

The New Industrial Evolution



What could a sustainable Europe look like?

How would a sustainable Europe look in 2050? We can envisage a vastly more efficient economy, where energy and materials are used to maximum effect. Shops will no longer need to sell disposable goods, and waste mountains would be a thing of the past. Responding to climate change buildings will produce their own energy needs. Innovation in science and technology no longer driven by profit alone, is inspired by the One Planet Economy challenge and becomes everyday practice in all branches of industry.

There is an equal and opposite agenda on the consumption side – consumers demand low impact products and services, and share cars or equipment where possible. They actively prefer products which are adaptable, long-lived, and designed for remanufacture. The principle of stewardship ensures that resources are shared according to need, rather than squandered in conspicuous consumption. Two hundred years after giving rise to the Industrial Revolution, the EU pointed the way towards an industrial evolution.



Introduction

Our planet is buckling under the weight of the demands we are making on it. Whilst our world's population is set to increase to nine billion by 2050, global consumption levels are already five times what they were just 50 years ago. Today, our consumption patterns account for the destruction of the world's richest forests and the degradation of our soils and fresh water sources. It is this over-consumption that is directly contributing towards climate change and species extinctions.

The European Economy

The impact of the European economy is now nearly three times larger than what is required for a sustainable world.

Today Europe uses 20 per cent of what the world's ecosystems provide and yet is home to only 7 per cent of the world population. If present patterns of production and consumption continue unchecked, the human economy will be double the available biocapacity by 2050, and we will need the equivalent of two planet earths to support us.

The choices we make today will shape our opportunities far into the future. The cities, power stations and homes we build in the next few years could lock human society into wasteful use of energy and other resources beyond our lifetimes, or they could begin to propel us and future generations towards a new and more balanced way of living.

Europe, as the world's largest economy must embark upon an immediate and major transformation to avert dangerous climate change and prevent ecosystem collapse. A shift to a more sustainable future will require a significant mobilisation and behavioural change of actors and institutions from every aspect of society.

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What is a One Planet Economy?

It is clear that a new future for Europe must be achieved by building an economy that respects all environmental limits and is socially and financially sustainable, enabling people and nature to thrive. We call this a One Planet Economy.

The One Planet Economy concept is very simple. Whether managing a small or medium enterprise, a multi-national corporation, or the European Union, we need to manage our assets and liabilities and be aware of future risks and opportunities. We need to think both short and long term, be responsible to suppliers and customers, and be accountable to employees and stakeholders at a local and global level. It is possible to achieve social and economic well being on our one planet, rather than requiring the resources of three or more.

“The OPEN:EU project is developing a comprehensive and foresighted set of EU consumption indicators to be used in an interactive software tool for EU policy makers.”

Project background

One Planet Economy Network (OPEN: EU) is a two year EU funded project (under the EU 7th Framework Programme for Research and Technological Development or FP7).

There are eight international partners involved in the project, which brings together European and global leaders in the fields of resource accounting, policy and scenario development, stakeholder engagement and project management.

The OPEN:EU project is developing a comprehensive and foresighted set of EU consumption indicators to be used in an interactive software tool for EU policy makers.

These indicators and software tool will facilitate greater transparency in decision making and support high quality, informed policy-making, and help transform the European Union (EU) to a One Planet Economy by 2050.

The project can be categorised as having three broad components: ‘building the evidence base’, ‘building the software tool’ and ‘building the capacity’:



The 'Footprint Family' indicators will allow decision-makers to track and measure the impact of consumption on the earth's natural resources and ecological assets.



Building the evidence base

Since September 2009, the project has been focused on developing a 'Footprint Family' of indicators: Ecological, Carbon and Water footprint to track the multiple and often hidden demands that human consumption makes on the planet's resources and to measure their impacts on the planet.

The 'Footprint Family' indicators will allow decision-makers to track and measure the impact of consumption on the earth's natural resources and ecological assets. With this information they can develop an informed response to issues such as limits to natural resource and freshwater consumption, and sustainable use of natural capital across the globe.

By bringing together the Ecological, Carbon and Water Footprint indicators through the same trade model, this will enable a calculation of each of these indicators for the whole of the EU-27. The project will use sophisticated multi-regional input-output analysis for this and will build upon the outputs of the EU Framework 6 project EXIOPOL. All results will be made freely available in August 2011.

Ecological Footprint

The Ecological Footprint is defined as; "the total area of productive land and water ecosystems required to produce the resources that the population consumes and assimilate the wastes that production produces, wherever on Earth that land and water may be located" (Rees, 2000). Ecological footprinting allows us to quantify how far the world's resources are being used against how many are available, which is invaluable information for those attempting to design policy for a sustainable future.

Carbon Footprint

The Carbon Footprint indicator allows for a comprehensive assessment of human contribution to climate change which is consistent with standards of economic and environmental accounting. It offers an alternative angle for international policy on climate change as it complements the territorial-based approach used by the UNFCCC.

Water Footprint

The Water Footprint of a country is the total volume of freshwater consumed and polluted for the production of goods and services consumed by citizens in the country (Hoekstra et al 2009). Consumption is defined as water permanently removed from a water body in a catchment, which happens when water evaporates, returns to another catchment area or the sea or is incorporated into a product.



Building the software tool

The indicators will be brought to life in an on-line 'next generation' software tool: EUREAPA (European Resources and Energy Analysis Programme Application).

EUREAPA is a user friendly software tool which will allow EU policy makers to evaluate the impact of consumption and produce scenarios for any EU country or the EU as a whole. The EUREAPA tool will provide detailed information (123 different economic sectors) to help policy-makers understand the main causes of the consumption 'footprint' in their country and across Europe. It will help them evaluate current EU policy and support them to design policy which promotes resource productivity and reduces the impact of EU consumption on the planet.

A series of One Planet Europe scenarios will be developed as part of the project with close consultation and input from the EU, individual member states and key decision-makers, to ensure that they reflect the political, economic, and social drivers which naturally inform policy intervention and outcomes.

These scenarios will provide the contextual lens through which EUREAPA processes data allowing it to generate robust results and illustrate what the future impact of EU consumption might look like in 2050.

We are arranging various workshops and interactive webinars through to August 2011 to allow interested parties to collaborate on the development of EUREAPA and the scenarios within it.

The EUREAPA software tool will be made freely available across the EU in August 2011.

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Building the capacity

Achieving this next great transition or industrial evolution to a One Planet Economy in Europe can only be implemented by people.

Therefore, the third focus of the project is to bring together key actors and decision-makers from across the EU, for a multi-stakeholder dialogue process to form the One Planet Economy Network (OPEN).

Using evidence generated by the EUREAPA tool, the core question for the Network will be “How can we become a One Planet Economy in Europe by 2050?”.

It is hoped that in its own modest way this network and its outputs could lead to the first action plan for a transition to a One Planet Europe.

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How to get involved

The project partners are inviting organisations with shared goals to participate in the project so as to strengthen the One Planet Economy concept and hasten our transition to a more sustainable world.

To register your interest and get involved in this ground-breaking project please visit the OPEN website at oneplaneteconomynetwork.org

Contact

Hester Lilley
One Planet Economy Network, C/o WWF-UK
Panda House, Weyside Park, Catteshall Lane
Godalming, Surrey GU7 1XR, UK

Tel: +44 (0)1483 412502

Email: info@oneplaneteconomynetwork.org

Web: oneplaneteconomynetwork.org



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Project Partners



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One Planet Economy Network

C/o WWF-UK, Panda House
Weyside Park, Catteshall Lane
Godalming, Surrey GU7 1XR, UK

Tel: +44 (0)14 83 41 24 98

Email: info@oneplaneteconomynetwork.org

Web: oneplaneteconomynetwork.org