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OPEN: EU Workshop – Scenarios and Policy Analysis

Report on the Workshop of 8-9 September 2010

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One Planet Economy Network: EU

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Background

The One Planet Economy Network OPEN: EU project is funded under the European Community's Seventh Framework Programme for research and technology and aims to explore the question "How can the EU become a One Planet Economy by 2050?"

A One Planet Economy is an economic system which enables development for human wealth and prosperity within the resource limits and global climate of One Planet.

In order to find out how to achieve this goal, the OPEN: EU project will develop different instruments and analyse different aspects of sustainable development:

1. **Evidence:** developing an academically robust "footprint family" of sustainable development indicators,

2. **Application:** placing these in a scenario modelling tool for evidence-based policy (EUREAPA), and

3. **Capacity:** creating a network for decision-makers, civil society organisations and business leaders to share and agree on solutions to the challenges of and obstacles to a One Planet Economy.

An important part of the **application** phase of the project that precedes the development of the EUREAPA tool will be the development of future scenarios for consumption in the EU. These scenarios will help us to understand what life might be like in 2050. They will be developed to explore how consumption patterns and production efficiency might change in the future. The scenarios will also provide the basis for policy recommendations; they will help us to identify where we might intervene with policy in the future and what kind of policy might be most effective.

The purpose of the workshop which took place on 8-9 September 2010 in Brussels was to ensure that the scenarios developed as part of the OPEN: EU project, and that its policy analysis of scenarios and indicators are relevant to potential users by seeking feedback from participants on:

- Setting the boundaries for scenarios – Have we selected the most relevant scope for the scenarios?
- Developing the scenario framework - What drivers do we need to consider when developing the scenario narratives? How much of an impact does each driver have and how uncertain/certain is each driver?
- What policy interventions would you most want to see tested in the scenarios?

The interactive workshop of roughly 45 participants covered:

- An introduction to the **nature and scope of the scenarios**, which also set the boundaries of the discussion.
- An explanation and discussion of the **themes and targets** that will be used in the scenarios as well as the role of scenarios in OPEN: EU. This will provide more detail on the aims and aspirations of the OPEN: EU project.
- Development of a **scenario framework** based on commonly identified drivers and the impact and uncertainty associated with these drivers.

- A discussion of the **policy environment and policy interventions** that could be used in scenario development. The policy identified in scenario development was discussed in more detail to identify some of the policy interventions that should be included in the EUREAPA model. This session also included discussion of the function and purpose of the EUREAPA tool.

The scenarios developed in the workshop aimed to demonstrate how a One Planet Economy could be achieved in four contrasting futures. This shows that there are many different ways to achieve a One Planet Economy and helps to identify policy that is robust in any scenario. It was noted that it was important to learn from existing scenarios, but that they would not have the same themes (consumption) and end points (One Planet Economy) as scenarios developed in this project so could not be used directly.

Identifying Policy Drivers and Critical Uncertainties

Ines Omann (SERI) presented the methodology to be used for developing the scenarios. First, policy drivers and critical uncertainties were identified.[1] In three working groups, participants brainstormed and discussed what they found to be the most relevant drivers of consumption.

Brainstorming about drivers in small working groups

In a second step, these drivers were clustered. The most important driver categories were:

- Availability
- Prices
- Values
- Technology
- Business
- Media
- Demographics
- Politics
- Policies and
- Economic Structure.

In a second working group session, participants discussed which drivers were more important and which were less important as well as which drivers' development was

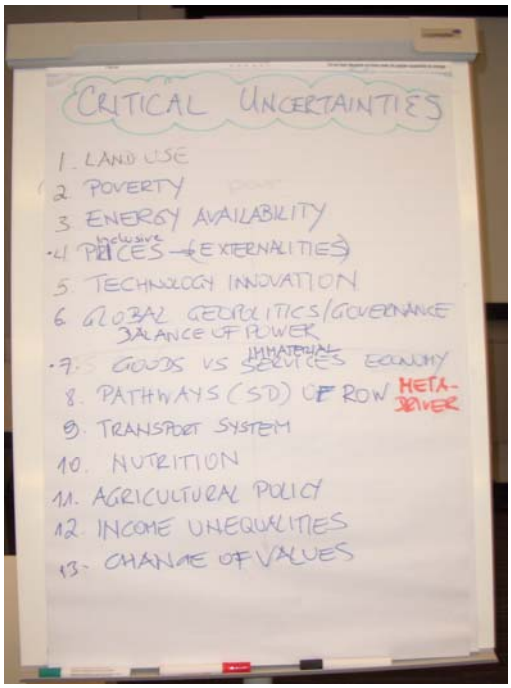
[1] The method that was used during the workshop is described in OPEN: EU (2010) Scenario Scoping Report. OPEN: EU (2010): OPEN: EU Scenario Scoping Report, 1 September 2010, available online at http://www.oneplaneteconomynetwork.org/resources/programme-documents/Scenario_Scoping_Report.pdf.

more uncertain than others. By allocating the drivers on a matrix according to their importance and uncertainty, the major critical uncertainties were identified, i.e. drivers were identified whose impact is important but whose development is uncertain.

Identifying critical uncertainties

These were:

- Land use
- Poverty
- Energy availability
- The way prices include externalities
- Technology innovation
- Balance of goods and services in the economy
- Global geopolitics/governance
- Paths to sustainability in the rest of the world
- Transport system
- Nutrition
- Agricultural policy
- Income inequalities and
- Change of values.

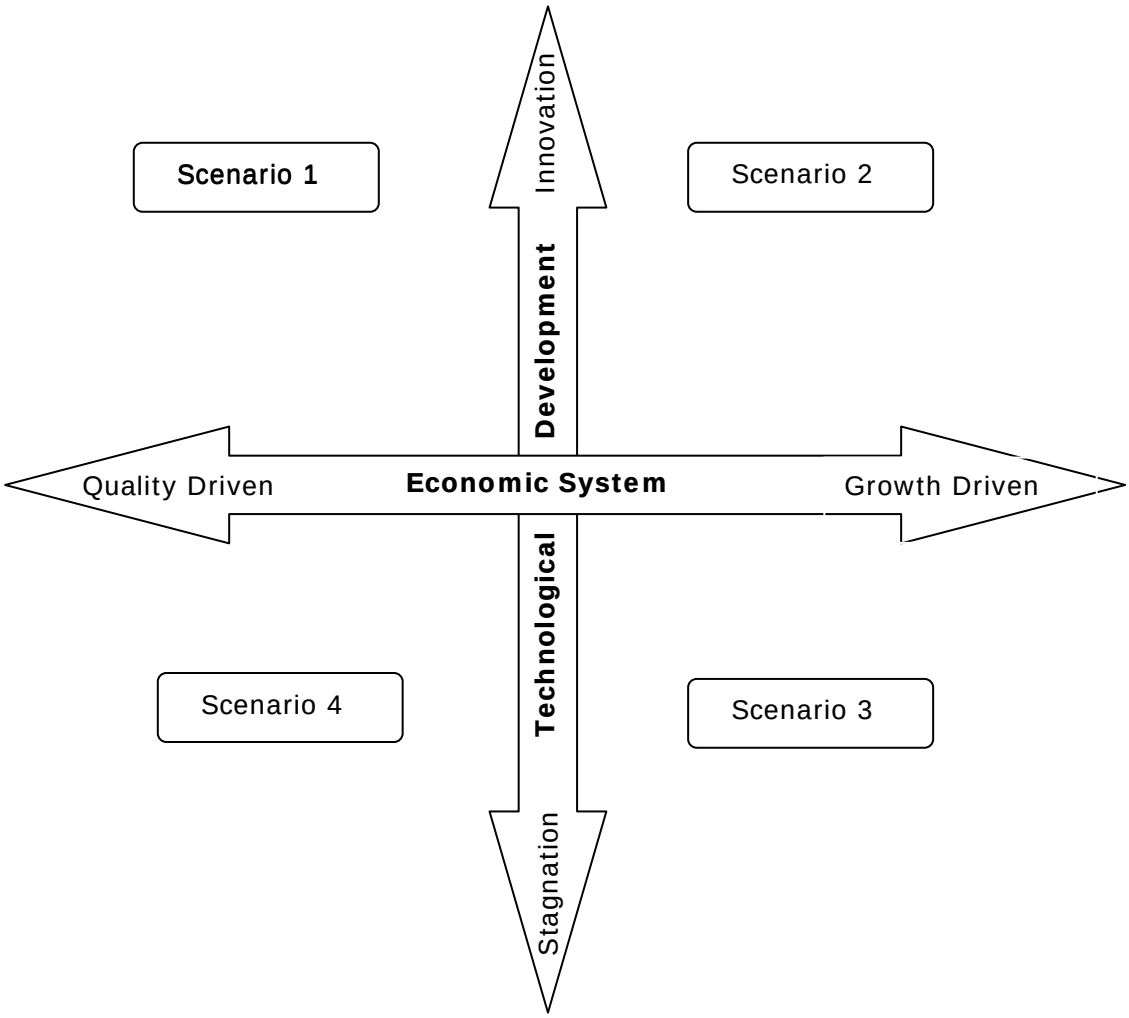


Out of these critical uncertainties, the participants selected two of them in order to lay the ground for the four scenarios which were developed on the second day. After enthusiastic discussions, participants agreed that the most relevant uncertainties were

(1) technological development, ranging from innovative to stagnant (technological innovation to stagnation), and for (2) the economic system, ranging from quality driven to growth driven. This latter definition of an economic system was seen as comprising different sets of values and world views that can determine whether green growth happens or not.

Developing the Scenario Framework

After defining the two critical uncertainties (technological development and the economic system), four scenarios were to be developed by four working groups in which the different narratives of policies concerning the main drivers were developed. The task was to describe how the drivers and policies should evolve between 2010 and 2050 in the different scenarios in order to achieve a one-planet economy.



The first scenario was characterized by high technological innovation and a quality oriented economy, the second by high technological innovation and a growth oriented economy, the third by technical stagnation and a growth oriented economy and the fourth by technical stagnation and a quality oriented economy. The working groups presented the narratives of their respective scenarios as follows.

SCENARIO 1: QUALITY-DRIVEN DEVELOPMENT & TECHNOLOGICAL INNOVATION

In this world, quality of life is prized over economic growth and technology, and innovation and business produce positive social outcomes rather than merely profit. This produces a society that works together and is enabling, rather than controlling, and more centred on people. Technology plays a key role in monitoring and providing real-time feedback on the whole system, allowing for adaptive policy development and intelligent governance.

This society is very egalitarian and redistributive, meaning that income inequality and poverty are all but eradicated. Lifestyles are adopted that deliver maximum quality of life, rather than status or monetary wealth. An appreciation for material value gives way to an appreciation for intrinsic value, owing to an increased awareness of quality of life. People have more time to meet their needs through less materialistic, more sustainable means, owing to increased leisure time and more flexible working arrangements.

Innovation is used to deliver the social outcomes that are driving this world and to deliver goods and services more efficiently. Infrastructure and the financial system are radically decentralised with a high degree of co-operation.

Policy focuses on monitoring progress and supporting lifestyle change through education and infrastructure provision.

SCENARIO 2: GROWTH-DRIVEN DEVELOPMENT & TECHNOLOGICAL INNOVATION

In this scenario, developments are primarily driven by a general concern for quantity instead of quality. At the same time, there is much technological innovation in resource efficiency and energy use.

In order to achieve a one planet economy by 2050, the first steps to be taken are in agricultural policy, education, change of lifestyle and pricing. Agricultural policies would need reform. Policies would need to be implemented to stop crop land from being used for energy production, to start diversifying agricultural land use and to implement controls to protect biodiversity in key areas e.g. pollination by insects, etc.

Furthermore, a focus on education would be required early, as it will take time to prepare people for the changes that will have to take place over the next 40 years. The education system would need to promote internationalism, focusing less on national boundaries/divisions in order to prepare for the global zoning of production that is planned for 2020. The education system would need to become more flexible in order to support the creativity required to support greater innovation and technological advancement.

New ideas about lifestyle changes would have to be fostered and explored, such as innovations in holistic health care, energy efficient housing and transport systems. Children would have to be educated to encourage a renewed sense of community, moving away from individualist, consumerist ideology and fostering greater trust. We would also need to simplify our individual needs out of an appreciation for the wider needs of the global community as a whole. Universities would need to work on reform options for municipal planning systems in order to prepare regulatory framework for these changes. More education on nutrition and the seasonality of food production would be needed so that people could begin to appreciate the need for the global zoning of production and diversification of agricultural land use.

Pricing would need to start to include externalities, and this would be achieved through policies which take into account risk-based pricing and sustainability accounting that quantifies any risk associated with the future provision of goods/services needed by the whole community. Furthermore, resource caps would be introduced for the industry and service economic sectors to increase efficiency in the use of resources, their re-use, and biodegradability. These could be set at local, national and global levels. Minimum standards would be set for production/services to limit the use of hazardous and sensitive /limited resources, which would drive innovation and competition in the economy.

In a second step, from 2020 onwards, caps on land use and zoning and delegation of land use would begin. A global designation strategy for land use would be developed. People would be required to relocate, where necessary, to implement such zoning. We would see EU spatial planning commence via land re-classification, and via attaching priorities for land use. We would begin to abandon water sanitation/sewage systems and adopt eco-sanitation systems to limit the reduction in potable water availability and harness valuable minerals in human waste to ameliorate the soil structure. We would have bio-productive use of soils with phosphorus recycling.

Then, after 2025, poverty would become a priority for growth in emerging markets /developing countries. Economic growth would be progressive in recognising a sustainable development framework and would be focused on the convergence of global sustainable production and consumption patterns. Growth would be financed by mobilising private and public wealth, and material and value chains would link economics globally via a global governance structure that adheres to a sustainable development framework. We would begin this process by preparing foreign ministries to focus on global 'domestic' policies as opposed to policies led by national interests. Large scale uptake of low carbon technologies and targets would take place. Smart grids and energy efficiency standards would be embedded at this point. Mobility would have greatly improved via the electric vehicle. We would no longer encounter monopolies but instead would see true economic liberalisation. At this stage, we would begin to see values changing to allow for hedonists and voluntary poverty would start to appear in the form of 'monks'.

Finally, from 2040 onwards, international policies would be sustainable. The global geopolitics and power balance would be stabilised such that we would no longer see war, as we would have effective diplomacy and a sense of 'global community'.

SCENARIO 3: GROWTH-DRIVEN DEVELOPMENT & TECHNOLOGICAL STAGNATION

In this world there is minimal technological innovation and current trends of technology improvement and uptake continue. This results in improvements in carbon efficiency of production of about 1-2% per year up to 2020, with no further improvement beyond that date. It is assumed that the rest of the world improves production efficiency enough to catch up with EU efficiency levels, but not beyond.

Resource and energy scarcity become problematic early in this scenario because technology is not able to deliver the required efficiency early enough. This means commodity prices must rise rapidly and incorporate externalities to reduce demand and manage supply.

There is a strong focus on economic growth; it is assumed that the GDP grows by about 2% each year. This growth is delivered by an economy providing high quality, low impact services .

Radical lifestyle change is required because technology and innovation cannot deliver our current lifestyle within environmental limits. This change will be driven by pricing, education and marketing.

SCENARIO 4: QUALITY-DRIVEN DEVELOPMENT & TECHNOLOGICAL STAGNATION

In this scenario, developments are primarily driven by a general concern for quality instead of quantity. At the same time, there is not much technological innovation on the efficiency of resource and energy use. By 2050, lifestyles in the EU will have become sustainable, having shifted from consumerism to sufficiency, community-orientation and less materialistic values. The economy will have changed in many ways. At the macro level, the EU's economy has become famous for its Beyond-GDP approach, which is also being promoted in the rest of the world. It has diminished its dependence on international trade and has become more self-contained. At the micro level, individual action by companies and consumers is driven by quality and community development-orientation instead of profit maximisation, and the purpose of work has become primarily oriented towards the common good.

The most influential drivers for these changes include shifts in education towards higher self-awareness, environmental awareness, spiritual and community values; a more positive coverage of issues related to sustainable lifestyles in the media; a strong emphasis on the maximum use of best available technologies; stronger regulation and an increase in prices (to reflect the costs of social and environmental externalities); a strengthening of local communities and local currencies; a fairer and more equitable income distribution; higher values given to non-market services and services in the social sector.

To strengthen the force of these drivers, new policies were put in place, such as an EU-wide increase in income taxation and the establishment of minimum and maximum income boundaries, and a shift of subsidies from conventional agriculture and (industrial) livestock operation towards plant-based, labour-intensive and organic agriculture, with energy and water efficiency targets. The potential use for renewable energy sources has to be markedly increased with the aim of achieving approximately 100% of energy from renewables by 2050. At the international level, agreements were reached on fair shares on emissions and on the sustainable and equitable use of resources. Recognising the need to help emerging economies and developing countries in climate change mitigation and adaptation, the EU has successfully involved industries and NGOs in the large-scale programmes to spread best-available technologies (e.g. by lifting IPR restrictions on key climate-friendly technologies). The state of national development is no longer dominated by monetary indicators (GDP) but by a more holistic measure based on needs and capabilities of the population.

Policies, the EUREAPA tool and its relevance

The OPEN: EU project will develop a software tool, the EUREAPA tool, that supports decision making in sustainable consumption and production. The tool will enable policy makers to understand the current impact of consumption in their country and assess the potential change in impact as a result of policy intervention. The tool will quantify the impact of consumption on the Carbon, Ecological and Water footprint of a country. However, the project appreciates that there a number of impacts of the policies investigated during the project that cannot be quantified by the tool. Therefore, the scenarios serve to inform policy makers more qualitatively on potential outcomes of planned policies.

To set the frame for this session, Doris Knoblauch (Ecologic Institute) and Alexander Neubauer (Ecologic Institute) presented the Footprint Family of indicators (i.e. the Ecological Footprint, the Water Footprint and the Carbon Footprint). Afterwards, Katy Roelich (SEI) presented the EUREAPA tool and its relevance for policy makers. Since the EUREAPA tool was of major interest to the participants, the subsequent discussion mainly focused on the EUREAPA tool.

For the first time, three indicators (the Ecological Footprint, the Water Footprint and the Carbon Footprint) will be included into one tool in order to help policy makers make informed decisions and understand the trade-offs between indicators. The tool is currently being developed and its final design can be informed to some extent by stakeholder feedback (within the limitations of the modelling approach on which the tool is based).

Apart from clarification questions, participants had the opportunity to inform the project team of what content would be most important for them and what policies they would like to see pre-loaded in the tool.

Here, participants stressed that they would like to see as many policies included as possible. In particular, the following issues were mentioned as potentially the most helpful:

- Transport, climate and energy, because policies and/or communications are planned in these fields;
- Public expenditure impacts , as well as financial implications of policies;
- Land use patterns;
- Showing how much people consume from different sectors and the impact of this consumption;
- Determining how much of the footprint comes from the EU and outside the EU;

- Calculating the impacts of public spending;
- Assessing the impacts of policy such as national energy efficiency plans;
- Assessing DG Environment's Energy and Climate Package of policies and
- Analysis of the impacts of perverse subsidies.

Future of the OPEN: EU Network

Finally, Rachel Brown (WWF-UK) presented the future of the OPEN: EU Network and further possibilities for stakeholders to be engaged within the OPEN: EU project.

Apart from the opportunity to become actively involved in the OPEN: EU Network, stakeholders could engage in the following tasks:

- Exploring the usefulness of the Footprint Indicators for EU and international policy making;
- Attending future OPEN: EU events;
- Advising the project team on targeting receptive policy makers within EU Member States and EU government departments;
- Collaborating in order to develop scenario narratives or scenario quantification;
- Encouraging others to participate in OPEN: EU;
- Testing the EUREAPA tool in terms of its functionality and usability;
- Reviewing how EUREAPA performs policy analysis and
- Reviewing and providing feedback on key OPEN: EU reports.

Outlook

With the information the project has gathered at this event we will now be able to:

- Start developing the EUREAPA tool over the winter months with the support of the Technical Working Group made up of participants from the workshop.
- Produce the narratives and circulate to willing participants for review over the next two months.

If you want to become actively involved in this project, please contact Rachel Brown for general inquiries on the project and Hester Lilley for information on how to participate further in the project:

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Project Partners