Global Research Forum on Sustainable Production & Consumption

Workshop Report

Global and Regional Research on Sustainable Consumption and Production Systems: Achievements, Challenges and Dialogues

June 13-15, 2012, Rio de Janeiro

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Executive Summary

The year 2012 was the 20th anniversary of the UN Conference on Environment and Development, more familiarly known as the "Earth Summit." During this year world leaders from governments, business and civil society met once again in Rio de Janeiro (the UN Conference on Sustainable Development or "Rio+20") to reflect on progress with regard to past and current commitments to the aims of sustainable development articulated in 1992. Given the general acknowledgement of an "implementation gap" amid "worsening trends" despite improvements in eco-efficiency and public awareness, the need to better understand and promote sustainable production and consumption systems as well as the obstacles to this transition becomes increasingly urgent.

The Global Research Forum on Sustainable Production and Consumption (GRF) is a new initiative bringing together organizations and individuals from various regions of the world engaged in research and its applications in the transition to sustainable production/consumption (SPC) systems. This past June 2012, during this historic occasion, the Brazilian Ministry of the Environment and other partner organizations helped mount the official launch of the Global Research Forum in Rio de Janeiro.

The launch involved several events, most notably a three-day workshop featuring about 80 researchers and practitioners from various regions of the world, as well as additional side events and activities linked with the UN Conference on Sustainable Development. The workshop was divided between a focus on the research on sustainable consumption and production research and its communication and application in practice. The workshop was held at the Escola Superior de Propaganda e Marketing (ESPM), Rua de Rosaria 90, Rio de Janeiro.

The GRF initiative builds on a 20+ year SPC research tradition involving numerous researchers, institutes, and networks around the world, and on the many efforts and experiences applying research findings into policy, civil society, and business. The workshop was followed by a side event at the UN Rio+20 conference, sharing some of the key outcomes of the GRF workshop with a wider audience and discussing post-Rio options. Workshop outcomes and plans were also discussed in a number of public panels in conjunction with Rio+20 activities, including the Forum on Science, Technology and Innovation for Sustainable Development (International Council for Science), and the Brazilian Ministry Dialogue on Sustainable Consumption and Production.

A selection of the research papers will be published in a special issue of the *Journal of Cleaner Production*.

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1. Introduction

The workshop of the Global Research Forum on Sustainable Production and Consumption brought together over 80 individuals and organizations engaged in research and its applications on the transition towards sustainable production/ consumption systems from various regions of the world. It built upon a 20+ year research tradition on SCP by numerous researchers, institutes, and networks around the world, and on many successful attempts to apply research findings into policy, civil society, and business.

History and Context of the Global Research Forum on SPC

The initial rationale for a Global Research Forum on Sustainable Production and Consumption has its roots in the 1992 Earth Summit which called for research and public engagement to understand and change the unsustainable production and consumption patterns necessary to protect the environment and eradicate poverty. Noting that "some economists are questioning traditional concepts of economic growth," *Agenda 21* stressed the need for "new concepts of wealth and prosperity," methods to promote sustainable lifestyles and livelihoods, monitoring progress, developing "databases on production and consumption" and "methodologies for analysing them."

1992-2002

In the decade following Rio, various workshops, conferences and research initiatives notably raised the level of discourse and generation of knowledge, ideas and projects in this domain. [1] In 1994, the government of Norway held a Symposium on Sustainable Consumption which pointed out the need for "a detailed analysis of the relationship between production and consumption patterns and their environmental, economic and social impacts" and called for studies of "trends in and damage from patterns of consumption and production" and on "the effects that consumption and production patterns in one country have on other countries." In their report to the Commission on Sustainable Development, the Symposium organizers called for studies "on the relative effectiveness of a spectrum of instruments for changing unsustainable patterns" and for governments to "publish periodic reports on progress." [2]

While a range of initiatives were launched and discussions continued, when world leaders came together for the World Summit on Sustainable Development in Johannesburg in 2002 to review their progress, they were confronted with the fact that the many improvements in technology, public awareness and behavior were insufficient, that these were overridden by overall increases in global consumption and production. A

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[1] Barber, Jeffrey (2010) *Still Waiting for Delivery: A Review of Progress and Programs in the 10-Year Framework. Prepared for the International Coalition for Sustainable Production and Consumption*. Integrative Strategies Forum, Silver Spring, MD.

[2] United Nations (1994) *General Discussion on Progress in the Implementation of Agenda 21,*

[2] United Nations (1994) *General Discussion on Progress in the Implementation of Agenda 21, Focusing on the Cross-Sectoral Components of Agenda 21 and the Critical Elements of Sustainabilitiy, E/CN, 17/1994/14, Appendix, Summary Report: The Symposium on Sustainable Consumption*. New York.

new topic was thus added to the research agenda – the nature of the "implementation gap" and how to overcome it.

2002-2012

In response to this challenge, the World Summit on Sustainable Development announced that Sustainable Consumption and Production was an overriding objective of sustainable development and called for a "10 year framework of programs (10YFP) in support of national and regional initiatives." However, this mandate did not specify the programs to be developed nor a specific date when these programs would be launched. Another decade has now passed whereby the 2012 UN Conference on Sustainable Development affirmed the launch of the 10YFP, administered by the UN Environment Programme, as one of the Rio+20 outcomes.

While it is still uncertain at this time what the actual structure, substance and timing of the 10YFP will be, it is important to note that the original proposal for the Global Research Forum was submitted to the UN Department of Economic and Social Affairs (UNDESA) as one of the possible programs in this 10 year framework. The idea of a Global Sustainable Production and Consumption Research Program had already been presented to the UN in 2010 at the 18th Session of the UN Commission on Sustainable Development (CSD) as part of the ICSPAC report, *Still Waiting for Delivery*, which described "an international collaboration and exchange among SPC researchers and institutions." Throughout this time discussions were taking place among a range of research institutes and researchers to establish the initial founding partners of the Forum.

In February 2011 at the UNEP Global Ministerial Environment Forum in Nairobi, two workshops introduced and promoted GRF: "Knowledge Networking for Sustainable Production and Consumption" and "Mapping the Movement Towards Sustainable Production and Consumption." On May 3rd 2011 at the 19th Session of the CSD, the GRF proposal was showcased along with several other program proposals at the ICSPAC Partnership Fair. GRF was also presented and discussed in greater depth on May 5th 2011 in a CSD Learning Center workshop, led by Philip Vergragt, Lewis Akenji and Jeffrey Barber.

When the CSD ended in a political stalemate in May 2011, leaving agreement on the 10 Year Framework in suspension, GRF partners agreed to move ahead independently, with plans to organize a two and a half day workshop in Rio de Janeiro, to be held in the week before the Rio+20 UN Conference on Sustainable Development.

Moving ahead

As a contribution to the Rio+20 process, GRF partners submitted an input statement which became part of the UN "zero draft compilation" document. The GRF statement pointed out that one of the essential needs of national and regional SCP/green economy initiatives is meaningful and timely research and knowledge on the underlying consumption and production patterns driving worsening global social and environmental trends. Knowledge about these drivers and the assessment of policy instruments, practices and strategies is needed at the global, national and local levels.

Noting that the UN is in an excellent position to promote and coordinate research efforts and the flow of knowledge to, from and among regions and countries, the GRF comments pointed out that "*an international research program on sustainable production and consumption is thus an essential element of any institutional structure on sustainable development*.

While the final outcome of the UN Conference on Sustainable Development mentioned several times the importance of sustainable consumption and production and affirmed the development and operationalization of the 10 Year Framework, it left the question of research and knowledge open.

GRF in Rio

The three-day GRF workshop in Rio de Janeiro, on the other hand, explored many of the questions and challenges to be addressed in this next decade if the implementation gap for sustainable development is to be closed. Some of these questions were further discussed in the GRF-organized Rio+20 side event on June 19 at Barra Arena, "Achieving Sustainable Consumption and Production After Rio: Research, Practice and Capacity Building" and at the panel on consumption and production on June 11 at the Forum on Science, Technology and Innovation for Sustainable Development, organized by the International Council for Science.

Whether GRF will be become a program in the 10 Year Framework or instead evolves as an independent institution for collaboration among SPC researchers and practitioners, the need to move forward in strengthening the research and research community, as well as engaging with practitioners and policymakers is critical.

The world cannot wait for governments to agree with each, for sustainability to be recognized as a good business investment, or for consumers to take responsibility for the impacts of their purchases and behavior. Action needs to be taken by those with sufficient vision, will and resources to ensure progress towards sustainability throughout the various dimensions of the global economy. However, action needs to be guided by continually evolving knowledge generated by this growing community of researchers in dialogue with practitioners and policymakers. The Global Research Forum, officially launched June 13-15, 2012, was created to strengthen these efforts.

Workshop in Rio

The three-day workshop in Rio represented the official launch of the GRF initiative. The workshop aimed to achieve the following seven objectives:

1) To identify some of the most critical research questions to be investigated in the next five to ten years, from the perspective of researchers as well as practitioners, educators, and policy makers.
2) To review and assess the current state of knowledge on SCP around the globe, particularly in different regions.
3) To create a bridge between researchers and practitioners from different regions around the world in a creative process of exchange of information, knowledge, and perspectives on sustainable production and consumption.

4) To review the state-of-the-art concerning how change is achieved and what mechanisms are effective to achieve a switch to sustainable consumption and production patterns.
5) To explore how to effectively communicate SCP research and findings to users and the general public, especially in different global regions.
6) To formulate and send a clear message on the role of SCP research and practice as it applies to the global policy debate at the UN Rio+20 conference.
7) To examine and encourage research and efforts addressing well-being, inequality and alternative concepts and measures of prosperity, such as the Millennium Consumption Goals.

2. Opening Panel

Philip Vergragt, chair and opening speaker from Global Research Forum on Sustainable Production and Consumption; Sustainable Consumption Research and Action Initiative (SCORAI); Senior Associate, Tellus Institute, USA, welcomed the audience, introduced the GRF initiative and gave an overview of the workshop aims and approach.

Ana Maria Vieira dos Santos Neto, Director, General Office of Institutional Coordination and Environmental Citizenship, Ministry of Environment, Brazil, emphasized the great importance of sustainable consumption and production for the Ministry and expressed her hopes for a successful interaction.

Mia Rahunen, Advisor, Sustainable Development, Nordic Council of Ministers, Denmark, introduced the work and programs of the Nordic Council and stressed the similarities in goals between the Council and the GRF.

Elisa Tonda, Head of Business and Industry Unit, United Nations Environment Programme - Division of Technology, Industry and Economics (UNEP-DTIE), France, reviewed the history of sustainable consumption and production in the international policy processes and the importance research is playing in it.

Jeffrey Barber, Executive Director, Integrative Strategies Forum, USA, on the 20th anniversary of the Earth summit, reflected on what progress has and has not taken place and how we are “still waiting for delivery”.

Masaya Fujiwara, Principal Fellow, Programme Management Office, Institute for Global Environmental Strategies, Japan highlighted the implementation gap which despite all initiatives for sustainable consumption and production needs to be bridged, especially in the Asia-Pacific region.

Roberto Araújo, Head, Fundaçao Espaço Eco, Brazil, wished the audience a successful conference.

Fátima Portilho, Social Sciences Graduate Program on Development, Agriculture and Society (CPDA), Federal Rural University of Rio de Janeiro (UFRRJ), Brazil, as local organiser expressed her appreciation to the host and volunteers helping to get the workshop on the way.

3. Transformation to Sustainability: A Southern Perspective on Production, Consumption and Equity

3.1. *Chee Yoke Ling:* Keynote

Chee reflected on the history of NGO development in Asian countries in the years after colonization and their turn towards sustainable development. She described the clash of thinking about development coming from the Western countries and the traditional knowledge in the south. Initially, NGOs mainly worked with local organizations. Consumers associations realized that were issues about pollution and factory relocation. They soon created a network and realized that they could share knowledge for making sustainable policies. Later, the horizon widened. In the 1980s NGOs began actively opposing policies at the WTO, IMF and other international organizations proposing wealth on one hand but failing to provide well-being for all or environmental protection. Recalling her experience in Rio 1992, Chee explained the basic ideas and conflicts in the UNCED Rio process from Earth Charter to the hope of a peace dividend popular at that time. One of the important steps was the shift in recognition of NGOs. For the first time they had access to an UN process opening up new ways for participants to even talk to the own governments.

From this starting point lots of views have shifted the last 20 years e.g., towards 'beyond GDP' -however a fundamental shift is not made so far. In contrary we have to observe an increasingly uneven power relationship from governments to companies.

Addressing the audience Chee highlighted the need of understanding the obstacles and getting the facts though combining the best of the research community with the activism of the civil society groups - in partnership with engaged policy makers. In this effort, Chee points out, common but differentiate responsibility for equity and equality has to develop as the key issue. This was recognized 10 years ago in the Johannesburg Plan of Action. At the moment however, this importance of equity is not valued sufficiently. Common but differentiate responsibility is, among others, a no-go for the US.

Looking ahead, the problems are no longer the US and/or Europe but countries such as China, Brazil, India which nowadays block negotiations which cause a lot of mistrust. However, looking on accumulation e.g., in the context of global warming the former colonizing countries are still important. The European discussion about green growth and de-growth for example is a very specific discussion raising resistance among those who still have to raise consumption to fulfill basic needs. The main problem is a lack of trust: a lot of initiatives in the name of the environment can be used as well for protectionism.

Chee finally calls for 'bringing the best of knowledge systems from all over the globe and then to interface with policy making while at the same time to have that policy that we all want to see happen be rooted in real action and experiences on the ground'.

3.2. Questions, Answers and Discussion

The first round of questions to Chee's speech mainly evolved around the aspects of trust building and competition and how research can contribute in this context.

Chee replied initially with an example: In observing the food sector, the fact that most food is produced locally in an organic way is mostly ignored. This could be the starting point for research instead of the top down recognition of the problems caused by globalization and bilateral trade agreements due to the competition mentality. This competition mentality is mostly designed to privatize things. It initiates a survival of the fittest but under unfair rules. This mentality is causing a lot of resistance for real change. The EU, for example, claims to be so green. But if it wants to create a global green there should be no contradictions to that from their different directorates such as not allowing countries to put export taxes on natural recourses. Research could help provide more examples on the impacts of environmentally counterproductive regulation for countries including the impacts on the OECD countries themselves.

The lack of trust building was explained by Chee as a wicked problem: Most politicians understand the issue but not necessarily have to represent their opinion which in a lot of cases is not even the opinion of a majority of their country. Too often it is guided by vested interests than the interests of their national population. To overcome this it is very helpful to bring politicians together to provide them with good background materials and good facilitated discussion. For example, it can be very helpful to get clear scientific facts showing that the so-called market mechanisms for offsetting climate damage are in fact being paid by public money. So it is not the market acting here! As a second example Chee referred to the topic of consumption and production. It often gets quite narrow in people's minds so it has to be brought back to livelihoods, technology assessment, and the question of 'production for whom'. In this context the link between inequality, income distribution and what it means for consumption choices and production patterns is an area of research that needs a lot more work.

As an immediate intervention point Chee pointed to the IPCC. For its 5th report the IPCC is working on a chapter on development and equity where consumption and production is one of the issues. The task was to look into the peer reviewed literature. But this served as a perfect example how knowledge is locked up into copyrighted journals which few can afford. The unbalanced property right system is a big hindrance to intellectual innovation. Chee encouraged the research community to do a lot more to fight against this. For the time being a great deal of good research work is not entering the decision making system.

In the further debate, the aspect of competition as a barrier was supplemented by the aspiration of people especially in the south. Fashion spaces in the south, for example, look like spaces in the north. South needs to produce a different imaginary especially at the level of culture to advertising and media. The question was raised how different imagery about consumption in the south could develop towards more sustainability. From Chee's viewpoint, to change aspiration needs participation because people are diverse, countries are diverse and from this diversity chance can come (e.g., the UN discussing questions of Happiness or the Rights of Mother Earth). Investing in real participation is something which can us make truly optimistic.

4. Long-term Visions and Trends

4.1. *Lewis Akenji:* Consumer Scapegoatism and Limits to Green Consumerism

An axiom that has shaped policy approaches to sustainable consumption has been that if more consumers understand the environmental consequences of their consumption patterns, through their market choices, they would inevitably put pressure on retailers and manufacturers to move towards sustainable production. The result is the proliferation of green consumerism and consumption of “green” products; eco-labels to assist consumers in making informed ecologically conscious choices; consumer awareness campaigns, etc.

Akenji instead argued that the dominant focus on green consumerism as against the need for structural changes towards a broader systemic shift is unrealistic. Furthermore, promoting green consumerism at once lays responsibility on consumers to undertake the function of maintaining economic growth while simultaneously, even if contradictorily, bearing the burden to drive the system towards sustainability. Given the scope of the sustainability challenge and the urgency with which it must be addressed, he argued that the consumer is not the most salient agent in the production-consumption system, and so expecting the consumer through green consumerism to shift society towards SCP patterns is consumer scapegoatism.

Akenji drew on the discursive confusion over discourse and practice of sustainable consumption in an attempt to clarify the differences between green consumerism and sustainable consumption, and to provide a broadened framework for sustainable consumption policy design that enables wellbeing and ecological sustainability without propagating the economic growth dogma that has a stranglehold on contemporary policy-making.

Green consumerism uses the same system of materialism which has been diagnosed as unsustainable and which puts the onus upon the consumer take charge of the problem, despite the demonstration that in the current capitalist system the consumer is not king and that it would need substantial macro changes and systemic transformation to achieve the shift to SC. This is consumer scapegoatism. The argument does not relinquish the consumer of his/her responsibility, of which there are many; rather it recognizes the limits to green consumerism as a driver of sustainability and highlights the risks that continuous consumerism, albeit green, could drive the planetary system beyond recoverable limits of resource extraction, social dissatisfaction and rampant pollution.

The Attitudes-Facilitators-Infrastructure (AFI) framework introduced by Akenji provides a comprehensive approach to designing policies for sustainable consumption. It proposes three elements that operate in concert to enable sustainable consumption at a systems level: the right attitude from stakeholders; facilitators to enable actions reflect attitudes; and appropriate infrastructure that would make sustainable lifestyles the default option. Policy framing, based on the AFI framework would integrate the following characteristics:

i. Engage all stakeholders; allocation of roles in policy should reflect stakeholder salience

ii. Provide agency, supported by training and education

iii. Recognise the critical role of social and physical infrastructure

iv. Tap into local resources (e.g., skills, knowledge, renewable material, etc.) to build community wealth rather that individualistic material accumulation

v. Be dynamic, to be able to move the system from current status through a transition

vi. Lead to overall decrease in consumption levels while providing equity.

4.2. *Patrick Schroeder:* Governance Mechanisms for Sustainable Consumption and Production in China

China has been the fastest-growing major economy for the past three decades with an average annual GDP growth in excess of 9%. It now has the world's second-largest manufacturing sector after the United States and is the world's largest exporter of goods. It is also home to a fast growing urban consumer class and over the next two decades China will not only be the “world factory”, but also become the world’s consumption hub.

Environmental governance in China, as in most parts of the world, is still mainly focusing on the production side. The discussion of SCP in China has so far mostly focused on cleaner production with an emphasis on technical end-of-pipe solutions to contain industrial pollution and address the intensity of industrial energy consumption.

With rising incomes sustainable consumption issues and discussions are gaining increasing attention.

Schroeder introduced a four quadrants analysis framework (consumption, production, top-down, bottom-up) to discuss effectiveness of governance approaches for SCP in China. Several case studies promoting SCP patterns, which reflect some of the different governance approaches currently used in China, were presented. The cases were analyzed according to their effectiveness, the actors and stakeholders involved, SCP instruments applied and governance processes employed.

Specific attention was given to increased public participation in decision making processes regarding environmental impacts assessments of industrial facilities, infrastructure developments and public access to environmental information. An increased role for civil society acting as watchdog of industrial polluters and initiating social debates on China’s future development pathway was highlighted as an important element for effective SCP governance. China’s environmental governance on the production side is insufficient in many aspects, particularly industrial pollution control is difficult to enforce as many companies do not comply with existing regulations. The example of the Top-1000 enterprise programme shows that companies can improve their environmental performance if strong targets are complemented with financial incentives and capacity building.

Regarding solutions to unsustainable consumption patterns, China’s governance approaches are unique in so far as they allow rather effective restriction on high-impact consumption. As an interesting element of China’s environmental governance it includes

strong top-down governance mechanisms to address and restrict unsustainable consumption patterns of individual consumers. The examples of car restrictions show that top-down mechanisms for restricting unsustainable consumption are generally accepted by the Chinese public. Chinese consumers show willingness to sacrifice personal consumption for the overall benefit of society - if the regulations are strongly enforced.

However, Schroeder emphasized the need for more bottom-up initiatives for SCP. The case studies presented show that bottom-up initiatives jointly carried out by civil society, communities and small businesses can be very successful in enabling both sustainable production and consumption on local levels, particularly in rural areas.

In terms of enabling voluntary sustainable consumption choices and behavioral changes of China's urban consumer classes, Chinese NGO activities tend only to reach small segments or sectors of society. More space for civil society to initiate and influence free discussions and societal debate about what direction China's future development pathway should take would be an important element of successful governance for SCP.

4.3. *Janis Brizga, Zoriana Mishchuk, Anna Golubovska-Onisimova:* Sustainable Consumption and Production Governance in Countries of Transition

Unsustainable consumption and production patterns have brought human civilization to the brink of global disaster. Alteration of these patterns to minimize their adverse environmental impacts becomes now the key question of survival, the question relevant for any country and any citizen.

Brizga presented consumption and production trends in the countries in transition in the post-Soviet area: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Latvia, Lithuania, Moldova and Ukraine. These countries with common histories took different development routes. Now they are at different stages of economic development and political processes, with different consumption- and production-related environmental pressures.

The study presented is based on statistical data analysis and snap-shot surveys of national experts from non-governmental organizations, reflecting their views and observations, which often differ from official positions of national governments and international organizations.

Brizga, Mishchuk and Golubovska-Onisimova analyzed the sustainable consumption and production indicators, policy developments, progress achieved and main challenges behind sustainable consumption and production governance in these countries to make conclusions about the differences and commonalities.

The Baltic States are fully integrated into the European Union (EU) and the rest of the region is only undergoing pro-European reforms with an ambition to join the EU in the future. The EU factor seems to be critical for advancing sustainable development principles in the region, with those countries already Member States showing the biggest progress in terms of integrating sustainable consumption and production principles into their national policies and legislation. However, EU accession does not address the growth effect which is the main driver behind increasing consumption-related

environmental pressures. Therefore, in the region, the Baltic States have the highest per capita ecological footprints.

Among non-EU regional countries, those most advanced in negotiating Association Agreements with the EU (Armenia, Moldova and Ukraine) also seem to be more willing to introduce certain elements of SCP principles in their legislation. This could be explained both by soft pressure of the EU in setting reform agendas and by EU and other international technical assistance, in particular, in drafting of relevant legislation or implementation of pilot projects, including the transfer of technologies.

Nevertheless, despite the EU support, Brizga et al. only found fragments of SCP policy in the countries of the region. None of the countries use an integrated holistic approach to SCP; indeed, most of them even failed to develop proper sustainable development strategies (unlike the Baltic States which have been obliged to develop such strategies as part of their EU accession homework). Still, some SCP principles are scattered in the national energy, construction, transport and other sectoral policies.

However SCP policy in the Eastern Europe and Caucus region (EE&C) is in its infancy and has a long way to go from this mosaic of policy elements to a coherent policy with an adequate institutional support and funding mechanism. Prospects of its development are gloomy if governments are left without external (EU integration agendas, international technical assistance, international agreements) and internal (NGOs and interested business) pressure. Yet, the European integration, being a driving force for policy changes, could also add more challenges for SCP: As the countries further integrate into the world economy and, in particular, into EU markets due to prospective free trade agreements, a production growth is expected, including through transfer of EU production facilities, a heavy environmental impact to EE&C due to lower environmental standards. Therefore, the importance of SCP policy development and introduction of stricter production regulation is ever increasing. Cooperation between the countries under Eastern Partnership programs, as well as learning from successes and mistakes of other countries of the region that are more advanced in providing for SCP like the Baltic States could hasten the overall region's progress towards sustainable development and SCP in particular.

4.4. *Hengzhao He and Harn Wei Kua:* Integrated Energy Conservation Policies from the Ground Up: Lessons from the Eco-living Program of Singapore's South West District

Kua presented a district-level energy intervention and conservation program designed and implemented with the help of community stakeholders. It was carried out with students and staff of an educational institution, the National University of Singapore, a local non-governmental environmental group in Singapore and the district government. The program, known formally as the ECO-Living Program, was funded by the district government. The Program was implemented in the Hong Kah North Residential Council in the southwestern part of Singapore. The research objectives were three-fold: 1) compare the effectiveness of different interventions based on self-reported behavior scores as well as actual electricity reduction; 2) investigate how behavior and electricity consumption are influenced by values, situational and psychological factors; and 3)

examine the methods of intervention used according to residents' feedback and make recommendations for improvement. The key lesson is that providing information about energy conservation in the right form is useful in interventions. For the residents in the study presented, straightforward and easily implemented measures, emphasis on the amount of money they can save with energy conservation and evoking environmental concern in them are pivotal to effective intervention. Kua highlighted that the Program exemplifies the important role that community, bottom-up initiatives can play in promoting sustainable consumption with the resource support of the government. It provides a model that other districts, or even countries, can adopt in engaging different stakeholders in promoting energy conservation at the community level.

If so, the following elements were recommended to be taken into account:

Firstly, a distinguishing element of the Eco-living Program is the engagement of the ITE College West and the non-governmental environmental group in the execution of the project. This is an element that contributes toward the integrated nature of this program. In order for this element to be effective in supporting a country's energy conservation policies, the volunteers and social workers must be trained adequately so that they can effectively communicate the essential information to the households. Such information must enable them to explain the energy-saving measures to the household clearly and accurately, so that the latter feel that these measures are easy to adopt. Furthermore, volunteers should also be equipped with the knowledge to explain energy reductions in terms of potential cost reductions for households and presenting information to them to evoke a sense of concern for the environment. Doing so will require the Singapore South West District to collaborate well with the local universities. A possible idea to consider for future programs is to engage university students to train the volunteers, as well as engage interested university students to become volunteers.

Secondly, energy reduction actions should be further simplified as much as possible. Furthermore, during the counseling sessions, volunteers may demonstrate some of these actions to ensure that households correctly understand the execution of these actions. For example, instead of saying "Do not leave the fridge door open for too long", a more concrete action such as "should not leave the refrigerator door open for more than 10 seconds or counts" can be prescribed. This will require the questionnaires to be improved.

Thirdly, the content of the leaflets and stickers should be improved. A possible way of improvement is to have the volunteers or their coaches from the university design the contents of the leaflets and stickers, so that they are congruent with the key messages that the volunteers aim to bring across to the households.

Finally, in relationship to the previous point, volunteers may try supplementing their verbal messages with short clips that can be shown to the households via multi-media electronic gadgets such as portable computers.

Kua again emphasized that the "Eco-living" program has the potential to be an exemplar of bottom-up approach to promote energy conservation in households. If designed and executed correctly, such a program can become an important component of any country's holistic policy approach toward energy conservation. An attractive aspect of this program is its integrated nature, which involves student volunteerism and

establishing a multi-agency collaborative platform that engages different governmental and non-governmental stakeholders.

4.5. *Sylvia Lorek:* Discussant Reflections

Lorek looked at the possible common links of the presentations and the underlying papers to the session title, Long Term Vision and Trends. She identified their focus on the environment and its limits as a common element in all four presentations. The economic perspective in turn only appears where it supports or contradicts environmental sustainability. She argued that a common weakness of the papers was that they were not too explicit regarding social effects aside the ones coming from economic changes. The aspect of environmental justice does seem to be neglected in the sustainable consumption debate. In addition, population does not seem to be part of the SC discourse in any of the papers.

Beside those similarities, the approaches the authors use to reflect the environmental consequences of consumption, however, are quite different. The discussant reflected on them regarding the question how each approach could help to reach the shared long-term vision to stay within our planet's ecological limits.

The following aspects were highlighted:

Akenji presented a very interesting history of green consumerism and its development – respectively the reasons for non-development – towards sustainable consumption. The difference between consumerism and sustainable consumption is clear in general, but many people using the phrase sustainable consumption are actually talking about green consumerism. Lorek referred to the parallels and differences of Akenji's approach to the concept of strong and weak sustainable consumption (see chapter 9.3). Regarding the attitude in the AFI framework, attitudes not only of consumers but also others, e.g., politicians, who tend to see consumers as sovereign domains, needs discussion. Finally the concept could better try to include the question of power which constantly seems to be the sand in the system keeping it from turning rightly.

The cases and recommendations presented by Schroeder were appreciated as an interesting shift of perspective from the European-dominated SCP debate, e.g., the role and impact of rural consumers seem to be different across contexts, so it is an interesting aspect that in China rural population has a lower footprint than urban. Further on, the recommendation of a top down approach on consumption is quite opposite to the Western approach and the preceding recommendations made by Akenji and might point to a Chinese-specific phenomenon. However, it conflicts with Schroeder's own analysis how the top down approach on the production side got side tracked in China.

Kua's contributions were much appreciated because of the clear message that consumers need concrete advice to feel encouraged to act. Also the proof of a certain spillover effect was very interesting as other studies expect the spill over to be overestimated. Quite in line with European experience is the mismatch between self-perception and reality regarding personal environmental performance. As a bit problematic for a broader outreach of the program, Lorek pointed to the huge effort and personal time input necessary to get adequate results.

Brizga's findings, finally, mainly seem to show one phenomenon: By collaborating or joining the European Consumption discussion about SC might improve. But the real figures show that talking about SC does not help at all to reduce resource use.

4.6. Questions, Answers and Discussion

The discussion mainly developed along the top down- bottom up dichotomy and included aspects of aspiration, the role of market and business and the perception of wellbeing and happiness.

Top down – bottom up

It was asked whether there is an opposition between strong government and strengthening civil society? From the discussion it appeared that there are not necessarily contradictions between civil society and a top down approach, but both can go together. However, the scale of the challenge will require a top down approach in any case. It requires governments to think about that. The right framework is generic, but supporting grassroots innovation, for example, is certainly crucial as well.

In Singapore, for example, the top down approach used to be prominent and only recently less top down instruments emerged, such eco-labeling, which is looking more at diversity issues and lifestyle choices. As another example there has been a big controversy about paper vs. plastic bags. However, project has been facilitated through strong links with the local government.

On the other hand, one can think about potential conflict as well. China is a big country with a lot of contradictions. Conflicts between NGO and government often appeared on sustainability issues. Maybe agreements between governments and NGOs are possible in support of sustainable initiatives.

Values and Aspiration

Brizga explored an example from Latvia. During the last recession there was a substantial change in values, e.g., people used to ask for bigger cars, but now they ride bikes more, grow their own food, etc. Things that used to be promoted by NGOs have been achieved by the economic downturn and now people enjoy these lifestyle changes. The question is how to sustain these changes! Quite some skepticism developed on that aspect. Some different views were elaborated, e.g., if GDP goes up in Laos, can people there then sustain sustainable consumption levels? In regard to happiness, if Bhutanese people spend some time in New York or Tokyo, would they be still happy?

Advertising of lifestyles was highlighted as important because it signals how we value our lifestyles. How do we define routines and standards in everyday life? How do we define cultural values? It was emphasized that we need to take responsibility for the social structure that has created current aspirations. We need to look at advertising systems, curricula and how our cultures are constructed. The American dream everyone aspires to is so powerful within America and abroad. And regardless of declared values, the groups with the highest environmental awareness have the highest environmental impacts. Therefore it is important to paint a picture of what the limits are. Not least, governments should understand the limits and communicate them.

In this context, the role of business was considered as well. Its powerful actor role was highlighted by various participants, e.g., in pointing towards the asymmetric interests, the powerful communication tools, or the well-known fact that the top businesses have more money than the governments put together. Based on this power, the imaginary and the markets fit very well together. This holds true nationally as well as internationally as markets are well connected. In return, arguments were given that the market imaginary might change across markets. McDonalds, for example, is different across cultures. It is too simplistic to assume that there is one picture of the consumer travelling across the world.

A different, nevertheless important, issue, population growth, arose from the discussion as additional limits appear in demographic developments. A very urgent question therefore was how to bringing down fertility.It was confirmed that this is a very controversial area that has been avoided in sustainable consumption circles, but that at some point, especially in countries with large population growth, it must be considered seriously. Some concerns were raised whether western researchers should get into the debate, but certainly China has a lot to contribute to that topic.

The session closed with some presenters' thoughts about future trends:

Harn Wei Kua: Singapore has a lot of constraints, e.g., in water. We now talk about energy as well. So in the future we will start to consider these things together.

Janis Brizga: Some of the trends I have seen in Latvia deal with products outside of the market (growing your own food, etc.).

Patrick Schroeder: 2050 won't be that futuristic. Probably not that much will change. Maybe rather than the American Dream there will be a Chinese Dream?

Lewis Akenji: The notion of equity is crucial. SC relates to our own identity, which will ever make it difficult.

4.7. Jacqueline McGlade: Keynote

McGlade presented a number of challenges that society currently faces and argued how an inclusive green economy can provide solutions to those challenges.

McGlade argued that society faces systemic interlinked challenges from economic, social, political, technological and environmental megatrends. Systemic challenges means challenges that are broad-ranging and complex, linking elements in natural, social and economic systems globally. These systems are all fluctuating constantly. But in each of these systems, McGlade argued, we can clearly see broad-based secular changes – that we call "megatrends". These megatrends are so far-reaching that they will inevitably impact on each of the other systems. An example of a social and demographic megatrend is the growing worldwide population. But there is an economic megatrend underpinning this. Because not only is the world population growing, it is also becoming wealthier and improving its living standards. In the next 20 years, there will be over three billion new members of the global middle class, McGlade pointed out.

According to McGlade, the colliding megatrends of resource depletion, growing affluence and increasing populations are simply not compatible with each other.

Business as usual is no longer an option. The only option is to rethink our economy, environment and society in a systemic way to address these challenges with a solution. And the solution is a green economy, McGlade argued. The EEA defines a green economy as an economy in which policies and innovations enable society to use resources efficiently, enhancing human well-being in an inclusive manner, while maintaining the natural systems that sustain us. McGlade said that at the EEA, we focus primarily on two main aspects as essential to the green economy: Ensuring ecosystem resilience and improving resource efficiency.

McGlade provided an indicative assessment of progress in Europe towards improving resource efficiency. The trends in resource efficiency give some cause for optimism. There has been a decline in greenhouse gas emissions in Europe. Water and air pollution is declining and we are now producing less waste and generally using fewer materials in our economy per unit of economic output. The trends on ecosystem resilience are less positive, according to McGlade. We are not on track to keep global temperatures increases to less than 2 C. Nor are we succeeding in halting biodiversity loss. Water stress is still a problem for several European countries and millions of Europeans living in cities still breathe polluted air.

According to McGlade, the green economy comprises two elements, but it is clear so far that we are making progress mainly on one element: Resource efficiency. If resource efficiency is not having a knock-on effect in terms of benefitting ecosystem resilience and creating sustainable environment, then how we improve ecosystem resilience? It is time to consider new policy measures with objectives and targets that more explicitly recognize the links between resource efficiency, ecosystem resilience and human well-being. McGlade mentioned some of the policy areas where she finds that those explicit links make them most promising for new action:

Material resources productivity: We are in general able to produce more with less resources, but our levels of economic growth are often so high that they are outpacing efficiency gains. McGlade argued that the lack of considerable progress on materials efficiency is all the more puzzling when set aside the gains that have been made in efficiency of labor since the 1970's.

Consumption imbalances: Europe is running a current account deficit in material resources. A significant proportion of the EU's resource base is now located abroad, and this amount is growing. For some key materials, such as antimony, cobalt, platinum and rare earth metals, Europe depends fully on imports from outside Europe. As a result, many environmental impacts of European consumption are felt by exporting countries, and Europe lacks access to some key resources. Europe is consuming far more than our global share of population would suggest. As a result, Europe's global environmental footprint, the amount of land required to sustain our lifestyles, has increased by a third in the last 40 years. The activities that cause the most environmental damage, McGlade showed, are food and drink, housing and mobility.

Waste: McGlade argued that sustainability is not only about being efficient when we produce and consume, it is also about being efficient when we dispose of these resources after we have consumed them. Management of municipal waste has improved considerable in the past 15 years in the EU-27, including through increased recycling which also has considerable potential in creating jobs in the recycling industry

in countries which still landfill the majority of their waste. If all waste were recycled then it could meet a substantial part but not all of EU material consumption. Finally, McGlade showed that better waste management also reduced greenhouse gas emissions.

McGlade argued that one of the ways we can change negative trends is by making use of the powerful economic tools we have at our disposal, most notably taxation. But unfortunately, environmental taxes as share of GDP are declining in Europe. Yet, the experiences gained in Europe with environmental tax reform show that this policy approach can be applied successfully.

According to McGlade, in addition to using traditional economic instruments to move towards a sustainable green economy, we must also question some of these traditional aspects of our economic thinking. For example, there are important problems with the GDP measure as it does not take into account the health of the environment upon which the economy depends. GDP does not count the stocks of wealth that exist in nature and it treats the destruction of those stocks as it were a gain to society. But it is not a gain for society; it is a loss, McGlade argued.

One country has made the bold step of creating a replacement for GDP. The Kingdom of Bhutan measures itself according to Gross National Happiness, which offers the opportunity for the first time to quantify progress in the green economy. It measures natural wealth and the use of natural resources, explicitly valuing the free services nature provides. Most recently, the Kingdom of Bhutan has launched a global initiative to develop a new development paradigm, McGlade mentioned.

In concluding, McGlade argued that society are dependent on the wealth of various types of capital, including natural capital, social and cultural capital, human capital and imaginative capital.

4.8. Questions, answers, and discussion

The discussion was rather critical of EU policies. One question addressed perceived contradictions in EU policies, which appears to focus mainly on individual consumers and behavioral change. Another remark was that the problems were often targeted at the emotional level, while possible solutions were presented as rational; rather solutions should also communicated at the emotional level. There is not a lot of legislation addressing sustainable consumption in the EU. Sufficiency is not at all on the agenda. We need a different way of defining successful growth. One other question addressed choice editing and tax reform, which is cast in very cautious language. The EEA is ready to advise individual countries on tax reform, if asked. It is difficult to coordinate that on EU level.

5. Planet RE-Think: The Role of Sustainable Consumption and Production in an Inclusive Green Economy Green Innovation

5.1. *Fabian Echegaray:* Understanding Stakeholders' Views and Support for Solar Energy in Brazil

Echegaray discussed how market research helped clients developing the first solar photovoltaic energy (SPV) venture connected to the public grid in Brazil (i.e., Megawatt Solar project). Main contributions were identifying public's beliefs and level of support for alternative energies, understanding consumers and businesses' cost-benefit calculations regarding SPV, and testing their reactions to a solar eco-label proposed to acknowledge companies sponsoring the project.

The study revealed the coexistence of fair levels of awareness but with misperceptions about alternative energies, penalizing the credibility of this option. Results also pointed to a gap between favorable attitudes towards renewables and low adoption at the corporate level. Barriers referred mostly to price issues but also included lack of government regulation and corporate adaptation problems to this type of energy as important features. Finally, research proved support for the concept of an SPV eco-label as likely to render reputational gains to companies that would participate in the Megawatt project, yet it coexisted with divided opinions about the effectiveness of the communication tool design.

The study had practical implications leading to an improved eco-label design, definition of the eco-label diffusion strategy, and prioritization of an educational campaign to demystify alternative energies' seeming weaknesses. In late 2011, a public bid was held for the Megawatt Solar project and 14 proposals for project corporate sponsorship were submitted, suggesting a substantial interest in the business sector in solar energy.

5.2. *Paul Dewick, Jakob Edler and Andrew McMeekin:* Food Organizations, Relational Capacity, and Accelerated Eco-innovation

The focus of Dewick, Edler and McMeekin's research is to understand how focal organisations are stimulating eco-innovation beyond their organisational boundaries. Focal organisations are organisations with significant buying power, in this case, global retailers. Their starting assumption is that the management of internal and external relations are key determinants of the ability of focal organisations to induce and enable eco-innovation within the supply chain. This is neither a simple nor straightforward task, especially for global retailers, who sell tens of thousands of food and non-food products; it is a task that by its very nature is non-uniform, protracted and hindered by a variety of factors the focal organisation has more or less control over.

Dewick argued that the extent to which focal organisations can stimulate eco-innovation depends on developing appropriate relational capabilities. Relational capabilities reflect the ability and willingness to establish sustain and utilise relations within and between organisations to accelerate eco-innovation; they link interests (for example, a strategic

commitment to long-term carbon reduction targets) with actions (changing behaviour within the organisation and in supplier organisations) and impacts (absolute carbon reductions). Furthermore, he contends that there are both 'explicit' and 'implicit' aspects of relational capabilities that guide interactions internally within and externally between organisations. These can be of equal importance and organisations have a choice about the extent to which they establish, develop and use explicit and/or implicit relational capabilities to stimulate eco-innovation.

The study was undertaken in collaboration with one of the leading global retailers, referred to in the following as Retailer A, which has a strategic supply chain carbon reduction target of 30% by 2020. It is based on interviews including both technical and commercial staff at various work levels across different product categories and staff from central functions. Interview evidence was complemented by a review of internal documents and by attending various events Retailer A arranged for their suppliers between October 2011 and May 2012.

Dewick et al. observe both explicit and implicit relational capabilities in use by Retailer A to align interests and actions, both internally and externally. Codified, measurable, **explicit relational capabilities** that cascade down and across the organisation are not currently observable **internally** despite a strategic organisational target for carbon reduction. For example, the target did not feature as part of the retailer's 'steering wheel' (which ties remuneration for senior executives to performance across different measures), it was not part of the 'category plans' (which provide annual focus within categories, e.g., bakery, produce, dairy) and it was not one of the 'key performance indicators' (against which technical and buying staffs' performance is measured). ***Externally***, despite many formal, codified mechanisms to guide suppliers (e.g., environmental guide for suppliers, Manufacturing/Packhouse standards, joint business plans between the retailer and supplier, category awards), none include reference to or are directly related to the strategic carbon reduction target. Explicit alignment was seen to occur only in the Climate Change Team pilot programmes, which operate cross-category (e.g., energy efficiency and refrigeration) and category specific (e.g., dairy, clothing) initiatives.

Dewick et al. observed that the way in which **implicit relational capabilities** manifest themselves in interactions is complex, but seems to depend on a number of facilitating or hindering factors. ***Internally***, the role of the 'category director' was considered to be an important facilitating factor in creating and enforcing category norms around carbon reduction, and, to a lesser extent, there was evidence of environmental champions, commonly technical staff but sometimes buyers. ***Externally***, interviews revealed many reasons for variation in the interactions with suppliers affecting opportunities to stimulate eco-innovation. For example, some categories appeared to be inherently more active than others (a contrast was observed in the interactions of the 'Produce' and 'Bakery' categories, for example); the nature of the interaction between the retailer and suppliers was more affected more by institutional pressures in some categories (e.g., role of labelling in the fish and poultry category) and other external stimuli; the structure of supply chains influenced the extent of direct interaction with suppliers operating at the 'carbon hotspot'; and the type of supplier (own label or brand) also affected strongly the nature of the interactions, so too the personal characteristics of supplier owners.

As early reflections the research highlights Retailer A's reliance on implicit relational capabilities at a category level, supported by explicit relational capabilities through the 'Climate Change Team's carbon reduction programme'. This begs the question of whether there is a more efficient and effective way of aligning 'interests', 'actions' and 'impacts' across categories. Would a more explicit relational capabilities approach be better, for example, which has been pursued by one of Retailer A's direct global competitors? Or would it be a more implicit relational capabilities approach, akin to Henderson's (2008) 'relational contract'? Relational contracts are essentially understandings/expectations that frame actions now and in the future; they are enforced by trust, cannot be written down and can only be assessed subjectively; they are difficult to imitate – they must be learned – and are cascaded throughout the organisation by individuals. The study reveals that Retailer A falls a long way short of having a relational contract that supports carbon reduction. Or might an approach that combines explicit and implicit relational capabilities be the most promising? Explicit relational capabilities may well be needed in the short term to survive the business cycle but, by their very nature, implicit relational capabilities that add up to a 'relational contract' are a more robust strategy to tackle the difficult long-term challenges posed by carbon reduction in the supply chain.

5.3. *Yoram Krozer and Han Brezet:* Natural Blends, Sustainable Innovations and Income Growth

Krozer and Brezet discussed innovations for both income growth and the generation of better environmental qualities. This is possible in theory but progress in practices is slow. They argued that social pressures to contain pollution were effective insofar they invoked environmental policies all over the world, which enabled to reduce pollution in some countries at decreasing costs. This is achieved in the past five decades despite fierce resistance of vested interests in industries and policymaking. Economies are still extremely wasteful but there is progress in many countries toward eco-efficiency, which is illustrated for the European Union. In the future, a growing demand for sustainability is expected. This demand is not primarily because of costly natural resource in consumption, they decrease in real prices, but due to the changes in social structures towards more knowledge work and growing leisure time. The knowledge work and leisure time require more personal interactions even though the labor costs increase and more environmental qualities through cleaner production and consumption. These demands invoke innovations that blend environmental qualities with artifacts. Such natural blends are highly demanded and the qualified blends are highly paid. According to Krozer and Brezet sustainable innovations through blending of natural and cultural attributes are in progress. Innovators become a driving force for sustainability and the innovative networks key elements for the resulting outcomes. These networks entail distributed business models. Environmental qualities constitute highly demanded values. The challenge is to translate this social sense of urgency into new policies and market arrangements in support of innovators for sustainable development.

Krozer and Brezet showed optimism about our progress towards sustainability. The classic environmental issues of industrial pollution are tackled at low costs or even sometimes at a benefit. They argued modern environmental problems of resource

degradation can be addressed through better technologies and consumption patterns without value loss. Sustainability brings together the necessary ingredients to become an innovation wave of the future because people do care about and are willing to pay for sustainability, provided that natural resources are tuned to their culture. Greater social value can be created based on good environmental qualities. It is a prosperous perspective, particularly for all those who research, design, develop, produce and like to use new products, services and businesses, with the challenging potential to improve quality of life through the blending of cultural and natural attributes while saving resources. Particularly, the challenge here is to foster the innovators aiming for sustainability through thoughtful and forceful policy making and social engagement.

5.4. *Lars Mortensen and Mikkel Stenbaek Hansen*: EEA Report "2012 Update: Consumption and the Environment"

Mortensen launched the new report of the European Environment Agency (EEA), "Consumption and the environment -2012 update". He presented the facts, noting that environmental impacts of consumption are felt worldwide. Furthermore, he illustrated some possible new roads to sustainable consumption, reflecting on complexity, integrated solutions and a paradigm shift.

With regard to the facts, Mortensen argued that "what you can't measure, you can't manage" which is why the EEA has developed indicators for measuring progress towards sustainable consumption and production. He presented a number of graphs from the report illustrating facts and tendencies. One graph showed that the consumption categories in Europe that cause the highest greenhouse gas emissions and material intensity per Euro spent are food and beverages; furnishings, household equipment and maintenance of the house; housing, water electricity and gas; and transport. He argued that contributions to decreased pressures are mainly from eco-efficiency improvements, while the EEA has shown that changes in the consumption mix have not contributed to decreased pressures. He showed that a high share of environmental impacts, including from the greenhouse gas emissions, from consumption in European countries is embedded in imports from other countries. Furthermore, he showed that in a number of areas, including household appliances and transport, that while eco-efficiency for each product is increasing, the total number of appliances is also increasing and outweighs the efficiency gains.

Mortensen provided an overview of existing EU sustainable consumption policy instruments, including economic instruments (for example, the EU Energy Taxation Directive), regulatory instruments and standards (for example the EU Eco-design Directive), voluntary instruments (for example, the EU Retail Forum) and information-based instruments (for example the EU Eco-label Regulation). He argued that we are in a new era of increased complexity which requires integrated solutions, including from Rio+20 and from a future EU 7th Environmental Action Programme, and which requires common but differentiated leadership from governments, business, and citizens/consumers.

In conclusion, Mortensen argued that he sees a paradigm shift in the role of policy makers, consumers and companies: from focusing on reducing environmental impacts of

production to reducing impacts from consumption; from protecting national and regional environments to protecting the environment worldwide; from seeing technology as the solution to seeing technology and changes in behavior as the solution; and from governments taking lead to common and differentiated leadership of governments, companies and consumers.

5.5. *Philip Vergragt:* Discussant Reflections

In a first observation across the papers Vergragt noted that each of these papers contributes to our collective understanding of unsustainable consumption and what to do about it: Echegaray focuses on diffusion of technological innovation through smart marketing; Dewick focuses on the role big retail business could play both in the supply chain and in choice editing; Krozer focuses on an optimistic message that people become more and more interested in natural blends; Mortensen focuses on policy measure to implement sustainable consumption. Yet according to Vergragt, each of them seems to scratch the surface: Business itself is driven by a profit motive, by competitors and financial markets in need of reform. Marketers could play a much more pronounced role in reshaping our consumer culture into a culture for responsible living. Policy documents like EEA's report could go deeper in criticizing the implicit growth paradigm and business-oriented culture. Green blends could go deeper in what constitutes a good life, and what role material throughput plays in it. In detail:

Echegaray's paper could gain with more social actors involved notably from government and environmental organizations. Also, lessons could have been learned from implementing ecolabels in other countries (Europe) and of cases of successful PV introduction.

As main issues Vergragt highlighted the pay-back time and who reaps the benefits; the owner-renter problem and what happens if a house is sold. He referred to the US where a lot of research has been done on new financial schemes.

Vergragt found Dewick et al. interesting because of the focus on cultural aspects (especially world view), structural aspects (especially organizational structure, collaboration, leadership) and also somewhat on technological aspects, especially in differentiation between product categories (dairy vs. bread). The paper raises the discussion how much we can expect from retailer firms without strong government regulation of products: Can we expect big retailers not only to set ambitious C-reduction standards, but also to deliver through supply chain management? It seems from the paper that a lot of organizational learning is taking place, often through trial and error; and that a sense of urgency may be missing, even in the highest levels of management. More outside pressure could probably improve learning processes. It also raises the question of how incremental or radical the changes are: It was suggested that most changes are fairly modest and incremental; and that strong pressures on suppliers could have a strong effect.

Regarding Krozer's contribution, Vergragt quoted from the paper that a good environment is usually considered a blend of attributes from the arts, technology and nature that can be called a 'natural blend'. Today the demand for natural blends seems overwhelming. Just consider that wellness resorts flourish, heritage sites attract masses,

regional products have premium prices, thousands of people are city gardeners, millions go camping on weekends, the market for cottages is growing, and more. Nature can also be a cultural event. People also pay a high price for these natural blends. Many inventive entrepreneurs take advantages of the growing demands for the natural blends.

From this background, Vergragt found the arguments in the paper hard to understand, because it mixes belief in technological progress with “natural blends” and “distributive economy”. All these threads are visible, yet a clear picture is lacking. For instance, a clear definition of natural blend is not given; quantitative data are not available; is a natural blend a product, a service, a cultural entity; and what does it do for us?

The optimism of the paper does not go well for Vergragt with environmental deterioration, economic and financial crises, lack of governance, inequity around the globe, and urgent challenges such as climate change. It looks like a complacent middle class belief that technology will solve most problems that quality for life is actually improving through natural blends and distributive economies and that poverty and inequity somehow do not exist. Finally, it lacks reflections about policies.

Regarding Mortensen et al., Vergragt appreciated the very interesting study, with lots of data. He highlighted the following interesting observations: (1) Wide difference in consumption behavior across households: from 5-17 ton CO_2 suggests that a lot can be done through behavioral change. (2) Over time there have been slight improvements, mainly through eco-efficiency (technology), and some through shifts to low impact products. (3) Examples of low impact households: urban, public transit, renewable energy use, smaller living space, apartments, less meat, leisure: pay more for quality. (4) Consumption is shaped by economic drivers: process, savings rates, demographics (immigration, ageing, and smaller households), technology and innovation, urbanization. (5) The reflections chapter pays attention to new systemic thinking and the triangle of change: policy, business, and consumers.

What is missing is for Vergragt is the sense of urgency: Climate change and other environmental threats urge a much faster systemic change. Also little attention is paid for our exporting both our emissions and our waste to developing countries. Most importantly, there is no critique of the economic growth paradigm and consumerist culture; the paper is rather technocratic in that it assumes that policies (together with responsible business and consumers) will ultimately solve the problem. Vergragt doubt that unless the growth paradigm, the consumer sovereignty, and the financial system are addressed as well, changes will remain marginal.

5.6. Questions, Answers, and Discussion

The discussion mentioned a certain complacency with the existing policy-mix. Another remark was that relative decoupling was often achieved by exporting the footprint to developing countries. The importance of setting targets in order to measure progress was mentioned.

6. Interactive Session World Café

The interactive session took place in three different groups, all following the same questions:

- What excites you about sustainable consumption and production? What are the key insights / emerging issues in this research field?
- How do you see the Global Research Forum developing?
- What contributions can you make?

The contributions of the participants were first noted individually, then discussed in breakout groups of four or five people and finally explained to the group and summarised on cards. The notes below cluster the findings and suggestions of all cards how to develop the GRF after Rio. They mainly reflect questions two and three.

Immediate follow up of the workshop:

- Press release, workshop report, list serve, web documentation

GRF Strategy

- Expansion of the GRF community in different regions and countries
- Development of the forum in terms of its agenda, scope, reach and growth
- Governance structure for GRF including administrative structure – draft proposal on the possible democratic structure for GRF governance and terms of reference
- Institutional membership of GRF
- GRF's role as research network to disclose research results
- Forum not research network maybe Global Research Program

Publications

- Policy briefs and other similar disseminating work
- Special Issue

Research Network / Forum

- 'State of SCP literature' report and identifying top articles in each field (connecting with experts), e.g., abstract service (SCP related papers in various journals from all relevant disciplines such as psychology, marketing, ecological economics, consumer research and at least 10 more areas) for SCP literature curation
- Encouragement of active contribution to this community

Research Program / Theoretical Framework for SCP field

- Collaborate on research and put together a more comprehensive theoretical framework on SCP.
- Provide scientific advice; help in defining research questions
- Develop a research proposal for the forum and implementing the project which involves partners from across the world

Network database

- Populate a database / network
- Build a GRF website to make knowledge accessible in order to fundraise – database should be searchable by global, regions, countries; food mobility energy; law sociology economics engineering, database of research / practice work - synthesis across regions and disciplines
- Develop an online database / website that gathers data and explores different SPC practices and communities of practice
- Use mapping methodology for exploring the SPC movement, mapping actors in the SCP field and developing an approach to mapping

Young researcher network / Summer School

- Links with some academic communities as well as big universities, especially other graduate students with synergistic interests – urban sociology, consumer studies – developing world
- Link to young researchers (PhD) Masters in the field of work (multiple disciplines) – Potentially start a 'young researchers' forum / journal
- Summer School for Young Researchers

GRF Regional Networks

- Tremendous amount of commitments to develop research linkages o SCP within Latin America and between LA and other regions. Latin America (10) , Asia (7), Africa (3), Eastern Europe (2), Western Europe (4), North America (5)

Comparative studies

- Lively interest in cross-regional comparative studies and actions

Research areas – linked to SCP

- exchange **environmental law** information

- bring experience from a **faith / values** perspective to discussions
- could think about / present status of **subjective wellbeing** literature as it pertains to SCP
- Looking across countries to define what is **wellbeing** and **happiness**
- **sociological and anthropological studies**
- bring our challenges from talking with people through **Akatu** to the research forum
- provide results from a research project about **transitions to a low-carbon society**
- provide **scientific advice**
- collaboration on research on **resource throughput** – waste reduction, product longevity, redesign/ repair/ repurposing
- **ecological, carbon footprinting**
- regional perspectives from **Baltics, Eastern Europe**
- research on sustainability of **catching-up growth**
- I'd like to participate in research about **sustainable consumption**, specifically on **emerging countries**
- identify what are the research needs from a **consumer organization perspective**
- collaboration on research on **collaborative consumption** – sharing, renting / hiring, new business models
- bring perspectives about **consumers attitudes / behaviors** based on continuous **international surveys**
- **sustainable consumption governance, policy approaches and tools**
- research on **consumption** in general – help people think about what consumption means by presenting the results of my own research
- share our experience on the practice and our attempts at **sustainable consumption at the Ecostore** – for over 16 years now and the local organic markets
- compilation of **community initiatives on sustainable consumption**
- ideas arising from my research activities on **grassroots innovation**
- update / contribute knowledge with **business case studies** from **empirical research** related to the SCP agenda

Funding – proposals / Funding offers

- applying to collaborative research projects on sustainable consumption
- Developing a research proposal for the forum and implementing the project which involves partners from across the world, research funding could be generated through GRF

- work GRF people into proposals where appropriate and relevant
- connect with UN Habitat
- draft outline of opportunities within the EU 7th Framework
- connect with specific governments

Workshops / Future GRF events

- another global meeting in 2-3 years
- host a GRF international conference in Singapore in 2014 including with live streaming possibilities
- partners with GRF in some events in Asia (World Resources Forum in October 2012 in Beijing)
- organize regional / local workshops / events that would act as a platform for sharing knowledge, disseminating findings, tailoring solutions, involving stakeholders
- SCORAI international conference (2013 Clark University – June)
- facilitation and design support for future GRF workshops

Education on SCP

- developed curriculum notes for a module on consumption for end-of-high school teachers and pre-university– experience with education on SCP (Bachelors and Masters level) is already available

Practice – Research Connections

- take the knowledge to the practice
- working with practitioners
- I can help in connecting the GRF to the local practitioners / researchers in the field of SCP
- bringing insights from Practice-Research Engagement literature and from the SCORAI Practitioner Task Force
- engage companies

Policy linkages

- link practice of UN-level policymaking (lobbying) on SCP

- it's very important to launch the research to policy makers and even advocacy for more sustainable production and consumption policies
- sustainable consumption governance, policy approaches and tools, link with NGO community and international policy development
- SCP policy development
- policy briefs and other similar disseminating work
- link to policy engagement on SCP at the North American and international level – 10YFP

Partners / Linkages to Other Networks

- connect GRF to others with interest / experience that is relevant e.g., European Environmental Professionals, Greening of Industry, ISIE or APRSCP, Sustainable Transition Research Network, stakeholders in Africa, SCORAI Europe, Degrowth Community
- identify university programs that could be contacted by GRF in order to publicize GRF and attract Brazilian researchers who are developing SPC researchers
- academic communities as well as big universities, especially other graduate students with synergistic interests – urban sociology, consumer studies – developing world

7. Towards an Ecological Macroeconomics

7.1. *Tim Jackson and Peter Victor:* Keynote

The keynote featured current developments of the model addressing some of the critical weaknesses of the mainstream economic paradigm, most notably displayed in the recent financial crisis, whereby the conventional economics discipline failed to integrate the financial and the real economies. A key challenge is thus to integrate a conceptual framework within which macroeconomic stability is consistent with the ecological limits of the planet. The problem is the assumption of the structural need for economic growth implicit in conventional economics, growth which puts increasing stress on natural resources and environmental quality. The conventional capitalist model does not offer the option of a steady-state position, driving one of two states: growth or collapse.

To test different assumptions and scenarios (e.g., business as usual, low-growth, no-growth, and de-growth) in the theoretical model, Victor and Jackson's work draws on the latest version of the World3 systems dynamics computer model used for the Club of Rome's historic Limits to Growth study. Named GEMMA (Green Economic Macro Model and Accounts), the model aims to address the following questions:

- Is economic growth required in advanced economies to maintain high levels of employment, reduce poverty, and meet ambitious ecological and resource targets?
- Does stability of the financial system require growth in the 'real' economy?
- Will restraints on demand and supply in anticipation of or response to ecological and resource constraints, cause instability in the real economy and or financial system?

Investment is critical to the evolution of any economy. Thus it is essential to distinguish the different categories of investment which shape different outcomes. Evolution towards a "steady state" economy is associated with shifting slower growth in government expenditure, net investment and productivity, a small and declining net trade balance, cessation of population growth, revenue neutral carbon tax, increased government expenditure on literacy, anti-poverty and health care programs. Further development and application of the model will allow policymakers, researchers, and the public to also explore the implications of different scenarios.

7.2. Questions, Answers and Discussion

Questions arose how money is reflected in the model ,respectively how the model reflects virtual money. Additionally, it only lists two sources of money: state and households. What about business money?

The authors confirmed that indeed income distribution between various actors could also be more detailed. However, business sectors are also in the model. Further on, they agreed on the need to reflect virtual money in the accounting system. It is no longer permissible to look at the GDP growth without looking at the government balance sheet.

It is further needed to tie monetary system with the real wealth. The model does not have complicity to look at the speculative money. Creation of money as debt is integrated in the model, e.g., 180% of GDP is the debt rate in the model, which is a challenging amount, but the question is where is this debt held and how it is commodified.

Further questions were raised about CO_2 scenarios and the inclusion of physical input-output models. It was expected in both cases that those would lead to quite different outcomes.

Jackson and Victor replied that they would like to include those aspects but for the time being it will mostly be a fiscal model. They just started with traditional indicators as it is fundamental to continue current discussions on economics.

As a final concern was raised that governments might not 'buy the model' it as it clashes with its ideology. Why should governments listen?

Jackson and Victor confessed there is not a straightforward answer but necessity and curiosity might play a role. Governments will be not the first to pay attention, but there are others who are interested in alternative solutions, which gain credibility as governments pick up on them.

8. Green Economy or Degrowth?

8.1. *Romualdas Juknys and Genovaitė Liobikienė:* Sustainability of Catching-up Growth in the Extended European Union

Juknys and Liobikiene analyzed a compatibility of an economic growth with the sustainability concept. The extension of EU borders and financial markets as well as technological support, has resulted in the quick convergence and catching-up growth of production and consumption in the newly accepted EU member states from the former Soviet bloc. The fastest growth is characteristic of the Baltic States, which were most deeply integrated into the economy of the former Soviet Union and experienced the deepest transitional decline. Despite some increase in the use of energy and other natural resources during the period of rapid growth (2001-2007), in general, the development of the new EU member states looks promising from the perspective of sustainability. Along with the one-third increase in GDP, final energy consumption and emissions of greenhouse gases have almost halved and the emissions of acidifying compounds have declined three times during the period from the reestablishment of independence up to the current economic crisis.

Decelerating economic growth is a characteristic feature of mature economies. The GDP growth rate has decreased approximately three times in the Euro zone over the 50-year period before the current economic crisis. A conclusion could be drawn that technological progress is only able to reduce the rate of economic growth deceleration and delay the phase of "zero growth". If some reasonable regulations on the maximal use of natural resources (caps) are implemented and efficient brakes for massive advertising companies and other means of artificial stimulation of consumption growth are established, further decelerating economic growth can be expected after recovery from the current recession.

However, even decelerating growth has resulted in the rapid increase of the ecological footprint of the developed countries; currently exceeding allowable limits by approximately three times on average. The necessity to reduce the ecological footprint of the developed countries down to allowable limits (1.8 ha) in order to make space for faster economic growth of developing regions is evident.

The experience of the developed countries indicates an increase in efficiency of natural resources can, at its best, limit growth in total resource use and avoid a rebound effect. Taking into account that in the developed countries more than two thirds of the ecological footprint is related to the use of traditional energy (carbon footprint), the de-fossilization of energy sector and essential acceleration in the use of renewable energy is the most promising option to reduce carbon footprint. Since materials can be recovered, this option, if properly used, can considerably reduce the demand for the newly extracted materials (input) with a simultaneous decrease of waste (output).

If the efforts to increase resource efficiency (both materials and energy) to accelerate the transition from fossil fuel to renewable energy as well as to reduce the demand for the newly extracted materials by much more intense their recovery are essentially strengthened, a triple reduction in the current ecological footprint seems an attainable task for the developed countries. According to Juknys and Liobikiene, decelerating and more environmentally friendly growth gradually approaching the “zero growth” phase should be considered as the most promising and realistic option would allow to reduce ecological footprint of developed countries considerably without radical de-growth of consumption and production, as well as without social revolutions, which, as a rule, lead to unpredictable and undesirable consequences.

8.2. *Andra Blumberga, Dagnija Blumberga, Gatis Bazbauers, Gatis Zogla and Ilze Laicane:* Sustainable Development Modeling for the Energy Sector

Sustainable residential energy consumption involves a complex, socially embedded and socially constructed market. Bazbauers, on behalf of Blumberga, Blumberga, Zogla and Laicane, used a system dynamics approach to explore the short-, medium- and long-term impact of different national consumer-oriented energy efficiency policies in the building sector. It was verified by a case study using historical data from subsidy scheme and accompanying policy measures in Latvia. The results indicate that the model is valid. Simulation results show that national energy efficiency goals cannot be met by 2016 and the absence of major consumer-oriented policy tools slows down the diffusion process of energy efficiency projects.

The paper discussed the activities needed to reinforce sustainable energy consumption in the residential sector. The model for Latvian housing sector was built before the availability of historical data about energy efficiency subsidy scheme and complementary policy tools. The data available from the Investment and Development Agency of Latvia were used to test the model for period between 2009 and 2012 in this paper. The validation tests provide support for the structure and behavior of the model. Results reveal close agreement between the historical and simulated values, which suggests that this model is valid.

While the model was used to simulate the short term events between 2009 and 2012, its main purpose was to determine the long-term development of the system studied, considering delays, non-linearity and feedbacks. As simulation results reveal, when the subsidy scheme ends, the diffusion process slows down unless additional policy measures are taken. The structure of the studied system dynamics model reveals that residential energy efficiency market is socially embedded and socially constructed.

The model presented is a useful tool that can be adapted and tailored to specific social, economic and environmental conditions of other countries and residential energy consumption sectors.

The results of this study agree with the previously work and indicate that savings reported in Latvia's second Energy Efficiency Action Plan are not generated by technological improvement of energy efficiency measures but have to be attributed to reduced demand for energy services through reduction of comfort requirements caused by the economic downturn. Results also agree with another study (Blumberga et al., 2011) showing that the Action Plan goal cannot be achieved by the year 2016.

The data used were available after two years of operation of the subsidy scheme. Further research will continue to elucidate the verification of the model based upon energy consumption monitoring data as soon as they become available. Improvements and adjustments will be made in the model for different effects, such as rebound effect, structural effects, etc. This, in turn, can bring about improvements in energy policy planning.

Bazbauers summarized that system dynamics has a high potential for sustainable end-use energy policy planning at both national and sub-sectoral levels.

8.3. *Sylvia Lorek and Joachim H. Spangenberg:* Sustainable Consumption within a Sustainable Economy—Debunking Buzzwords to Develop the Content

Lorek and Spangenberg reflected whether the green economy theme dominating the international political agenda is finally an attempt to put into practice what was promised 20 years ago, or a substantially different understanding of what needs to be accomplished by the world nations.

According to Lorek and Spangenberg, the green economy is less than sustainable development, which still provides the framework, but it has been gradually taking over the debate. Rather obviously green economy does not substantially address the social dimension of sustainable development, and least so in terms of sustainable consumption, the minimum consumption to be guaranteed to allow for a dignified life (in other contexts called the 'floor' of the environmental space or the *linea de dignidad*).

Regarding the upper limit of permissible consumption under a sustainable development framework, it turns out that a green economy approach does not respect that limit. It is in line with what has been called a form of weak sustainable consumption, but not with the strong sustainable consumption needed for the transition to a global sustainable development pathway.

For all agents involved (governments, civil society organisations) this is a new challenge. Lorek and Spangenberg highlight that buzzwords such as “sustainability” or “sustainable consumption” are no longer sufficient to indicate intentions; they have too long been used for labelling plans and policies falling short of sustainability in the initial sense. Thus a more precise definition of the meanings associated with a specific use of the term sustainable consumption is needed to assess their possible contributions to sustainable development.

One of the major challenges for Strong Sustainable Consumption Lorek and Spangenberg identify is not in line with the dominant political and societal worldview, that is, the belief in economic growth as recipe to cure all ills. Countless documents manifest this, such as the EU 2020 Strategy, the EU SCP Action Plan and last but not least UNCSD’s ‘The Future We Want’.

Thus those promoting sustainable consumption beyond “greening the market” as a key tool should sharply differentiate between ‘weak’ and ‘strong’ forms in order to structure the debate more clearly. In particular, the policy instrument of information provision (such as the call to switch off stand-by appliances), has proven to be as ineffective in the policy instrument tool box in the debate about sustainable consumption priorities and needs to be accompanied by monetary and regulatory instruments.

Lorek and Spangenberg recommended that nongovernmental organizations distance themselves from ‘weak’ sustainable consumption. To foster the societal acceptance for Strong Sustainable Consumption policies NGOs have a strategic role to play by facilitating broad dialogues which clearly point to the future challenges such as peak oil, resource scarcity and ecosystem collapse (discussions business and politics often try to avoid), identify preventive measures and then popularise them. Such an approach can no longer draw on analogies to marketing strategies. Rather it must mimic political strategies by articulating what it stands for and which values it is driven by. Increased political effectiveness also has to grow from improved coalition building by NGOs with environmental justice organisations (EJOs) and other civil society organisations, such as academia or trade unions. Experience shows that lobbying efforts are more successful if they bundle arguments from various groups of society.

8.4. *Anthony Chiu:* Green Economy and Sustainable Consumption and Production (SCP) in the Philippines

Chiu assessed the potential towards a Green Economy (GE) in the Philippines. Based on basic available statistics, he first provided an overview of the state of the country’s socioeconomic profile, status of the natural resource base, and the impacts of economic development on the environment. In terms of resource utilization, material flow accounts of the country show that there is no decoupling of economic growth with resource use. Moreover, economic development and the continuous demands of the population have resulted in atmospheric emissions, waste generation and water pollution. Water and energy demand are forecasted to increase in the next decades. While legislation to protect and manage the environment and natural resources is in place, these have yet to demonstrate nationwide potential in supporting a GE.

In consideration of the scenario of the country, Chiu recommended four areas in working towards a green economy:

Partnerships: Craft and mainstream sustainable consumption and production (SCP) strategies in the use/consumption of natural resources towards economic growth. Clear sustainability targets with indicators (e.g., resource use intensity, emissions, green public procurement) should be identified at both at the national and local levels. Enforced with models and examples, these targets should be properly communicated and identified to the stakeholders. Relevant agencies' programs should identify the SCP key success factors through benchmarking with Asia Pacific regional neighbors. A knowledge-bank can enhance the access of industries to the best practices. Global SCP framework and international platform should be utilized and adopted to serve the local needs. Fostering partnerships through scientific data sharing, South-South collaboration, indigenous resource R&D, and other measures should be encouraged to acquire the benefits of disseminating and operationalizing these strategic initiatives.

Policy: Mainstream SCP in the context of climate change strategies initially through strengthening inter-agency cooperation and coordination. SCP indicators and criteria should also align with the long term economic plan in order for a budget to be allotted for the enforcement of environment and natural resources management and protection policies. The health of the ecosystem must be considered as a key asset to the livelihood of the communities' dependent on ecosystem services, as well as eco-tourism. It also provides a resilient property to various economic and social impacts due to the climate change scenario. In addition, translating the policies, programs and initiatives of the public and private sector on green management and technology into investments will create a momentum for green jobs generation and attract more investors, emphasizing to them the viability of such investment for sustainable economic growth.

Capacity Building: Continue promoting two components, namely: greening the industry and promoting green industry. Priority sectors such as high-energy utilizing, high-carbon emitting and highly polluting industries, as well as industries topping the GDP generation, should be priority partnership targets. Upscaling the activities in this arena include eco-industrial development (eco-zone, park, estate; eco-town models by Japan and the Climate Change Commission), life cycle thinking, programmatic environmental management system, green public procurement and ecotourism, among others.

Enhancing the capacity and knowledge of those involved in the planning and policy making bodies of the government can help build and define a more structured and focused development path.

Further (Scientific) Work: Conduct a more detailed analysis of the economic subsectors, namely, agriculture and fisheries, mining and quarrying and manufacturing is critical. Undertaking comparative studies of resources per unit GDP or resources per unit capita and resources in terms of its subgroups such as land, agriculture, mineral, energy and water is recommended to evaluate the status of each resource which will shape development priorities. Although sustainable production patterns are often presented as the most important need for economies, there is an equal need to promote sustainable consumption patterns. This is relevant both for individual consumption decision of citizens, and also for corporate and public consumption decisions. Civil society and education agencies could play the key role. Government should encourage and

empower these valuable sectors as partners in the promotion and implementation of SCP programs, including the eco-label, public green procurement, extended producer responsibility, environmental technology verification, and others. These efforts should be continued and monitored with sustainability indicators.

8.5. *Joachim H. Spangenberg*: Discussant Reflections

Spangenberg mainly posed questions to the different presenters.

The special case of catching up

Juknys and Liobikienè described the case of catching up from a low investment capital, inefficient technology based planned economic system, to a capital surplus situation where investment opportunities are searched for and international efficiency standards are introduced through a capitalist economic system.

The benefits of this transition are obvious. They include low capital cost, availability and comparably low technology cost (international development is already rather high on the learning curve), a dynamic driven by markets and competition and last but not least an institutional-legislative framework shaped by EU (environmental) standards and directives.

Questions:

Was growth driving efficiency, or efficiency driving growth, or who and what else was driving both of them? Which strategy was chosen for reducing CO_2 emissions: fuel switch or efficiency increase? How will the country reach 2 t CO_2/cap * yr without degrowth?

The Philippines – The not so special situation presented by Chiu.

The Philippines are a middle income country, with politics currently absorbed by an iconic fight against corruption (symbolised by the former president), but one debate seems to have died down: The end of the nuclear power option seems near. Although a full renewable energy system is possible and would benefit rural development, support is weak, the coal lobby strong, and Metro Manila has more sway over politics than the country side.

Questions:

Is “reducing consumption aversion” a biological or a social constant? Is ‘better’ a possible substitute for ‘more’? Within which lifestyles, and from/to which level of consumption?

Why should agricultural productivity grow (this usually increases chemical inputs, energy consumption and environmental pollution)? Where should it grow?

Why should SC appeal to poor farmers in Ifugao or Laguna? Or is it an issue for Manila, a discussion item for the shopping malls?

How much growth of mining is sustainable (given resistance and murder), how much growth of agriculture, industry, services – and of population?

Blumberga et al. look from a sector perspective rather than a country perspective. Systems dynamics modelling can accommodate more of the real world's complexities than econometric (global or partial) equilibrium models can. But how much? Is such a model fully reflecting the real world mechanisms, or where are its limits? Should it be combined with agent based modelling?

Questions:

Is the model capable of making reliable predictions, and if nor so which are the factors not reflected, causing uncertainty?

How far is the outcome determined by the assumptions made on the input side? Is the model, in the end, deterministic or not?

What do we learn from thinking through such questions for the opportunities for and limits to model based policy advice?

Regarding the contribution of *Lorek and Spangenberg,* he identified a more fundamental critique, and a broader context as they claim that traditional approaches such as consumer education, labelling etc., for all their merits, are insufficient to provide the change we need, and that Green Economy is no solution to our woes.

Questions:

Is it plausible, and if so, why, to include the issue of a consumption minimum into the sustainable consumption approach (the linea de dignidad)?

Is it feasible to limit consumption not just by promoting voluntary action, setting an upper limit (the Greed Line)?

Is it necessary to promote not only efficiency and quality of life, but a limit of consumption in absolute terms? Or even frugality?

In case the answer is 'yes', what could be a strategy to progress towards these aims?

8.6. Questions, Answers and Discussion

In a first round, some presenters responded to the discussions questions.

Juknys confirmed that resource productivity increase was outcompeting economic growth during the past period. Post-Soviet countries inherited inefficient technologies. Low economy countries in similar technological situations grow faster.

Chiu emphasised that micro hydro and solar energy are some of the RES options for the country. There will be an act on waste reduction to increase organic waste use in energy and recycling. In each region there is a local environmental officer controlling business activity.

There was a discussion about why NGOs in many cases are moving towards weak sustainability and as well as the discourse on equity.

Lorek explained that equity is not the main driver of consumer decisions in Europe even in the context of sustainability. However, the network 'Smart CSOs' connecting various big global NGOs is starting to look at the bigger picture including values, etc.

Regarding the example of Blumberga et al., the question was posed what are the possibilities to use modelling?

Gazbauers responded that every model is limited, but a good system dynamic model is interdisciplinary to cover diversity. This brings new knowledge. There are several system dynamics models. There is no one answer, but it is necessary to know specifics of the problems being analyzed.

9. Grassroots Innovation Movements and Sustainable Green Economies: Dilemmas, Framings, Possibilities

9.1. *Adrian Smith, Elisa Around, Mariano Fressoli, Hernán Thoma and Dinesh Abrol*: Keynote

Smith explained that technologies for social inclusion in Latin America are a recent manifestation of grassroots innovation movements that can be traced back to the appropriate technology movement of the 1970s and earlier. Common to these movements is a vision for socially just innovation processes more inclusive towards local communities in terms of the processes and outcomes involved. Comparing technologies for social inclusion and appropriate technology movements reveals three enduring dilemmas associated with grassroots innovation: attending to local specificities whilst simultaneously seeking wide-scale diffusion and influence; being appropriate to existing situations that one ultimately seeks to transform; and, working with project-based solutions to goals (of social justice) that require structural change. Responses to each dilemma spur the creation of different forms of knowledge, and which is of value to innovation policy debates. Constructive policy engagement requires frameworks for capturing and understanding the knowledge being produced. This has to be done with great sensitivity and appreciation towards the worlds of grassroots innovation movements: too prescriptive and rigid a framework risks both distorting and bracketing out inconvenient forms of grassroots knowledge. With sensitivities in mind, Smith and colleagues elaborated four framings of knowledge production in grassroots innovation movements: (1) *coping strategies becomes 'local ingenuity'*; (2) *visionary vanguards becomes 'empowering inclusion'*; (3) *R&D labs for utopia becomes 'structural critique'*; and (4) *reflexive plurality remains the same*. Taken in the round, these framings indicate how grassroots innovation movements can contribute to innovation policy debates.

Any encounter between grassroots innovation and mainstream innovation will clearly present challenges to both sides. In order to win some of the mainstream over to the approaches of grassroots innovation, advocates will have to prove their worth on conventional terms of innovation policy; when ideally they wish to change those terms. Mainstream innovation policy actors will have to let go of certain agendas and resources, in order to open up and transform the directions of experimentation. Are ideas for socially just innovation emanating from the ‘experimental spaces’ of grassroots innovation movements sufficient for mainstream innovation regimes to accept a redistribution and opening up of agendas and policy procedures? Meaningful dialogue requires the identification of common ground. It is unclear currently just how broad that ground is.

Any encounter will put pressure into its practices and bonds with communities and beneficiaries. Thus, framing grassroots innovation movements as an 'experimental spaces' has to remember that inherent to innovation are risks of failure as well as success. Of course, many poor people live with uncertainties every day, and are forced to take risks and improvise simply to survive. Grassroots innovation movements, and an innovation policy attentive to these movements, needs to ensure poorer communities are involved in solutions that improve their livelihoods, and not merely welcoming them as participants in social learning processes benefitting others.

Yet, the development of a broader power base for grassroots innovation could also mean re-defining it in ways that lose sight of its more radical roots, and the radical routes to democratising technological change processes. Entrepreneurial elements of a grassroots innovation might get selected and emphasised that fit easiest into the prevailing market structures. The more transformational package becomes lost. The holistic, local food economy visions of the early organic food movement, for example, or the autonomous, green housing systems from the green building movement, are being incorporated as some limited elements in essentially unchanged, globalising food and housing systems – ingredients for higher-value products without synthetic chemicals, or higher-insulation rates in resource-intense housing.

Some will view mainstreaming grassroots innovations through their commercialisation as corrupting and co-opting without really improving the economic position of the pioneers. Others will see this as a sign of innovation success. These appropriations, which adapt to contexts rather than transform them, pose dilemmas for the original grassroots movements and for the ethics of learning from them. There are clearly issues of cognitive justice here, as well as procedural justice. Reactions to mainstream appropriations such as this can spur some activists towards reinvigorated and refocused searches for more socially just alternatives with the grassroots. Our point is that this kind of dialectic is an important source of reflexivity in the development of societies and economies, and should be valued as such. Socially just innovation may not emerge in the forms envisaged by grassroots innovation movements, but the original purposes concerning inclusive development need to be kept in view by anyone interested in more democratic forms of technological change not just for the poor, but also for everyone.

9.2. Emmanuel Prinet: Discussant Reflections

Responding to Adrian Smith's paper and presentation, Prinet indicated that what is attractive with grassroots innovations and the movement around technologies for social inclusion are the multiplier benefits that these innovations induce; indeed, they help meet specific and local needs while exploring what is an 'appropriate technology'; and they act as catalysts for social transformation, such as building community and fostering social inclusion.

He shared with the audience two examples of technologies for social inclusion which illustrate these multiplier benefits. Both have a commercial aspect to them, but still are inspiring examples of technology for social inclusion:

Le Relais, France, is a cooperative set up 30 years ago to fight social exclusion. It hires unemployed people who face barriers to employment. The staff elects their own boss

amongst their peers. Everyone who works there is taught how to do everything (sew; drive delivery trucks; sell; etc.). The main task is to collect clothes, which the staff fix and resell at affordable prices. Clothes that can't be resold are chewed up into an eco-insulation material called Métisse. Le Relais also developed a solidarity programme with three African countries through which used clothes are shipped and sold locally. A housing programme was developed for Le Relais's staff, in partnership with the municipality and abandoned/underused building owners

Sole Rebel, Ethiopia is a small business created by Bethlehem Alemu, Ethiopia, in 2004. Its underlying goal is "to make the world a better place" and "to bring jobs to the community". The company designs fair-trade shoes from used rubber tires. Sole Rebel sources and makes materials locally, i.e.: hand-spun, hand-loomed organic fabrics. In addition she's harnessed the community's artisan skills.

Regarding Smith's paper Prinet summarized the three enduring dilemmas in grassroots innovations movements: (1) Attending to local needs, yet thinking about wide-scale diffusion and influence; (2) Being appropriate to the situation one seeks to transform; and (3) Working with project-based solutions to goals that actually require structural change. In addition, he pointed to an idea not captured in the paper, at least not explicitly: there may be a type of "rebound" effect (a displacement), where the meeting of a particular social goal and responding to a local need may end up having an unintended negative effect on the local ecosystem or local economy. Insofar as we're interested in transforming unsustainable patterns of consumption and production, we need to pay attention to unintended consequences (such as the rebound effect that can be induced as a result of energy-saving policies). This is particularly important if we wish to scale up and replicate projects (as we do not want to displace problems onto other communities).

Therefore, so Prinet argued, it's important to have a systemic frame when considering technologies for social inclusion (i.e. linking small-scale efforts to larger systemic shifts that need to happen). Essentially, we need to recognize that change should not just take place at the individual level (as necessary as that may be); nor should be either "grassroots" or "top-down" proposition, but both.

Furthermore, it'd be useful to integrate a gender dimension when studying grassroots innovation movements, i.e. what is a technology for social inclusion that is gender sensitive? Also, it would be interesting to know more about how to find the right balance between process (how to engage and build community) and outcomes which projects lead to.

10. Life styles

10.1. *Mont et al.:* Exploring Pathways Towards Sustainable Lifestyles 2050

Despite 20 years of policy making on sustainable consumption, levels of European material consumption continue to increase, driving the global resource use and associated environmental impacts. Numerous initiatives for making everyday life more sustainable have been initiated by governments and businesses, mostly focusing on technological solutions of improving products, production processes and providing

infrastructure for collective services. There is, however, a growing understanding that together with technological innovation, sustainable lifestyles can be shaped through social innovation. Social innovation is an emergent field of research and practice that unveils the power of social actors, interactions and processes and may contribute to the goal of collectively finding new ways for sustainable living. However, social innovation is often seen as niche model with little relevance for advancing large-scale societal change. Mont et al. aimed to rectify this situation by envisioning how existing promising sustainable practices could evolve into mainstream sustainable lifestyles of the future. Mont presented available to date results of a European project SPREAD Sustainable Lifestyles 2050. It is a European social platform project that brings together business, research, policy and civil society to develop a vision for sustainable lifestyles in 2050. The SPREAD project fills a gap in current research on sustainable consumption and social innovation by consolidating existing knowledge, identifying trends and promising practices, and envisioning possible sustainable lifestyle futures.

The four scenarios developed within the project of sustainable lifestyles 2050 demonstrate the converging ideas and aspirations of representatives of different stakeholders. All visions highlight the importance of education and personal and collective excellence. Three out of four scenarios envision futures where value is placed on collaboration, local economies and self-sufficiency. In all four scenarios values transcend materialism and leisure time is spent on communication with others, self-development or contribution to community or professional networks. Two of the scenarios place leadership into hands of politicians, while the other two believe that the power of people will transform the world.

Several themes emerge as important for shaping and enabling more sustainable lifestyles 2050 that need to be further researched:

Enabling policy environments and the role of political leadership in initiating, supporting and enabling sustainable lifestyles, e.g.: changing the GDP-based pro-growth economic paradigm without consideration for the environmental limits, creating market conditions that encourage sustainable business practices and pro-sustainable innovation, removal of subsidies from unsustainable industries and investments into sustainable R&D and internalisation of externalities.

Providing infrastructure that stimulates and supports changes towards sustainable lifestyles, e.g., the built environment is retrofitted to enable compact living with all needed infrastructure in vicinity; the ICT technology is used to support tele-working and virtual meetings; human-centred collaborative infrastructure that supports local production and access to goods and services; or/and innovative urban and community planning based on participatory stakeholder processes aiming to create better connected communities and sustainable neighbourhoods.

Supporting alternative business models that shape, enable and promote sustainable consumption and lifestyles. Some models could be based on ideas of distributed economies, where businesses and people produce and consume locally and seasonally and shorten the production-consumption chains. Another option is that traditional businesses could be connected with social entrepreneurs and their value models may bring about more sustainable business innovation, creating a blend of profit and not-for-profit portfolios, transcending public-private sphere and individual-collective dichotomy.

The focus on community empowerment is vital as communities have to take responsibility for local development and context and to lead by example, e.g., by producing products and services designed for collective or shared use and collaboration, thereby helping to reduce the impacts of individual consumption. Communal spaces may be revitalised and become centres of local culture, personal and collective development, as well as artistic expression. Communities are also seen as becoming self-sufficient, aware and resilient in terms of resources and competence and may become the pillar of the sustainable society.

Enabling behaviour shifts and engagement: a deeper understanding of people behaviour, both consumptive and non-consumptive, and the thoughtful design of living contexts is required to make sustainable options normalised and in order to "nudge" consumers into a sustainable direction. Individual behaviour changes need to be supported and sustainable choices made easy and desirable by a range of options. Feedback loops, monitoring systems and incentives should also support people in living more sustainably.

10.2. *Marisha Anantharaman:* When Do Consumers Become Citizens? Behavior Change, Collective Action, and the New Middle Classes of India

The project of sustainable consumption and production requires a fundamental change in the way societies and governments around the world define and understand well-being, progress and development. This is a social, cultural and political project, as much as it is a material or technical one. While consumption rates in emerging economies such as India are small compared those prevalent in the developed world, the discourses of growth and development in these nations emphasize consumption as a primary indicator of progress. Many Indians now have lifestyles comparable to those common in the West. The time to reassess these trajectories of development and suggest alternatives is upon us. Anantharaman aimed to draw attention to this emerging problem, and through a case study, look at some of the ways it can be addressed.

She described how waste management is being implemented in Bangalore through the work of individuals who move beyond their consumer roles to collectively enact changes in their cultural and structural contexts to enable these practices. This involves using environmental information to motivate household behavior change and social norms to encourage and enforce these changes. This process is made possible by neighborhood-based coordination for collection and disposal, and involves multiple actors including domestic servants, hired waste workers and corporate and non-corporate buyers of recyclables. This system is supported and spread by the emergence of city-wide coordination networks, whose members transfer best practices from one site to another, and facilitate the replication of this waste management model. These city-wide coordination networks and the 'experts' who run them are now working with local government to institutionalize and formalize recycling by setting up Dry Waste Collection Centres across the city. These cases show how waste management is organized at the household, neighborhood and city levels, going from informal 'personal relationship' based networks at the level of the neighborhood, to more formal city-wide coordination and advocacy groups, and finally to the emergence of institutionalized, State-run systems. Collective action by elite citizen groups, whose members have emerged as

authorities on waste management, is key to this process of behavioral and cultural change.

What does this tell us about the potential for the emergence of a sustainable consumption trajectory in India? While many argue that recycling and waste management do not even qualify as sustainable consumption practices (because they often do not result in reduced consumption), Anantharaman contend that these cases hold important lessons for academics and practitioners. For one, they show us that elite volunteerism is a potent force in urban India, and can produce significant behavioral, cultural and structural changes. They also demonstrate that old practices can be repackaged and re-envisioned using new labels, and this repackaging can help validate and legitimize these activities again (e.g., recycling going from a thrifty practice to a green practice). They also reassure us that normative messaging can be a useful way of encouraging and enforcing behavior change in developing world contexts, just like they are in the West. However the cases also demonstrate that these systems are highly dependent on local actors whose roles and positions have older cultural roots, such as the domestic servants and waste workers who are often responsible for the actual segregation and waste management.

10.3. *Shilpi Kapur Bakshi:* Role of Local Governments in Fostering the Transition to Sustainable Lifestyles and Livelihoods and Improved Well-Being

Kapur pointed out that on the way towards sustainability there is a dichotomy of social existence in emerging Asian countries such as India and China where there is lopsided income distribution, leading to conspicuous consumption by the rich, an emerging consumer (particularly the middle) class against the many slums in cities and large pockets of poor rural areas where the livelihoods of the poor are being threatened to accommodate the lifestyle patterns and the development projects. Governments are using different kinds of instruments (policy, legislation, fiscal mechanisms and public investments) along with the emphasis on voluntarism. But what is needed in ensuring the accountability and effectiveness of these instruments is a bottoms-up approach. Role of local government in this regard is important due to their close proximity to citizens and their better position in terms of understanding the needs, challenges, and opportunities, influencing consumers' behavior and fostering the transition to sustainable lifestyles and livelihoods and improved well-being. Local governments are also used to engaging and cooperating directly not only with consumers but also with other levels of governance and economic and social actors, including businesses who are important livelihood creators, academia and NGOs who can all work together towards a common strategy of transition to sustainable lifestyles and livelihoods and improving well-being. Local governments can bring together various stakeholders with different resources and skills and complement national government functions. This paper explores efforts by the local governments in India and neighboring countries at designing mechanisms for encouraging sustainable lifestyles and identifying the gaps that can be filled through the use of some innovative mechanisms based on learning from the experiences of other countries.

Kapur emphasized the important role of the local government in encouraging sustainable consumption production and for fostering the transition to sustainable lifestyles and livelihoods and improved well-being. The challenges that are being faced in transition require a much greater engagement with the local government through the channel of distributed governance. They are the closest sphere of government to the citizen, understand their real needs, and thus they may be in a better position to respond to those needs compared to other sub-national and central government. Collaboration with businesses and civil society will be crucial in addressing some of the challenges that the local government acting by itself would face. However, this does not lessen the importance of coordination between the national, sub-national and local levels for designing meaningful policies.

10.4. *Lewis Akenji*: Discussant Reflections

Earlier Akenji warned of the trend toward consumer scapegoating, using the myth of consumer sovereignty to justify placing the major responsibility for action on consumers and away from the responsibility of governments to invest in the infrastructure supporting and promoting grassroots social innovations and lifestyle change. At the same time many governments, not to mention advertising, have encouraged rising consumption by the emerging middle classes, associating the Western lifestyle as an ideal rather than as an evolutionary cul de sac. How then to change that frame of reference? Research and advocacy are needed to identify and encourage policy and active support for social innovations in both consumption (lifestyles) and production (livelihoods, local enterprise). However, while there are numerous initiatives to point to as examples, there is the question of scale and the degree they impact on the economy. While the SPREAD initiative offered several optimistic visions of change, the barriers of poverty and economic inequity constrain the freedom to choose among lifestyles. Ironically, as citizens move out of poverty, the lure of consumerism and the symbols of personal prosperity pose a serious challenge to change agents.

10.5. Questions, Answers and Discussion

The motives for idealization of Western lifestyles in India by ads/TV raised the first question and, especially, how to change that frame of reference towards more sustainable lifestyles, locally sensitive references? And that inspired a second question: how come India that has been at the forefront of pioneering SCP in some fronts (i.e., e-cars, expanding reliance on trains, etc) could not capitalize on these when negotiating with the West and lessen the Western influences?

The interpretation by Anantharaman is that media imaginary economically depends on repeating the same success story of Western lifestyles as ideal and that government abstains from correcting this because it builds political support showcasing material growth and the consumption-boom by the new middle-class.

A similar utilitarian (not value-based) explanation helps to address the 2nd question. Kapur's comment is that reliance/pioneering upon eco-tech springs from energy safety and oil price instability considerations, not from eco-centered development strategy.

Still, about India, as an illustration of undergoing processes in developing countries, the case of changing waste management habits/attitudes raised 2 questions: 1) how widespread/impactful those practices might be across population/for the economy?; and 2) how extensive to other lifestyle areas this was and –especially- the potential to tackle/manage not just effects but causes: that is, not just waste management but consumption reduction that substantially decreases waste generation?

The scale of these practices (and its impact on the economy, for example: number of "green jobs" resulting from segregate waste collection and recycling) seems large in absolute terms (always in the thousands) but it's really small in relative terms given huge India's pop.

Waste management is perceived as fairly divorced from consumption patterns, yet stimulating a barely existent sense of how much waste each one and the building community produces which is expected to be a first step towards other sustainable lifestyle actions. The author recognizes very few collaborative consumption examples in India likely to affect consumption reduction.

The 2050 Sustainable Lifestyles project also raised many questions, conceptual and methodological. The plan assumption of a classless society with no social and cultural differences among people was contested. It takes for granted a origin homogeneity (middleclass society) as well as an effect generalization, ignoring the natural social/attitudinal diversity (segmentation) of every society and, especially, ignoring how the poor fit into the projected sustainable lifestyle scheme.

Questions also relate to the tension between the few resulting venues to change lifestyles as thought by the plan and the freedom to choose among lifestyles. This comment particularly questioned the extent to which another underlying assumption: consumer integrity/ sovereignty to choose a sustainable lifestyle was realistic as politics largely shapes decisions about lifestyles (for example, government housing credit liberalization).

Mont's reply admitted the need for segmentation but underscored the plan goal was mainly to serve as a social platform to bring stakeholders, translate/explore alternative lifestyles into actual practices and develop/validate a methodology. Future projects might take segmentation into account as well as the possibility of government/policy deviant input (corruption). However, it was argued that the scenarios were thought as policy-neutral or only led by local-level policies focused in solving local problems. Future research should take into account how national government and business models of influencing consumer choice may ultimately impact the choice for sustainable lifestyles.

A natural derivation of these replies was a question about the driving forces behind those scenarios, that is, what ultimately overcomes the barriers to reach the scenario so nicely described by the back-casting technique? And critical to this issue was the question about clues to understand the gap between consumerism and wellbeing, in other words, what refrains from reaching a wider acceptability of non-consumerism.

Mont relied on Inglehart's generational culture shift to provide clues about forces likely to materialize these scenarios. As younger generations displayed higher levels of post-materialism, acceptability of non-consumerism increases. Post-materialism heavily relies on a wellbeing priority, rather than materialistic consumption.

In any case, the 2050 Sustainable Lifestyle project was intended to map out landscapes for sustainable lifestyles (different of sustainable consumption) , "to think unthinkable scenarios" having a more inspirational role than an implication goal. In that sense, they sought to explore what these scenarios mean for specific actors such as government and business (what if collaborative consumption replaces individual consumerism? What if the political system collapses?).

11. *Mohan Munasinghe*: Research challenges for the Millennium Consumption Goals

Munasinghe explained why he first proposed the idea of Millennium Consumption Goals (MCGs) at the United Nations in January 2011: Because unsustainable patterns of consumption and production have led to multiple problems threatening the future of humanity. The global economy driven by consumption already uses ecological resources equivalent to 1.5 planets earth, with the world's richest 1.4 billion consuming almost 85% of global output, which is over 60 fold the consumption of the poorest 1.4 billion. Meanwhile, the Millennium Development Goals (MDGs) seek to raise consumption levels of over 2 billion poor. Clearly, the consumption of the rich is not only ecologically unsustainable, but also "crowding out" poor peoples' prospects and exacerbating inequalities that increase the risk of conflict.

Broad post-Rio+20 global objectives (say by 2030) would be:

- Social goal of meeting the basic consumption needs of the poor and making the distribution of consumption more equitable, within this global resource use envelope.
- Environmental goal of reducing humanity's global footprint to less than one planet earth.
- Economic goal of promoting prosperity within a sustainable economy that is economically efficient, but respects critical environmental and social sustainability constraints.

The MCGs are a key element of any SCP action agenda. Addressing underconsumption of the poor, the first MCG ensures that the basic needs of every human are met. Next, addressing overconsumption of the rich, key resource-related MCGs would target: GHG emissions; energy use; water use; land use and biomass; ores and industrial minerals; construction materials; and polluting discharges. Additional MCGs might cover: food security and agriculture; health, diet and obesity; livelihoods and lifestyles; economic-financial-trade systems; and military expenditures. MCGs for the affluent would complement the MDGs for the poor. The MCGs will help to avoid a global resource crisis, by persuading the affluent to contribute to the solution, instead of viewing them as a problem. They would apply even-handedly to the rich in all countries.

The concept enjoys broad support worldwide and is being promoted by a global coalition called the MCG Initiative (MCGI). It is action-oriented, inclusive, multi-level, pluralistic and trans-national. MCGs provide a set of benchmarks, supported by a combination of voluntary actions by rich consumers, and enabling government policies promoting sustainable consumption and production. A bottom-up approach has already been started by many pioneering individuals, communities, organizations, firms, cities, regions and nations. They prefer not to wait for broad multilateral agreements and are acting NOW, to voluntarily pursue their own specific MCGs. A parallel top-down path is seeking mandatory agreements at the UN/international level.

MCGs have strategic advantages. First, they would apply worldwide, cutting across nationalistic and regional self-interest. Second, small reductions in rich peoples' material consumption can improve their well-being (e.g. through healthier lifestyles and diets), while lowering environmental harm and freeing up resources to alleviate poverty. Third, MCGs can be implemented using an inclusive, multilevel strategy, which combines both bottom up and top down approaches. Fourth, MCGs have the potential for quicker results, by galvanizing civil society and business to 'act now'. This could quickly shift the behavior of affluent households and businesses, without relying only on long-term measures. Furthermore, rich individuals and communities could act effectively in their own enlightened self-interest, since they are better educated, have more influence and command more resources. Fifth, MCG-MDG twinning is possible – e.g. by linking MCGs in rich communities with MDGs in poor communities. Sixth and finally, MCGs could mobilize, empower and link sustainable consumers and producers (including associated global value/supply chains). The same advertising that now promotes over-consumption could be used to encourage more sustainable consumption. Values and habits could be changed society-wide to favor more sustainable behavior (such as the gradual change in attitudes towards smoking). MCGs would "empower the person to define meaningful consumption rather than permitting meaningless consumption to define the person."

Prof. Munasinghe identified some key areas for the GRF research agenda:

Candidate areas for MCGs: Are they broad enough, or should the initial MCGs be limited to a few key areas (say 8-10 MCGs, like the 8 MDG)?

Primary target groups: How do we identify them? The poor, whose basic needs are to be met, may be identified through existing poverty programmes. The rich could be the world's top 20 percentile of income earners in the world (both developing and developing countries), or should the MCGs use another criterion (such as wealth)?

Scalability and disaggregated targets: Recent work (eg., International Resources Group) provides sufficient data to identify preliminary targets for sustainable use of key resources and environmental media at the global level. How can we facilitate scalability, by building in sufficient flexibility into the definition of MCGs, so that they can be adapted and harmonized to fairly reflect characteristics at lower levels (e.g., country, province, city, community, organization, family, individual)?

Governance: How can we set up an effective governance mechanism to measure, report, monitor and implement the MCGs? We could draw on the past experience of UN programmes, including the MDGs. Key questions include:

- finding the right balance between bottom up (voluntary actions and behavior change encouraged by social pressures) and top down (govt. policies and mandatory measures to change consumption habits)

- achieving better coordination among stakeholders, including consumers, producers and govt.

- complementing and linking up with the MDGs to raise poor people's consumption along more sustainable paths.

- fitting into larger schema such as Green Economy, SCP and Sustainable Development Goals.

Long-term considerations: These areas also need to be explored, although they need not be resolved immediately to implement the MCGs. Key questions include:

- How do we improve the measurement and reporting of well-being, since current measures such as GDP imply that more material consumption is better. We need to develop and popularize measures that encourage sustainable development (e.g., include environmental and social externality costs).

- What the other indicator or target-linked measures are being pursued (e.g., SDG)? Are there any ties or synergies possible with these efforts?

- What information and measures are needed to shift values, public opinion and behavior in the direction of sustainable consumption and production in the long run (e.g., such as attitude changes re. smoking during past decades). Such information and measures should be reliable, understandable, convincing and meaningful – and speak to the needs and interests of the particular audiences they are targeting, delivered through trusted channels by trusted and credible knowledge brokers.

12. Parallel Panels

12.1. Culture

12.1.1. *Güliz Ger and Marcelo Jacques Fonseca:* Sustainability of Consumption at Home? The Cases of Brazil and Turkey

Ger and Fonseca focused on sustainability and consumption in everyday life. They addressed the call for an interdisciplinary approach by reviewing the extant research on the topic, particularly in the domain of Consumer Culture Theory (CCT). Mostly developed by scholars from business schools, from marketing departments, CCT is a stream of study of marketing, markets, and consumption which draws from sociology and anthropology and has been developed as an alternative to economics- and psychology-based studies of consumption and marketing.

The situations in Brazil and Turkey, typical representatives of contemporary developing countries, are examined through the lenses of the current sociocultural conceptual and methodological approaches. While economic stability, international recognition and industrial and market consolidation play its role on a macro level perspective, it is the

boon of consumption power and the consequent access to new lifestyles that characterize these contexts at the micro level. Individuals make sense and take advantage of these new conditions through consumption. Actually, there is an enthusiasm for consuming the goods of the world and a sense of finally deserving higher levels of consumption, indicative of a better standard of living. At the level of consumer experience, this scenario is contrary to the view that happiness and better quality of life won't come from consumption, and that it is necessary to go on a diet (consumption wise) in order to save the planet.

If the ethos and ideologies of pleasure, fun, comfort, convenience, cleanliness, fast life and saving time, freedom, fashionability, and status reign, then sustainability projects must make use of these ideals and ideologies. The various agents who call for more sustainable practices and who design projects and programs should use discourses and framing such that sustainable practices should be positioned as and thus recognized/perceived by the consumers to be liberatory, cool, fashionable, freeing, and empowering the individual.

In addition to such positioning, the findings also imply that individual consumers are more likely to participate in a sustainability project and/or adopt more sustainable practices themselves when they are convinced that their actions (a) can really make a difference in a specific context, and/or (b) have tangible and visible positive consequences for an immediate setting, and/or (c) the results – and the feeling resulting from it, and the recognition for it – can be easily shared with others. Under these circumstances, there is the greatest potential for these experiences to become disseminated and become of interest for more people, given of course that they are framed in the above-mentioned tempting manner.

Moreover, the discourse of sustainable behavior should also have some link to the 'me first' ethos. "I am a helpful person", "I am a creative person", or even "why should I do that?" are notions that have to be explored in terms of strategies of consumer empowerment related to sustainable practices. Ensuring the collaboration of a network of actors (institutions, NGOs, media, social media, online communities, local communities, etc.) will clearly enhance the effectiveness of attempts for getting broader adoption. But, such collaboration is not sufficient: sustainable practices have also to be associated with individual benefits and rewards – material or nonmaterial. Following this, companies/organizations could reward consumers with, for example, cash, "green" points, or tickets to cultural events for a minimum amount of returned garbage, as well as promoting those customers who responded to a sustainability project. Additionally, sustainable practices must be easy and convenient. For example, some Brazilians have started recycling used oils and batteries ever since supermarkets and condominiums have provided special disposal containers.

In sum, various material and nonmaterial rewarding and incentive tactics will enhance the spread of sustainable practices and provide a way to foster a more political and civic dimension of consumption; but only if the particular consumption or disposal practice is recognized to be a cool, easy, and desirable act, instead of a duty or a diet.

12.1.2. *Carme Martínez-Roca and Malik Vazi*: 'Bling' is Black? Deconstructing 'Bling' Culture in South Africa to Foster Behavioural Change Towards Sustainable Livelihoods

Martinez-Roca and Vazi assessed the so-called 'bling' culture in post-apartheid South Africa, which refers to a culture of ostentation and conspicuous consumption as a show of wealth.

The research explored if 'bling' is mainly a culture of formerly disadvantaged groups. Enabling (skills, policies, and resources), reinforcing (social feed-back) and predisposing (values, beliefs, knowledge and attitudes) risk factors for 'bling' culture were analyzed. The results showed that there is stereotype and prejudice associating 'bling' culture to Black African culture. Results also showed the need to reduce such stereotypes and prejudices as a step to have all racial groups working together to shift from conspicuous towards more sustainable consumption behaviors. Questions for further research were presented within the assumption that, more than White or Black, 'bling' most probably has a human face.

12.1.3. *Livia Barbosa and Leticia Veloso:* Consumption, domestic life, and sustainability in Brazil

As a disproportionate amount of all environmental impact comes today from consumption and the particular uses to which products are put by individuals in their daily lives. Barbosa and Veloso suggested sustainability studies should refocus their attention towards routine, domestic practices such as eating, personal hygiene, and cleaning. Only by understanding the real environmental impact of such domestic consumption can one hope to raise individuals' awareness and develop more sustainable practices. Based on qualitative and quantitative research, they therefore examine (1) some consumer perceptions linked to sustainability, (2) the underlying cultural logics of routine practices of washing, cleaning, and eating, and their negative environmental impact. These varied data and analyses are intended to contribute to a discussion of whether and how it might be possible "re-socialize" Brazilian consumers towards domestic sustainability, and thus the emergence of more sustainable homes.

Barbosa and Veloso focused on taken-for-grantedness of such habits and their implications for developing a true culture of sustainability in Brazil. We have shown that cleaning, cooking, and electricity usage as commonly practiced in Brazil are oriented towards certain cultural logics that have negative impacts on the environment: their consumption of resources is both intensive and extensive; they use many resources and when new practices are introduced, more often than not they increase, rather than decrease, energy consumption and waste production. Further, because these practices are deeply tied to moral valuations (the "good housewife," for example) and understood as signs of distinction (one becomes "less poor" the cleaner one is), this reinforces the cultural need for sticking to these same, environmentally-unsound practices. However, given that, as quantitative data show, concerns with sustainability are, gradually yet slowly, reaching popular perceptions and discourses, the question now is, how long will it take for such discursive understandings to be more fully translated into more sustainable modes of domestic consumption?

12.1.4. *Livia Barbosa, Fátima Portilho, John Wilkinson and Veranise Dubeux:* Youth, Consumption and Political Culture: the Brazilian Case

Barbosa, Portilho, Wilkinson and Dubeux set out to map political consumption among young Brazilian people (aged between 16 and 25). In the last few years, research has noticed a process of politicization of consumption taking place trans-nationally. Civic values have been related to terms such as consumption and consumers. There are several theories to interpret the phenomenon of political consumption, from the thesis of post-materialism to loss of confidence in traditional political institutions. The choice of this age band is due to the fact that this generation of young people grew up in a context where environmental concerns were disseminated, especially those that associate the causes of current problems to life styles and choices of consumption. These young people are part of a generation exposed to environmental education campaigns and projects at school and socialized according to an awareness of environmental values.

The research conducted by Barbosa and her colleagues suggested that participation and political consumption in Brazil seem to increase with income, age and level of education, but even so they do not seem to follow the direction of European and North-American levels. In Brazil the family plays a fundamental role in the physical and social reproduction of the young by providing a system of support and solutions that individuals in European and North-American societies have to find in the community. In such a context, young people become independent and responsible for their practical life far earlier, facing the task of making options and taking decisions that will appear in a concrete sense only much later for young Brazilians.

Added to the important role fulfilled by the family in Brazil is the activity of social organizations. Besides being numerous, they are extremely active and manage to bring about changes in legislation, in public policies and in the market, which ends up making individual action something secondary. Example are the ‘São Paulo pact’ with regard to certified timber, the pact of the food industry to lower the level of sodium in foodstuff, the prohibition of children in advertising, and the quotas policy in universities, companies, advertisements and soap-operas. In this sense, progress toward political consumption practices occurs passively, with young people consuming products that satisfy ethical demands, as a consequence not of the initiatives of individuals but of organized social groups.

Barbosa and her colleagues described that also the way the individual and his responsibility are formed in Brazilian society are different. Analyses of this process indicate that one can distinguish between individualism of difference and individualism of equality. In the first case, after sharing a common egalitarian base, subjects seek differentiation among themselves so as to evidence their specificities and idiosyncrasies. In the second modality the subject does not seek his differentiation but rather aims always to attenuate his specificities and differences within the group. Although the young people presented in the survey nearly always pointed to citizens as the second most responsible actor for the changes in society they also find that this will only be effective if “everyone does the same thing”. This creates a situation of social inertia where individual action is only perceived to be effective if collectivized.

The authors concluded that the effective practice of political consumption, albeit a phenomenon in the expansion stage, depends on socio-cultural and institutional factors in societies. High indices of adhesion to the principles espoused by political consumption do not necessarily imply high indices of individual practice. Analyzing the phenomenon of political consumption by means of surveys has proved useful in providing an initial mapping of the phenomenon in Brazilian society, but it is necessary to complement it with qualitative research that will enable us to delve into the question deeper and in further detail and then answer other questions.

12.2. Policy

12.2.1. *Tim Cooper:* The Value of Longevity: Product Quality and Sustainable Consumption

Tim Cooper Cooper considered the proposition that in order to reduce the throughput of resources, consumption in industrialized economies needs to be characterized by fewer, but better quality, consumer goods.

Each year millions of consumer goods, from furniture and household appliances to clothing and footwear, are discarded. Many are thrown away prematurely, obsolete: functional but outmoded and unloved, technologically outdated but not upgradable, faulty but irreparable. Often they have been designed for life-spans shorter than those technically possible.

As affluence has increased and many products once regarded as durables are now treated as disposable, there is clear evidence to suggest that throughput of goods in affluent, industrialized societies has become unsustainable. Recently, however, there has been growing interest in the potential for increasing product lifetimes, prompted by interest in resource efficiency and demands for waste reduction.

Currently many consumer goods are not designed for durability because of a need to meet predetermined price points; this is reflected in ever-declining prices but sub-optimal life spans. Given that longer lasting goods are liable to be more expensive and that even households in relatively affluent countries have limited incomes, vital questions are raised concerning the process - and prospect - of such change.

Cooper explored the possibility that a strategic shift in markets from quantity to quality might advance progress towards sustainable consumption. Some key issues were identified in considering the possibility of an increase in the market share accounted for by higher quality, longer lasting, products. Recent research, including a UK Government study of product lifetimes, was used to assess the likelihood of such a shift.

Cooper argued that change may occur on a voluntary basis but is more likely if public policy is supportive. If quality in the form of product longevity is considered beneficial to society as a whole, governments have a role to play. Recent policy initiatives at European and national level offer some hope for change. If industry awakens to the commercial opportunities and supportive public policy measures are introduced, it is possible that the necessary shift towards higher quality, longer lasting products will be achieved.

12.2.2. *Leonie Dendler:* Sustainable Meta-Labeling: An Effective Measure to Facilitate More Sustainable Consumption and Production?

Dendler investigated different implementation options for an overarching sustainability product labeling scheme and discussed what their prospects for effectively guiding behavioral changes across the production and consumption system using a novel theoretically integrative framework to analyze the current labeling arena.

One of the most prominent measures to facilitate more sustainable production and consumption has been the instrument of product labeling. But with a plethora of labeling schemes having been implemented over the last decade, many now accuse them of being confusing rather than facilitating. As a result, governments in France, UK and Germany, as well as businesses such as Walmart and non-governmental organizations such as WWF have begun to consider seriously the implementation of some form of 'meta' scheme that condenses existing product labels and other communication measures.

Dendler showed how the institutionalization and behavioral effectiveness of product labeling schemes relates to a complex and interactive construction of legitimacy, which influences to what extent actors from across the production and consumption system align their various social activities with the maxims of a product labeling scheme. This construction tends to cluster around different institutional logics, namely tradition (are publicly trusted organizations involved), regulation (conformity with laws), charisma (belief in the holiness or heroism of a person or organization), knowledge (belief in superior knowledge or skills), consequences (does the scheme meet targets in relation to individual self-interests as well as greater societal welfare), and procedures (belief in the validity of the procedure the scheme is based on). Legitimacy constructions around these logics have shown to be highly dynamic and oftentimes inherently conflicting. Many of these conflicts have thereby demonstrated to be likely to increase rather than decrease with the implementation of an overarching sustainability meta label. Procedural and consequential legitimacy logics and the balance between the two could especially pose a major challenge.

Perceptions of desired consequences differ across context and actor classes (both in regard to individual self interests and greater societal good), making strategies to demonstrate positive consequences associated with a particular labeling scheme notoriously difficult. The inherently large scope of a unifying sustainability meta-labeling scheme as well as the ambiguities related to the sustainable development concept pose a particular challenge at this point. Moreover, a meta scheme would need to prove a positive consequence over and above already existing schemes to justify its existence. So far this additional positive consequence has been mainly established around a need to resolve household consumer confusion and provide them with more streamlined information to enable them to demand more sustainably produced products. Dendler showed how theoretical arguments as well as many interviewees from across the production and consumption system question the perceptions of production and consumption systems in general, and the institutionalization of product labeling schemes in particular, as being mainly shaped by rational, information based consumer choices. Hence, a complete focus on the household consumer in the consequential framings

related to sustainability meta-labeling schemes seems misinformed. It could even be detrimental if it negatively affects and shifts the focus away from the crucial mobilization of other key legitimacy actors, who can positively influence wider legitimacy evaluations and in doing so substantially drive the institutionalization of a product labeling scheme. This can include, for example, NGOs, resourceful businesses, governmental actors, civil societal organizations or media.

However, even if such consequential framings and mobilization foci should change, the study has brought to the fore some other fundamental challenges for the wider legitimacy management of a sustainability meta labeling scheme. In particular, Dendler highlights some fundamental barriers regarding the participatory structures to ensure the procedural legitimacy of a potential sustainability meta-labeling scheme.

Firstly, more participatory processes do not automatically result in positive perceptions of procedural legitimacy partly due to technical, financial and knowledge inequalities among participants. Such inequalities do not seem likely to decrease for the procedures associated with the implementation of a complex overarching sustainability meta-labeling scheme.

Secondly, finding a consensus between participating parties is usually coupled with increased complexity and time consumption. Thus trade-offs can emerge between procedural legitimacy demands and efficiency demands that relate to a scheme's understandability and consequential legitimacy. Such trade-offs can be expected to be even greater with a meta labeling scheme that has been shown to have particularly large conflict potential due to differences in normative and pragmatic interpretations of the notion of sustainable development and the inherently wide scope of a unifying scheme. In a sense, the very notion that has driven the establishment of a sustainability meta labeling scheme –the different interpretations of the sustainable development concepts through different product labeling schemes- might in fact pose one of the main challenge for its legitimacy management and effective institutionalizations.

In sum, the findings suggests multiple potential hurdles for the effective institutionalizations of a sustainability meta-labeling scheme, the most problematic of which is probably ensuring positive legitimacy evaluations in regard to procedural and consequential logics.

12.2.3. *Tomas Ariztia, Dorothea Kleine, Graca Brightwell, Nurjk Agloni and Rita Afonso:* Ethical Consumption in Brazil and Chile

Ariztia presented the first findings of an ongoing multi-national research project 'Sustainable Choices'. Chile and Brazil are former developing countries which now have growing ethical consumption movements. Ethical consumption, i.e., a form of consumption in which consumers use their buying power to effect social and pro-environmental change, is a growing trend in income-rich countries. This leverage can be even more powerfully used through public procurement, where the state buys goods and services in the name of taxpayers.

Ariztia, Kleine, Brightwell, Agloni and Afonso analyzed the trends in ethical consumption and the criteria used in public procurement systems in Chile and Brazil. Against this

backdrop, Ariztia discussed the outcomes of the first stage of the project: an extensive literature review of the developing trend towards “ethical”, “sustainable” and “conscious” consumption in Chile and Brazil. More specifically he focused on presenting the different institutional context which has supported the nascent movement of ethical consumption in these two countries. He argued that in order to better understand ethical consumption, one must analyze the context-specific discourses and institutions in which it is embedded.

Chile works as a case in which ethical consumption discourses and practices are confronted by a neoliberal institutional setting. Brazil, on the other hand, provides also a very interesting case for studying how ethical consumption is localized within Latin America: it has the size to create its own rules, and is currently run by consecutive center-left government. Brazil has institutional space for “light-red” experimentation within the capitalist framework.

While in both countries there is a drive toward a green agenda in which ethical consumption is being increasingly valued, Ariztia argues that both countries shows different paths of the ethical consumption trend in terms of their institutional and historical background. In one case ethical consumption has arisen from market driven forces such as companies, consultancies and citizen organizations. In the case of Brazil, its developments seems to be much more connected with efforts emanating from the state to actively encourage and incorporate alternative consumption and economic movements such as “Economia Solidaria”. Ariztia argues that these two cases involve different interpretations of the state-market relationship and the role that ethical consumption might play within it.

12.2.4. Questions, Answers and Discussion

The aspect of longer product life was discussed from various perspectives. On one hand, consumers/citizens were recognized as locked-in as they are influenced by fast changing fashion and expect to buy new products frequently. This was described as ‘moral obsolescence’. The frequent launching of new product versions can trigger the buying of new products. The EU Eco-design directive for example may intervene to technical obsolescence but does not solve these kinds of problems. On the other hand a willingness to share and reuse products was considered as well. The second hand clothing market was given as an example. Also the success of E-bay shows citizens don’t want to throw ‘things’ away and are willing to buy used products. For sustainable consumption research that would imply to better understand how citizens feel about both sharing and re-using products.

Also the differences between developed and developing respectively newly industrialized countries appeared in various contexts during the debate. First of all the increasing demand of (cheap) products influence the conditions for producers and exporters of raw materials and products. But if the demand for greener products or self-sufficiency would get stronger focus in Western countries it could also influence the market opportunities for the producing countries. If, for example, the rules of fair trade for example are too complicated it is difficult for small farmers to obtain a label on their products. In some cases the demands from foreign markets (not least Europe) have

been important in pushing the quality of products to a higher level. Those products however are often sold to foreign market, while it is not possible for local consumer to buy them because the prices are too high. The alarming example was given, that in some cases companies produce worse quality in some countries than others. Cell phone companies seem to produce cell phonesfor Brazil that only last around six months while they produce longer lasting products for Europe.

12.3. Education

12.3.1. *Arthur Lyon Dahl:* Values Education for SCP: From Knowledge to Action

Dahl reflected on the often poor correlation between a scientific or intellectual understanding of a problem or of risky behavior, and changing behavior to solve the problem. An emotional commitment is also necessary for action. Emotions can also override science, as when superstitious or irrational beliefs in unscientific knowledge can displace objective evidence and produce harmful behavior. Education that harmonizes both scientific knowledge and a values-based emotional commitment seems to be necessary to move from an understanding of sustainable consumption and production requirements to actions that achieve sustainability. Empirical evidence in a variety of contexts shows that values education targeted at an individual's own belief system can reinforce scientific education on environment and sustainability. Dahl gave examples from advanced studies programmes in sustainable development and environmental diplomacy in cross-cultural contexts. Tools such as values-based indicators have successfully measured these effects in pilot studies. Given the promising preliminary results, Dahl called for research in a variety of social and cultural contexts to develop and validate combined scientific and values-based approaches to education for sustainable consumption and production, and to document in lasting changes towards more sustainable behavior.

12.3.2. *Carla Rabelo and Gabriela Vuolo:* Children, Consumption, and Sustainability: The Negative Effects of Advertising and the Emergency of Adequate Public Policies

Rabelo and Voulvo discussed the widely unreflected promotion of consumption in our society through market communicational catalyzers such as advertisement and its effects on children and society. Post-industrial society moves forward in a disordered manner and brings along many social risks to which we are still trying to find ways and solutions to a healthier, more stable and more secure life. The debate about sustainability arises as a necessary challenge to various contemporary problems faced by the world population. However, to discuss sustainability without discussing a phenomenon that emerged from this scenario, such as consumerism, indicates a disregard towards a deep-rooted habit in both adults and children nowadays.

Rabelo and Voulvo laid out that the discussion about sustainability should make educators think critically and help children understand the consumption society where marketing strategies barely consider effects such as the use of natural resources,

materialism, frustrations, obesity, early erotization, among other important themes to the study of human sciences and to the well-being of our society. Public policies that take into account the need for an education about sustainable consumption as well as the regulation of advertisement directed to kids to protect them from these appeals, show up as possible solutions to the topic of consumerism and childhood protection in contemporary society.

Advertising within all other support mechanisms, is the spokesperson for the consumerism industry and establishes its criteria for quantification of target audiences to increase their success. Children are a main target group, since they are key in capitalizing and becoming loyal to the habit of consumption.

Rabelo and Voulvo pose the quesion how we can keep the idea of environmental sustainability once children are already immersed in this logic in the current economic model where consumerism is seen as the greatest expression of financial prosperity of the economically active population?

Researches on advertising and marketing practices towards children have a relatively short history. Although the theory about children and consumption in the 1930s and some researchers began their studies on the topic in the 1950s and 1960s, many studies on advertising started in the 1970s and 1980s with the growth of research on children in general. A review of scientific articles on advertising, consumerism and marketing in academic databases indicates only about 300 citations on this topic, with most studies focusing on the effects of marketing to children. Little attention has been devoted to exploring the content of children advertising, however, more attention was given to other topics of research, including discussions on regulation and updates / reviews of the literature on the matter.

In addition in Brazil there is a lack of purposeful research on the issue of public policy for monitoring the abuses of the private sector in encouraging consumerism and early participation of children in the consumer market is another gap in Brazil. Rabelo and Voulvo expect it to be vital to foster research and the implementation of public policies that take into account both the need for education for sustainable consumption and the regulation of advertising aimed at children, protecting them from advertising appeals.

12.3.3. *Maite Cortés:* Changing Our Emotions, Changing Our Culture: Exploring Maturana's Potential Contributions to ESC

Based on the observation that by appealing to people's reason, with data and "rational" arguments, Environmental Education, and specifically Education for Sustainable Consumption (ESC), does not necessarily lead to changes in people's behaviour or consumption patterns, Cortés explored the role of emotions in determining our actions.

Particularly, she analyzed the potential contributions to ESC that only by changing our emotions we can change our actions. In patriarchal cultures where appropriation is characteristic, emotions are devalued and considered to interfere with reason. This is contrasted with a concept which invites us to live in awareness of our emotions, desires and preferences. The type of education that can meet the main challenges of ESC, must integrate the rational and emotional aspects of human beings, in order to achieve the

cultural change than can lead us towards a culture of sustainability. Cortes introduced work of Humberto Maturana ,offering elements that can enrich the analytical framework and practice of ESC, based on addressing emotions as predating reason and as constituent elements of what it means to be human, helping us to unlearn patriarchal emotioning and to learn a new emotioning, that is, the emotioning of a culture of sustainability.

In this context, she suggested that an ESC that seeks an *emotioning of sustainability* contributes to:

1. Repositioning emotions in the analysis, discourse and practice of ESC, with a focus on a non-appraising legitimation and integration with the rational sphere.
2. Deepening the reflection on patriarchal thought and its current environmental implications, such as aggression, appropriation, exclusion and war –the power to take a life– as the fundamental drive of the dominant culture.
3. Identifying the elements of the *emotioning* of the *culture of sustainability*, such as collaboration, care, understanding, and inclusion, to foster the change to the *sustainability conversation*, the centre of which would be the power to give and preserve life.
4. Recognizing the conditions of emotional change in which the coordinations of actions of a community may change in such a way that a new culture arises, taking into account that the action is the emotion and vice versa and, therefore, a change in the emotioning implies a cultural change.

Finally Cortes emphasised that if we better understand our emotional facet, rescuing it from the devaluation that labels it “irrational” and honouring it by living our emotions not as contradictions, and as a constituent element of our biology of emotioning, then we can move towards the cultural change that the imaginary of sustainability requires: an imaginary in which we are no longer *environmental warriors*, nor are we on a *crusade to save the planet*, but one in which we acknowledge ourselves as biologically loving beings, for whom love is not a virtue but a spontaneous way of relating to each other.

12.3.4. *Victoria W. Thoresen:* Developing Value-Based, Holistic Education for Sustainable Living

Thoresen reminded us that sustainable consumption and production have been defined as consumption and production which are ethically acceptable, socially responsible, ecologically justifiable, economically viable and universally accessible. No new concept or set of definitions, however, can be adopted overnight or translated into action without a previous learning process which takes time and includes many. Research shows that there is an outstanding lack of integrated educational initiatives which deal coherently with the ethics, economics, environmental consequences and social effects of sustainable consumption and production. The need for value-based, holistic, practical and interdisciplinary education for sustainable living has been identified in both countries of the North and the South.

The ‘Institutional Strengthening Project’ Thoresen described aims to transform the educational systems to include new knowledge and skills is a complex process involving “top-down directives” as well as “bottom-up” experience and insight. The phases which changes in curricula and social learning processes go through before they are firmly rooted in practice are time consuming. The project has tried to catalyze this process by providing a framework for action and by offering feedback and support from specialists and stakeholders along the way. The pilot project has, so far, achieved much of what it set out to do.

The research and the roundtables documented that there are a very large number of policies and initiatives in the countries circling around the ideas of sustainable consumption and sustainable living. The challenge which the project seems to be helping the participants consider is how ESC can be a bridging link between these various initiatives.

Sustainable lifestyles are beneficial to people’s well-being and are not necessarily a question of sacrifices. Sustainable consumption is not only a frightened response to climate change but is a pathway towards other socially desirable outcomes. Realization of this represents a paradigm shift for some educators and policy makers. Such a shift is dependent on discussion, experience and evaluation. In a field such as education which already has many tasks to accomplish it is important that spaces and resources to facilitate such a shift are provided. The project appears to have succeeded to initiate this process in the countries involved, but whether the project can lead to significant, lasting changes remains to be seen.

12.3.5. Questions, Answers and Discussion

The discussion highlighted the relationship between advertising and values. Current advertising mainly enhances self-esteem and self-confidence, stimulating competition while undermining empathy. Participants stressed the need to better evaluate the values placed in ads. Various suggestions were made how to change this direction ranging from regulation that restricts advertising to information provision without attaching emotional attributes to products to voluntary labels, e.g., toys as ‘child advertising free’. In this context it could be helpful to recognize advertising for children as a market failure if it leads to unhealthy choices.

A second strain reflected education on sustainable consumption. Participants agreed that education for sustainable consumption should be inserted into curricula. However, the necessary type of education is not well understood in the Ministries around the world. Changing light bulbs and getting rid of plastic bags is far from sufficient; creating a cultural base is crucial. Education from Sustainable Consumption relates to life-long learning, indigenous knowledge and knowledge of the elderly and should be closely linked to teachers’ training. Kids need to get out of the classroom as well. Talking about and teaching sustainable lifestyles and sustainable living rather than sustainable consumption makes a difference.

The discussion also emphasized how change in emotion induces a cultural change. Participants however pointed out that we hardly can teach emotions but rather becoming

aware of emotions and the way we respond to emotions so we can enhance empathy through our teaching of children.

A final exchange reflected the correlation between values and behavior. While research on one hand indicates values and behavior are uncorrelated, there is some proof for a reverse causality: Actions determine our values. What people have done in the past tend to shape how they see themselves, and how they relate to others in a group, and to what the group has done in the past.

13. Mapping Knowledge, Practice and Leadership

13.1. *Vanessa Timmer, Emmanuel Prinet, Dagmar Timmer and William E. Rees:* Knowledge and Action: Advancing Sustainable Production and Consumption through Practice-Research Engagement

Advancing sustainable consumption and production patterns is a complex challenge that benefits greatly from strong ties between knowledge and innovations in practice. In their paper, Timmer, Prinet, Timmer and Rees explore the role of practice-research engagement (PRE) in the context of sustainable consumption and production (SCP) efforts, particularly in providing a more systemic understanding of SCP, supporting societal transformation and democratizing the process of knowledge creation. Through a literature review and analysis guided by questions that include: 'What are the identified challenges in working across practice-research differences, such as dealing with power relations?' and 'What are the specific challenges and opportunities in knowledge-action engagement in the field of sustainable production and consumption?', they outline effective approaches for bridging research and practice.

They review a spectrum of practice-research engagements that vary in intensity and scope, from puzzle-solving and issue identification, to assessing interventions and developing a field of inquiry and action. Experiments in bridging these communities, such as the UN Marrakech Task Force on Education for Sustainable Consumption, the projects SPREAD 2050 and SWITCH Asia as well as the North American Sustainable Consumption Alliance (NASCA), are already underway within the sustainable production and consumption field. There is value in categorizing these initiatives as experiments in the field of practice-research engagement as the initiators can benefit from learning from past practice-research engagement efforts in other fields and apply the principles which have been deemed useful and effective. In turn, SCP experiments in bridging research and practice can support further development of the practice-research engagement literature. There is value in grounding the research in empirical examples and compelling cases of effective practice-research engagement, as this enables both practitioners and researchers to break down the institutional barriers and perceptual divides that may exist between these communities. Possible practice-researcher topics worth exploring further include analyses of the role of values in changing consumer behavior, choice editing, collaborative consumption, sustainable design, eco-industrial networks, and sustainable procurement in advancing sustainable consumption and production, the distinction between green consumerism and sustainable consumerism, and the development of a systemic framework for sustainable production and consumption.

Timmer, Prinet, Timmer and Rees argue that the newly formed Global Research Forum (GRF) on Sustainable Production and Consumption can play a significant role in serving as a forum for the SCP research community and in facilitating connections from research to practice. The SCP research community's analyses can support the efforts of practitioners, and, in turn, practitioners can suggest research questions and avenues of inquiry that can benefit from rigorous academic investigation. Joint practice-research collaborative projects can also emerge which benefit from the expertise of both academics and actors in the field. The GRF on SPC can also serve as the research arm for long-term practice-research engagement on shifting consumption and production patterns. There is an emerging consensus that advancing SCP patterns requires a transformation of the dominant societal paradigm, and it would appear that transformations are more likely to result from long-term field development collaborations among researchers and practitioners. The relationships trust and exchange of expertise can build over time and enable a rethinking of this complex challenge and a shift in practice in consumption and production towards sustainability. The next step is to develop a strategic approach to connect the research and practice communities and to define the guiding principles, capacities and tools for effective engagement across research and practice.

13.2. *Onno Vinkhuyzen & Sylvia Karlsson-Vinkhuyzen:* The Role of Moral Leadership for Sustainable Consumption and Production

Vinkhuyzen and Karlsson-Vinkhuyzen argued that an adequate understanding of sustainable consumption and production (SCP) involves a mature consciousness of the interdependence between ourselves and the rest of our human family and its habitat. The principles, the actions and the vision that form the basis for SCP are not unknown, but there is a considerable gap between knowledge and action and behavioral incentives are not sufficient for system change. Vinkhuyzen and Karlsson-Vinkhuyzen, a practitioner and an academic themselves, emphasized a common recognition of the potentially significant role of values and particularly values-based leadership in the processes and partnerships that work for sustainability transitions in SCP. As a starting point Vinkhuyzen and Karlsson-Vinkhuyzen see the need for informal groups of individuals who are moral leaders in their own environment, willing to listen and share knowledge and points of view in a more democratic way, willing to change their values and to design new institutions. Few, however, would consider values to be levers of system change; values tend to be considered fixed and unchangeable, particularly in economic and other social science models of human behavior. If, nonetheless, one departs from this view and assume that humans indeed have the capacity to adopt more expanded value spheres, then more possibilities open for changing lifestyles and thus the way we produce and consume 'stuff'.

Vinkhuyzen and Karlsson-Vinkhuyzen particularly explore the values underpinning leadership and the impact these could have on the efforts to move towards a society with individuals who take responsibility for their actions, who have capacity to promote sustainability and who do so out of concern for others. The ethical values of leaders, whether in small family and neighborhood contexts or in global negotiations, have a particular potential to spearhead this development.

The moral leadership framework they present was developed in Universidad Nur, Bolivia, and takes distance from the prevalent leadership styles that are often built on the desire to dominate and arae instead aiming to create groups which are united, can reach their goals and empower their members to develop capabilities to serve their communities. This normative framework of leadership has very practical components; for example it includes a set of 18 capabilities that moral leaders need to develop. They suggest that it would be worth to analyze in more detail how this set of capabilities could support leaders that want to pioneer sustainable production and consumption.

13.3. *Jeffrey Barber:* Mapping Communities of Practice Towards Sustainable Production and Consumption

Barber explored the challenge of mapping the many practices and approaches aimed at achieving sustainable production and consumption (SPC). Over the past forty years an expanding spectrum of actions and ideas has evolved in response to the social and ecological impacts of unsustainable production and consumption systems. These actions range from consumer boycotts and street protests to eco labels and education campaigns; from innovations in technology and product design to social experiments in community living. Such practices are also often tied to dedicated research and analysis to understand the problem and identify alternative paths forward. The challenge of mapping these actions and paths involves not only assessing the variety and spread of SPC practices around the world but considering the values, interpretive frames and political/cultural contexts shaping them. Altogether they represent a diversity of people, practices, organizations and communities of practice which do not necessarily subscribe to a common conceptual framework, they can nevertheless be collectively identified as a population engaged in a common project aimed at transforming the global economic system. Mapping this population and research domain in turn represents a serious challenge given the degree of contention over key concepts such as “sustainability.” Nevertheless, the growing discourse, research, projects and policymaking calls for practical categories and schemas to better understand the contours of this emerging transdisciplinary domain. Navigating a path through this complex landscape, not to mention locating potential allies and identifying obstacles, calls not only for maps but the sharing of knowledge and experience about the territory. Highlighting the important role of social networks and communities of practice, Barber identifies a number of tools and approaches to help with this mapping work.

13.4. Questions, Answers and Discussion

Three strains of discussion evolved from the presentations.

The first one circulated around values. It was confirmed that values are right in the middle of our topic. In addition there is a community of researcher’s already working explicitly on and with values. The question appeared, however, how they are linked and how they can be included into theory and practice more obviously.

A second exchange considered the various communities within the sustainable consumption and production debate – in research and practice. Some found it hard to see *the* movement because there are so many differences and gaps, but the GRF could help them to become part of the movement and overcome the existing barriers so as to

expand the learning circles. The binding forces for the network so far are (1) the crosscutting issues of SCP and (2) the knowledge searching. It has to be kept in mind, however, that we don't want to see autocratic approach in building a network, but we have to offer possibilities, giving a more systemic perspective. There are people who are looking for partnerships who could pick it up and empower them.

Several specific recommendations were given in this context:

- Keeping the nature and identity of our research community: our jargon should not be hijacked (e.g., the CSR discourse).
- Collaboration across researchers and practitioners in new thinking.
- So far production in one part of the world and consumption on other. We need more about network theory to learn how to build these ties together.
- The actual debate is too much framed by a western perspective. A successful network will learn from different cultures and perspectives.

In the context of the network discussion – but still with a different emphasis – participants reflected on the global-local interaction and networking possibilities. It was noted that there are many communities talking about sustainable development at a global level that argued with each other about different approaches. As a lot of these debates are quite abstract, there can be a lack of trust from the local level. Therefore participants called for local approaches and discussions as well as local research.

14. Final Plenary Discussion

The final plenary discussion provided the opportunity for the organizers and participants to express their final thoughts and feelings about the workshop as well as ideas and recommendations on next steps for the Global Research Forum. The overall evaluation by participants on the workshop was extremely positive, having achieved what it set out to do with no major setbacks. Concerns about possible tensions or communication blocks between researchers and practitioners were quickly laid to rest as the level of exchange and enthusiasm among both groups stayed at a high level. This was likely due to the even mix of presentations and interactive discussions throughout the three days. Many expressed their appreciation for the opportunity to share ideas and experiences with researchers and practitioners from different countries and regions as well as different disciplines and conceptual-theoretical frames. Considering the ultimate stakes involved in the challenge of achieving sustainable production/consumption, many participants expressed a strong sense of common cause and identity across this diversity of actors working within the global research-practice community.

15. Conclusions

Considering the original objectives of the workshop, the outcomes of the various discussions and ideas that took place over the three days, along with the post-workshop meetings and discussions, can best be described through four categories:

- Community-building

- Monitoring/assessment
- Research agenda-setting
- Research policy advocacy

Community-building

One of the initial motivations behind the idea of the Global Research Forum was to overcome the gap between researchers and research communities in different regions and countries, to build inter-regional bridges and strengthen the global community of researchers focusing on the multi-dimensional challenge of achieving sustainable production and consumption. The workshop in Rio brought together researchers and practitioners from Latin America (Brazil, Chile, Mexico, Argentina), Africa (South Africa, Zambia), Asia-Pacific (China, India, Japan, Philippines, Singapore), Western and Eastern Europe (UK, Germany, Denmark, Norway, Netherlands, Sweden, Switzerland, France, Latvia, Lithuania, Ukraine), and North America (US and Canada).

In addition to involvement of several major research institutes and initiatives (e.g., IGES, EEA, SERI, Tellus, TERI, CSCP, Sustainable Consumption Institute, Munasinghe Institute for Development), the workshop brought together NGOs (e.g., IFIHP, MAMA-86, Third World Network, Collectivo Ecologista Jalisco, SustainUS, Akatu, Green Liberty, IDEC), business groups (e.g., Market Analysis, Baha'I Business Forum), government and intergovernmental agencies (e.g., Brazil Ministry of Environment, Nordic Council, UNEP) and universities (Riga, McGill, University of Campinas, De La Salle, Wageningen, University Twente).

Participants offered a wide range of proposals and suggestions for GRF's next steps in continuing to strengthen this community: organizing future workshops in other regions and countries, maintaining a listserve, developing the website, publishing the workshop papers, coordinating collaborative research, developing a summer school, organizing research webinars, and cultivating GRF networks in different regions.

Following up on these suggestions, three **GRF regional workshops** are now being organized in China (October 2012), India (2013) and Mexico. Further, many of the Rio **workshop papers will be published** in an upcoming special issue of the *Journal of Cleaner Production*. A **survey of workshop participants** is currently being organized to build a GRF knowledge base. An international **GRF Organizing Committee**, formed in Rio, now takes part in international conference calls at least once a month to plan and coordinate these and other activities.

Monitoring/assessment

Another initial concept of the GRF idea was to review and assess the state of knowledge on sustainable production and consumption in different regions around the globe, including research on well-being, inequality, and alternative concepts and measures of prosperity (e.g., Millennium Consumption Goals). In addition there was the desire to review the literature and findings on effective mechanism in the transition to sustainable production and consumption patterns. In turn, workshop organizers wanted to explore how to effectively communicate SPC research and findings to users and the general public, especially in different global regions.

The Rio workshop was the first major experiment by GRF to engage a wide range of researchers and practitioners from different regions to present their different approaches and perspectives on a diverse set of issues, concerns, questions and concepts regarding the many dimensions involved in changing production/consumption systems and practices, from the personal and household level to the level of national and international policies and processes. This domain of knowledge and action is complex and is approached, conceptualized and explained in diverse ways and means. Many, particularly in Europe, tend to use the acronym "SCP" to label this domain, with a tendency to focus primarily on "sustainable consumption" issues; others, often from developing countries where poverty is a more predominant concern and priority, there is more interest on the production side, on developing "sustainable livelihoods" and getting support for social innovations and enterprises.

One important theme addressed in several presentations was the challenge of the new middle/consumer classes emerging in China, India, Brazil and other countries whose economic growth poses difficult ethical and communicative difficulties. Exchange of experience and perspectives by researchers and practitioners in these different countries and politico-cultural contexts offer extremely valuable insights.

Participants also shared a rich range of *methodologies and tools* (e.g., system dynamics modeling, scenario building (e.g., backcasting), survey research, focus groups, personal interviewing, brainstorming, action/collaborative research, social network analysis, mapping, discourse analysis, indicators such as eco footprints and gross national happiness) and *conceptual-theoretical frameworks* (e.g., lifestyles research, ecological macroeconomic theory, happiness and well-being research, social innovations research, systems of provision, sociotechnical transitions, social practice theory, conscious consumption, ethical consumption, political consumption, collaborative consumption, ecological citizenship, Consumer Culture Theory (CCT), practice-research engagement (PRE), communities of practice, social movements research/theory, and values research).

Research agenda-setting

Another key objective of the workshop was to identify *critical research questions* that need to be addressed and prioritized in the coming years. For many this is an important function, given the urgency of many deepening global threats driven by growing production and consumption trends.

No single research question predominated in the workshop, although there were clearly a number of common thematic issues and priorities raised over the three days, such as the knowledge-action gap, the role of values, the influence of the economic growth paradigm, the importance of supporting local innovations and strengthening the local economy, and the barriers created by poverty and inequality.

Some of the barriers and problems which participants identified as needed more research and knowledge included the following:

- Complexity and scale of the task (i.e., transition to sustainable economy)
- Terminology (sustainability, sustainable consumption, green economy)
- Competing interests (wealthy & poor)

- Conflicting aims (short-term vs. long-term, “weak” vs. “strong” sustainability, low-hanging vs. higher-hanging fruit)
- Competing paradigms (growth vs. stead-state vs. degrowth)
- Global economic inequity (North – South)
- Poverty (eradication vs. alleviation; responsibility; collective strategy)
- Ongoing ecological degradation
- Ongoing population growth
- Institutional inertia/resistance and corruption (in all sectors).

Perhaps a more general question goes back to Chee Yoke Ling’s call for greater attention to the common but differentiated responsibilities of global actors. This question of responsibility and role of different actors also applies within nations as well as communities and households. What role and responsibility do governments, companies, universities, civil society organizations and citizens/consumers have in achieving the transition to sustainable production and consumption systems? What mix of policies, regulations, market instruments, cultural actions, and social innovations is needed to move forward? How do different cultural, economic, political, social and geographic conditions affect the necessary configuration of practices and action?

While the workshop did not provide definitive answers to these questions, it did provide opportunities for thinking about these issues from different perspectives. While the three days of dialogue and exchange may have only scratched the surface of these questions and issues, it brought together many of the key actors who will continue to dig deeper for answers and solutions.

Research policy advocacy

One hope expressed by workshop organizers was to be able to send a “clear message” to the Rio+20 conference and policymakers regarding the need for more effective knowledge and action addressing the underlying role of production and consumption driving many of the major global crises.

GRF organizers initially submitted an input statement on production/consumption and the need to support research and other efforts (e.g., the 10 Year Framework of Programs) as essential Rio+20 outcomes.

In Rio GRF members gave a number of presentations at Rio+20 events, including the June 11 panel on Sustainable Consumption at the Forum on Science, Technology and Innovation for Sustainable Development, organized by the International Council for Science and featuring presentations by Philip Vergragt (Tellus), Lewis Akenji (IGES), Janis Brizga (Green Liberty), and Sylvia Lorek (SERI).

On June 12 Jeffrey Barber discussed GRF and the importance of research and action on sustainable production/consumption in a dialogue panel organized by the Brazilian Ministry of Environment.

GRF members submitted proposals for two official events on the Rio+20 schedule: (1) a Learning Center proposal for a 3-hour workshop on SCP, and (2) a side event on *Achieving SCP After Rio: Research, Practice & Capacity-building.* While the Learning Center proposal was rejected by UNDESA, the side event took place on June 19 at Barra Arena (see Appendix C). At this event GRF members engaged with participants in

discussions about the status of SCP in the Rio+20 conference, the 10 Year Framework of Programs (10YFP), and research on sustainable production/consumption.

With the Rio+20 adoption of the 10YFP, GRF's Organizing Committee has been in a series of discussions with UNEP regarding the role of research and GRF in the 10YFP implementation.

Annex 1

Global and Regional Research on Sustainable Consumption and Production Systems: Achievements, Challenges and Dialogues

PARTICIPANT LIST

June 13-15, 2012, Rio de Janeiro

Venue: ESPM - Escola Superior de Propaganda e Marketing - Rio De Janeiro
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Schroeder, Patrick	UNEP/Wuppertal Institute Collaborating Centre on Sustainable Consumption and Production (CSCP)	Germany
Shumba, Overson	Copperbelt University	Zambia
Silva, Mariana Roberta	Environmental analyst of Sustainable Production and Consumption Department (DPCS/SAIC/MMA)	Brazil
Smith, Adrian	SPRU, Brighton	UK
Søgaard Jørgensen, Michael	Department of Management Engineering, Technical University of Denmark	Denmark
Spangenberg, Joachim	Sustainable Europe Research Institute	Germany
Steinbaek Hansen, Mikkel	Ministry of the Environment	Denmark
Teixeira Ayrosa, Eduardo André	EBAPE-FGV	Brazil
Tércia Freitas, Vana	Brazilian Ministry of Environment- Environmental Analist (Analista ambiental)	Brazil
Thoresen, Victoria	The Partnership for Education and Research about	Norway

	Responsible Living	
Timmer, Vanessa	One Earth Initiative Society	Canada
Timmer, Dagmar	One Earth Initiative Society	Canada
Vazi, Malik	Mental Health First Aid	South Africa
Vergragt, Philip	Tellus Institute; SCORAI	USA
Victor, Peter	York University, Toronto	Canada
Vieira dos Santos Neto, Ana Maria	Director of Sustainable Production and Consumption Department (DPCS/SAIC/MMA)	Brazil
Vinkhuyzen, Onno	European Bahá'í Business Forum and International Environment Forum	Netherlands
Vuolo, Gabriela	Children and Consumerism Project	Brazil
Wanderley, Daniel	ESPM	Brazil
Wilheim, Ana	Akatu	Brazil
Zondervan, Ruben	Earth System Governance project	Sweden

Annex 2

Global Research Forum on Sustainable Production & Consumption

Global and Regional Research on Sustainable Consumption and Production Systems: Achievements, Challenges and Dialogues

WORKSHOP PROGRAM

June 13-15, 2012, Rio de Janeiro

Venue: ESPM - Escola Superior de Propaganda e Marketing - Rio De Janeiro

Rua do Rosário, 90 Centro, 20041-002 - Rio de Janeiro, RJ, Brazil

Website: http://grfscp.wordpress.com

The Global Research Forum on Sustainable Production and Consumption brings together individuals and organizations engaged in research and its applications on the transition towards sustainable production/consumption systems from various regions of the world.

The two and a half-day workshop will be divided between a focus on the production of sustainable consumption and production research and its communication and application in practice. The workshop is by invitation only. The aim is 60-80 participants, partly researchers and partly practitioners; from various global regions.

GRF on SPC builds on a 20+ year research tradition on sustainable consumption and production by numerous researchers, institutes, and networks around the world, and on many successful attempts to apply research findings into policy, civil society, and business. The workshop will be followed by a side event at the UN Rio+20 conference to share some of the key outcomes of the GRF on SPC workshop with this wider audience. The revised papers of the workshop, together with outcomes of discussions, will also be published as Proceedings. In addition, a workshop report will be produced, and a selection of the research papers will be published in a special Journal issue.

Financial Support for the workshop is provided by: The Nordic Council of Ministers; IGES, Tokyo, The Brazilian Ministry of the Environment; Manchester University; Espaço Eco Foundation; and Tellus Institute, Boston. **In kind support** given by: ESPM, ISF, One Earth, and many volunteers, including Phelipe Marmore, ESPM, Flavia Mattos, ESPM and Maria Elisabeth Goidanich.

Venues: The registration, plenary lectures and keynotes are in the Auditorium, Rua de Rosaria 90 – 11th floor. The break-out sessions are in the building opposite, Rua de Rosario 111.

Day 1: Wednesday June 13

1200-1330 Registration

Distribution of programs and badges, orientation and networking

Note: please bring Rs. 60 in cash for cocktails and transportation

1330-1430 Opening Panel

Facilitator: **Vanessa Timmer**, Executive Director, One Earth, Canada

Chair and opening speaker: Philip Vergragt, Global Research Forum on Sustainable Production and Consumption; Sustainable Consumption Research and Action Initiative (SCORAI); Senior Associate, Tellus Institute, USA

Flávia Flamínio, Director, ESPM**,** Brazil

Ana Maria Vieira dos Santos Neto, Director, General Office of Institutional Coordination and Environmental Citizenship, Ministry of Environment, Brazil

Mia Rahunen, Advisor, Sustainable Development, Nordic Council of Ministers, Denmark

Elisa Tonda, Head of Business and Industry Unit, United Nations Environment Programme - Division of Technology, Industry and Economics (UNEP-DTIE), France

Jeffrey Barber, Executive Director, Integrative Strategies Forum, USA

Masaya Fujiwara, Principal Fellow, Programme Management Office, Institute for Global Environmental Strategies, Japan

Roberto Araújo, Head, Fundaçao Espaço Eco, Brazil

Fátima Portilho, Social Sciences Graduate Program on Development, Agriculture and Society (CPDA), Federal Rural University of Rio de Janeiro (UFRRJ -), Brazil

1430-1530 Keynote: Chee Yoke Ling, Director, Third World Network

"Transformation to Sustainability: A Southern Perspective on Production, Consumption and Equity"

Chair: Jeffrey Barber, Integrative Strategies Forum

Q&A and Plenary discussion

1530-1600 Coffee Break

Small break-out groups: connect with a person you don't know

Facilitation: Vanessa Timmer

1600-1800 **Session 1: Long-term Visions and Trends**

Chair: Philip Vergragt

Four 10-min presentations; 10 min discussant; and 60 min plenary discussion

Lewis Akenji – Consumer Scapegoatism and Limits to Green Consumerism

Patrick Schroeder – Governance Mechanisms for Sustainable Consumption and Production in China

Q&A

Janis Brizga et al. – Sustainable Consumption and Production Governance in Countries of Transition

He H. Z. and **Harn Wei Kua** – Integrated Energy Conservation Policies from the Ground Up: Lessons from the Eco-living Program of Singapore's South West District

Discussant: **Sylvia Lorek**, Sustainable Europe Research Institute

Plenary discussion

1830-2030 **Reception – Casa de Ciencia/UFRJ (House of Science – Federal University of Rio de Janeiro) – Rua Laura Muller 3, Botafogo - Rio de Janeiro, Brazil (transportation by bus)**

Cultural Program by participants: Bring musical instruments, songs, poems, dance, clothes that reflect your cultural heritage.

Dinner (on your own)

Day 2: Thursday June 14

Morning Chair: Sylvia Lorek, Sustainable Europe Research Institute

0830-0845 Registration and networking

0845-0900 **Overview of Day 1 and outline of Day 2**– Vanessa Timmer

0900-1000 **Keynote: Jacqueline McGlade, Executive Director, European Environment Agency**

"Planet RE-Think: The Role of Sustainable Consumption and Production in an Inclusive Green Economy"

Q&A and Plenary discussion

1000-1030 **Coffee Break**

1030-1200 **Session 2: Green Innovation**

Fabian Echegaray – Understanding Stakeholders' Views and Support for Solar Energy in Brazil

Paul Dewick – Food Organizations, Relational Capacity, and Accelerated Eco-innovation

Q&A

Yoram Krozer and **Han Brezet** – Natural Blends, Sustainable Innovations and Income Growth

Lars Mortensen and **Mikkel Stenbaek Hansen** – EEA Report "2012 Update: Consumption and the Environment" (released at Rio+20)

Discussant: **Philip Vergragt**, GRF-SPC, SCORAI, Tellus Institute

Plenary discussion

1200-1330 **Group Photo in the ESPMlobby; Lunch (on your own)**

1330-1500 **Session 3: Interactive session: World café**

Breakout Rooms in Rua de Rosario 111 (opposite building)

Discussion in small groups on the following questions:

1. What excites you about sustainable consumption and production? What are the key insights / emerging issues in this research field?

2. How do you see the Global Research Forum developing?

3. What contributions can you make?

Facilitators: **Vanessa Timmer**, One Earth; **Emmanuel Prinet,** One Earth;

Lewis Akenji, IGES

1500-1530 **Coffee Break**

Afternoon Chair: Lewis Akenji, Institute for Global Environmental Strategies

1530-1630 **Keynote: Tim Jackson, Professor, University of Surrey and**

Peter Victor, Professor York University, Toronto

"Towards an Ecological Macroeconomics"

Plenary discussion

1630-1800 **Session 4: Green Economy or Degrowth?**

Romualdas Juknys and **Genovaitė Liobikienė** – Sustainability of Catching-up Growth in the Extended European Union

Andra Blumberga, Dagnija Blumberga, Gatis Bazbauers, Gatis Zogla and **Ilze Laicane** – Sustainable Development Modeling for the Energy Sector

Q&A

Sylvia Lorek and **Joachim Spangenberg** – Sustainable Consumption within a Sustainable Economy—Debunking Buzzwords to Develop the Content

Anthony (Shun Fung) Chiu – Green Economy and Sustainable Consumption and Production (SCP) in the Philippines

Discussant: **Joachim Spangenberg**, Sustainable Europe Research Institute

Plenary discussion

1830-2130 **Conference Dinner**

Adelos restaurant - Rua do Mercado, 51, Rio de Janeiro (walking distance)

Day 3: Friday June 15

Morning Chair: Harn Wei Kua, National University of Singapore, Department of Building, School of Design & Environment

0830-0845 Registration and networking

0845-0900 **Overview of Day 2 and outline of Day 3** – Vanessa Timmer, One Earth

0900-1000 **Keynote: Adrian Smith, Researcher Science and Technology Policy Research, University of Sussex**

"Grassroots Innovation Movements and Sustainable Green Economies: Dilemmas, Framings, Possibilities"

Paper co-authored by: **Adrian Smith, Elisa Around, Mariano Fressoli, Hernán Thomas** and **Dinesh Abrol** –Grassroots innovation for sustainable development: some enduring dilemmas

Discussant: **Emmanuel Prinet**, One Earth

Plenary discussion

1000-1030 **Coffee Break**

1030-1200 **Session 5: Lifestyles**

Oksana Mont et al. – Exploring Pathways Towards Sustainable Lifestyles 2050

Manisha Anantharaman – When Do Consumers Become Citizens? Behavior Change, Collective Action, and the New Middle Classes of India

Shilpi Kapur Bakshi – Role of Local Governments in Fostering the Transition to Sustainable Lifestyles and Livelihoods and Improved Well-Being

Discussant: **Lewis Akenji**, IGES

Plenary discussion

1200-1215 **Speaker Mohan Munasinghe (MIND): Research challenges for the Millenium Consumption Goals**

1215-1345 **Lunch (on your own)**

1345-1530 **Session 6: Three Parallel Panels**

Breakout Rooms in Building Rua Rosario 111

6a Culture – 5th floor, 111 Rua Rosario

Chair: Dagmar Timmer, One Earth

Guliz Ger and **Marcelo Jacques Fonseca** – Sustainability of Consumption at Home? The Cases of Brazil and Turkey

Carme Martínez-Roca and **Malik Vazi** – Conspicuous vs. Sustainable Consumption and Production in the South: 'Bling' is Black? Deconstructing 'Bling' Culture in South Africa to Foster Behavioural Change Towards Sustainable Livelihoods

Q&A

Livia Barbosa and **Leticia Veloso** – Consumption, Domestic Life, and Sustainability in Brazil

Livia Barbosa, Fátima Portilho, John Wilkinson, and **Veranise Dubeux** – Youth, Consumption and Political Culture: the Brazilian Case

Discussant: **Peter Adriance**, Bahá'í International

Group discussion

6b Policy – 5th floor, 111 Rua Rosario

Chair: Emmanuel Prinet, One Earth

Tim Cooper – The Value of Longevity: Product Quality and Sustainable Consumption

Leonie Dendler – Sustainable Meta-Labeling: An Effective Measure to Facilitate More Sustainable Consumption and Production

Q&A

Tomas Ariztia, **Dorothea Kleine, Graca Brightwell, Nurjk Agloni** and **Rita Afonso** – Ethical Consumption in Brazil and Chile

Group discussion

6c Education – 6th floor, 111 Rua Rosario

Chair: Vanessa Timmer, One Earth

Arthur Dahl – Values Education for SCP: From Knowledge to Action

Carla Rabelo and **Gabriela Vuolo** – Children, Consumption, and Sustainability: The Negative Effects of Advertising and the Emergency of Adequate Public Policies

Q&A

Maite Cortés – Changing Our Emotions, Changing Our Culture: Exploring Maturana's Potential Contributions to ESC

Victoria Thoresen – Developing Value-Based, Holistic Education for Sustainable Living

Group discussion

1530-1600 **Coffee Break**

1600-1700 **Session 7: Mapping Knowledge, Practice and Leadership** – Roundtable and plenary discussion

Roundtable chair poses questions to three authors, others can join the roundtable

Roundtable Chair: Emmanuel Prinet, One Earth

Vanessa Timmer, Dagmar Timmer, Emmanuel Prinet and **William E. Rees** – Knowledge and Action: Advancing Sustainable Production and Consumption through Practice-Research Engagement

Onno Vinkhuyzen and **Sylvia Karlsson-Vinkhuyzen** – The Role of Moral Leadership for Sustainable Consumption and Production

Jeffrey Barber – Mapping Communities of Practice Towards Sustainable Production and Consumption

Roundtable discussion

1700-1730 **Session 8: Closing Discussion: Reflections and Next Steps**

Discussion in small groups; workshop evaluation; followed by plenary

Policy implications of research

Philip Vergragt – closing of the workshop

Post-workshop networking, reimbursements

Dinner (on your own)

GRF-SPC Planning Meeting: Monday June 18

10:00-12:00 Follow up planning meeting for the Global Research Forum on Sustainable Production and Consumption

All are welcome

Organizers, keynote speakers, and regional organizers: follow-up activities GRF-SPC:

- Plan of activities, regional meetings, etc
- Database, listserv, website
- Funding
- Governance

Venue:

CPDA - Social Sciences Graduate Program on Development, Agriculture and Society

UFRRJ - Federal Rural University of Rio de Janeiro

Av. Presidente Vargas, 417 - 6th floor (It is at the city center)

Getting there: take the metro and stop at "Uruguaiana Station"

GRF–SPC/ ISF Rio+20 Side Event: Tuesday June 19

13:15-14:45 Citizens Network for Sustainable Development/ Global Research Forum on Sustainable Production and Consumption

Side event at Rio+20 Conference

Achieving SCP After Rio: Research, Practice & Capacity-building

Venue: UN 6, Arena da Barra in Barra de Tijuca

Open to all registered participants; more info to follow

The Global Research Forum is endorsed by the following organizations:

- Sustainable Consumption Research and Action Initiative (SCORAI), USA
- One Earth Initiative Society, Canada
- Integrative Strategies Forum, USA
- Asia Pacific Roundtable for SCP, Philippines
- Clark University, USA
- Copenhagen Resource Institute, Denmark
- European Roundtable on SCP
- European Topic Center on SCP
- European Environmental Agency
- Institute for Global Environmental Strategies (IGES) Japan
- Smart CSOs Initiative
- Society in Action Group, India
- Sustainable Europe Research Institute, Germany
- Tellus Institute, USA
- UNEP/Wuppertal Institute Collaborating Centre on Sustainable Consumption and Production, Germany
- Gaiasoft, United Kingdom
- Vitae Civilis, Brazil
- Green Liberty, Latvia
- Greening of Industry Network
- PERL (The Partnership for Education and Research about Responsible Living), Norway
- UFRRJ - Federal Rural University of Rio de Janeiro – Brazil
- ESPM Rio de Janeiro
- Asian Institute of Technology
- National University of Singapore
- Munasinghe Institute for Development – MIND
- Centre for Environment and Development, Sri Lanka
- UNENGO "MAMA-86", Ukraine
- UNEP
- UNDESA
- ANPED
- International Environment Forum


ESPM