

Voices from Europe: Build a Living Economy

Bo Normander
Alexandra Hayles
Trine S. Jensen
Eirini Glyki
Editor: Daniel Yeow

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Strandgade 12B

1401 Copenhagen K

Denmark

Web: www.worldwatch-europe.org

Enquiries: info@worldwatch-europe.org

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About us

Worldwatch Institute is an independent research organisation recognised by opinion leaders around the world for its accessible, fact-based analysis of critical global issues. With its headquarters in Washington, D.C., Worldwatch has catalysed effective environmental decision making since 1974. In 2011 Worldwatch Institute established its European office in Copenhagen, Denmark. Worldwatch Institute Europe aims to deliver the insights and ideas that empower European decision makers to create an environmentally sustainable society that meets human needs. For further information please visit www.worldwatch-europe.org.

Bo Normander is Director of Worldwatch Institute Europe. He is a dedicated and experienced researcher with a lifelong interest in issues related to the environment, biodiversity, and sustainability. Before joining Worldwatch in 2010, Bo was a senior advisor and researcher at the National Environmental Research Institute at Aarhus University, leading Denmark's State of the Environment reporting. He has earned a Ph.D. in microbial ecology.

Alexandra Hayles is a Senior Researcher at Worldwatch Institute Europe. Her lifelong awareness of environmental issues is anchored in her passion as a keen and competitive sailor. The areas of interest are green economy, urban ecology, and social and cultural entrepreneurship. Before joining Worldwatch in 2011, Alexandra was Director for a Safety and Environmental Risk Management Rating Agency in the U.K. She holds a M.Sc. in economics.

Trine S. Jensen is a Senior Researcher at Worldwatch Institute Europe. Her qualifications are founded on a high academic level, which she combines with a passionate interest for the links between society, culture and the environment. Trine holds a Ph.D. in environmental chemistry. At present she is also supplementing her environmental academic curriculum with sociology studies at Copenhagen University.

Eirini Glyki is a Researcher at Worldwatch Institute Europe. Her fields of interest revolve around sustainable prosperity and green economy and include the development of strategies balancing natural resource development and conservation with the protection of local livelihoods. Eirini has previously worked as a researcher in Greece, U.K., Laos and Colombia. She holds a M.Sc. in natural resource development and protection.

Daniel Yeow is Online Manager at Worldwatch Institute Europe. Prior to joining Worldwatch he interned at UNICEF headquarters in New York. He has also held various governance positions in Amnesty International both in Australia and the United States. His educational background was originally as a mathematician before obtaining his masters degree in climate science.

Acknowledgements

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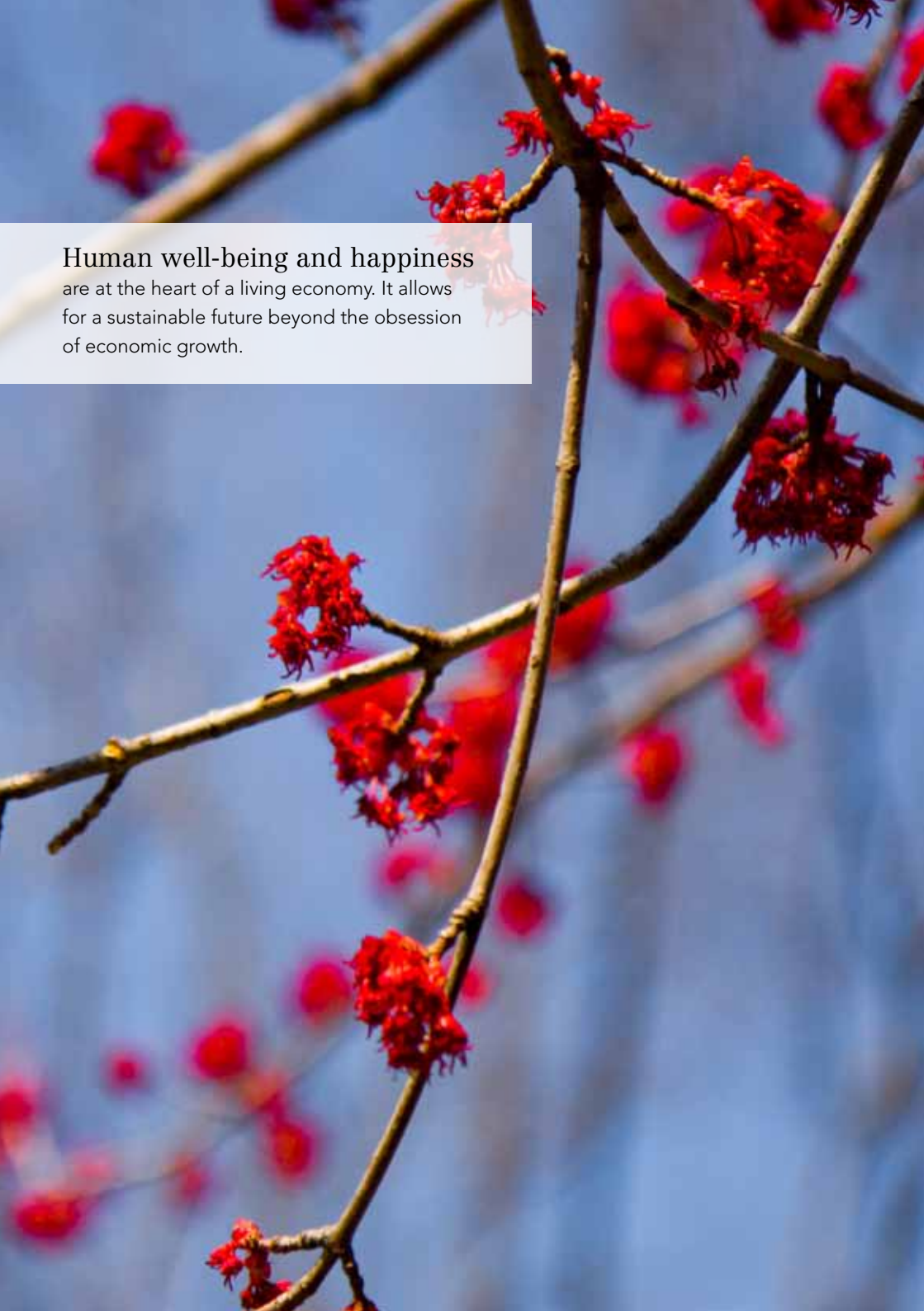
Introduction

The economic crisis in Europe shares with the environmental crisis and societal concerns the same root cause, namely a narrow pre-occupation with short-term gain at the expense of long-term sustainability. With this report, Worldwatch Institute Europe wishes to highlight a path to tackle our multiple crises, suggesting different ways on how to build a green and living economy.

Why action is needed. In 1992, government leaders from all over the world met in Rio de Janeiro for the first Earth Summit on sustainable development. Twenty years have passed by and though some progress has been made, many critical goals have been left unmet. Climate change is looming, biodiversity loss continues, and natural resources get scarcer. These are the challenges we face.

What to do. Triggered by the interest and hope among Europeans for a more sustainable future, we have conducted a survey in order to harvest ideas, hopes, and incentives. Representatives from business, science and civil society provide their opinion on what are the most important concerns and how these should be tackled. By adding these voices from Europe to the process of developing concrete strategies, new goals can be set in the move toward building living and green economies.

How to do it. As the need for change engages actors across institutional frameworks, we wish to demonstrate with a number of examples how environmental challenges are being tackled across Europe. The vision is a culture of diversity, with processes supported by broad values and organised in a system linking the environment, society, and the economy.

A close-up photograph of a branch with clusters of bright red flowers against a clear blue sky. The flowers are small and clustered, with some in sharp focus and others blurred in the background. The branch is thin and brown, with some small leaves visible. The overall composition is simple and elegant, with a strong contrast between the red flowers and the blue sky.

Human well-being and happiness
are at the heart of a living economy. It allows
for a sustainable future beyond the obsession
of economic growth.

*Why
Action
is Needed*

From Rio to Rio+20

In 1992, government leaders from all over the world met in Rio de Janeiro for the United Nations Earth Summit on environment and sustainable development. It became a milestone in global policy making, and yielded several important global agreements including key treaties on climate change, biodiversity, desertification, and local plans of actions ("Agenda 21").

Twenty years have passed by and Rio seems like a forgotten past. What have we obtained since then and how is the state of the world today?

Marking the 20th anniversary of the first Earth Summit, the world's governments will meet again in Rio in June 2012 for yet another Earth Summit; also known as Rio+20. This global gathering will present a unique opportunity to take stock of the global environment and to develop concrete strategies to address the many critical goals that have not been met over the past two decades. At the same time, the Rio+20 Summit provides an impetus for a large and continuing process.

There is a lot to discuss; the crises of the global economy, the environment, and social concerns share the same roots, namely a narrow pre-occupation with short-term gain at the expense of long-term sustainability. Tackling our crises requires not just technological advances but bold policy innovations and a new solidarity across borders, social classes, and generations.

Europe is expected to play a major role at Rio+20 and beyond. This publication serves to bring important findings and experiences from Europe to a global audience, while also asking European citizens and decisions makers to take stock – and action.

First, this report will draw the attention to five of the most critical issues that Europe and the World are facing. This will give us an overview of what is at stake and why action is needed to help the vision for a more sustainable world come through.

Climate and Energy

Achieving Low-Carbon Societies

While the Earth's climate has been remarkably stable for the past 10,000 years there are now clear signs that the climate is changing. Since the Convention on Climate Change was agreed upon in Rio two decades ago, the scientific consensus has strengthened, giving clear evidence that the emissions of greenhouse gases (such as CO₂ from the combustion of fossil fuels) is having significant impacts on climate.

The concentration of atmospheric CO₂ has increased from a pre-industrial level of 280 ppm to 390 ppm in 2011. As a consequence, the global mean air temperature has risen by 0.7 to 0.8 °C.

Our planet has a fever. Yet, most governments have failed to limit their CO₂ emissions.

The global emissions of CO₂ increased by 36 % from 1992 to 2008 (Figure 1). While Europe has actually succeeded in reducing its emissions by 12 %, most other countries – including markedly expanding economies such as China and India – have failed to limit the growth of emissions. However, as measured per capita, Europeans are still among the biggest polluters of the world.

To tackle climate change, the consumption of fossil fuels should be phased out and replaced by non-carbon sources such as solar and wind power. Renewable energy sources (including biomass) currently account for 13 % of global energy supply.

In the EU the share of renewable energy (biofuels excluded) as a percentage of total energy consumption more than doubled from 4.6 % in 1992 to 9.5 % in 2010. Combustion of biomass, such as wood and waste represent by far the largest share (6.4 %), while solar and wind energy account for only 0.2 % and 0.7 % respectively (Figure 2).

The EU has committed to reduce greenhouse gas emissions by at least 20 % from 1990 levels to 2020. The ambition is to limit global mean temperature increase to below 2 °C. However, according to the IPCC (Intergovernmental Panel on Climate Change), meeting this target would require emissions cuts by 2050 of around 50 % globally and 80-95 % in the EU alone.

Emissions of CO₂ from Fossil Fuels

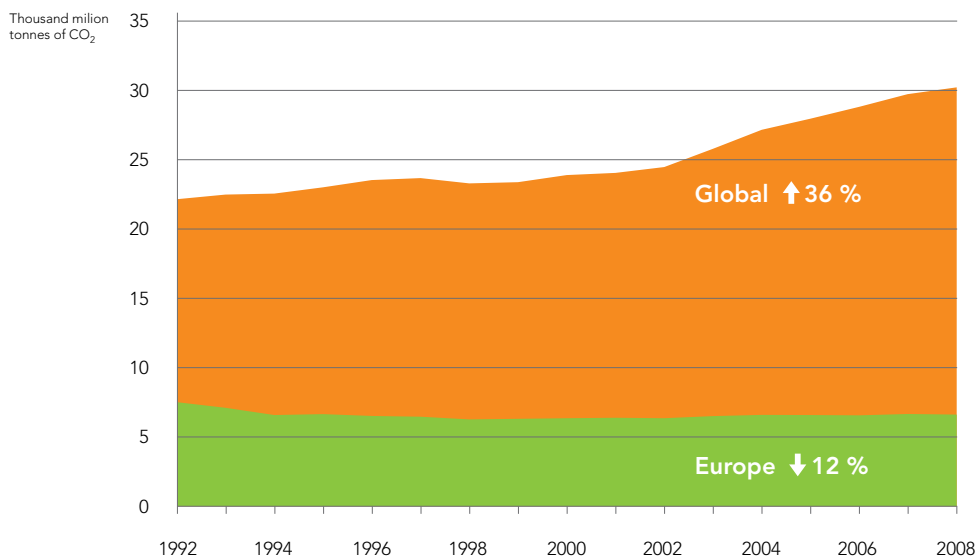


Figure 1. The total emissions of CO₂ from fossil fuels have increased at the global level but have decreased in Europe since 1992. Source: UNEP.

Renewable Energy Share in EU (%)

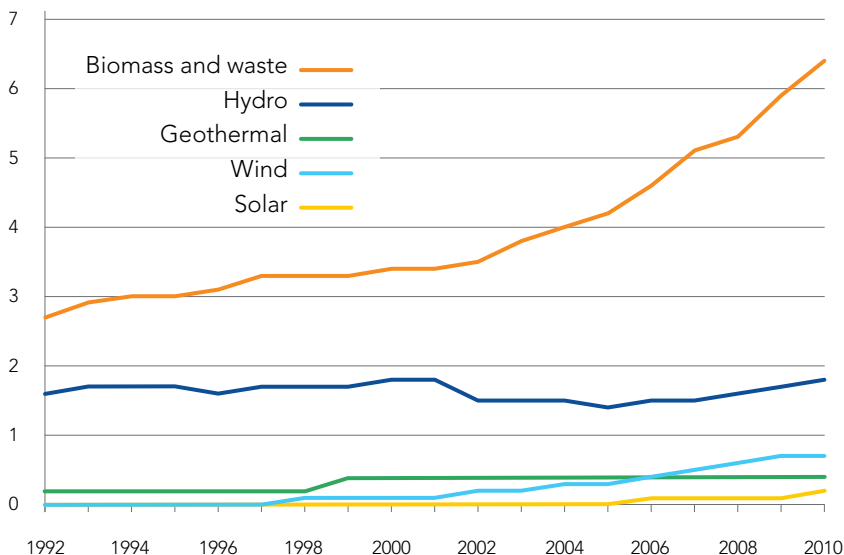


Figure 2. Biomass and hydro power are the largest renewable energy contributors in the EU. Source: Eurostat.



Climate change

causes increased temperatures
and the melting of polar and
glacial ice caps

Biodiversity and Nature

Combating the Sixth Mass Extinction

At the 1992 Earth Summit in Rio, world leaders made a collective commitment to preserve Earth's biological resources by agreeing to the Convention on Biological Diversity (CBD). Since then however, most politicians have failed to protect nature and the world has witnessed - with only a few positive exceptions - a dramatic and continual loss of biodiversity.

The rate at which species are becoming extinct is estimated to be up to 1,000 times higher today than in pre-industrial times.

The Living Planet Index estimates that since 1970, biodiversity has declined by 28 % globally, and as much as 61 % in the tropical regions. This index uses trends in the size of more than 9,000 populations of mammal, bird, reptile, amphibian, and fish species.

Biodiversity loss started centuries ago but has sped up since 1900 (Figure 3). If no new action schemes to conserve biodiversity are adopted biodiversity is projected to drop to 62 % of pre-industrial level in 2050. Scientists have called this rapid loss of biodiversity the Sixth Mass Extinction in Earth's history - and the only one caused by a living creature: humans (Figures 4&5).

A rich biodiversity in healthy ecosystems is crucial to human well-being as it provides for all our basic needs: food, wood, fibres, energy, medicine, clean water, etc.

It is also a matter of money; A recent study calculates that the rain cycle of the Amazon forest provides water for agriculture worth € 190 billion a year. In the case of Switzerland, bee keeping is shown to generate € 170 million annually.

Overall, biodiversity trends in Europe follow the same negative development as global trends. The EU and most countries in the world failed to meet the CBD target of halting the loss of biodiversity by 2010. Consequently, the target was renewed in 2010 with the adoption of the U.N. Strategic Plan for Biodiversity 2011-2020 with 20 new headline targets to “take effective and urgent action to halt the loss of biodiversity in order to ensure that by 2020 ecosystems are resilient and continue to provide essential services.”

Historic and Future Development of Global Biodiversity

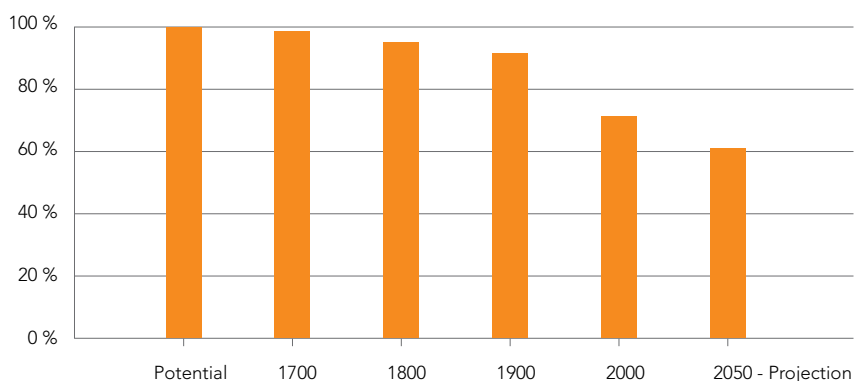


Figure 3. Mean species abundance is an indicator of biodiversity.
Source: Bakkes et al.

The Six Big Mass Extinctions

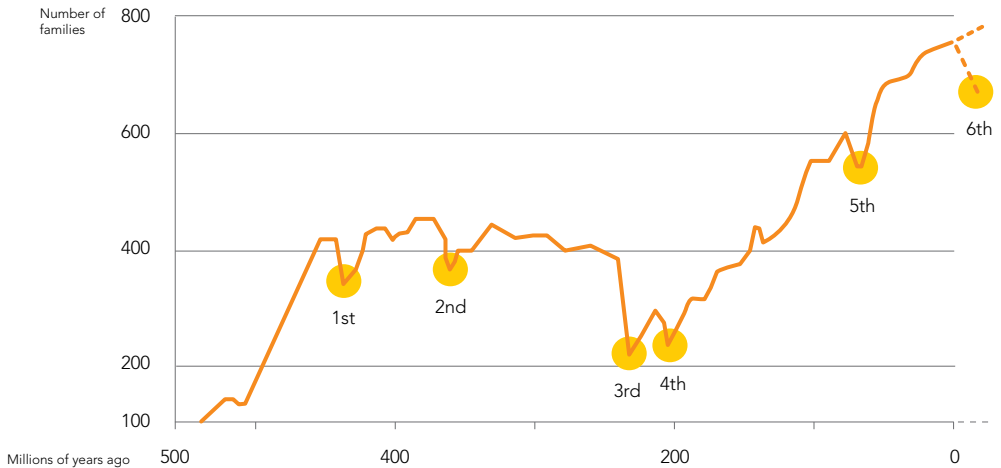


Figure 4. The current loss of biodiversity has been termed the Sixth Mass Extinction. The other five mass extinctions happened long ago, with the end of the Cretaceous period 65 million years ago, which killed the dinosaurs, as the latest and most famous. Illustration after St. Joseph Environmental Science.



Figure 5. Not only have exceptional mammals such as the Caspian Tiger, the Pyrenean Ibex Goat, and the Western Black Rhino gone extinct, but an alarming number of animals, insects, and plants are now on the edge of extinction.



Biodiversity

is the diversity of all living organisms on Earth.

Green Economy

Going Beyond GDP

The U.N. defines a green economy as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy can be thought of as one which is low-carbon, resource-efficient and socially-inclusive.

In today's economic thinking, GDP (Gross Domestic Product) is the most predominant indicator and growth in GDP has become the overall policy target for a majority of governments. Since the Earth Summit in 1992, the world's overall GDP has increased by as much as 60 %.

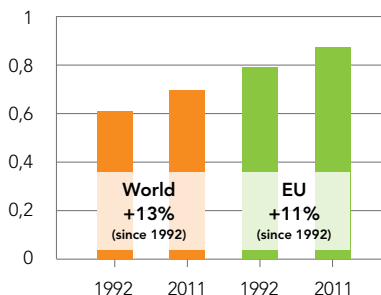
However, GDP is just a measure of pre-defined market values of goods and services produced in a given country. It sums up all of society's doings, including those with a negative impact on human health and the environment such as deforestation, hospitalisation and military conflicts.

GDP and related economic indicators do not measure human well-being, quality of life, or the state of the environment. The world needs to go beyond GDP.

Two eloquent 'beyond-GDP' measures are the Human Development Index (HDI) and the Ecological Footprint. HDI measures human well-being on a scale from 0 to 1 by combining data for life expectancy, education and standard of living. The Ecological Footprint measures resource consumption by calculating how much land people need to produce the resources they consume (such as food, timber, and energy).

On a global scale HDI increased from 0.60 in 1992 to 0.68 in 2011, which corresponds to a 13 % increase (Figure 6). This number, however, covers large regional differences. Africa lags far behind with an HDI of 0.50 in 2011, while the EU countries rank among the highest with an average score of 0.87.

Human Development Index



Ecological Footprint

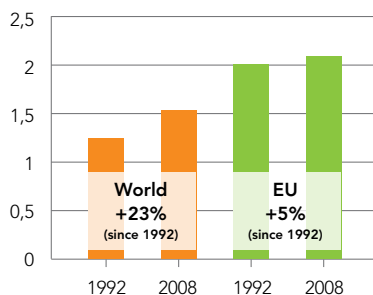


Figure 6. The Human Development Index (HDI) and The Ecological Footprint of EU and the World. Source: UNDP, Global Footprint Network.

Note: The Ecological Footprint is expressed here as the Ecological Footprint to Biocapacity ratio. The ratio relates the footprint of a given region to its biological capacity and hence allows for direct comparison between different regions and/or countries.

The Ecological Footprint for the world increased from 1.24 in 1992 to 1.52 in 2008, which implies that we are currently using around 1.5 planets to support our activities (Figures 6&7). This is, of course, not sustainable and a clear sign of human overconsumption. In the EU alone the Ecological Footprint was 2.11 in 2008, which is well above the global average.

Decoupling human well-being from resource consumption is at the heart of the green economy. However, as the Ecological Footprint is steadily growing and already far above the planet's capacity, a true decoupling remains to be seen.



Figure 7. We are currently using the equivalent of 1.5 planets to support our activities. "Business as usual" will mean that we will need 2 whole planets by 2030. Source: Global Footprint Network.

Agriculture and Food

Nourishing the Planet

Since the Rio Summit in 1992, around 1.5 billion people were added to the planet, surpassing a world population of more than 7 billion in 2011. U.N. projections foresee 8 billion people by 2030. How do we nourish an increasing population and at the same time accomplish a sustainable food supply?

While the world's undernourished population has increased from 860 million in 2002 to 925 million in 2010, the number of overweight people has swelled from 1.4 billion to 1.9 billion in the same period (Figure 8). For the first time in human history, the total of overweight people outnumbers the total of underweight people.

Securing a better distribution of food between underfed and overfed populations will be fundamental to achieving the U.N. Millennium Development Goal of halving the number of hungry people between 1990 and 2015. Given the fact that 40 % of all food produced is wasted, we can safely say that enough food to nourish all is already available.

Moving towards a fairer distribution of food would require developed countries to phase out harmful agriculture subsidies. Governments claim that these subsidies ensure food security, but in reality they make it unfair for farmers in poorer countries to compete on global markets, or even in their own domestic markets.

In the EU, the expenditure on farm subsidies – under the Common Agricultural Policy (CAP) – is more than € 50 billion annually, corresponding to as much as 40 % of EU's total budget (Figure 9). This amount exceeds the GDP of even the largest African economies.

In October 2011, the EU Commission presented a proposal for CAP reform. Covering the period from 2014 to 2020, it aims to effectively use CAP for sustainable agriculture and fair food policy.

Underweight and Overweight Adults Worldwide

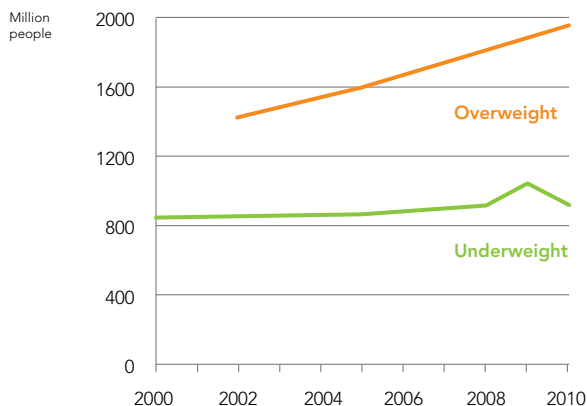


Figure 8. Underweight and overweight adults worldwide. Source: FAO, WHO.

Note: Overweight is defined by the WHO as adults with a Body Mass Index (BMI) ≥ 25 . Undernourished (underweight) is defined by FAO as when caloric intake is below the minimum dietary energy requirement (MDER).

CAP Expenditure

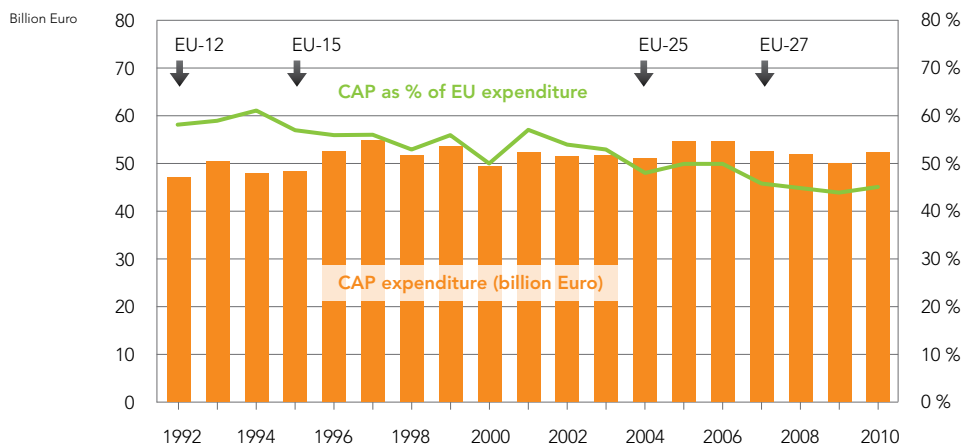


Figure 9. The development of EU's expenditure on farm subsidies (CAP expenditure). Source: European Commission.

Green Innovation

Business as Unusual

Recent years have seen an increasing focus on the role and responsibility of companies to help achieve more sustainable societies. Realising that fossil fuel prices are rising and natural resources are getting scarcer, more and more companies engage in green business and innovation.

The greening of the energy sector is booming.

From just US\$ 54 billion in 2004, global investments in renewable energy surged to US\$ 260 billion in 2011 (Figure 10), principally in solar energy (US\$ 137 billion) and wind power (US\$ 75 billion). Europe as a whole saw clean energy investment of US\$ 100 billion in 2011, up 3 % on 2010, with the strongest features being solar installations – both large-scale and distributed – in Germany and Italy, and the financing of offshore wind farms in the North Sea.

Energy-smart technologies such as smart grids, energy management, electric vehicles, and power storage also experienced a strong increase in recent years, with financing of companies in this sector reaching a record US\$ 24 billion in 2010, which however declined to US\$ 19 billion in 2011.

Other sectors of green innovation, however, are more difficult to measure significant trends in, compared to the energy sector. There is an increased focus on Corporate Social Responsibility (CSR) and environmental management. The number of companies with the environmental management standard, ISO 14001, is growing at a rate of over 30 % annually and 230,000 certificates were granted worldwide in 2009.

Many governments, particularly in Europe, claim to create new green jobs. However, the road toward creating more green jobs and a real green economy – and hence sustainable prosperity for all – is still long and riddled with obstacles.

Global Investments in Renewable Energy

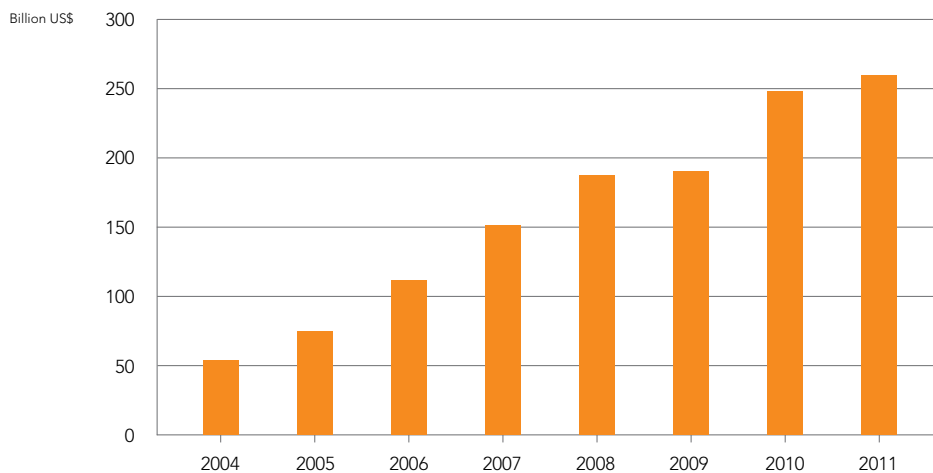


Figure 10. Global investments in renewable energy. Source: Bloomberg New Energy Finance.

What to Do

Voices from Europe


A lot of interest and hope has been raised among Europeans leading up to the global Earth Summit of Rio+20. Triggered by this, Worldwatch Institute Europe has conducted a survey in order to explore the ideas, hopes, and incentives of European stakeholders within the field of sustainable development.

The concept behind the survey lies in blending environmental, economic, and social issues that question the important matters for the political process to push for more sustainable societies. Participants were asked to critically address some of the many goals that have gone unmet over the past two decades since the first Earth Summit in Rio in 1992 and propose possible sustainable practices and solutions.

The survey aims to give a voice to a wide range of Europeans.

Experts on the environment, business, economics, anthropology, and sociology from several European countries were consulted. The survey also reached out to a range of European Non-Governmental Organisations (NGO) and citizens groups.

By adding these voices to the process of developing concrete strategies, new goals can be set at the Rio+20 Summit and beyond as a continuous process in the move toward building living and green economies.



We should start working
for a “human” life today
if we want to see results
tomorrow.

*Liliana Terranova, Business
Executive, Italy*

Sustainable lifestyle is and
should be affordable for
everyone in the world!

Alexander Wirth, Swissgrid AG, Austria

Act now or the costs to
society (people and nature)
will be too high and beyond
repair.

*NGO representative, Eurositer,
United Kingdom*

Facilitate initiatives and
show the willingness to
implement the visions.
Walk the talk!

*Professor Arne Remmen,
Denmark*



Business as usual is dead.
We **MUST** start factoring
resource scarcity into
decision making!

*Professor Katherine Richardson,
Denmark*

Survey of Environmental Challenges

Methodology and Concept

A survey was conducted among European multidisciplinary groups of experts and stakeholders. Their opinions and possible variation of attitudes toward the different aspects of sustainable development were analysed, and participants were encouraged to offer policy advice to the Rio+20 Earth Summit.

The focus was to ask experts to provide their opinion on what the most important concerns are that politicians should be addressing at the Rio+20 Summit and beyond. These could include the possible lack of regulations or barriers hindering the initiatives involving their main concerns, possible practical approaches and solutions, as well as the respondents' view on the possible outcome of the Rio+20 process. Finally, the respondents were asked to give their personal messages to the politicians and participants of Rio+20.

The survey was conducted in the form of a questionnaire with both quantitative (multiple choice) and qualitative (open ended) questions. It was addressed to three different interview groups. The first group contained executives of large European companies covering a wide range of business categories. The second group included a wide range of European environmental and social NGO representatives. The third group was spread over a spectrum of European intellectuals and scientists within the fields of economics, environment, sociology, and anthropology.

The themes of sustainable development chosen to be addressed in the survey were based on a number of reports from the European Environment Agency, UNEP and Eurobarometer (see References). The themes were thoroughly researched through an interdisciplinary approach and a pilot study with a smaller focus group was conducted in order to achieve the most effective design for the study.

The main goal of the survey was to acquire more knowledge regarding the need to explore the possible solutions that sustainable development can offer concerning the critical problems European societies face. The survey recognises the need to disseminate good practices around Europe and the globe so as to transform modern societies into sustainable prosperous societies.

Sixty-two experts from 23 European countries participated in the survey; 34 % of the respondents were business executives, 38 % NGO representatives and 28 % European intellectuals. Of the respondents 66 % were male and 34 % female, with a range of ages between 30 and 67 years.

Environmental Concerns

Focusing on the Most Crucial

Initially, the participants of the survey were asked to choose and rank the five most important concerns from a given list of current global environmental issues, which in their opinion politicians should deal with in order for societies to become more sustainable.

The environmental issue chosen as the main – number one – concern by most respondents was “Failure of economic systems to protect the environment” at 22 % of the respondents (Figure 11). This was followed by “Climate change and emission of greenhouse gases” (18 %), “Depletion of natural resources” (9 %), and “Consumption habits and unsustainable lifestyles” (9 %).

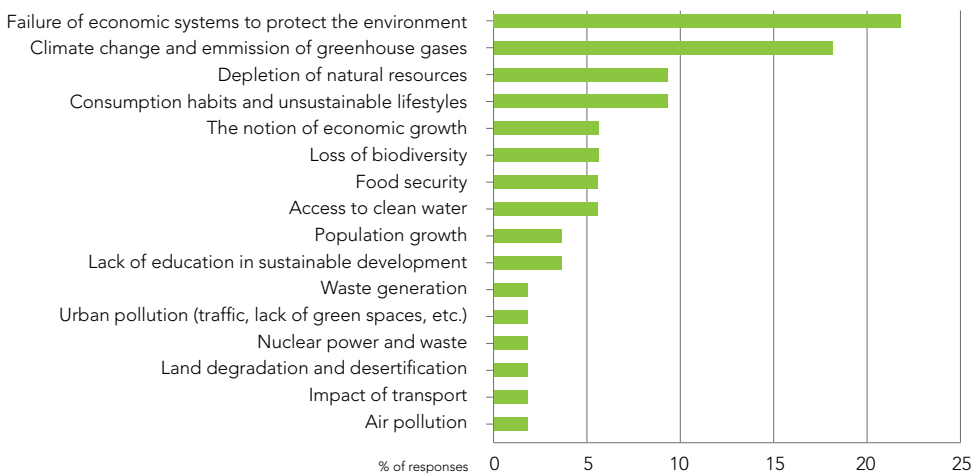


Figure 11. What is the most important environmental concern that world politicians should deal with? (only one choice per respondent)

When including all five concerns chosen by each respondent the picture becomes different. “Climate change” and “Depletion of natural resources” climb to the top with 14 % and 11 % of the responses respectively, while “Failure of economic systems” (10 %) slides down to a third position

(Figure 12). The respondents also gave priority to “Consumption and lifestyles” (10 %), “Loss of biodiversity” (7 %), and “Access to clean water” (7 %).

When analysing and ranking the concerns selected by the three different interview groups, interesting disparities appear. Whereas all three groups agree that “Climate change” is of highest concern, the issue of “Failure of economic systems to protect the environment” comes in second for the business and intellectuals groups but only fourth for the NGO group (Table 1). Instead, the NGOs prioritise “Loss of biodiversity” as the number two concern, while this issue is not even in the top 5 for the other two groups.

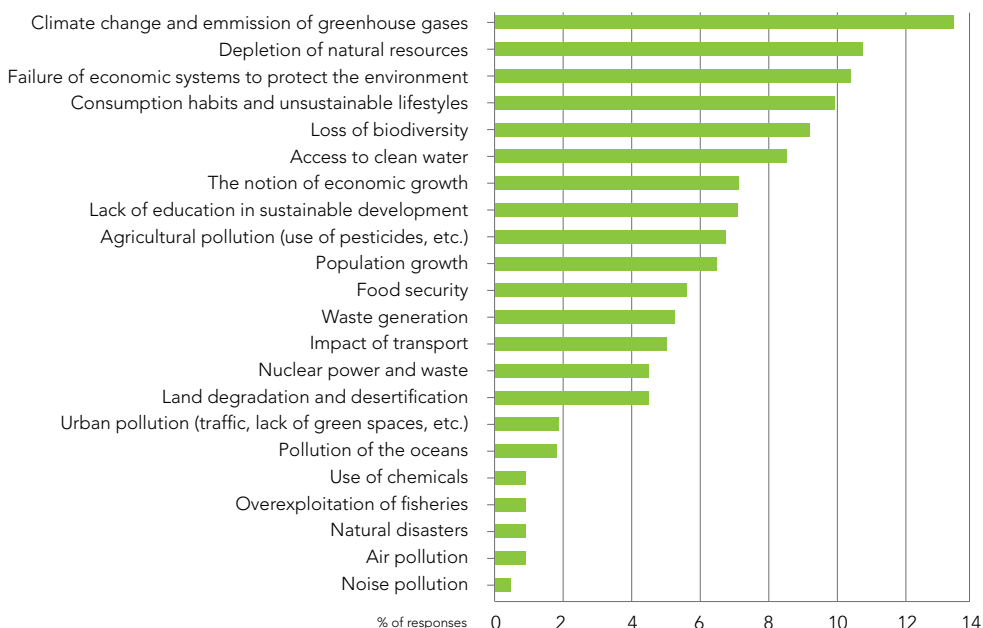


Figure 12. What are the main environmental concerns that world politicians should deal with? (five choices per respondent)

Environmental Concerns

	Businesses	Intellectuals	NGOs
Climate change and emission of greenhouse gases	1 st	1 st	1 st
Failure of economic systems to protect the environment	2 nd	2 nd	4 th
Loss of biodiversity			2 nd
Depletion of natural resources	3 rd		3 rd
Consumption habits and unsustainable lifestyles	4 th	4 th	5 th
Access to clean water	5 th	3 rd	
Food security		5 th	

Table 1. Top 5 ranking of importance of environmental concerns by interview group.

Responsibility for the Environment

Moving Toward Change

A majority of the respondents in the survey agree that government initiatives have the most important and crucial role to improve environmental sustainability. Hence, for the themes of “Climate change”, “Depletion of natural resources”, “Failure of economic systems”, “Consumption and lifestyles”, and “Loss of biodiversity” from 66 % to 90 % of the responses ask for government initiatives, while initiatives at the level of businesses and citizens are found to be much less important (Figure 13).

In sharp contrast to this, 72 % of the respondents vote citizen initiatives to be most important for the theme of “Consumption and lifestyle”, indicating that a change of cultural norms and standards should start from below and not at the level of governance. Overall, the respondents have little expectations for business initiatives with scores between 0 % and 22 %.

When examining the three different interview groups, the NGO representatives and the intellectuals generally rate citizen initiatives as those of higher importance than business initiatives. On the other hand, business representatives – as a possible sign of acknowledging their own responsibility – rank business initiatives as more important than citizen ones. In both cases however, the highest emphasis is given to government initiatives.

A large majority (91 %) of the experts participating in the study believe that there must be tighter regulation for the areas of concern. Overall, there is a general wish for change and this change should principally stem from the level of governments and international institutions so that legislation that will lead to improved sustainability can be adopted.

Where Should the Main Initiatives Come From to Improve Sustainability?

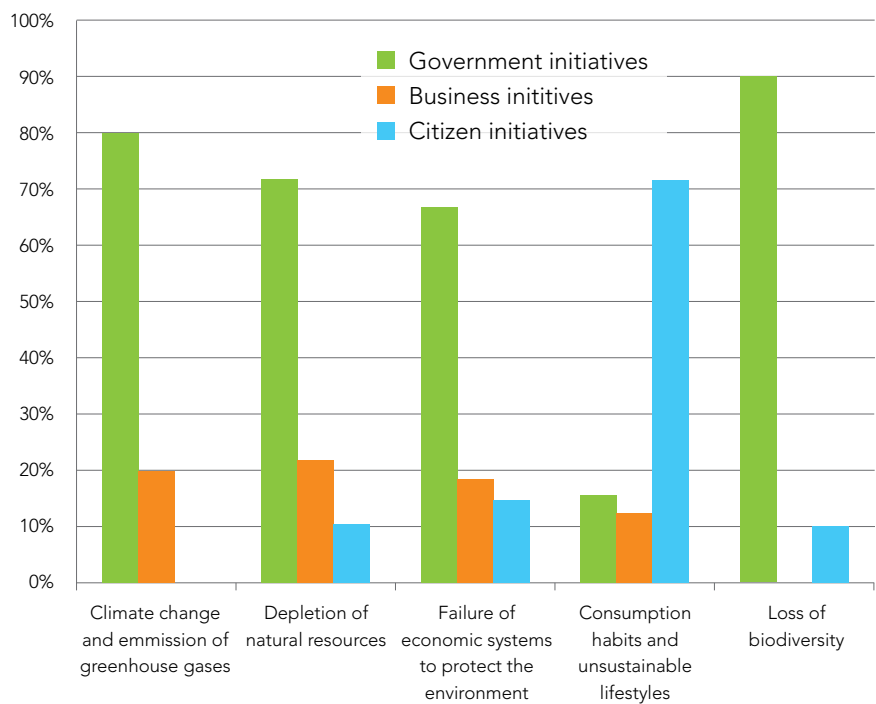


Figure 13. Where should the main initiatives come from to improve sustainability? (shown for the five most important themes as listed in Figure 12).

Initiatives and Ideas

Achieving Environmental Sustainability

When asked to highlight approaches and ideas that can improve environmental sustainability, all three interview groups offer suggestions that principally target governments and international institutions. However, some emphasis on interdisciplinary approaches targeting a combination of government, business, and citizen groups, is also present.

A large number of concrete initiatives and actions are suggested by the respondents. A selection of these is presented in the tables on the following pages. Overall, the theme about failure of the economic system to protect the environment received the most attention and suggestions for initiatives. However, the respondents also highlight important issues within climate change, nature and biodiversity, food security, and notably, a range of suggestions for improved lifestyle and better education.

Climate Change

Suggested Initiatives:

Promote energy saving policies

Promote a EU goal of 30-50 % of total energy production to come from renewable energies with different time frames for different countries

Use appropriate carbon pricing and taxing

Create an energy bank system for transfer of renewable energy certificates and connect consumers to a “smart meter”

Create an energy quota scheme, providing incentives for investing in environmental friendly energy

Targeting:

Governments and Institutions

Businesses

Citizens and NGOs

×	×	×
×	×	×
×	×	
×	×	
×	×	

Table 2. Selection of initiatives suggested under the theme “Climate change and emission of greenhouse gases”.

Economy

	Targeting:	Governments and Institutions	Businesses	Citizens and NGOs
Suggested Initiatives:				
Regulate sustainability branding of products and energy sources in order to raise consumer awareness		X	X	X
Limit natural resource use through a quota scheme		X	X	
Support investments for sustainable lifestyles ensuring a change in consumption patterns		X	X	
Use increased taxation on unsustainable products and reward environmental friendly businesses with a de-tax		X	X	
Levy a tax on financial transactions to fund environment protection		X		
Create international, global sustainable policies and regulations which legally bind governments		X		
Substitute GDP with broader approaches and develop new indicators for development		X		
Measure growth not in financial terms (profit) but in improvement of quality (of the environment, happiness, and well-being)		X	X	
Create incentives for industries and citizens that can lead to more sustainable practices		X	X	X
Move towards the implementation of cooperative solutions such as establishing consumer owned "production" systems		X	X	X

Table 3. Selection of initiatives suggested under the themes “Failure of economic systems to protect the environment” and the “Notion of economic growth”.

Lifestyle and Education

Targeting:	Governments and Institutions	Businesses	Citizens and NGOs
Suggested Initiatives:			
Leaders should inspire citizens to change lifestyles. A change of culture and political framework is needed	X	X	X
Create better exchange of information processes between science and society	X	X	X
Hold more sustainability awareness campaigns	X	X	X
Create project-based community education for sustainability	X		X
Integrate sustainable development at all levels of educational systems	X		
Make mandatory the study of the history and development of human-earth relationship and the use of natural resources	X		

Table 4. Selection of initiatives suggested under the themes “Consumption habits and unsustainable lifestyles” and “Lack of education in sustainable development”.

Agriculture and Food

Support improved ecological agriculture systems	X	X	X
Stop subsidised exports of agricultural products	X	X	
Give incentives for sustainable farming methods, climate adaptation and promotion of food sovereignty	X	X	

Table 5. Selection of initiatives suggested under the themes “Agricultural pollution” and “Food security”.

Biodiversity and Nature

	Targeting:		
	Governments and Institutions	Businesses	Citizens and NGOs
Suggested Initiatives:			
Create fair access to natural resources for all	X	X	X
Increase recycling / reuse	X	X	X
Develop a better portfolio of sustainable business practices (such as improved life cycle assessments, co-generation and collaborative consumption)	X	X	
Focus around "Corporate Social Responsibility" (CSR) on sustainable resource and recycling		X	
Create natural resource management planning linked to ecosystem health indicators and targets	X		

Table 6. Selection of initiatives suggested under the themes “Depletion of natural resources” and “Loss of biodiversity”.

Waste

Use regulation that penalizes wasteful use of resources	X	X	X
Promote recycling and reuse in a large scale	X	X	X
Implement the “cradle to cradle” concept	X	X	
Ban problematic chemicals and force industry to use alternatives		X	

Table 7. Selection of initiatives suggested under the theme “Waste generation”.

Barriers Hindering Sustainability

Understanding the Challenges

When asked to decide on the main barriers hindering the implementation of initiatives and approaches suggested, most of the respondents point towards "Lack of political regulation" followed by "Lack of institutions to implement initiatives" (Figure 14). Hence, for the themes of "Climate change", "Depletion of natural resources", "Failure of economic systems", and "Loss of biodiversity", 72 % to 89 % of the responses indicate that the lack of political regulation is the main barrier.

The theme of "Consumption and lifestyles" deviates from this as the "Lack of institutions to implement initiatives" is chosen as the dominant barrier (56 %), followed by "Lack of political regulation" (39 %). In all cases "Lack of available technology" is recognized as a possible parameter, but not of great importance (scoring from 0 % to 14 %).

Many respondents point out that practical ideas as well as technical knowledge already exist, but initiatives are not implemented due to the lack of political will as well as the absence of appropriate international institutions. For example, the creation of an international sustainability institution could initiate and accelerate the needed cooperation between countries, reaching out from an international to a regional and national level.

Main Barriers for Implementing Sustainability Measures

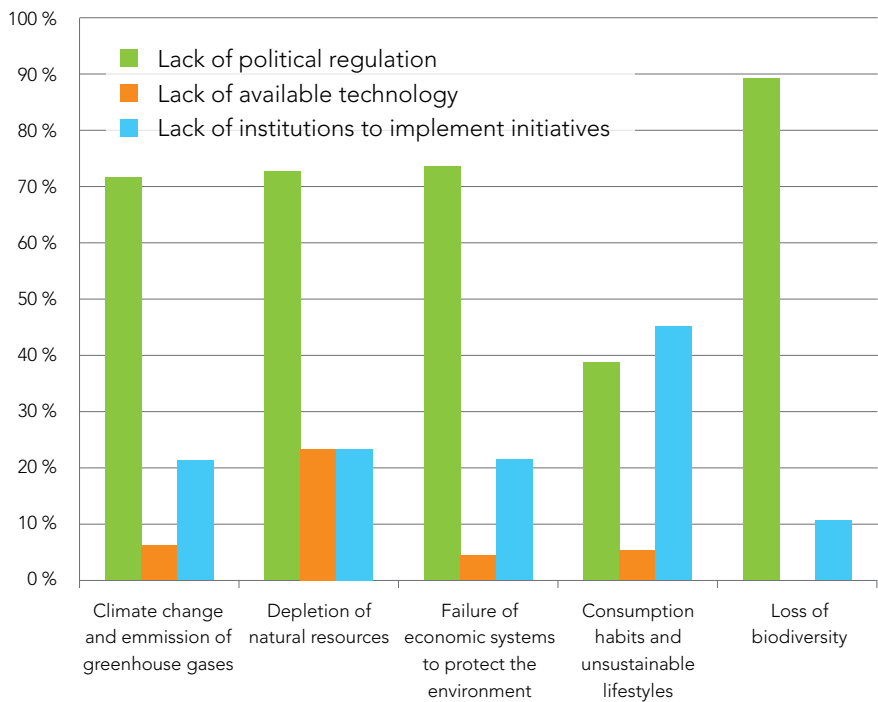


Figure 14. What are the main barriers for implementing sustainability measures? (shown for the five most important themes as listed in Figure 12).

Messages from Europe

Rio+20 and Beyond

The majority (71 %) of the European experts participating in this survey are either “somewhat pessimistic” or “very pessimistic” about the outcomes of the Rio+20 Earth Summit (Figure 15). Out of the three interviewed groups, only the business representatives are in a slightly large percentage (33 %) “somewhat optimistic”. None of the respondents are “very optimistic”.

How Optimistic Are You that Politicians Will Agree on Concrete Results at the Rio+20 Conference?

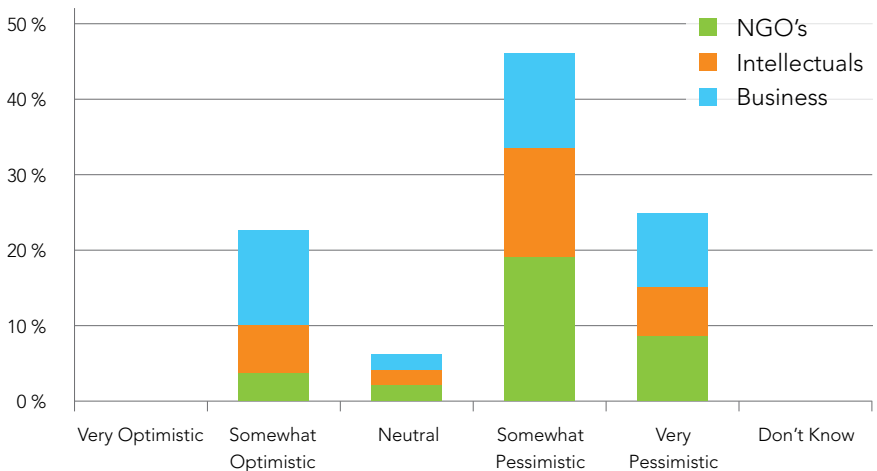


Figure 15. Attitudes towards the Rio+20 Earth Summit.

The three groups of experts were also asked to give their personal messages to the delegates of the Rio+20 Summit. As can be seen from the quotes replicated in this section of the report, the experts are generally asking for immediate action to combat the current global environmental challenges. They also ask for interdisciplinary approaches and for international agreements as being crucial to push national governments and corporations towards a greener future.



Take action now, define
goals and implement!


Professor Roar Sundby, Norway

Developing countries should
not repeat the same errors
made by the industrialized
world in the past.

Professor Kimon Hadjibiros, Greece

Move towards a structural change in the global
economy, ensure economic activities stay within
the global carrying capacity, guarantee access to
resources and land to all and share the generated
benefits equitably.

Veronika Kiss, CEEweb for Biodiversity, Hungary



Collaboration and partnerships between government, business, universities and citizens are a precondition for new solutions.

*Jørgen Rosted, Business Executive,
Denmark*

Common policies and increased education initiatives must be the main focus.

*Babis Anastasiades, Yellow Rose
Cosmetics, Greece*

How to

Do It

**The Good Examples
of Europe**

Marking the 20th year anniversary of the first global Earth Summit is a good opportunity to take stock of what – in practice – has worked in our efforts towards a more sustainable world.

What are the good examples of sustainability?

Here, we wish to demonstrate how different cases throughout Europe are tackling environmental challenges (such as climate change, resource deficiency, and loss of biodiversity) and how the processes implemented point to ways for a change in culture.

As the need for cultural change engages actors across institutional frameworks, the examples show opportunities in this dialogue that blur these borders. These examples touch upon Worldwatch's framework for institutional change, which highlights the involvement of six key institutions for transforming cultures: government, business, education, the media, social movements, and traditions.

The selection of cases supports the principles behind a green and living economy that have at its core, values that are common to individuals across the world. These are intrinsic goals of community feeling, affiliation, and self-acceptance.

The vision is a culture of diversity, with processes supported by broad values and managed in a system linking the environment, society, and the economy. One in which there is an emphasis on daily practices that support cooperation, social justice, harmony, interdependence, and well-being.

Overview of Cases

Case 1: Copenhagen Aims to be the World's First Carbon Neutral Capital

Case 2: Banking with a Difference

Case 3: A City Co-operative for Affordable Local Organic Produce

Case 4: Swapping Items in Finland

Case 5: Diet for a Clean Baltic Sea

Case 6: Sustainable Teaching in Schools

Case 7: Greek News in Green

Case 8: Taking Care of Bees in Cities

Case 9: No More Waste in Russia

Case 10: Green Prosperity in the Village of Anavra

Case 11: Permaculture in Portugal Changes Farming Traditions

Case 12: Rewarding Actions to Change Cultural Norms in London



Government

Governments – which set laws, create societal priorities, and design the cities and towns where people live – are central to nurturing a culture of sustainability - one in which eco-friendly choices are easy to make. Laws, taxes, and subsidies are among the instruments that governments may use to influence society to make sustainable choices.

Case 1: Copenhagen Aims to be the World's First Carbon Neutral Capital

The City Council of Copenhagen has unanimously decided to make the capital carbon neutral by 2025 – being the first capital city in the world to do so. CO₂ emissions in 2005 stood at 2.4 million tonnes dropping to 1.8 million tonnes in 2011.

The initiatives in the “CPH 2025 Climate Plan” include the conversion of the area's two main power plants from coal to wood chips and straw, the construction of 100 large wind turbines at sea, a geothermal facility, recycling plastic from municipal waste, and increased production of biogas from organic waste. Moreover, in order to reduce energy consumption, buildings are to be retrofitted and 280,000 m² - or 40 football pitches - of solar panels will be installed.

These measures will not just strengthen energy security but are environmentally positive. The new wind-turbines alone should lead to a reduction in CO₂ emissions of 650,000 tonnes in 2025, which accounted for one third of the city's total emissions by 2011.

To encourage 'green mobility', the plans are to provide a 300 km network of 'super biking lanes' to connect commuters from the suburbs to the inner city. Lanes will be wide, smoothly paved, and regulated by green light waves – traffic lights which are set to the speed of bikes which is approximately 20 km per hour - to minimise stops at road crossings. At present, 36 % of all commuters currently cycle and it is hoped that by further improving infrastructure that number will rise to 50 % by 2025.

The total municipal investment needs for these initiatives are estimated at € 360 million. However, it is believed that these investments will yield significant returns, as they will help make companies and universities more competitive in developing green solutions as well as avoiding the ongoing financial and environmental costs of higher energy consumption. The Copenhagen Climate Plan hopes to become a true example of a green economy that will inspire cities around the globe.

Business

Business is a leading driver of societies, cultures, and even the human imagination. While today business is largely shaping a cultural vision centred on consumerism, this vision could have sustainable well-being as the focal point, if given new management priorities.

Case 2: Banking with a Difference

As the banking crisis envelops Europe, the Triodos Bank is providing impetus to sustainable business by daring to do things differently. An independent bank, with branches in the Netherlands, Belgium, the UK, Spain and Germany, it is thriving.

Triodos Bank launched the first green fund and culture fund in the Netherlands, and has grown to become a global authority on micro-finance in developing countries and emerging economies in Eastern Europe and Central Asia. The bank's policy is to support the green economy, as lending and investing is only made with organisations that benefit people and the environment. Some examples include organic farming, renewable energy enterprises, recycling companies, and nature conservation projects. In a move to strengthen the much-needed values of transparency and accountability, the bank also publishes details of every organisation it lends to.

In support of spreading sustainable banking, Triodos Bank is a co-founder of the 17-strong Global Alliance for Banking on Values. The expansion of sustainable banking practices supports the development of a green and living economy where banking helps to finance sustainable business, proving that it's possible to make a positive contribution to society and the planet while remaining stable and commercially successful.

Case 3: A City Co-operative for Affordable Local Organic Produce

Access to in-season, local, organic food that is affordable is the attraction of the Copenhagen Food Co-operative. To achieve its aim of supplying sustainable food in the city, the Co-operative applies practices that blur the lines of business as an institution, and merges the functions of customers, members, owners and co-workers. It is a member-based and member-driven food co-operative that expanded from a one man initiative in 2008 to 3000 members in 2011, distributing around 5 tons of vegetables every week.

In the process of buying food, members are welcome to partake in the cooking and tasting of food and can look-up recipes online. Local farmers deliver the produce into town once a week and members organise and make orders, pack, sell and receive payments. Any profit is used to reduce the price of the vegetables, develop the co-op or support socially responsible projects in the city.

Sourcing locally produced food often acts favourably to climate concerns lowering the energy and transport footprint; buying organic food supports the biodiversity of the local environment and families have the advantage of eating nourishing food.

Case 4: Swapping Items in Finland

The throwaway culture of consumerism can sometimes be overcome by very simple solutions - such as not throwing things away. In Finland, private company 'Netcyclers' has established an online service to facilitate the swapping of second-hand goods. Their platform brings people together by matching individuals' offers and wishes.

Netcyclers uses a novel "trade ring" technology to arrange complex trades between as many as five people at a time, thereby increasing the likelihood of a successful swap. Users simply upload an image and description of their item, and a wishlist of items they would like to receive, and a computer algorithm arranges and proposes a swapping solution. It is then up to the parties involved to approve the trade. They only pay a fee for shipping services, or if they decide to simply sell an item.

The savings multiply quickly when you consider that not only are you saving money by not having to purchase new items, but you also save the cost to the environment in energy and the scarce resources not consumed in having to produce those new items. Add to that the additional savings in not having to dispose of the old items, and the advantages of such a system become readily apparent.



Swapping

Why throw things away when you can swap them to something you want?

Education

Education plays a central role in a cultural shift away from consumerism and adapting to more sustainable practices. Empowering people through knowledge by creating awareness can lead individuals to want to change their behaviour for the sake of well-being.

Case 5: Diet for a Clean Baltic Sea

Integrating education into daily practice across different societal groupings such as school children, cooks, farmers, processors, and distributors is a challenge that BERAS has undertaken. The Baltic Ecological Recycling Agriculture and Society (BERAS) is a transnational project involving 24 partners from nine countries around the Baltic Sea.

BERAS was originally set up to reverse the eutrophication of the Baltic Sea. Eutrophication is oxygen depletion caused by the pollution from large inputs of nutrients from farming practices. These nutrients cause the levels of phytoplankton to increase which in turn decomposes and depletes the sea of oxygen, forming a “dead zone” where fish and other living organisms struggle to exist.

Changing practices to those that unite crop and animal production would create a closed-loop system limiting nutrient flow into the sea. BERAS does this by establishing Ecological Recycling Agriculture (ERA) across the region - meaning that each farm should take in the principles of organic farming but also be at least 80 % self-sufficient in the production of food for farm animals (fodder). This limits animal density and ensures a more even distribution of animals in farms reducing the loss of nutrients from manure and hence reducing water pollution.

ERA farms are used as examples to other farmers by acting as learning centres to disseminate knowledge on processes. Learning continues as ERA farms are connected to other actors in the food chain. The BERAS project also develops educational material for schools, universities, and farmers; an ongoing process that includes linking the consumption of food to the health of the Baltic Sea.

Key to the success of this case is cooperation amongst countries to make a significant impact on the environment of the whole region. BERAS provides an example of how to bring forth education and practices that connect local sustainable diets, and ERA farming practices to enhance biodiversity through cooperation.



Case 6: Sustainable Teaching in Schools

A sustainable curriculum in schools that is not just theoretical but has a practical element to learning helps to empower the next generation. To push education in this direction is SPARE, an international school project that has been run by the Norwegian Society for the Conservation of Nature with partners in different countries - from ministries of education and environment, institutes for retraining of teachers, local administrations, UNDP and local donors and organisations. It is aimed at pupils aged 10 to 14 which includes 4500 schools and 175,000 pupils mostly from Russia, Eastern and Central Europe.

Educational activities in each country are coordinated by national NGOs with the aim to transform a global issue such as climate change into practical activities for school children and communities. These are

designed to be simple to implement and low in cost. SPARE targets energy efficiency and renewable energy measures at schools, and in private homes.

One such example implemented by Azerbaijan Youth Union tackled the issue of “Saving Energy” at a secondary school in Lahic.



Global warming, environmental pollution and ecological issues were discussed and the children took a hands-on approach by repairing cracks in the windows and replacing broken glass. Properly insulating buildings is an important issue in Lahic since the winters are harsh. In this way, the children learned about the issues related to climate change and were empowered to do something themselves.

Media

Contemporary humans spend a significant amount of their lives interacting with media that has, so far, promoted consumerism and unsustainable lifestyles as means to a successful market economy. During the past few years a shift has been observed within the media and communication sectors towards “Social Marketing” and “Social Media”. By using new methods of communication such as story-telling, and by moving towards the promotion of sustainable practices and ethical values, modern media has the chance to create a strong momentum, shift attitudes, and move the world towards a more sustainable future.

Case 7: Greek News in Green

In 2007 a national television broadcasting station in Greece took up the challenge of promoting environmentally-friendly practices. A 20 minutes news clip, labeled “Eco News”, follows the daily evening news of the “Skai” television channel. The clip offers environmentally friendly suggestions for more sustainable lifestyles with practical examples from Greece and the rest of the world.

Eco News has presented stories on the conservation of protected areas, principles of ecotourism, urban ecology, and green ways of transport. It has had an important role in the promotion of the “Clean our beaches” campaigns, where many volunteers as well as school children and companies take part every summer.

In the five years since the start of “Eco News”, this practice has brought the public closer to the concepts of ecology and sustainability and has initiated many discussions within Greek society, contributing to the political decisions taken by the Greek government on environmental issues.

Social Movements

Social movements have throughout history inspired new ideas, values, policies, and norms that have been adopted rapidly by large groups of people, and given time have changed culture. As the crises of environment, economy and society, take hold across Europe, the thirst for lifestyles that support the universal values that underpin humanity is rising.

Case 8: Taking Care of Bees in Cities

Bees are threatened around the world, weakened by modern agricultural practices, new diseases, and other environmental changes. The number of bee colonies has dropped in Europe from about 21 million to 16 million between 1970 and 2007. During the same period, there has been a 27 % rise in bee keepers with a rising number in cities. Away from the exposure of pesticides, cities are becoming a safe haven for bees, where they are supplied with a diversity of pollen from parks and gardens allowing them to thrive.

Inspired by Parisian Jean Paucto, who has kept bees on the roof of the Paris Opéra for almost 20 years, cities such as Berlin, Copenhagen, London, Madrid, and Vienna are now dotted with bee hives leading to an environmental movement across Europe.



It is estimated that honey bees are the most valuable pollinators of crops worldwide. For example, a plum tree will provide around 50 % more fruit, and apple and pear trees around 70 % more fruit if pollinated by bees. A recent study published by FAO calculated that the economic benefit of the work bees do, even in a small country such as Denmark, is estimated at between € 100 and 400 million annually.



Bees

It is estimated that honey bees are the most valuable pollinators of crops worldwide.

Urban bee keeping has the added benefit of raising awareness of the importance of pollinators, which provide human beings with an irreplaceable service. Moreover, it helps individuals to get a hands-on-experience of sustainable processes.

Case 9: No More Waste in Russia

Waste is becoming an important issue in Russia. It is estimated that less than 3 percent of the municipal waste in Russia is being recovered. Industrial and solid waste is also of grave concern as water, air, and soil can become polluted.

However, waste has also become a means to unite people and enable individuals to act on their own initiative. This is what the movement No More Waste, “Musora Bolshe”, is about. It is a voluntary social movement of around 100 action teams in Russia and its closest neighbour countries involving around 10,000 volunteers pushing for zero waste. The network seeks to change cultural norms and values by direct action to improve the environment. Actions brought about by Musora Bolshe include cleaning litter and planting trees, participating in environmental festivals and conferences to disseminate knowledge, as well as introducing separate waste collection in residential buildings.

To spread the idea of clean-up actions – that can be initiated by any individual, the “100 clean-ups a day” campaign, was set up in 2010 in which almost 2000 people took part gathering around 50 tonnes of waste. In 2011, 9000 people took action including representatives of the authorities, public associations, and commercial companies gathering over 160 tonnes of waste – equivalent to the size of 40 elephants - of which over 40 % was sent for recycling. These actions bring together citizens, highlighting the importance of tackling waste in a community setting.



Musora Bolshe

This voluntary social movement in Russia is pushing for zero waste.

Case 10: Green Prosperity in the Village of Anavra

Anavra was, until recently, a deserted mountainous Greek village with only a few hundred, mainly elderly, inhabitants and a trivial income. In the mid-1990s a few citizens returning to Anavra began a large effort to change this path, setting goals such as the protection, conservation, improvement, and rehabilitation of the natural and human environment of the area in accordance with the principles of sustainability.

The preservation and development of cultural heritage and traditions was the most important transformation. The change was about a successful return to the involvement of residents in the traditional organic farming culture that had existed in the area for centuries, but was given up in the middle of the 1960s with the massive exodus of young people towards the cities.

Furthermore, the introduction of two large development projects that protect the environment and highlight the nature and culture of the region brought with them a new living economy and a prosperous outlook for the future. The wind farm in Alogorachi and the Environmental and Cultural Park “Goura” in the springs of Anavra have both brought a large income to the residents and increased ecotourism in the area around the village. Today the village of Anavra is a phenomenon in the vast abandoned Greek countryside, with a booming organic farming business, a 0 % unemployment rate, many new homes and prosperous livelihoods.

The modern community of Anavra is founded on lifestyles that support traditional values in combination with new technological advances and ideas revolving around the principles of respect to human lives and the environment. This is a strong case of how paths leading to a sustainable living economy can be reached even within a country overwhelmed by unsustainable lifestyles.

Traditions

Many of the choices in human life are based on traditions – religions, rituals, cultural taboos or what people learn from elders and their families. These can be useful to reinforce our dependence on the earth for well-being.

One such tradition is agriculture. Part of the environmental challenge to agriculture is to develop practices that do not rely heavily on finite fossil fuel energy supplies. Another part of the challenge is to support well-being by strengthening the earth's support systems to produce food.

Case 11: Permaculture in Portugal Changes Farming Traditions

Across Europe, Sepp Holzer's permaculture, designed on the observation of how ecosystems work, is inspiring action. His farm in Austria, serves as a living education centre on how to apply practices based on landscape design, correcting the mistakes of the past and letting nature work to re-establish natural cycles.

Holzer's methods have been used in Tamera, Portugal where terraces have been carved into the landscape, and a valley has been dammed helping to stop the rain and topsoil rushing down the valley and into the sea, reversing previous damage done.

The landscape is terraformed with heavy machinery at the start of the project, and while this sounds heavy-handed and unnatural, it removes the need to continuously maintain the landscape with this machinery in the future, instead relying on natural processes. To support the landscape, overgrazing and ploughing has been stopped, refocusing the community's food production on fruit and vegetables. There are raised beds full of annual and perennial vegetables as well as fruit and nut trees that line the banks of the lakes. The lakes form an interconnected system that has strengthened the biodiversity of the area.

These changes have transformed the landscape from one degraded by industrialized agricultural processes that have led to the desertification and degradation of the natural environment, to one that now supports food

production, alongside diverse wildlife that is attracted to a lush environment; new springs rise in the surrounding hillsides providing plenty of water and supporting an environment that now includes the return of otters.

As desertification threatens large areas of Portugal and Spain, Holzer's permaculture can be an example of a much-needed change in traditions, introducing practices that can be applied to any landscape, even to those degraded and suffering from extremely arid conditions.

Case 12: Rewarding Actions to Change Cultural Norms in London

Acknowledging actions that are beneficial to society and rewarding individuals accordingly can be a driving force in changing societal norms and achieving sustainable lifestyles. Rewarding social and environmental actions – preferably with experiences, access to exciting city places, preferential treatment at events, or even tax relief – can offer interesting opportunities.

Transport for London and Recyclebank have launched a smartphone application called 'reroute' rewarding points for walking and cycling around town. The app plots climate friendly ways of getting to a destination using public transport, cycling, or walking – also informing on cycle hire, the availability of bikes, and docking stations among others.

The app also creates a sense of community to support individual actions by being able to see how many other people are cycling at a particular moment. This reinforces personal commitment and the points accumulated can be redeemed via the recyclebank.com website for things like haircuts, hotels, shopping, or spa days. This case provides a glimpse into how to reward social positives to change cultural norms; and how a system of rewards can be applied to many different social and environmental actions.



re:route

The mobile app re:route also gives information about cycle hire in London

*Messages
for Rio+20
and
Beyond*

As shown in this report, the alarming facts for the unsustainable state of the environment globally, as well as in Europe, clearly underline the need for action. We simply have no alternative but to move our focus away from unsustainable growth in order to ensure the livelihood of the planet and its citizens.

We have shown that European experts on environmental issues are primarily concerned about climate change, resource scarcity, and loss of biodiversity. However, the underlying concern of most experts is also the failure of the current economic system to protect the environment.

There is a strong wish to change the economic models and to move away from a predominant consumption-based economy to one that is motivated by human well-being.

The standard model of economic growth – measured in GDP – is not the answer anymore. For example, even a modest growth rate of 4 % per year - a realistic target for many countries, would lead to a doubling of the economy in 18 years, a tripling in 28 years, and a quadrupling in 35 years. This means that the economy will grow faster and faster, following not a linear growth rate but exponential growth.

As the demand for resources and materials is closely linked to the size of the economy, exponential growth rates in GDP will lead to drastically-increasing demands on resources. In the long run, this is impossible within the planet's finite resources and some might even call it absurd. Yet economic growth (automatically assumed to be exponential) continues to be the focal point of political conversation in Europe and elsewhere.

Going beyond GDP and the concept of economic growth is a challenging vision. In a green and living economy, growth needs to be measured in new ways. A living economy has at its core, values that are common to individuals across the world. Decoupling human well-being from resource consumption is at the heart of a green and living economy.



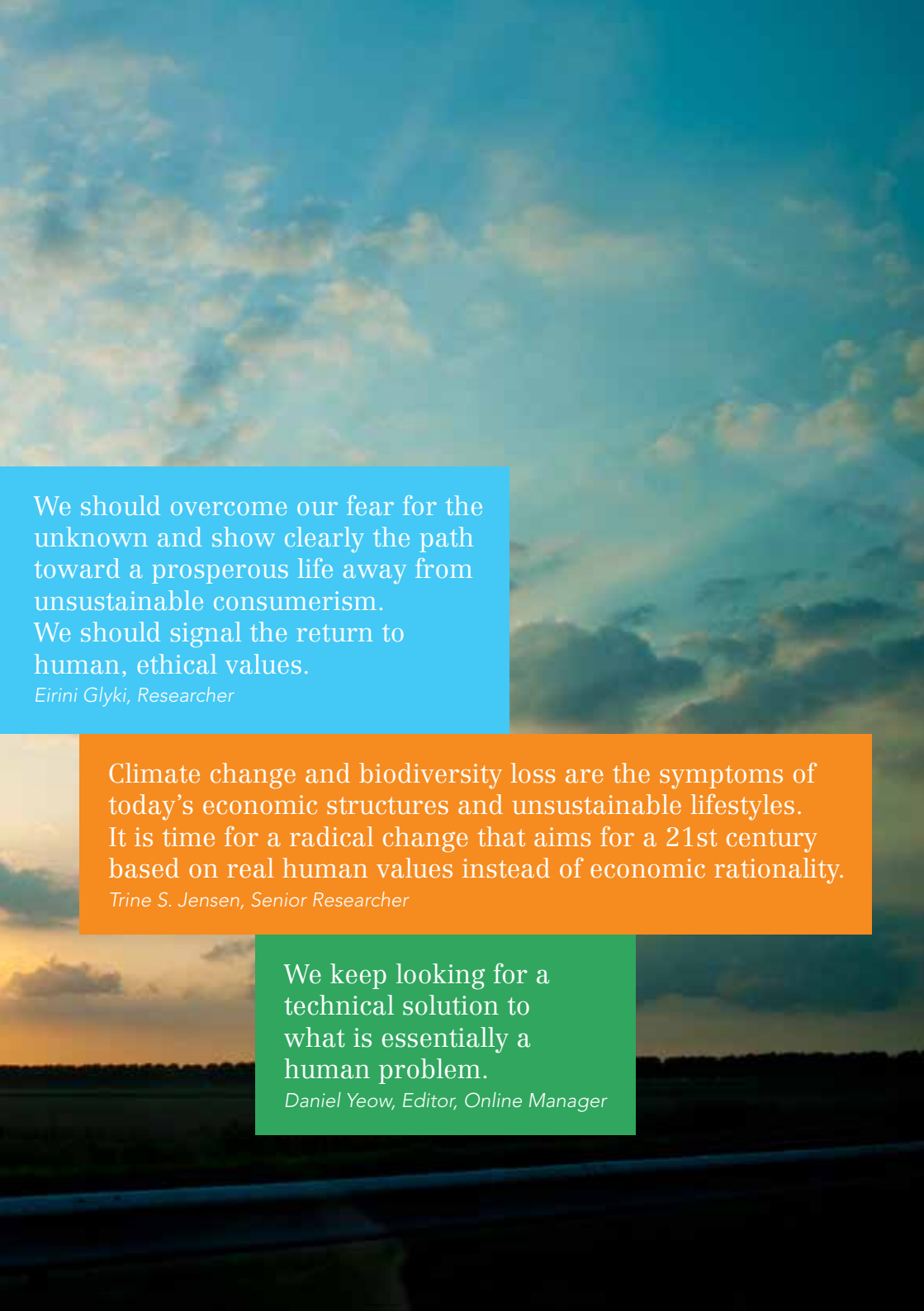
Messages from Worldwatch Institute Europe

Rapid biodiversity loss continues in absence of political action. Accurate valuation of Earth's life support systems is vital to create greater accountability and awareness of the impacts of our actions.

Bo Normander, Director

Questioning the role of business is a must. Many of the solutions we seek rely not on applying technology but innovative management practices that take into account measures of a green economy.

Alexandra Hayles, Senior Researcher



We should overcome our fear for the unknown and show clearly the path toward a prosperous life away from unsustainable consumerism. We should signal the return to human, ethical values.

Eirini Glyki, Researcher

Climate change and biodiversity loss are the symptoms of today's economic structures and unsustainable lifestyles. It is time for a radical change that aims for a 21st century based on real human values instead of economic rationality.

Trine S. Jensen, Senior Researcher

We keep looking for a technical solution to what is essentially a human problem.

Daniel Yeow, Editor, Online Manager

Shifting paradigms requires the involvement of key institutions: government, business, education, the media, social movements, and traditions. Actions can include those of city authorities to combat climate change, the greening of the financial sector, the rise of social movements to bring bees back into cities, or simply to reduce waste. Clearly, things are happening in Europe in the yearning for sustainable prosperity. We should learn from the practical examples, exchange ideas across borders, and apply their lessons in our own lives.

It is time for political leaders – and all of us – to take serious action and enforce a sustainability mandate. Though there is a lack of optimism for the Rio+20 Earth Summit in June 2012, this gathering should be seen as a stepping stone in an ongoing process towards a more sustainable world economy. There is an urgent need for common goals and policies with a corresponding agreement between national governments. It is in the hands of our political leaders to regain the confidence and faith of the public by showing strong initiatives and concrete actions.

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Worldwatch Institute Europe, Strandgade 12B, 1401 Copenhagen K, Denmark
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