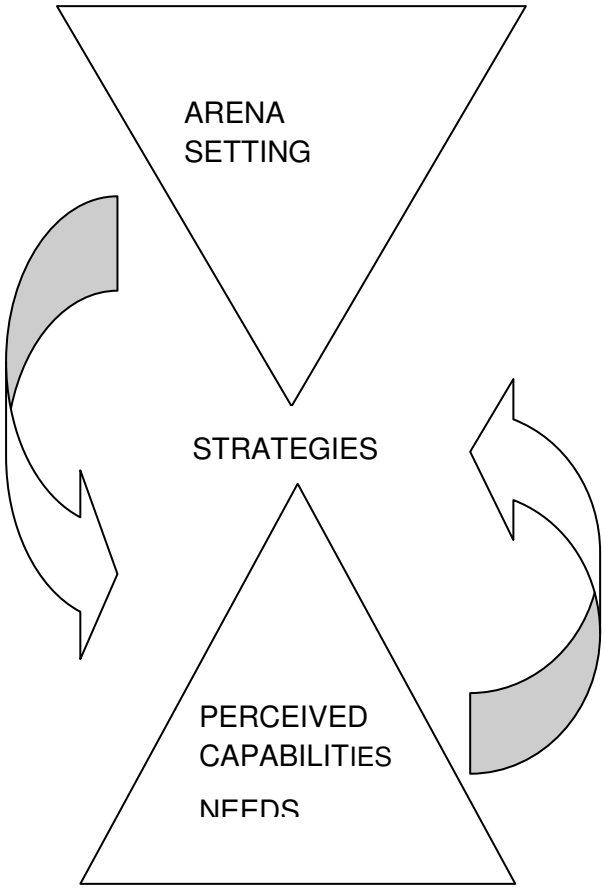
In looking for the linkage between needs, strategies and capabilities and the community arena, a solution can be found in the process through which the community arena facilitates change: through social learning (also see section 2.3).

The focus of the social learning process relates to the distinction of needs and strategies. The aim of the community arena is to identify needs; to distinguish these from behavioural strategies (which can be observed); and perhaps even to raise the feeling of efficacy, i.e. to help see that there is room to affect the outer context (changes in perceived locus of control). As such, the elements of inner context that are useful to distinguish are needs, strategies and capabilities. The latter also relates to the outer context and the freedom to choose which needs are to be fulfilled and how. Figure 2.4 is an effort to visualize the relations between inner, outer context and (behavioural) strategies as we understand them.

Change is expected as people (having become aware of their needs, distinguishing them from their strategies) learn about (previously unknown) strategies that fulfil more of their important needs simultaneously. Hence, these new strategies are expected to become more attractive than 'old' strategies. Change toward more sustainable strategies is expected as people become aware and learn more about the needs of others and as they are invited to think about the future of their neighbourhood or town.

Changes in people's awareness of their needs (and those of others, and future needs) and the awareness of the relation of their needs to their strategies are expected to influence their choice of strategies both directly and through their reflection on their capabilities (i.e. we expect a 'break' in their routines in which people experience the freedom to consciously choose their strategies, as opposed to behaving by habit or routine). The perception of capabilities is influenced also through the practical experimenting in the context of the arena.

Figure 2.4: Relating inner context, outer context and behaviour.



Source: WP4 project team

Based on this social learning process within the community arena we suggest the following indicators for each of the three constructs:

- Awareness of *needs*: my own, those of others and future needs.
- Awareness of how certain behavioural *strategies* relate to these needs.
- Perceived *capability* to influence one's own local environment.

2.4.3 Inner context indicators, definitions & measurement

We hope to be able to measure relevant changes throughout the arena-process with the use of these indicators; should we notice that other constructs are needed for our understanding we will turn to the common theoretical approach of WP2. It is important that we are clear and remain transparent about our (unavoidably arbitrary) definitions.

A) Awareness of needs: my own, those of others, and future needs

Definition:

According to Rauschmayer et al. (2011: 13), "Needs are the most fundamental dimensions of human flourishing. We call needs those reasons for action that require no further explanation or justification".

Operationalisation of needs for InContext:

In this project, awareness of needs is measured 'dynamically': they are 'identified' by asking participants why certain strategies are relevant to them, and by repeating this or similar questions until the individuals in the group arrive at a shared understanding of the needs of all the individuals in the group.

In other words: what is deemed a 'basic' or 'universal' need is not predefined; instead, the definition has a function: arriving at a shared understanding. Lists such as those conceived by Manfred Max Neef (1991) and Marshall Rosenberg (2001) (also see deliverable 2.1) can be tools for support but not for decision.

Suggested measuring:

- Combined with measurement of ‘strategies’ in ‘laddering’ exercise.
- Repeated qualitative interviewing: “the extent to which respondents can verbalize their own needs, others’ needs, and future needs”.

B) Awareness of how Strategies relate to Needs

Definition:

“Strategies are instrumental means to fulfill needs. Typically, strategies relate positively and/or negatively to more than one need” (Rauschmayer et al 2011: 13). They are chosen depending on values, culture, preferences, resources and chances for realization and they determine lifestyles. Strategies are negotiable, but not universal. The choice of certain strategies can support (un)sustainable development.

Operationalisation of strategies for InContext:

It must be clear that InContext deliberately does not operationalize strategies, but awareness of strategies, namely as ‘awareness of how certain strategies relate to certain needs’. It is expected that, as people become increasingly aware of the needs underlying certain strategies and at the same time learn about alternative ways to fulfil these needs, they will widen their behavioural repertoire. In other words: the awareness raising process will provide them with more options.

In addition, it will be interesting to identify remarkable behavioural changes, as reported in ex post interviewing, simply by asking participants after the community arena process to report any changes they observed themselves.

Suggested measuring:

- Combined with measurement of ‘needs’ in ‘laddering’ exercise.
- Repeated qualitative interviewing: Starting out with the questions “tell us about your quality of life, about the quality of your neighbourhood/town”, looking for behavioural strategies (patterns of activities, of consumption, possession of certain goods, use of services) that appear to contribute to these qualities.
- Ex post qualitative interviewing: self-report of observed changes.

C) Perceived Capability to influence one's own local environment

Definition:

According to Rauschmayer et al (2011:13) capabilities "determine the objective conditions, i.e. resources in human, social and material capital, and the freedom to choose which needs are to be fulfilled and how."

Operationalisation of capabilities for InContext:

Rather than operationalising capabilities, we are more interested in a subset of participant's capabilities, i.e. in their 'perceived capability to influence their own local environment', herewith referring to the inner context and to the local target of the community arena. The methods we use (e.g. interviewing) will not tell us about *objective* outer context conditions but about how these are perceived subjectively by the participants and also about how this perception changes through reflection on needs and strategies as well as practical experimenting in the community arena process. The freedom to choose which needs are fulfilled and how is also understood as/is determined by capabilities – also on this the participants will reflect and self-report as part of this indicator.

Suggested measuring:

- Repeated qualitative interviewing, starting out with the questions stated under 'strategies'.
    - "You mentioned about your neighbourhood/town that… (negative or positive issue). Can you write down one or more cause for this issue?"
- The interviewer then visualizes the various causes (putting the issue in the middle surrounded by the causes). Follow-up questions are:
    - "What is your position and that of others in this visualisation?"
    - "Can you point out the importance of these various causes and people?"

This approach is inspired by the 'Attributional Study Questionnaire', which is adapted to make the questioning more holistic and more visual. The approach results in graphical representations. From these we can deduct the extent to which people see themselves (and possibly others in the neighbourhood/town) as factors of influence towards certain issues. If we have these conversations and make these mappings repeatedly, we can compare them over time.

All the suggested methods for measuring the indicators are described in more detail in section 3.3 and 3.4.

3 The community arena – a methodological framework

This section develops the community arena methodological framework and methodology. The community arena methodology builds on transition management and participatory backcasting and combines this with both inner context aspects (such as needs and capabilities) and elements from social learning as presented in section 2. Adding inner context aspects to the established transition management and backcasting methodologies spells out that behavioural change comes about through changes in inner as well as outer context. It also makes clear that addressing the inner context can be a powerful tool in developing visions for sustainable communities and raising awareness among participants in the community arena. In this section we outline the methodology of the community arena.

3.1 Integrating transition management, backcasting, inner context and social learning

Transition management and participatory backcasting are closely related approaches. For one, transition management was partly inspired by participatory backcasting work in the 1990's. Additionally, both approaches share the same notion of the need for iteration between future and present so as to develop ideas and raise sensitivity to the possibilities of multiple future pathways. But whereas backcasting primarily focuses on the process of delivering an inspiring vision linked to certain pathways and analysing visions and pathways, transition management 'uses' these visions and pathways more strongly as instruments to influence behaviour of actors and ultimately regular policy. In addition, the transition management approach is based on a particular framing of reality in terms of social systems and in terms of the possibility and desirability of systemic change towards sustainability. By contrast many backcasting studies emphasise the technical and physical system and do not include the social system sufficiently (e.g. Wangel 2011). However, in the Netherlands in particular, examples of backcasting can be found that have strong similarities with transition management and aim for impacts in relevant social systems too. Furthermore, backcasting shows a larger methodological diversity, whereas transition management has a stronger and more focused profile.

In transition management practice, backcasting methodology is used as part of the methodology to link the established problem definition(s) with the defined long term goals and guiding principles in the phase of agenda-building. The aim is to develop coalitions and shared strategies to accelerate and guide changes within the daily context of involved actors. Backcasting is here more a means to achieve this end than a full approach/methodology; it is sometimes defined as a single step in a methodological framework (like in transition management and participatory integrated assessment). The backcasting methodology, as well as the broader transition management framework, are both instruments to support the participatory exploration of individual inner contexts (paradigms, problem definitions, expectations, ambitions and preferred solutions) related to the broader societal context (ensured by the diversity of individuals/perspectives in the group and transition analysis). While transition management puts more emphasis on reframing individual understanding of current reality and behaviour, backcasting addresses more the future expectations of individuals and the related opportunities and barriers for the future

Shared assumptions as input for the common methodology, the community arena

- A focus on groups of individuals (relevant frontrunners) that are interested to contribute to the participatory study (arena).
- An understanding of societal changes as non-linear and uncertain processes.
- Raising awareness of societal complexity can help to raise reflexivity in individuals and self-reflection on 'inner context' and behaviour.
- Change of behaviour comes through second-order learning, reflection and interaction around other world views and new visions and visionary images.
- Change in inner context comes through learning, reflection and interaction around other world views and new visions and visionary images.
- Social learning takes place in the group interaction where a safe environment is created which allows for the inner context to be articulated in interaction.
- A focus on second-order learning which is considered as precondition for behavioural change.
- Second-order learning can be achieved by consciously confronting and questioning different worldviews/perspectives of individuals.
- Individual reflection on long-term futures provides a basis for short-term action.
- A focus on empowerment and stimulating action through engagement, collective reflection and back- and forecasting. Creation of endorsement for outcomes at the group level is highly relevant. Endorsement at the group level may consist of or lead to shared ideas/beliefs, consensus (agreement or win-win) or congruence (win-win in the sense that there is no conflict in interest or values) and lateral change / shifts (moving of actors/persons toward another viewpoint).

The link between TM and backcasting, however obvious and already present has been underexplored scientifically as well as practically. In TM practice, backcasting has only been used in a general way. In backcasting, efforts have been undertaken to diffuse the visions and pathways to regular policy but often as an add-on activity. The scientific challenge in InContext is to achieve a theoretical integration linked to the key focus of individuals, communities and sustainable behaviour. The practical challenge is to create additional value and a more profound impact as well as a doable methodology.

The community arena as methodological integration

The community arena is a co-creation tool for sustainable behaviour by local communities and builds upon the insights of transition management and backcasting as well as literature on inner/outer contexts of behaviour and social learning. It differs from other 'traditional' transition arenas by its integration of insights from backcasting and inner context of human behaviour as well as by its focus on the individual level. It is closest related to and will be an updated and improved version of the 'neighbourhood arena' (see case study in appendix B.1).

The implementation of the community arena should result amongst others into processes of reflection on individual and group level allowing for new strategies to emerge on how

individual/groups needs are met, into experiments with innovative practices as alternatives to established ones, as well as a newly developed, tested and refined methodological approach for co-creation of sustainable behaviour by local communities.

The following section (3.2) presents the phases of the community arena process, which consists of transition management and backcasting exercises as well as methods addressing the inner context. In section 3.3 we further elaborate on the goals per meeting and possible methods for facilitating these meetings and in section 3.4 we outline the monitoring and evaluation framework.

3.2 Phases of the community arena

Transition management includes a number of basic governance starting points, a governance framework and specific policy instruments applied in the context of urban and/or regional areas. The transition management cycle (see section 2.1.1) is operationalized into six phases and is complemented with backcasting exercises and methods that address the inner context. Table 3.1 shows these six phases and matches them with key activities and key outputs.

In this section we elaborate on the basic phases within a community arena process: the steps to undertake, the data to be gathered, the kind of meetings to organize, etc. The detailed objectives of the meetings as well as facilitation methods to be used are not outlined in this section, but can be found in section 3.3. However, first we address the level of comparativeness of the methodological approach.

3.2.1 Level of comparativeness

Because we are dealing with non-linear and uncertain processes within the pilot areas there is no clear-cut approach. The goal of these guidelines is to develop a methodological approach that is open for reflexive changes throughout the process and is adjustable to the needs, preferences and context of the different WP4-pilot project areas. For example, if a specific domain such as food or energy is chosen, this has major implications for the comparability of the different WP4-pilot project results.

There are five main questions that concern the level of comparability for each pilot project area:

- What domain / sustainability topic is central during the process?
- What is the level of documentation during the process? (also see section 3.3)
- Which methods are used during the meetings? (also see section 3.3)
- Which elements are part of the monitoring and evaluation framework? (also see section 3.4)
- Which phases/goals are of central importance in the process (depending on context, resources, etc.)?

Table 3.1: Phases of the Community Arena; * meeting

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

Evaluation	method, content and process*	lessons learned for local and EU-level governance
	B. Monitoring interviews	B. Insight in drivers and barriers for sustainable behaviour

Regarding the first question, all pilot project partners agreed[6] to start the process with an open session in which the underlying wicked problems of the town/neighbourhood as a whole are addressed. In a second step a focus on the domain (food, energy, housing, etc.) is introduced and this domain is linked to the wicked problems. Furthermore, the partners agreed that they, as facilitators, introduce topics of local and global sustainability into the arena sessions.

The second question is also crucial for the level of comparativeness, which will benefit from extensive documentation during our research activities. In what way are interviews, observations, reports, minutes and other notes or findings recorded and documented? Are standardized formats or scripts being used? There is need for this documentation for both internal and external purposes (e.g. communication of results to participants).

Because all pilot project partners are still in an exploratory phase of the process, there are no answers for these questions yet. Most questions will be dealt with in phase 1 of the process, during the set up of the process design (see below). The outcome of this phase will be covered in deliverable 4.2 (year one report).

3.2.2 Phase 0: Pre-preparation

	Key activities	Key output
0. Pre-preparation	A. Case orientation	A. Initial case description for each pilot
	B. Transition team formation	B. Transition team

0A. Case orientation

This activity deals with the initial case description for each pilot project area. This case description is done by elaborating on the demographic, social, ecological, economic, etc. features of the pilot area. Furthermore, questions that should be addressed are: what are the goals, motives, and desired achievements in the area? But also, what is the current active involvement in the area of the pilot project partners (such as established networks and conducted projects). This description has to give the other partners of InContext an idea of the different pilot areas and their characteristics. See appendix C for the questionnaire and

[6] Agreements were reached during project workshop in February and in several WP4-conference calls.

the case orientations from the pilot areas of Gmunden[7] (Austria), Wolfhagen (Germany) and Carnisse, Rotterdam (the Netherlands).

0B. Transition team formation

Based on the initial case description and goals, desired achievements, etc. a transition team is formed. The transition team is the core driver of the community arena approach – therefore its members should view the arena process as an important trajectory and see the added value of it. Ideally, the transition team consists of 3 to 5 members and is a strategic and content-based mix of employees of the initiating organization, experts in the field under study, transition management experts, change-oriented representatives from the local government and process facilitators. In practice different backgrounds can be combined.

The tasks of this team are quite demanding and time-consuming; the team not only prepares, documents, analyses, monitors, co-ordinates, manages, facilitates and evaluates the whole process, but also chooses the participants and feeds them with background information and detailed knowledge. 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.

However, the team is able to delegate some of its tasks to (external) executive parties or meeting moderators. From the beginning the functions, roles and responsibilities of the different team members should be clarified and agreed upon.

3.2.3 Phase 1: Preparation & Exploration

Phase 1 consists of several elements which are the foundation for the whole community arena process.

	Key activities	Key output
1. Preparation & Exploration	A. Process design	A. Community Arena process plan
	B. System analysis	B. Insightful overview of major issues/tensions to focus on
	C. Actor analysis (long-list and short-list of relevant actors) incl. interviews	C. Actor identification and categorisation + insight inner context
	D. Set up Monitoring framework	D. Monitoring framework

[7] Gmunden is no longer the Austrian pilot community. The Austrian partner is currently searching for a new pilot area. We decided to refer in this document to Gmunden, as there had already been some work on the Gmunden pilot before it had to be dropped.

1A. Process design

First of all, some basic decisions have to be taken like choosing a focus area and a specific (consumption) domain (or not), get funding and support for the whole process (which provides some level of security and embeddedness). The established transition team formulates the basic future steps, the time planning, the communication, and other topics in broad terms. This all leads to a community arena process plan (output 1A) where the following themes are covered:

- Determine goals of the arena process: domain of focus or sustainability topics.
- Determine amount of meetings (and/or contact hours) (see section 3.3).
- Relate the arena process to relevant ongoing (policy) processes and planned activities.
- Select methods that will be used during meetings (see section 3.3.).
- Determine the use of a moderator during meetings (see section 3.3.).
- Set up a specific monitoring and evaluation framework (see section 3.4.).
- Determine modes and level of documentation (see above and section 3.3, 3.4.).
- Determine amount of resources for process (human, financial, etc.).
- Set up a division of tasks within the transition team.

Through their decisions, which are also based on the findings of system and actor analysis, pilot project partners adjust the arena process to context dependent circumstances. However, the process designs from each partner will have to meet agreed standards for comparability purposes. The individual process plans will be reported in the following deliverable 4.2.

1B. System Analysis

The transition team is also responsible for the rest of the preparation phase including the system analysis. A system analysis gives insights into the details of the pilot project challenge and factors influencing it.

In a first step the focus of the transition process is defined (e.g. reduction of CO_2 emissions from mobility, sustainable food consumption or energy savings in the built environment). Subsequently the system boundaries are delimited and relevant stocks of the system that cover the social, environmental and economic capital (e.g. labour force, infrastructure, air quality, housing stock) are selected. Then the basic characteristics and indicators for each of these, plus the relations between them are identified. In addition to desk research, interviews[8] or expert sessions can be conducted to help analyzing and structuring the collected data.

The result of the analysis is later used as a basis for discussions in the transition arena. It can include:

[8] These can be combined with the interviews which are done as part of the actor analysis.

- Analysis of the current state of the system, persistent problems and challenges for the future.
- Analysis of the main strengths, weaknesses, opportunities and threats in the pilot area for the current situation and/or future situation.
- Analysis of the dominant culture, structure and practices (or regime), as well as emerging alternatives (niches) and major landscape pressures.
- Analysis of the current situation from a historical perspective.
- Analysis of the main problems/issues/barriers/bottlenecks in the area that hinder or block a sustainable future.

In combination with the actor analyses this first phase is the foundation of the process and serves as a starting point for monitoring the behaviour and input for the arena meetings.

For an elaborate step by step description of the system analysis see appendix A.1.

1C. Actor Analysis

The main function of the actor analysis in this phase is to prepare the selection of participants for the transition arena. Actors are approached as individuals, not as representatives. A first long list is generated using several input strategies:

- Suggestions from the transition team members and their immediate surroundings.
- The system analysis.
- Connecting existing activities to actors: make an inventory of concrete activities (e.g. related to sustainable behaviour in the community).
- Newspaper cutting methods: analysing newspaper articles is another way to find relevant actors and their viewpoints.
- Snowball e-mail: write an e-mail to actors you already identified asking for names of inspiring other actors they know.

By mapping and clustering the actors on the long list, the potential participants for the transition arena can be selected. Ideally, the group is a mix of ‘frontrunners’ who combine creativity and imagination with the openness to evaluate and appreciate other perspectives and ‘enlightened’ regime actors (resource holders). It should include a diversity of competences, types of power and backgrounds.

For an elaborate step by step description of the actor analysis see appendix A.2.

1D. Monitoring & Evaluation Framework

Monitoring is necessary from the very start of the project. The monitoring & evaluation activities should be formulated together with the process plan. The monitoring & evaluation framework helps to adjust and improve the community arena process, to communicate with stakeholders, to justify investments to investors and to learn (participants and transition team).

The monitoring & evaluation framework is further described in phase 5 and elaborated in section 3.4.

3.2.4 Phase 2: Problem structuring and envisioning

At the heart of the second phase are two participatory arena meetings, one for problem structuring and one for envisioning.

	Key activities	Key output
2. Problem structuring & Envisioning	A. Community arena formation	A. Frontrunner network
	B. Participatory problem structuring*	B. Individual and shared problem perceptions & change topics
	C. Selection of key priorities	C. Guiding sustainability principles
	D. Participatory vision building*	D. Individual and shared visions

2A Community arena formation

The second phase starts after the arena participants are selected (based on the actor analysis) and invited to join. In a first step the community arena is formed, and thereby a frontrunner network created (output 2A).

2B Participatory problem structuring

During the first meeting the group of frontrunners is brought together. Through a strongly interactive process a joint perception of the problem and a joint definition of the main change topics are reached (output 2B). What is (un-)sustainable behaviour? What does this mean to the participants? What are the most evident drivers and barriers for sustainable behaviour? The open discussion is based on the system analysis (the current regime, the idea of inner context and sustainable behaviour, the necessity of transition in thinking and behaviour).

A secondary objective is to create commonality between the participants. They should be motivated to go on, e.g. because they trust the process and its impact, or because they are inspired by other participants. The transition team can ask itself the question whether the group is good as it is, whether an actor is missing or whether an actor is sabotaging the process.

The objectives for the first meeting are outlined in detail in section 3.3.

2C Selection of key priorities

The selection of key priorities is one of the key activities of the second meeting which focuses on the formulation and discussion of a shared vision. In the meeting, all kinds of ideas for the future will emerge. Some will be embraced and elaborated in a lively discussion; others won't be picked up (yet) by the group. A good starting point for selecting key priorities is the shared problem perception, which can be translated into guiding sustainability principles (output 2C). These are the general principles formulated by the frontrunner network for a sustainable community and individual behaviour (e.g. self-responsibility, rewards for sustainable behaviour, individualized sustainability behaviour).

2D Participatory vision building

During the second meeting the focus is on the formulation and discussion of a shared vision. The vision is based on the consolidated problem perception and change topics as well as the guiding sustainability principles.

This overarching vision is made up of different visionary images, which can be structured according to e.g. domains, groups, change topics, types of strategies. The visionary image describes a future state of the element it is structured by, e.g. a domain, a change topic and enriches the sustainability principles (e.g. What is sustainability in the pilot area? What are barriers for sustainable behaviour?). All three pilot projects work with a timeframe of twenty years, resulting in visions of 'Carnisse 2030', 'Gmunden 2030', and 'Wolfhagen 2030'. This timeframe allows for more radical changes (physical changes etc.) to be incorporated while at the same time allowing for quick and practical implementation in the short term.

During this phase it is an option to form a sub-group that volunteers to elaborate the vision further (incl. sub-topics), especially if the group process as a whole does not allow for elaborate envisioning[9]. When forming subgroups the transition team has to make sure that the vision is still shared. Depending on the context, there can be several meetings for this envisioning or the transition team uses the work in the sub group (or input by other motivated external parties such as designers, students) as an input to work on a vision document.

During the meeting there will be several moments for (critical) self-reflection. Facilitated by appropriate methods, individuals can reflect on their own needs, become aware of their strategies and their capability to influence their local environment and what this means for the vision. This way the inner context can be analyzed as well, resulting in both a shared and individual vision (output 2D).

The vision document is a first output of the arena and is an important management instrument directing thinking and initiatives of participant and outsiders. But it's not only about this result: the process of envisioning is just as important as the vision itself.

The objectives for the second meeting are outlined in detail in section 3.3.

[9] E.g. in Oud-Charlois we found that some participants were enthusiastic about further formulating the vision, whereas some were weary of too many deliberative sessions.

3.2.5 Phase 3: Backcasting, Agenda Building & Transition Paths

In the next phase the arena builds upon its problem definition and its shared vision (points of departure and destination/guiding principles or images) to develop actions and targets. During this phase, the interests, motives, and policies of the various actors involved come out into the open; there will be negotiations about investments, and individual plans and strategies will be fine-tuned (Loorbach 2010).

	Key activities	Key output
3. Backcasting, Pathways & Agenda Building	A. Participatory backcasting* & definition of transition paths	A. Backcasting analysis & transition paths
	B. Formulation agenda and specific activities*	B. Transition agenda and formation of possible sub-groups
	C. Monitoring interviews	C. Learning & process feedback

3A Participatory backcasting & definition of transition paths

Based on the sustainability vision developed, a process is initiated in which a backcasting analysis is conducted for each of the visionary images, and one or several transition paths are developed.

The backcasting meeting revolves around the following questions:

- What changes (cultural, structural-institutional, technological-infrastructural & organizational) are needed to bring about the vision?
- How have these changes taken place (looking back from the future) and what drivers and stepping stones would have been supportive?
- What was the last step that brought about the change? (Continue until present day).
- Which (coalitions of) stakeholders are needed and what actions should they start?
- Can changes and actions be integrated into a transition agenda?

Based on the backcasting session, both a backcasting analysis and transition paths can be compiled (output 3A). Transition paths are possible routes from the present towards sustainable images and behaviour and have the same timeframe as the vision, i.e. 2030. They connect the long-term vision to the short-term action. The transition paths can be developed in different ways, using various methodologies ranging from scenario building, backcasting and envisioning exercises to modelling and road mapping methods. General elements are:

- Descriptions of changes necessary to achieve the target image (last step).
- Indication of which change should take place when.
- Ideas on how these changes should take place and with whom.

- Short- and mid-term goals.

The objectives for the third meeting are outlined in detail in section 3.3.

3B Formulation agenda & specific activities

During this meeting feedback on the final drafts of the backcasting analysis is received as well as a common agenda defined. The different perspectives on how to reach the vision and images can not only be elaborated into transition paths, but also into more short-term specific activities, i.e. a transition agenda (output 3A). The members of the community arena are divided into different sub-groups (e.g. on visionary images, transition paths, activity-related). Step-by-step, the sub-groups will organize their work themselves. Based on the outcome of the backcasting, the sub-groups formulate an agenda, elaborate on transition paths and finally translate the agenda into activities; this is done without full process-facilitation or active involvement by the transition team. Instead the following questions guide the work:

- What new initiatives/experiments can we initiate to make progress on the transition path?
- Which actors/parties should ideally be involved in these new initiatives? And who is already in our networks?
- What ongoing initiatives/developments of ourselves or parties within our network can be adjusted so they contribute to progress on the transition path?
- What policy is needed to support the transition path?
- Which external parties and new collaborations can be supportive? And how can we involve them?
- How can we disseminate our transition narrative to motivate parties to use it as guidance for action, plus to get support for the transition agenda?

Structuring and developing the agenda can be rather time-consuming, but it pays off in the form of increased quality of the process (Dirven et al. 2002). The agenda forms the long-term context for short-term activities and policy. For structuring and prioritizing the proposed activities in the transition agenda use distinctions such as easy/hard to realise; high/low impact; high/low enthusiasm from participants. The transition team should make sure that the first steps are adopted by individual arena participants. At this stage, the main role of the transition team is to stimulate the self-organizing process, which requires patience and also trust in the process.

The transition team can choose to involve a broader group of people in this meeting, by inviting relevant parties and asking the arena-participants to invite people from their networks.

The objectives for the fourth meeting are outlined in detail in section 3.3.

3C Monitoring interviews

The outcome of this phase functions as a compass for future actions and experiments. By building coalitions and networks in the next phase the conditions for desired experiments are designed. Ultimately this will lead to influencing behaviour, policy making and lobbying.

During this phase the second interview with the individual participants will be conducted. This may lead to new insights on changes in inner context (output 3C).

3.2.6 Phase 4: Experimenting & Implementing

	Key activities	Key output
4. Experimenting & Implementing	A. Dissemination of visions, pathways and agenda	A. Broader public awareness & extended involvement
	B. Coalition forming & broadening the network	B. Change agents network & experiment portfolio
	C. Conducting experiments	C. Learning & implementation

4A Dissemination of visions, pathways and agenda

The tangibility and visibility of this process is of great importance to:

- Keep arena participants from abandoning the process.
- Create and maintain support from external actors.

These are the reasons for disseminating the products of the first three arena phases (e.g. the transition narrative and the transition agenda). Communicating the results in the arena itself and to outsiders (e.g. to local policy makers, newspapers) will demonstrate the effectiveness and maintain momentum. It can also generate broader public awareness and extended involvement (output 4A). This dissemination can be done in e.g. a public coalition-building event, where the transition narrative and the transition agenda are presented at a place where people meet (have a meeting organised on a local, central square or use e.g. the weekly farmer's market).

4B Coalition forming & broadening the network

Strategic coalitions should be created around the subgroups established in phase 3. This change agent's network (output 4B) broadens the overall network. Information on who to include in this coalition forming and broadening comes from previous phases, in particular the actor analysis, as well as the personal networks of the persons in the community arena.

Specific activities as well as transition experiments should be performed through the existing networks of arena participants. This ensures on the one hand direct involvement of these frontrunners and on the other that experiments will be fed by previous phases (visions, agenda, etc.). Efforts focus on creating a portfolio of related experiments which complement and strengthen each other as much as possible (output 4B).

Support by policy makers can be guaranteed via an external steering group or a supportive policy arena. In the experimenting and implementing phase civil servants can be linked directly to sub-groups, or a civil servant can be assigned as contact person for all groups,

they could also be part of the transition team in the first place. By involving policy makers in the process, the community arena can give direction and new impulses to the policy agenda.

4C Implementation and experimenting

At the operational level of transition management, transition experiments and actions are carried out (output 4C) that try to deepen, broaden, and scale up existing and planned initiatives and actions (Kemp & Van den Bosch 2006, Raven et al. 2007; Van den Bosch & Rotmans 2009, Van den Bosch 2010). The importance of short-term activities is of great importance for commitment and enthusiasm towards an arena process. The amount of deliberative meetings is limited. That is why (small) experiments should be started up directly following the formulation of the transition agenda or even parallel to the arena meetings (if pressure is high on part of the arena participants to get involved in action).

The experiments have a high level of uncertainty and are focused on new combinations and insights. They are searching and learning processes (doing by learning and learning by doing). When an experiment has been 'successful' it can be repeated in different contexts and scaled up from the micro- to the meso-level.

The transition team is involved with the experiments and other activities of the participants. There are several possibilities to facilitate this phase, e.g. someone from the transition team could make himself/herself available for consultation in a certain location once a week (contact person and/or consultation-hour). Also, regular and shorter meetings can be held that are centred on one (or more) experiment[10].

During this phase the behaviour of the participants is monitored also. In how far are their strategies changing? Which side experiments and actions do participants undertake next to the arena-process (e.g. Do they start up 'urban gardening'-initiatives or something similar?)?

3.2.7 Phase 5: Monitoring & Evaluation

Monitoring and evaluation (of process and content) are key elements in this methodology with its focus on learning. This last phase is not sequential as the others, as monitoring is a cyclical and constant process and is performed throughout the process. Monitoring supports in communicating results to the public, in justifying investments to stakeholders and investors, in learning (participants, transition team), and importantly in adjusting the process if necessary (process design and substance of e.g. meetings, paths and experiments can be adjusted when needed).

[10] For example, in the neighbourhood arena Oud-Charlois approximately twenty smaller 'experiment'-meetings were held and one experiment was adopted/facilitated by one of the transition team-members.

	Key activities	Key output
5. Monitoring & Evaluation	A. Participatory evaluation of method, content and process*	A. Adapted methodological framework, strategy and lessons learned for local and EU-level governance
	B. Monitoring interviews	B. Insight in drivers and barriers for sustainable behaviour

5A Participatory evaluation of method and content (process)

As part of the monitoring and evaluation a fifth meeting will be held. This meeting addresses both the collective as well as the individual level and will be an evaluation of the methodology as well as the outcome and output of the community arena. It will lead, together with other monitoring outcomes, to reflexivity on and adaptation of the community arena methodology, the community arena strategy (regarding transition agenda implementation and dissemination) as well as provide lessons learned for local and EU-governance (output 5A).

To reflect upon the effectiveness of our collective process and through the evaluation as a whole we develop more insight in and feeling for changes of drivers and barriers of sustainable behaviour and development. This is why a comprehensive monitoring and evaluation framework is needed, which is presented in paragraph 3.4.

5B Monitoring interviews

Evaluation or monitoring can in this context be seen as an instrument enabling and making explicit social learning processes (Loorbach 2007). The individual part consists of the monitoring and evaluation of the individual level and refers to methods described in the previous phases (two interviews, self-reflection and monitoring) and a final, third interview (output 5B).

3.2.8 Concluding remarks

This section elaborated on the methodology of the community arena which is translated into six different phases. All five meetings are held in phase two and three, where also the integration of transition management, backcasting and theories on inner/outer contexts of behaviour and social learning is most apparent.

The phases 2 to 5 are based on action research methods which imply personal contact with the individuals involved in the arena-process. With the approach in WP4 being called ‘inside out’, starting at the inner context of the individual we added elements addressing especially the inner context. These are interviews, monitoring, and self reflection.

One of the most prominent methods suggested are three interviews with the individuals involved in the arena. These three interviews will be held in the first phase, the third phase and the last phase of the arena-process. Also, when people decide to abandon the process

they will be interviewed on their motivations. Secondly, during the arena meetings there will be a moment of reflection for individuals on their own situation and experiences (i.e. backcasting exercises on an individual level). A third addition is the monitoring of individual actions during the arena-process (which side-experiments and actions do participants undertake next to the arena-process?).

The importance of personal contact and individual interviews was also stressed by the participants of the arena process in Oud-Charlois. It not only presented the transition team with great insights, but also generated commitment to the arena-process.

3.3 Facilitation methods for the community arena

This section outlines the objectives for each of the meetings of the community arena process and a range of facilitation methods to meet these objectives.

The list of facilitation methods is by no means exhaustive, it is a collection of methods that seem appropriate to meet the objectives and are mastered by the project partners. It is a 'living' part of this document and can be expanded when new methods become known etc. When selecting the appropriate (facilitation) methods for the community arena process it is necessary to also take into account the needs of the monitoring & evaluation framework next to the objectives of the meetings outlined below and the skills of the facilitator. Thus when designing your project-pilot specific process design, take the interrelations into account.

Some general points:

The duration and number of meetings are dependent on the context of the pilot study (e.g. commuting participants, free Friday afternoons etc.) and the content of the workshop (a vision workshop might take longer than a problem-structuring workshop). Usually, meetings last ½ a day (3 or 4 hours per meeting). If you decide to shorten the meetings, it is advised to plan more meetings (approximate total contact hours: 20). What is outlined here is the minimum number of meetings in order to cover the community arena process.

We foresee documentation as follows:

- Written input for the participants as preparation before the meeting.
- Internal script of workshops (outlining facilitation methods etc.).
- Minutes of the meeting.

There are different ways to do the documentation: (1) You could e.g. nominate three participants at each meeting to use the last 20 minutes to write a diary of the meeting, (2) You could use student assistance or volunteers, (3) You could also film or record the meetings and activities.

It is the transition team (consisting of the research team complemented by 1-3 local actors) that consolidates the outcomes of each meeting and prepares the input for the following meeting. You could consider having this work partly be done by participants. This asks for careful checking on your part whether the discussions are reflected in a balanced way and not in a way that favours the view of the ones performing the task. This is especially the case when it comes to the consolidation of the transition narrative.

Please check the objectives carefully; some of them might need to be changed to be applicable in your pilot area. e.g. Whereas one of the objectives indicates the explicit articulation of sustainability principles in one of the meeting, Wolfhagen starts with a clear focus on sustainable energy consumption, thus sustainable energy production and consumption will be at the centre of the community arena process.

For each of the methods we indicated the person of the research team who gave the suggestion so as to make it easier to get back to the person for more information on the method.

The U-process of Claus Otto Scharmer (2005) could be integrated in the community arena process if the facilitator is versed in applying it. In the U-process people are empowered to detach their thinking and behaviour from past experiences, to feel future potentials and emerging possibilities and thus create new behaviours. The process includes seven cognitive spaces that can be integrated in the steps of TM:

- Downloading: learning from the past (phase 2, meeting 1).
- Seeing: observation from outside (phase 2, meeting 1).
- Sensing: perception from within the field (phase 2, meeting 2).
- Presencing: perception from the source/highest future possible (phase 2, meeting 2).
- Crystallizing vision and intent: aha moment, learning from the future (phase 3, meeting 3).
- Prototyping: translate insight into concrete steps (phase 3, meeting 3).
- Embodying the new in practices, routines and infrastructures (phase 4).

3.3.1 Meeting 1: Participatory problem structuring

Phase 2 Problem Structuring & Envisioning

The overall objective of this meeting is first to get to know each other, elicit inner as well as outer problems and state these in a joint shared problem perception and last to commit to the process individually and as a group.

After the first meeting the following objectives will be achieved:

Table 3.2: Objectives meeting 1: participatory problem structuring

Substantive	Process (Group)	Individual
The system analysis has been discussed, validated and enriched.	The participants got to know and connected to each other.	The input of the individuals has been appreciated.
A shared problem perception & conceptual framework is reached.	The participants exchanged knowledge and perceptions.	Individuals have learned about sustainability & systems perspective and have an increased awareness about sustainability issues in their neighbourhood/ town.
The system perspective has been introduced.	The group has an increased awareness about sustainability issues in its neighbourhood/town.	Individuals have tasted the 'arena-feeling' – they feel part of whole to which they want to commit.
Sustainability aspects are introduced & potential sustainability principles articulated.	The group commits to a continuation of the process.	Individuals are increasingly aware of and articulate their needs (inner context) and strategies.
Barriers for sustainable behaviour are identified.	Inner context of the group is approached.	

Possible methods to achieve these goals:

'Quotations as introduction-method'[11]

In the transition arena Oud-Charlois 'sound-bites' and 'quotes' were taken from the actor analysis interviews and were posted on a wall during the first meeting (see figure 3.1). The participants had to select their 'favourite' and explain it. This really livened and opened up the discussion, because the problems and opinions are not brought in by external professionals (such as ourselves).

[11] Suggested by DRIFT (Frank van Steenbergen).

Figure 3.1: Quotations on wall during first meeting in Oud-Charlois

Laddering[12]

"Laddering is a method for eliciting the higher level abstractions of the constructs that people use to organize their world. The researcher taps into an individual's personal construct system and then follows it to the overarching values by exploring explanations for preferences at ever higher levels of abstraction. At the uppermost levels of explanation—the most superordinate of personal constructs—lie the individual's personal value priorities." (Bourne & Jenkins 2005) In terms of InContext; it helps you identifying the needs behind the strategies. The method is performed by using probes, meaning to 'peel back the layers' of the informant's experience by asking 'why' questions, i.e.: "Why is that (attribute/aspect) important to you?" You get to know what is important and why it is important; the needs behind the strategies.

Facilitated groups and plenary discussions[13]

In many workshops it works well to give pre-defined questions to random or pre-selected sub-groups, which discuss the questions in these sub-groups and report back in a plenary, which can be done by presenting main outcomes on flip-over sheets followed by a plenary discussion. Questions can focus on: the perspectives of the participants on the outcome of the system analysis, naming examples of unsustainable behaviour and/or mechanisms that reinforce it, identifying underlying root causes and shared problem definitions (e.g. people are only motivated by economics, we all wait for others to change, etc.).

'Questions in double circle'[14]

People stand in two circles; inner and outer counter-persons discuss questions in pairs asked by the facilitator, which address their problem perception, feelings, etc. questions have to be selected carefully, they can be used to direct current state to positive experiences, inner context). 2-3 rounds: pairs change each round. In this way, one gets to know 2-3 people from an inner point of view in a couple of minutes.

This method helps to get to know each other and approach the inner context.

---

[12] Suggested by DRIFT (Carolien Hoogland); more information see e.g. Bourne & Jenkins (2005).

[13] Suggested by TUDelft (Jaco Quist).

[14] Suggested by SERI.

Dynamic facilitation[15]

"Dynamic Facilitation is an open, chaired group discussion with a variable number of participants, ideally between 8 and 20. The method relies on the participants' creativity in finding a solution, and deliberately avoids conventional, linear facilitation structures. Dynamic Facilitation is particularly suitable for issues such that the definition of the problem, the solutions tabled and the objections to these solutions arouse emotions in the participants. The method is used extensively in organizational and management consulting, but can be transferred to other areas. It was originally developed by Jim Rough in the USA." (http://www.partizipation.at/dynamic_facilitation_en.html)

The method helps to make those issues explicit that really touch the participants and helps to already name creative solutions. It also supports the development of mutual trust within a defined group – which makes it well suited for the first meeting.

'Dialogue'[16]

The participants sit on chairs in a circle. A 'Talking Stick' (a wooden stick or a thick felt pen or stone or whatever) lies in the middle. In the 'Initial round' the initiator presents the issue at stake (In our case this could be: "What is the major issue (change topic) that we want to focus on in the transition arena?" Or "How can we make the topic that arose in the previous discussion more concrete?"). In the following 'Dialogue round' whoever has something to say takes the Talking Stick and speaks. When he or she has finished, the stick either goes back into the middle or is passed to the next person who puts their hand up. The Talking Stick moves around the circle in the order in which people put their hands up There are a few basic rules: "Only speak when you deem it is necessary", "Speak from the heart"; "Do not judge what the others said", "You can also take the stick and be silent or smile or dance or…."

This method helps to identify the common denominator of a group (focus of the transition arena). It is well suitable for a group that wishes to find a shared concern and can also be used as a method for seeing/pausing after the opening up during the dynamic facilitation.

Participative drafting of progress markers (monitoring indicators)[17]

Progress markers (which can be used as monitoring indicators) can be drawn up jointly with the participants of the community arena and thus is also a method of accessing inner context.

First so called 'outcome challenges' of the community arena which "describes how the behaviour, relationships, activities, or actions of an individual, group, or institution will change if the program [community arena] is extremely successful" (Earl et al 2001) are formulated. This can also be done in a participatory way. For an outline see Earl et al (2001).

For each of the outcome challenges progress markers are identified. This is done by asking questions such as "What do you want to achieve/get out of this process as individual?" and "If everything goes right what do you (1) expect, (2) like and (3) love to happen?" Progress markers are usually framed as follows: *Who? Is doing what? How?*

---

[15] Suggested by SERI.

[16] Suggested by SERI, shortened description from http://www.partizipation.at/dialogue.html.

[17] Suggested by DRIFT (Julia Wittmayer), see for more information Earl et al. (2001).

This can be done in the middle of the process and at the end, to see whether these indicators evolve, change etc.

3.3.2 Meeting 2: Participatory vision building

Phase 2 Problem Structuring & Envisioning

The overall objective of this meeting is to jointly design a shared vision based on guiding sustainability principles.

After the second meeting the following objectives will be achieved:

Table 3.3: Objectives meeting 2: Participatory vision building

Substantive	Process (Group)	Individual
Problem structuring and the identification of change topics are consolidated.	Vision is used as tool for learning about system thinking and radical system change.	Individual learning took place.
Guiding sustainability principles are confirmed.	Agreements and disagreements on vision are exchanged and esp. disagreements discussed.	Individuals identify with the vision and endorse it.
Input for vision and visionary images is collected.	Initial group endorsement for vision is given.	Individual needs, capabilities and strategies are related to vision (inner context is addressed).
	Inner Context of the group is addressed during vision building and in vision itself.	

Possible methods to achieve these goals:

Transition scenario development: TRANSCE[18]

A way to 'start' sustainability transitions is simply to imagine them. This can be done via transition scenarios. Sondeijker (2009) developed a novel conceptual framework and a method for transition scenarios. Transition scenarios are distinct from others scenario applications as they explicitly focus on transformative change. Such scenarios, in the context

[18] Suggested by DRIFT (Julia Wittmayer), see also Sondeijker, S. (2009).

of multi-actor, multi-phase and multi-pattern framework, can be defined as: participative explorations of possible long-term development trajectories in which the starting point is structural transformations of systems towards sustainability. Through a seven-step approach this model offers a strategic and operational method to connect different ideas and foster specific short/long-term agendas. In other words, transition scenarios are powerful tools that link the imagination of (rather abstract) sustainability transitions with specific multi-actor settings and a shared agenda.

Creativity sessions[19]

Brainstorming & Clustering.
Brainstorming is all about setting a good brainstorm question, e.g. How can we eat sustainably in 2030? or how can we achieve a sustainable community in 2030? Important rules of brainstorming sessions include 'no criticism', 'any idea is fine', 'associating on each other's ideas is stimulated' and 'separation of generating ideas and judging them'. It can be done plenary (in groups up to 12-15 people or by writing down on post-its). It works well to have 1-2 persons assisting the facilitator by writing down on flip-over sheets and hanging them on the walls. When the flow of ideas decreases, additional creativity tools can be applied by the facilitator. For making visions, selection of ideas is not really needed; it works better to cluster them into 'concepts' or idea clusters. This can for instance be done by inviting participants to walk along the flip-over sheets of ideas and to turn them into 1 or 2 clusters of ideas. These can be reported back to the plenary by the participants. These clusters can be input for further clustering and elaboration into (proto) scenarios.

Others are e.g. tell a dream, talk to your imagined grand children, use of metaphors, interview each other about the desired situation in the future, input by narrator, etc.

Creative methods can not only be used to generate ideas but also to settle the vision and disseminate it, e.g. through letting the group perform the vision in different settings (theatre, rap, interviews, etc).

Gradual idea elaboration[20]

Present a list of conceptual ideas or generated sustainability principles, e.g. zero- emission town, to the participants and ask them to elaborate and visualise these in sub-groups using pre-defined questions and invite them to report results back in a plenary.

World Cafe[21]

Café Conversations are an easy-to-use method for creating a living network of collaborative dialogue around questions that matter in service of the real work. A cafe setting is created with 4-5 people around one table, discussing the question while making notes on the table cloth. After a certain amount of time the designated table host stays while all other search for a new table to continue discussions. This is done about 3 times and the session is closed by a whole group discussion.

---

[19] Suggested by DRIFT/TUDelft/SERI.

[20] Suggested by TUDelft (Jaco Quist).

[21] Suggested by DRIFT/SERI; For more information see here http://www.theworldcafe.com/ or here http://www.theworldcafe.com/articles/cafetogo.pdf.

Future workshop[22]

"In a Future Workshop the participants are encouraged to develop imaginative, unconventional solutions to issues of current interest, by means of an atmosphere designed to promote creativity. It is suitable for developing visions, e.g. when a statement of principles, a development scenario, a far-reaching project for the future etc. is to be put together or where new, creative solutions for existing problems or issues are to be found." (http://www.partizipation.at/future-workshop.html)

Collage technique for vision building[23]

Collage construction is deemed well suited to scenario development as it overcomes some of the problems of verbal communication techniques (Saunders 2009; Kasemir et al. 2003). The collage technique could be used to illustrate the vision itself as well as the inner context (e.g. How do you feel in this community in 2030?). The collage technique might be useful in generating good illustrations of the vision (alternatively an illustrator could do illustrations in parallel to the discussions). Besides the illustrations, also a written narrative is needed.

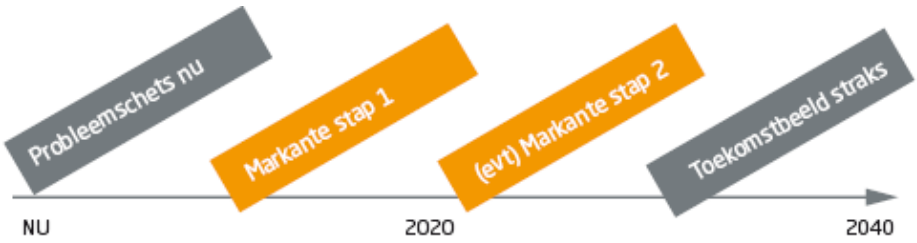
Perspectives workshop[24]

This workshop supports in outlining a variety of things, the problems perceived in the present, the long term vision as well as possible dominant pathways. The workshop can be adapted to highlight any of these three aspects. A standard version is described here:

In a first step everybody is asked to outline pathways for the next 5 to 40 years (depending on the context, within InContext we would aim for Carnisse 2030) in 3 to 4 steps on post-its (figure 3.2). In a second step these post-its are put on a pre-prepared timeline on the wall and explained to the group (figure 3). Discussion can be facilitated during the putting of the post-its or at a later stage by extricating dominant pathways. This is done along four questions:

- Where are we standing now?
- Where do we want to go? Where do we not want to go?
- How do we get there?
- What are potential first steps

Figure 3.2: Individual preparation (source: Diepenmaat 2009)



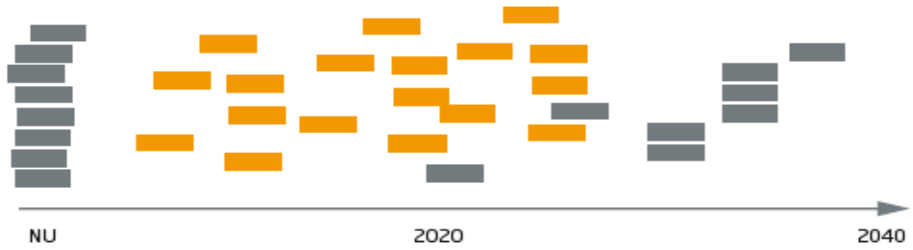
Source: Diepenmaat 2009

[22] Suggested by SERI, for more information see here http://www.partizipation.at/future-workshop.html

[23] Suggested by SERI.

[24] Suggested by DRIFT (Julia Wittmayer), for more information see Diepenmaat, H. (2009).

Figure 3.3: Outcome on the wall



Source: Diepenmaat 2009

3.3.3 Meeting 3: Participatory backcasting

Phase 3 Backcasting, Pathways & Agenda Building

The overall objective of this meeting is to generate transition paths leading from the current situation to the vision.

After the third meeting the following objectives will be achieved:

Table 3.4: Objectives meeting 3: Participatory Backcasting

Substantive	Process (Group)	Individual
Change topics, vision and visionary images are consolidated.	Perceptions are exchanged, group awareness increased & learning took place.	Individuals let go of the idea that everything can be engineered and begin to understand the working of complex systems.
Backcasting analysis is done: input for agenda and transition paths are identified per change topic & visionary image.	The group is committed to the vision.	Individuals (at the same time) feel that they can have an impact and seize opportunities / contributions for themselves and their environment.
Expected drivers and barriers are identified.	Increased awareness of potential changes, mechanisms and actor contributions.	Individual needs and strategies are related to transition paths.
All input for writing up the transition narrative is collected.	The group realized the possible, collective impact of the shared narrative.	

Methods to achieve these goals:

Backcasting[25]

This is based on a facilitated individual, group & plenary session, structured by WHAT should change, HOW changes could be realised and WHO should contribute to changes and their activities.

After presenting the vision including its goals, the questions for individual or group work are:

- WHAT changes (cultural, structural, institutional, organizational, technological) are needed to bring about the vision and the included goals?
- WHAT changes are needed at the individual level (needs, capabilities, strategies)?
- HOW have these changes been brought about, through what kind or process?
- WHO is needed to realize these changes and what should they do as a next step (use different societal groups as a checklist: government, business, research/knowledge, citizens/public, NGO's)?

Working on these questions can be done in self-facilitating sub-groups who report back plenary. The work can be facilitated by drawing a table with one column per question: what, how, who. This can be extended by defining pathways towards the vision and defining activities and development for a certain period (e.g. periods of 10 years). It is also possible to combine the backcasting analysis described above with the individual method suggested below.

Individual backcasting[26]

This method helps to find out how the participants feel in the vision. When developing the "last necessary step" to reach the common vision the participants individually reflect on how (s)he feels, what (s)he needs, which experiences (s)he has made/wants to make in this step, how culture/values/strategies to fulfil needs have changed, etc. Steps can be identified individually by each participant and then need to be selected and (if possible and meaningful) merged or can be developed in the sub-groups mentioned above.

[25] Suggested by TUDelft (Jaco Quist), see also Quist (2007).

[26] Suggested by SERI.

3.3.4 Meeting 4: Formulation agenda, specific activities & transition experiments

Phase 3 Backcasting, Pathways & Agenda Building

The overall objective of this meeting is to jointly formulate the transition agenda as a compass for future action, split into sub-groups and close the original arena process.

After the forth meeting the following objectives will be achieved:

Table 3.5: Objectives meeting 4: Formulation agenda, specific activities & transition experiments

Substantive	Process (Group)	Individual
The arena is split up in sub groups according to transition paths.	The group is eager and committed to continue with specific activities and transition experiments.	Individuals are committed to continue with specific activities and transition experiments.
Transition agenda is set up: specific activities and transition experiments are agreed upon.	The group feels responsible for realizing the vision.	Individuals know what they can do to contribute to a realization of the vision.
A date is set for publication & dissemination of the transition narrative.		
'Closure' of original arena process. Strategy for broadening of the arena and support for phase 4 is agreed upon.		

Methods to achieve these goals:

Coalition building[27]

For coalition building there are several methods you can choose from:

- During the transition arena Oud-Charlois DRIFT started working with several subgroups (one for building networks; one for redeveloping a square; one for a green

[27] Suggested by DRIFT (Frank van Steenbergen); for the action arenas in the long term care transition in the Netherlands, see also: Wittmayer (2011).

Oud-Charlois; and one for starting up a welcoming committee). More than 20 meetings were held within the subgroups of Oud-Charlois in a one-year period. The output of the sub-groups was more operational, and can be seen as transition experiments. Around these experiments new participants (with certain expertise, influence, etc.) were introduced.

- In the long term care transition, DRIFT worked with so-called 'action arenas' (Wittmayer 2011) where small one-time meetings on the visionary images were held.
- Another method DRIFT applied were 'networking skills', where the participants introduced one or two new people every (sub-)meeting. Also, two 'policy meetings' were held where people from the local municipality, housing corporations, welfare organizations, local entrepreneurs , etc. were informed about the transition narrative that was developed in the arena, and were encouraged to take over some of the experiments that were implemented.
- Theoretical insights on social capital can be used within coalition building, such as the works of Putnam (1993) on bonding and bridging social capital and Bourdieu (1986).

Open Space[28]

The approach is characterized by five basic mechanisms:

- A broad, open invitation that articulates the purpose of the meeting.
- Participant chairs arranged in a circle.
- A 'bulletin board' of issues and opportunities posted by participants (thus an initially empty agenda where participants can pose e.g. the pathway they want to further elaborate, the project they want to initiate and are seeking help for etc.).
- A 'marketplace' with many breakout spaces that participants move freely between, learning and contributing as they "shop" for information and ideas.
- A 'breathing' or 'pulsation' pattern of flow, between plenary and small-group breakout sessions.

3.3.5 Meeting 5: Participatory evaluation

Phase 5: Monitoring & evaluation

The overall objective of this meeting is to review and reflect upon the outcomes of the community arena process in terms of substance, discourse, activities and methodology.

[28] Suggested by DRIFT/SERI; more information: http://www.openspaceworld.org/cgi/wiki.cgi?.

After the last meeting the following objectives will be achieved:

Table 3.6: Objectives meeting 5: Participatory evaluation

Substantive	Process (Group)	Individual
Substantive outcomes of the activities and experiments are evaluated.	Community arena as methodology is evaluated.	Individual learning experiences are evaluated (in relation to needs, capabilities and strategies).
Substantive outcomes of the whole community arena process are evaluated (in regard to inner and outer context and methodology).	Group process is evaluated.	Own role within arena is evaluated.
	Transition narrative is evaluated.	

Methods to achieve these goals:

Timeline workshop[29]:

This workshop is suitable for jointly reflecting on project events and takes about 2-4 hours. All the events of the process are organised and put together in a timeline as preparation for the workshop. At the beginning of the workshop the moderator enumerates the events (without judgement) and all participants make associative notes. They may only speak up to complete or correct the story told. Once all participants approve the story, they get 15-30 minutes to interpret the events (key moments, high and lows within the process and also to assess this interpretation (why was there friction at that point, etc.). Reflections are written as keywords on a post-it and the top three comments are selected by each participant. One participant starts with putting it on the timeline, others join – events interpreted differently are discussed for longer. These discussions yield insights into conflicts that have usually not been made public earlier. The outcome of the workshop depends on the objectives and can include, making choices for follow-up steps, writing a project narrative listing key highs and lows for use in final report etc.

Eye-Opener Workshop[30]

This workshop is suitable to extract reflections, lessons learnt and future use of new knowledge and lessons for individuals. Tell the participants what is going to happen, let them introduce themselves and state their learning objectives. A project narrative is told at the beginning of the workshop (e.g. with the help of a timeline) which is not analytical but descriptive. Participants take as many notes as possible while listening (associations, ideas,

[29] Suggested by DRIFT (Julia Wittmayer); for more information see Mierlo et al (2010).

[30] Suggested by DRIFT (Julia Wittmayer); for more information see Mierlo et al (2010).

eye-openers, questions, feelings etc.) and then have 15 minutes to order their reflections and put them down on Post-Its. Make them choose their most important eye-opener – these eye-openers are discussed, followed by the rest of the Post-Its. Then the participants are asked which information they are still missing so that they are able to answer questions relating to their own field of work and discuss how they can obtain it. In a last step the participants reflect on which eye-openers are relevant for their own situation and why and express these as 'lessons for the future'. They are asked what changes they are going to make in the current situation as a result of the lessons of this workshop which becomes their individual future activities agenda – participants may note this down in 15 minutes and then share both the lessons and the agendas.

Other methods that can be used in different phases and meetings (or e.g. for monitoring)

Connectivity interview[31]

The main idea behind this interview methodology is to build a basis to strengthen the connection between people via their inner context. For this, we use some techniques from Nonviolent Communication (Rosenberg 2001). Non Violent Communication structures communication processes in 4 steps that are designed to create connection between the communicating partners based on their inner context, particularly their feelings and needs. Using these steps in an interview (a) makes interviewees familiar with this structure, (b) gives a basis for the facilitator of the next round to build on results that everybody can relate to positively.

In our context, these three steps are of high importance to help the interviewee:

- Expressing their observation of a situation without judgement or evaluation.
- Expressing feelings separated from thoughts.
- Expressing their needs separated from their strategies to meet these needs.

Narration based interview/problem-centred interview[32]

The problem-centred interview integrates both, interviewing methods based on story telling and topical interviewing. Scheibelhofer (2008) considers problem-centred interviewing as "especially helpful for research endeavours that focus on biographical experiences and orientations from individuals' perspective" (which fits the InContext aims). In the first phase of interviewing there is minimal structure, whereas the second phase is a semi-structured interview that allows for a focus set by the researcher.

[31] Suggested by UFZ (Felix Rauschmayer), text is an extract of Rauschmayer (2011), see also Rosenberg (2001).

[32] Suggested by UFZ (Stefanie Baasch), for more information see Scheibelhofer (2008).

Dynamic learning agenda[33]

This technique supports in linking long-term aims to concrete perspectives for change by formulating the challenges that arise, recording them and keeping track of them. The agenda is a document that contains the challenges the project faces summarised in second order learning questions. It casts light on the system changes that are needed to achieve project ambitions by reformulating the system changes as learning questions: outer barriers (the government does not do xxx) are not longer seen as external but used as point of leverage for strategies that the project needs to develop. The questions formulated are done so using the language and world view of the participants themselves. The agenda is dynamic as it changes throughout the process.

This technique helps in explicating and furthering second order learning as well as commencing and supporting the dialogue about the challenges faced by the project. It can be part of every meeting.

Focus groups for evaluation & feedback of image, agenda and pathways[34]

Focus groups are a method in which various homogenous groups are invited to discuss a predefined topic; it is in particular used for applied marketing research at firms, but is also used by academics for qualitative research, for instance on sustainability topics or sustainability solutions. In the Sustainable Households project (see paragraph 2.2), it was adjusted to evaluate visions from a consumer acceptance perspective using three different kinds of focus groups to get different kinds of feedback: mainstream, dynamic (early adopters) and green.

The focus group methodology works as follows. The visions were presented by the moderating researcher using visuals and questionnaires were filled out individually. Then the focus group meeting involved a focused, moderated discussion following a prescribed questioning route. The questioning route began with an opening question about recent experiences related to the function depicted in the visions. Introductory questions followed about the group's specific interpretation of the current function-related state. Next, there were questions about differences between the current and the depicted future state of the function, followed by discussion on questions about possible adoption, benefits, barriers and improvements of the visions. The focus group ended with summarising questions and the opportunity for group feedback on the process. The ‘core’ focus group questions were:

- "Could you imagine yourself in the presented vision?" (referring to the adoption).
- "Where do you see the specific advantages of the vision?" (referring to benefits).
- "Where would you see the specific problems for your own adoption of the vision?" (referring to barriers).
- "What would you like to use today?" (referring to outstanding aspects).
- "How would you improve this vision?" (referring to improvements).

[33] Suggested by DRIFT (Julia Wittmayer); for more information see Mierlo et al (2010).

[34] Suggested by TUDelft (Jaco Quist).

Mindmapping[35]

A mindmap is a graphical representation of a particular subject, showing the (associative or other) relations of the subject to other issues. As opposed to a written text, it allows you to show this relationship in a visual manner. As such, it is a practical tool for harvesting the outcome of brainstorm sessions, interviews or your personal creative processes.

3.4 Monitoring and evaluation framework for the community arena

This section outlines the generic monitoring and evaluation framework version 1 that the WP4-partners agreed on. It is a framework on which every pilot partner can base context-specific indicators as well as evaluation methods (examples of which are given).

The framework presented here needs further operationalization before it can be put into use in the pilot project areas. It is a 'living' part of this document and will be expanded and adapted according to the level of comparability needed in the pilot projects, the final research question and sub-questions as well as the context it is applied to. When selecting appropriate monitoring & evaluation methods also take into account possible facilitation methods and the skills of the facilitator. Thus, when designing your project-pilot specific process design, take the interrelations into account.

Why do we monitor/evaluate and what is it?

Monitoring and evaluating is a process which not only supports the participants in their learning experiences (e.g. creating awareness), but we also learn what and why methodological and theoretical approaches work. Both processes are preferably of a participatory nature. Evaluation and monitoring can be seen as an instrument to enable and make explicit social learning processes (Loorbach, 2007, Taanman, forthcoming).

When doing transition monitoring:

- The transition activity (e.g. the community arena) is followed over time.
- A description of what happens is made using indicators or a framework.
- Reflection on the description takes place (in a group), by putting it in a wider context.
- Interventions are implemented if change does not occur in the desired/expected direction.

The monitoring & evaluation will support the pilot projects in the following:

- Communicate with stakeholders.
- Justify investment to investors and other stakeholders.
- Learn (participants, researchers).
- Adjust and improve the community arena process (participants, transition team).

[35] Suggested by DRIFT (Carolien Hoogland); for more information see Buzan (2000).

By monitoring and evaluating our activities we will be able to describe these to other potential users of the methodologies. We can reflect on and intervene into ongoing activities and we will be able to draw conclusions and recommendations for policy makers. Another goal is to derive common findings from our approach. (Some of) the methods used for monitoring & evaluation are at the same time intervention methods, such as e.g. individual interviews, or participatory drafting of monitoring indicators. As such the relation between methods used for monitoring and evaluation as well as those used towards achieving other objectives should be thought through thoroughly.

The monitoring & evaluation framework, version 1.0

In the monitoring & evaluation framework we aimed to create as much synergy between monitoring and evaluation as possible. The framework can be used at several points in time during the process, e.g. at the end of each phase (what is referred to as monitoring or reflexive evaluation) or for evaluating at the end of the complete process.

First column: Monitoring levels

We propose to monitor & evaluate changes, outputs & outcomes on the following levels (including the interaction between these levels):

- Methodology (community arena as a method, including methods to address the inner context).
- Individual arena participant (individual inner & outer context).
- Transition initiative, i.e. the community arena (group inner & outer context).
- Transition field, i.e. the system or neighbourhood / town (outer context).

Second column: What do we want to find out?

Next we asked ourselves, what is it we want to monitor and evaluate? Regarding our methodology (level 1) we are interested in a reflection on the methods that were chosen for facilitating the arena and the meetings, as well as a reflection on the effectiveness of the community arena as a whole.

For the monitoring levels of the individual and the community arena group (level 2 and 3), we have made a distinction between outcome in terms of inner context and output in terms of the outer context.

Regarding the transition field (level 4) we are interested in processes of change in structure, culture and practices of the neighbourhood or town.

Third column: Possible indicators

In the third column, we subsequently operationalize the results we want to see as indicators. For example, when monitoring/evaluating the output of monitoring level 2 and 3, we defined three categories of indicators: artefacts, activities and discourse. Below we give some examples of what we are referring to:

- Artefacts/objects: on the individual level we look at interviews and individual notes. On the group level we look at minutes, vision, and transition agenda.
- Activities: on the individual level we look at the extent to which behaviour has changed, the extent to which other activities inspired by the arena work have been deployed. On the group level we look at experiments, participation, and behaviour.
- Discourse: on the individual level we look at the extent to which the personal narrative regarding the neighbourhood/town has changed. On the group level we look at a possible new narrative, slogans, and concepts.

Fourth column: Possible methods

In this column possible methods for data gathering & data analysis are suggested.

The main methods for accessing data are:

- Participant observation during meetings
- Informal contacts with participants between meetings
- Interviews with arena participants at different moments of the process
- Questionnaire at the end of each meeting
- Evaluation meeting
- Large scale (online) survey of transition field at different moments of the process
- Participant diaries/logbooks.

The methods for analysis:

- Narrative and or discourse analysis of the interview and meeting data
- Institutional analysis of structures and mechanisms in the outer context (rules, regulations, policy, availability of resources, etc.).

Participatory drafting of progress markers (monitoring indicators)

Progress markers (which can be used as monitoring indicators) can be drawn up jointly with the participants of the community arena and this is also a method of accessing inner context.

First so called 'outcome challenges' of the community arena which "describes how the behaviour, relationships, activities, or actions of an individual, group, or institution will change if the program [community arena] is extremely successful" (Earl et al 2001) are formulated. This can also be done in a participatory way. For an outline see Earl et al (2001).

For each of the outcome challenges progress markers are identified. This is done by asking questions such as "What do you want to achieve/get out of this process as individual?" and "If everything goes right what do you (1) expect, (2) like and (3) love to happen?" Progress markers are usually framed as follows: *Who? Is doing what? How?*

This can be done in the middle of the process and at the end, to see whether these indicators evolve, change etc.

Table 3.7: Monitoring & Evaluation framework (version 1)

	What do we want to find out?	Possible indicators	Possible methods for data gathering and analysis
Methodology (community arena)	1. Usefulness of the community arena methodology with regard to the intended outcomes	• Extent to which goals of meetings and phases are achieved	• Participant observation of group • Reflexivity in open setting • Qualitative interviews • Formation of optional subgroups • Questionnaire at end of process
	2. Usefulness of facilitation methods (incl. those addressing the inner context) with regard to the intended outcomes	• Response to facilitation methods in arena meetings • Level of contribution of facilitation methods to goals of meetings	• Gather workshop scripts & minutes incl. reflections of transition team on the meetings • Short questionnaire at end of each meeting • Participant observation of group
Individual (arena participant)	3. **Outcome** of the participation in terms of inner individual context	• Awareness about needs: a) own needs; b) other people's needs; c) future needs • Awareness about how strategies relate to needs • Perceived capability to influence one's own local environment	• Laddering • Qualitative (connectivity) interviews • Attributional Study Questionnaire
	4. **Output** of the individuals in terms of outer context & behaviour	• Indicator categories (for examples see outline above): • Artefacts/Objects • Activities • Discourse	• Participant observation during meetings and experiments • Qualitative interviews • One-on-one (informal) contact in between meetings

			• Individual exercises during meetings • Narrative analysis • Diaries/logbooks
Transition initiative (community arena)	5. **Outcome** of the community arena in terms of inner group context	• Collective interpretation of sustainability/well being • Increased feeling of collectivity • Increased collective awareness of change topics • Increased awareness of (collective) needs and strategies	• Participant observation during meetings and experiments • Qualitative interviews • Questionnaire at end of process to all participants • Narrative analysis
	6. **Output** of the community arena in terms of outer context & behaviour	• Indicator categories (for examples see outline above): • Artefacts/Objects • Activities • Discourse	• Participant observation during meetings and experiments • Facilitating the arena (writing minutes, reports, etc.) • Group exercises during arena
Transition field (neighbourhood, town)	7. Relevant changes in physical and non-physical elements of **structure** (institutions, rules and regulations), **culture** (narrative, language, perspectives) & **practices** (routines, behaviour) of the transition field	• References to output of community arena (in press articles, policy documents, etc,) • External actors: interest in the process and # of those that got involved • Adoption of narrative & activities by externals • Level of contribution and commitment from outside to arena process and experiments • Anchoring of activities & experiments	• Follow (local) press articles and policy documents (discourse analysis) • Follow narrative of policy makers and other 'externals' (discourse analysis) • Follow contribution and commitment from outside to arena process (institutional analysis) • Large scale (online) survey

4 References

Argyris, C. & Schön, D. (1978) Organizational Learning: a theory of action perspection, Reading MA: Addison-Wesley.

Argyris, C. & Schön, D.A. (1996) Organizational Learning II: Theory. Methods and Practice, Reading, MA, Addison-Wesley.

Bourdieu, P. (1986) The forms of capital. In Richardson, J. (Ed.) Handbook of theory and research for the sociology of education. Greenwood, New York: 241-258.

Bourne & Jenkins (2005) Eliciting Managers' Personal Values: An Adaptation of the Laddering Interview Method Organizational Research Methods 8(4): 410-428 (doi: 10.1177/1094428105280118)

Brookfield, S.D. (1987) Developing Critical Thinkers: Challenging Adults to Explore Alternative Ways of Thinking and Acting, Open University Press.

Buzan, T. (2000). The Mind Map Book, Penguin Books.

Carlsson-Kanyama A, KH Dreborg, HC Moll & D Padovan (2008) Participative backcasting: a tool for involving stakeholders in local sustainability planning." Futures 40(1): 34-46.

Cuppen, E (2010). Putting perspectives into participation: Constructive conflict methodology for problem structuring in stakeholder dialogues, PhD thesis, Free University of Amsterdam.

Diepenmaat, H. (2009) Multi-actor Procesmanagement: een praktische introductie. Leren voor duurzame ontwikkeling/ActorsBV, Zeist.

Drehborg, KH (1996) Essence of backcasting, Futures 28 (9): 813-828.

DRIFT (2011) Transitiemanagement: Methods & Tools Overzicht; Internal document.

Dirven, J., Rotmans, J. & A. Verkaik (2002), Samenleving in Transitie. Een vernieuwend gezichtspunt, LNV, ICIS en Innovatienetwerk Groene Ruimte in Agrocluster, Den Haag.

Flood, R. (1990) Liberating Systems Theory, Plenum, New York.

Eames, M. & J. Egmose (2011, in press), Community foresight for urban sustainability: Insights from the Citizens Science for Sustainability (SuScit) project, Technological Forecasting and Social Change, in press.

Earl, S., Carden, F. & T. Smutylo (2001) Outcome Mapping. Building Learning and Reflection into Development Programs. International Development Research Centre, Ottawa: Canada. Available online at http://www.idrc.ca/openebooks/959-3/#page-3

Garmendia, E. & S. Stagl (2010) Public Participation for Sustainability and Social Learning: concepts and lesions from three case studies in Europe, Ecological Economics (69): 1712-1222.

Giddens A (2009) The politics of climate change, Polity Press, Cambridge UK.

Green K & P. Vergragt (2002) Towards sustainable households: a methodology for developing sustainable technological and social innovations, Futures 34: 381-400.

Grin, J. & H. Van de Graaf (1996) Implementation as communicative action: an interpretive understanding of the interactions between policy makers and target groups, Policy Sciences, 29 (4): 291-319.

Grin J, Felix F, Bos B & S. Spoelstra (2004) Practices for reflexive design: lessons from a Dutch programme on sustainable agriculture, International Journal of Foresight and Innovation Policy 1: 126-149.

Grin, J. & A. Loeber (2007) Theories of learning. Agency, structure and change, chapter 15 (p. 201-222) in Frank Fischer, Gerald J. Miller, Mara S. Sidney (eds.) Handbook of Public Policy Analysis. Theory, Politics, and Methods, CRC Press, New York.

Grin, J., Rotmans, J. & J. Schot (2010) Transitions to Sustainable Development: new directions in the study of long term transformative change, Rouledge, New York.

Hisschemöller, M. & R. Hoppe (1996). Coping with intractable controversies: the case of problem structuring in policy design and analysis. Knowledge and Policy: the International Journal of Knowledge Transfer 8(4): 40-60.

Holmberg, J (1998) Backcasting: a natural step in operationalising sustainable development, Greener Management International 23: 30-51.

Isaacs, W. (1993) Taking flight: dialogue, collective thinking, and organizational Learning, Organizational Dynamics, 22 (2): 24–39.

Kasemir, B., Dahinden, U., Gerger Swartlin, A., Schibli, D., Schuele, R., Tabara, D. & C.C. Jaeger (2003). Collage processes and citizens' visions for the future. In Kasemir, B. Jäger, J., Jaeger, C.C. & M. Gardner (eds) Public Participation in Sustainability Science. A Handbook., Cambridge University Press: 81-104.

Kemp, R. & S. Van den Bosch (2006) Transitie-experimenten. Praktijkexperimenten met de potentie om bij te dragen aan transities. Essay 01. Delft/Rotterdam, KCT.

Kofman, F. & P. Senge (1993) Communities of commitment: the heart of learning Organizations, Organizational Dynamics 22 (2): 5–23.

Kok K, Rothman DS & M. Patel (2006a) Multi-scale narratives from an A perspective: Part I, European and Mediterranean scenario development, Futures 38: 261-284.

Kok K, Patel M, Rothman DS & G. Quaranta (2006b) Multi-scale narratives from an IA perspective: Part II, participatory local scenario development, Futures 38: 285-311.

Lovins AB (1977) Soft energy paths: toward a durable peace, Friends of the Earth Int / Ballinger Publishing Company, Cambridge MA.

Loorbach, D. (2007) Transition Management: new mode of governance for sustainable development, International Books, Utrecht, Erasmus University Rotterdam.

Loorbach, D. (2010) Transition Management for Sustainable Development: a perspective, complexity based governance network, Governance, 23 (1): 161-183.

Loorbach, D. & J. Rotmans (2006) Managing transitions for sustainable development, in Understanding Industrial Transformation. Views from different disciplines, X. Olshoorn, Wieczorek, A. J., Editor. Springer: Dordrecht

Loorbach, D. & J. Rotmans (2010) The practice of transition management: Examples and lessons from four distinct cases. Futures doi:10.1016/j.futures.2009.11.009

Max-Neef, M.A. (1991) Human Scale Development Conception, Application and further Reflections. New York: The Apex Press.

Mierlo et al (2010) Reflexive Monitoring in action. A guide for monitoring system innovation projects. Wageningen/Amsterdam: Communicatie en Innovatiestudies WUR; Athena Instituut VU. (downloadable at http://www.com.wur.nl/UK/publications/RF)

Pahl-Wostl, C. (2002) Towards sustainability in the water sector: the importance of human actors and processes of social learning, Aquatic Sciences 64: 394–411.

Putnam, R. (1993) Making democracy work. Civic traditions in modern Italy. Princeton, NJ, Princeton University Press.

Quist J (2007) Backcasting for a sustainable future: the impact after ten years, Eburon Publishers, Delft NL, ISBN 978-90-5972-175-3.

Quist J, Knot M, Young W, Green K & P. Vergragt (2001) Strategies towards sustainable households using stakeholder workshops and scenarios, Int J of Sustainable Development (IJSD) 4(1): 75-89.

Quist J, Rammelt C, Overschie M & G. de Werk (2006) Backcasting for sustainability in engineering education: the case of Delft University of Technology, Journal of Cleaner Production 14: 868-876.

Quist J, Thissen W, Vergragt P, (2011, in press) The impact of Backcasting after ten years: from vision to niche, Technological Forecasting & Social Change, doi:10.1016/j.techfore.2011.01.011

Schäpke, N. &, F. Rauschmayer (2010) The Cornerstones of InContext – Individuals in Context. Discussion Paper. UFZ.

Rauschmayer, F., I. Omann & J. Frühmann (2011) Sustainable Development: Capabilities, Needs, and Well-Being. London, Routledge

Rauschmayer, F. (2011) Guidelines for a connectivity interview, Internal InContext document.

Raven, R., Van den Bosch, S. & Wetering, R. (2007) Strategic Niche Management and Transition Experiments. From analytical tool to a competence kit for practitioners. Paper for the 4th Dubrovnic Conference on Sustainable Development of Energy Water and Environment Systems, June 2007, Croatia.

Reason, P. & H. Bradbury (2010). Introduction In: Action Research. Participative inquiry and research. London: Sage.

Robinson J (1990) Futures under glass: a recipe for people who hate to predict, Futures 22: 820-843.

Robinson J (2003) Future subjunctive: backcasting as social learning, Futures 35: 839-856.

Rosenberg, M. (2001). Nonviolent Communication: A Language of Life. Encinitas, CA, Puddle Dancer Press.

Rotmans, J. (2005). ‘‘Societal innovation: between dream and reality lies complexity’. Inaugural Address, Erasmus University of Rotterdam, Rotterdam.

Rotmans, J., Kemp, R. & M. van Asselt (2001). More evolution than revolution. Transition management in public policy. Foresight, Vol. 3, No. 1: 15-31

Rotter, J.B. (1982) The Development and Application of Social Learning Theory. New York: Praeger.

Saunders, Stephen Graham (2009). Scenario planning: a collage construction approach. Foresight VOL. 11 NO. 2, pp. 19-28,

Scharmer, C.Otto (2005). Theorie U. Von der Zukunft her führen: Presencing als soziale Technik. Carl Auer Verlag

Scheibelhofer, Elisabeth (2008) 'Combining Narration-Based Interviews with Topical Interviews: Methodological Reflections on Research Practices', International Journal of Social Research Methodology, 11: 5, 403 - 416

Schein, E. (1993) On dialogue, culture, and organizational learning, Organizational Dynamics 22: 40–51.

Seligman, M.E.P. (1975) Helplessness. San Fransisco: Freeman.

Sondeijker, S.A.G.C., Geurts, J.L.A., Rotmans, J. and Tukker, A. (2006). Imagining Sustainability: The added value of transition scenarios in transition management. Foresight, Vol,8, No. 5, pp. 15-30

Sondeijeker, S. (2009). Imagining Sustainability. Methodological Building Blocks for Transition Scenarios. PhD Thesis. Erasmus University Rotterdam. (Downloadable here: http://repub.eur.nl/res/pub/17462/Saartje%20Sondeijker.pdf)

Taanman, M. (forthcoming) Looking for transitions. A monitoring approach to improve transition programmes. Phd Thesis, Erasmus Universiteit Rotterdam.

UN/Habitat (2001) Tools to support participatory urban decision making. United Nations Centre for Human Settlements (Habitat), Nairobi.

Van de Kerkhof M (2004) Debating climate change: a study of stakeholder participation in an integrated assessment of long-term climate policy in the Netherlands, PhD thesis, Free University, Amsterdam.

Van Buuren, A. & Loorbach, D. (2009) Policy Innovation in Isolation? Conditions for policy renewal by transition arenas and pilot projects. Public Management Review Vol 11, issue 3: 375-392

Van den Bosch, S. & J. Rotmans (2008) Deepening, Broadening and Scaling up. A framework for steering transition experiments. Essay 02. Delft/Rotterdam, KCT.

Van den Bosch, S. (2010) Transition Experiments. PhD Dissertation, Erasmus Universiteit Rotterdam.

Vergragt, PJ & J. Quist (2011) Backcasting for Sustainability: introduction to the Special Issue, Technological Forecasting & Social Change 78: 747-755.

Wangel J (2011), Exploring 'the social' in backcasting studies for sustainable development, Technological Forecasting and Social Change, in press.

Weaver P, Jansen L, Van Grootveld G, van Spiegel E, Vergragt P (2000) Sustainable technology development, Greenleaf Publishers, Sheffield UK.

Wittmayer, J. & J. Neuteboom (2011) Working Paper. Exploring a transition movement in health care: observations, insights and inspiring examples. DRIFT, Rotterdam.

Wittmayer, J. (2011) Moving towards a transition movement in healthcare. Paper presented at IRSPM 15 Dublin, Ireland: April 11 – 13, 2011