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Pathways, Transitions and Backcasting for Low-Carbon and
Sustainable Lifestyles

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Pathways, Transitions and Backcasting for low-carbon and sustainable lifestyles

Overview and Introduction

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Introduction

Local sustainability has been on the agenda since 1992 when at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro Agenda 21 was adopted. A decade later, sustainable consumption was put on the international policy agenda during the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002. Ever since, a range of approaches has been applied to foster local sustainability, sustainable consumption and sustainable lifestyles; it should be noted that these concepts are related and cannot be easily separated. The range of approaches to facilitate sustainability in consumption and local settings includes Local Agenda 21, behavioural approaches - sometimes referred to as ABC (Attitude, Behaviour, Choice, for a critical discussion see Shove 2010) -, and green innovation oriented approaches. Despite their relevance, all these approaches have shown limitations too. For instance, behavioural approaches have been constrained by the so-called awareness-behaviour gap (e.g. Shove 2010). In addition, green innovations and technologies have not only led to rebound effects (Hertwich 2005), but also contributed to further economic growth, which has come along with increasing use of resources and shifting production and its environmental burden to other parts of the world.

More recently, a systemic, multi-disciplinary and multiple-domain approach was proposed connecting sustainable consumption and production (SCP) in the EU funded SCORE! (Sustainable Consumption Research Exchanges) network project (Tukker *et al.* 2008). Building on the Oslo declaration on sustainable consumption (Tukker *et al.* 2006), the SCORE! Project used as starting points (i) that targeting sustainable consumption is not possible without taking the production perspective into account, (ii) that bringing about SCP requires collaboration of actors and experts from several domains including consumption, system innovation policy, design and business development, and (iii) that challenges for SCP are different for different types of economies like developed, emerging and bottom-of-the pyramid economies (Tukker *et al.* 2008: 6-7). SCORE! inspired the establishment of SCORAI (Sustainable Consumption Research & Action Initiative) network in Northern America and its 2012 offspring SCORAI

Europe. SCORAI promotes and facilitates exchange and discussion between researchers and practitioners from domains relevant for SCP through workshops and meetings, (e.g. Cohen *et al.* 2013, Cohen *et al.* 2010, Lorek and Backhaus 2012, SCORAI Europe 2013, see also <http://scorai.org/>). Recent developments in sustainable consumption include an emerging interest in social practices and transition approaches to (e.g. Seyfang and Haxeltine 2012, Spaargaren *et al.* 2012), which includes employing transition management and backcasting for developing long-term futures and pathways for sustainable consumption and sustainable communities (e.g. Quist *et al.* 2001, Carlsson-Kanyama *et al.* 2007, Mont *et al.* 2013, Nevens *et al.* 2013, Wittmayer *et al.* 2011, Doyle and Davis 2013). The latter also includes a renewed interest in action research and facilitating agency for change *towards* sustainable consumption and communities (e.g. Wittmayer *et al.* 2013). Since the economic crisis, sustainable consumption has also been related to austerity (e.g. O’Riordan 2012), social economies (e.g. Sahakian 2012), de-growth (e.g. Schneider *et al.* 2010) and going beyond green growth (Lorek and Spangenberg 2013). Of course, pleas for a steady-state economy (as proposed by Herman Daly) and for prosperity without growth (Jackson 2009) have already been around for some time.

The growing interest in long-term and systemic approaches to sustainable consumption and communities was also clear in the 2009 EU call ‘ENV.2010.4.2.3-1 Foresight to enhance behavioural and societal changes enabling the transition towards sustainable paths in Europe’. It called for bottom-up approaches addressing how to overcome the gap between on the one hand awareness on the behavioural and societal changes for sustainability and on the other hand concrete individual and societal engagement through sustainability driven action. It also called for the analysis of enabling and constraining factors for pathways towards low-carbon and sustainable lifestyles that should be fed into scenario development and backcasting exercises in order to identify potential paths to support the transition to a sustainable Europe. Relevant questions included ‘how to engage individuals and collectives on sustainable paths’, ‘what is needed to address the barriers’ and ‘how to make the most of the drivers for sustainable development through both new policy mixes and novel innovative mechanisms for cooperation and partnerships between actors in the public sector, the private sector and civil society’.

Under this call, three projects were funded that started between late 2010 and early 2011: InContext (<http://incontext-fp7.eu>), LOCAW (<http://www.locaw-fp7.com>) and CRISP (<http://www.crisp-futures.eu>). Brief descriptions can be found in the box below. By mid 2013 these three projects have generated most of their results with regard to bottom-up vision and pathway development towards sustainable lifestyles, communities, regions and at work. Meanwhile, several other research projects in which sustainable consumption and long-term pathways are key, such as SPREAD (e.g. Mont *et al.* 2013, www.sustainable-lifestyles.eu) and RESPONDER (www.scp-responder.eu), and CORPUS (www.scp-knowledge.eu) have been (nearly) completed. Therefore, it seemed to be a good time to bring together results and approaches from a range of participatory and bottom-up endeavours in a scientific workshop to discuss the state of the art in pathways, transitions and backcasting for sustainable and low-carbon lifestyles aiming at an exchange of the state of the art of concepts, results and approaches.

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

vision for a sustainable community and to take immediate action. The community arena integrates insights from transition management, backcasting and social psychology.

Low Carbon at Work (LOCAW) focuses on the drivers of and barriers to sustainable lifestyles and how these constrain and enable the everyday practices and behaviours within larger organizations. The project includes (i) the analysis of the patterns of production and consumption in the workplace and their resulting GHG emissions; (ii) organizational strategies to reduce emissions and implement EU regulations regarding the greening of their production processes (iii) everyday practices and behaviours at work of employees on different levels of decision-making within the organization, and the relationship between behaviours and practices at work and behaviours and practices outside work, as well as the drivers and barriers for implementation of sustainable practices and behaviours in the workplace.

CRISP stands for 'CReating Innovative Sustainability Pathways' and seeks to identify potential pathways that will aid the EU towards the transition to a sustainable, low carbon Europe. CRISP works on developing profoundly different visions – and their implementation trajectories – and has adopted Transition Management (TM) as a methodology to develop practical, radical and implementable visions. Transition management (TM) distinguishes between three interdependent levels, namely macro (society and economy overall), meso (organisations and specific entities within the macro level) and micro (lifestyles, individuals, households) and will be combined with innovation system elements

Workshop scope & focus

The idea of such a workshop got widely positive responses among researchers involved in the three projects, but as well as among colleagues involved in the SCORAI network and related projects. As a next step a call was developed and dates were set (see Appendix III for the full text). The workshop could be funded under the InContext project, which allowed for travel reimbursements and enabled shorter preparation periods than usual. The aim of the workshop was to present and discuss papers and results to exchange and compare concepts, methodologies and results on visions, scenarios, transitions and pathways for sustainable lifestyles and communities from the three projects mentioned, as well as from related projects. An additional aim was to search for similarities, complementarities and further lessons, not only for researchers and practitioners, but also to develop additional recommendations with regard to pathway development and facilitation to the EU and to learn from bottom-up emerging developments like in transition towns and sustainable energy cooperatives. It was expected that such a workshop could also shed more light on developments in transition management and backcasting with regard to the involvement of end-users, citizens, employees, consumers and communities. Moreover, it should also address how this could complement more widely applied multi-stakeholder led initiatives and top-down initiatives led by the government targeting the provision system rather than the consumption system. Interestingly, transition management, participatory backcasting and related approaches are currently experiencing a broadening from transitions in functional societal systems (e.g. energy, mobility) to addressing transitions at the level of communities, cities and consumption practices. Such a shift reflects a growing focus on bottom-up approaches led by end-users, consumers or citizens aiming at systemic change. These aspects have been rather neglected in the research in Sustainability Transitions until now, despite some exceptions and a growing interest in so-called alternative consumption niches and grassroots innovations (e.g. Seyfang and Smith 2007, Seyfang and Haseltine 2012).

Obviously, a major challenge in sustainability transitions is not only to address the (active) involvement of citizens, employees, consumers and end-users, but also taking these actors and

their activities into account when analysing transitions or applying transition management and backcasting. In order to address all aspects and issues discussed above, the workshop called for the following topics:

- Cases and methods on local transitions or consumption transitions, focusing on participation, visioning, and pathway development.
- Conceptualization of the individual consumer-citizen and how this relates to grassroots and alternative consumption practices, as well as to individual needs-opportunities-capabilities approaches.
- Comparison of methodologies addressing individual actors such as citizens or consumers in influencing transitions including lessons learned from other participatory methodologies addressing local communities and consumers, such as participatory backcasting, and Local Agenda 21.
- Cases exploring niches of alternative consumption, grassroots innovation niches, and local communities as sites of social innovation and their relevance for pathways towards low-carbon and sustainable lifestyles.

The SCORAI Europe workshop format was used as a starting point which includes the following elements:

- (i) It aims to maximize discussion and interaction among participants.
- (ii) Space is limited to 25-35 participants, including authors.
- (iii) Paper presentations are short and are followed by both discussant contributions and substantial discussion on the broader relevance of the papers.
- (iv) All participants are strongly encouraged to read the papers in advance.
- (v) Participants are asked to take active roles like chairing, discussant or note taker.

There were two adjustments in the Rotterdam workshop: (i) the workshop was a two-day workshop (instead of a one-day workshop), (ii) in addition to full paper sessions, there were working sessions that combined short paper presentations with moderated discussion sessions focusing on interaction as well as sharing results and experiences of participants. Because of the two types of sessions, two types of papers were accepted for the workshop:

- Full papers that presented comprehensive results and/or methodologies and that were fed into full paper discussion session.
- Short papers, position papers, case descriptions or methodological evaluations that required only 4,000 and 6,000 words and that were fed into working sessions evolving around four topics (i) bottom-up & participatory vision and scenario development, (ii) backcasting and pathway development, (iii) drivers for and barriers to transitions towards sustainable lifestyles and communities, (iv) potential of individual change and alternative consumption niches.

Results in a nutshell

Eventually, 28 abstracts were submitted that were evaluated on the criteria (i) scientific quality, (ii) originality, and (iii) relevance for the workshop theme and topics. Based on the evaluation 8 abstracts were accepted for full paper sessions and 9 abstracts were accepted as short or position papers, though it was possible to develop short or position papers into full papers. The full program can be found in Appendix 1. Around 30 people participated; they are listed in Appendix II.

The full papers were organised in 4 plenary sessions consisting of 10 minutes presentations on each paper and a 10 minutes discussion by a discussant, followed by 30 minutes plenary discussion. Contributions by discussants and reports of the discussions have been included in the proceedings. The first session (Session 1A) focussed on *visions & pathways methodologies for*

sustainable lifestyle.” It consisted of a paper by Georgina Guilen and Marina Nicalau on the BIG2050 (Building Ideas Glocally for 2050) project and a paper by Jaco Quist *et al.* from the InContext project on the community arena methodology, in which transition management and backcasting were combined and applied in several communities across Europe. The second session (Session 1B) explored and discussed *different approaches to sustainable consumption pathways*. The paper by Yuliya Voytenko and Oksana Mont explored the potential of innovation value creation models, which reflect new modes of consumption, production and value creation. Clear examples are collaborative consumption and prosumers in decentralised electricity production. The second paper by Julia Backhaus and Harro van Lente explored how shared assumptions on issues on the problems at stake and on how to achieve desired changes can function as organising principles for sustainable consumption pathways, which was illustrated by several cases from the food domain. The third full paper session (Session 2A) focussed on *‘individual and structural factors in pathways for sustainable consumption’*. The paper by Felix Rauschmayer *et al.* explored how transition management, practice theory, and the capability approach can complement each other in the governance of sustainability transitions. The paper by Ricardo Garcia-Mira *et al.* reported on part of the LOCAW project, focussing on how individual factors influence sustainable behaviour and sustainable practices at work. The fourth session (Session 2B) addressed *facilitated pathway development versus bottom-up self-organising initiatives*. The paper by Walter Wehrmeyer *et al.* reported on the transition pathways generated by teenagers and professionals in 6 EU countries as part of the CRISP project. By contrast, the paper by Flor Avelino *et al.* reported on self-organising bottom-up community energy initiatives building on cases from Scotland, the Netherlands, Belgium and Germany; they also addressed barriers and drivers for these initiatives from the perspective of the energy transition at large.

The other 9 papers were distributed across the four working sessions as inputs for discussions on the topic of the working session. The first working session (Session 3A) addressed *bottom-up participatory vision and scenario development methodologies*. It included a paper by Pesch and Mulder on stakeholder involvement in eco-district planning, and a paper by Wittmayer *et al.* on the transformative potential of communities. The discussion evolved around topics like visions versus scenarios, pros and cons of group think and the growing use of participatory vision and scenario development at the local level. The second working session (Session 3B) focussed on *backcasting and pathway development for sustainable consumption and communities*. Dumitru *et al.* reported on the backcasting part of the LOCAW project, whereas Kiraly *et al.* reported on using participatory system mapping within a backcasting framework. The discussion evolved around further experiences with backcasting and strengths and bottlenecks of how backcasting had been applied. The third working session (Session 4A) dealt with *drivers and barriers for pathways and transitions towards sustainable lifestyles and communities*. Marleen Lodder and Flor Avelino contributed a paper on how insights and methods from design thinking can empower citizens in sustainable infrastructures. Niko Schöpke *et al.* presented a paper on learning and empowerment building on results from the InContext project. The paper by Silvia Breukers and Ruth Mourik provided an input on barriers in decentralized energy generation in smart grids, which are due to mismatches between the expectations of end-users and expectations of developers of such systems. The discussion evolved around top-down management to support more sustainable lifestyles versus bottom-up approaches, the potential of games for moving towards more sustainable lifestyles, and the creation of value versus value change. The fourth working session (Session 4B) addressed *the potential of individual change and alternative consumption niches*. Marlyne Sahakian contributed a paper on what can be learnt from demonstration projects. Carmen Vercauteren *et al.* provided an input to the discussion with a paper on cases of community gardening in the city of Rotterdam and whether these can be seen as learning spaces for sustainable food practices. The discussion evolved around the usefulness and challenges of the social practices approach. It included topics, such as where to set boundaries of a practice, the role of budgets or subsidies to get initiatives started, leadership, time and the influence of the social context and how it can be related to social learning.

Conclusion and Outlook

The workshop brought together a range of multi-disciplinary contributions and perspectives on pathways, transitions and participatory methods for low-carbon and sustainable lifestyles and communities, involving researchers, action researchers and practitioners. It addressed multiple scales ranging from individual change and small local alternative practices to large-scale transitions, as well as a range of participatory methods and cases for creating visions, scenarios and pathways. It highlighted new approaches that may address some of the issues related to behavioural approaches, existing local approaches, and green innovation oriented approaches in sustainable consumption and local sustainability. In this way, it contributes to the path set by the SCORE! Project and the aims of the SCORAI network. The workshop not only included dissemination and exchange of state-of-the art academic thinking and results, but also facilitated both implementation-oriented and conceptual discussions.

Some remaining issues, such as dealing with multiple definitions of sustainability, recent developments on the value-behaviour gap (where it is shown that rationalising behaviour by individuals may change identity and self-image), the relevance of positive constraints (e.g. ban on smoking and separating garbage), the relevance of social innovation and grassroots innovation, and the potential of combining individual and structural approaches to sustainable consumption and transitions, as well as how to upscale and speed up sustainability transitions in consumption, lifestyles and communities can be further discussed on forthcoming conferences like the IAPS (People-Environment Studies) in June 2013 in Timisoara, Romania, IST (Sustainability Transitions) in August 2013 in Utrecht, The Netherlands, and the ERSCP in October 2013 in Slovenia.

These will be also be further explored in approved forthcoming FP7 research projects, such as

- GLAMURS – Green Lifestyles, Alternative Models and Up-scaling Regional Sustainability, coordinated by Prof. Ricardo García Mira, University of La Coruña, Spain
- DYNAMIX - Decoupling growth from resource use and its environmental impacts, coordinated by Katharina Umpfenbach, Ecologic Institute, Germany.
- ARTS – Accelerating and Rescaling Transitions to Sustainability, coordinated by Niki Frantzeskaki, DRIFT, Erasmus University Rotterdam, The Netherlands.
- TRANSIT – Transformative Social Innovation Theory, coordinated by Flor Avelino and Julia Wittmayer, DRIFT, Erasmus University Rotterdam, The Netherlands.

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