

Responding to global megatrends

Reflecting global megatrends in policymaking poses three related but distinct challenges. These relate to reviewing the approaches for assessing future change, embedding long-term perspectives in policy planning and decisions, and ensuring that environmental policy takes account of global links and is aligned to external policies on, for example, trade and aid.

The assessment of megatrends presented in the previous chapters highlights a range of interlinkages and interdependencies between global megatrends impacting social, technological, economic, political and environmental systems.

These megatrends increase complexity, uncertainty and risk, and accelerate the feedbacks within and between economic, social, technological and environmental systems. The growing global links also offer unique opportunities for action (IPCC, 2007a; MA, 2005; UNEP, 2007; University of Copenhagen, 2009; PBL, 2009; WWF et al., 2008; EC, 2009). But attempts to realise these opportunities face the challenge of huge time lags between action (or inaction) and effect.

Responding to global megatrends and reflecting future changes in policy is thus a challenging task. The report of the Reflection Group on the Future of Europe has emphasised how many recent global developments, such as the financial crisis or price volatilities in key commodity markets, have caught us by surprise (RGFE, 2010).

A key question emerges: how can we avoid urgent and critical global feedbacks in resource-using systems when we are very far from understanding them completely (Underdahl, 2010)? Much of the speed and scope of global environmental change has been underestimated by scientific assessments and policy appraisals, for example. Few considered that some of the key emerging economies would develop so fast and affect global demand as quickly as they have in the last decade. This leads to another key question: how are global-to-European inter-linkages and impacts best understood and included in policymaking?

A brief reflection reveals three related but distinct challenges for the future:

- reviewing assessment approaches to improve monitoring and analysis of future changes and their uncertainties;
- revising approaches and institutional arrangements to embed a long-term perspective into policy planning and decision-making;
- reflecting on further policy changes to take better account of global-to-European interlinkages and better align European external policies with environmental policies.

Below we expand on these points from in the light of practical experience in the EEA and its member countries.

Reviewing assessment approaches

Information and communication technologies have greatly advanced our ability to gather relevant information and support decision-making under varying conditions of uncertainty. Near real-time data and regular updating of indicators improve the information basis for monitoring environmental change, detecting emerging issues and planning swifter responses.

Integrating outlook-based indicators into national environmental data information and reporting systems on a more regular basis could improve their ability to deal with future changes. Some European countries — for example the United Kingdom — have started to complement broader studies on long-term futures with systems that routinely scan a wide range of academic and non-academic sources for signals of emerging changes. Such systems of horizon scanning explore both present certainties and future uncertainties, like an early warning radar. They can help discussions about early action based on early warnings from science.

All these approaches face the challenge of acceptability. Policymakers increasingly recognise the need to consider the long-term future in policy. Yet they also often turn to scientists to produce evidence, particularly where issues are complex and uncertain, searching for

the 'right' answer that cannot be challenged easily by public debate. Together with a greater scrutiny of scientific assessments through diverse stakeholders, demand will increase for greater transparency about how assessment findings and conclusions have been reached.

Even the best crafted, most transparent scientific exercise cannot escape the fact that profound uncertainties will always remain. Continuous learning and adaptation is needed. Great insights on future challenges often result from participating in the process of assessment rather than merely from the published record of their output (Mitchell et al., 2010).

Revising approaches and institutional arrangements

Often the focus of forward-looking assessments is almost exclusively on the product, neglecting process design. However, good process design and functioning institutional arrangements are as important for success as high-quality expertise and analysis.

Quite often, forward-looking assessments of global-European interlinkages suffer from being either too narrow in perspective or too broad and generic, and struggle to tackle relevant interlinkages across policy areas in a sufficiently comprehensive way. Global megatrends often cut across policy boundaries, requiring a more coordinated approach and sufficient capacities. Several EEA member countries have already introduced dedicated programmes or units to coordinate activities, develop common analytical methodologies and support stakeholder involvement, providing a rich body of experiences to learn from (Volkery and Ribeiro, 2009).

Locating a coordination body close to central government can increase political support and administrative buy-in and thus improve the conditions for effective use and follow-up in decision-making. Direct parliamentary oversight for future thinking is rare but existing examples show a potential added value in terms of greater attention on policy issues of longer-term relevance.

Reflecting on further policy changes

Achieving greater coherence in policies is a key future need but assessing environmental trade-offs between policies becomes more challenging when the global-European perspective is taken into account. Notable examples include trade-offs between policies on energy security, food security and environmental protection.

Past assessments often failed to take account of the possibility of more abrupt changes in key drivers. Scenarios of lower probability but higher impact should be considered more routinely in this regard. Achieving greater policy coherence is a long-term objective that requires further reflection and dialogue among different actors. Below we highlight some issues that illustrate a few of the challenges we face and for which there are no easy solutions at hand.

Some past successes, such as efforts to address surface water pollution or the deposition of SO_x and NO_x emissions, built on the availability of technological fixes that easily lent themselves to regulation. However, where these fixes have not been available, efforts to alter trends have often achieved results slowly. Moreover, technological fixes have frequently helped to solve one problem but created another. Future policymaking would benefit from a more integrated view on technologies, including broader assessments of potential interactions across media.

The fact that changes in other parts of the world will be felt closer to home increasingly blurs the boundaries between Europe's internal and external policies. Foreign policy, for example, can no longer be thought of in isolation from environmental policies, demanding new approaches to joint policy formulation in areas such as trade, environment, development aid, technology and defence and security. Environmental degradation, inequitable access to natural resources and transboundary movement of hazardous materials increase the probability of conflict and can pose risks to national security. Environmental security could be a major lens for the development of Europe's external policies.

Most available assessments assume that Europe will become more dependent on exporting countries for critical resources, with some of these countries characterised by high political instability. Quite

a few assessments conclude that the EU is becoming weaker in its relationship with big states, e.g. China, Russia and the USA. However, all advanced and emerging economies face problems that cannot be dealt with alone. This can play to the long-term advantage of Europe, which remains the largest economic bloc in the world, with considerable innovation power and experience in managing difficult socioeconomic transition processes.

Next steps

State-of-the-art, well structured information is essential to understand global megatrends and potential environmental consequences for Europe. Generating this information falls within the core remit of the EEA and undertaking the work behind the present study has confirmed both its considerable value and the need to continue it in the future.

The information presented here does not claim to be exhaustive or definitive but contributes a first step towards developing an improved information base for Europe's environment in a global context. It represents part of a longer-term, continuous, iterative activity. Further work will be undertaken during coming years — in particular in the run-up to the UN Conference on Sustainable Development (Rio+20) — to provide a solid information base to support policy formulation with a long-term perspective.

List of abbreviations

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
BRIC countries	Brazil, Russia, India and China
BRIIC countries	Brazil, Russia, India, Indonesia and China
CAP	EU Common Agricultural Policy
CBD	Convention on Biological Diversity
CIA	Central Intelligence Agency
DG ECFIN	Directorate General for Economic and Financial Affairs
EEA	European Environment Agency
EU	European Union
FAO	United Nations Food and Agriculture Organization
FDI	Foreign direct investment
G20	Group of 20: Argentina, Australia, Brazil, Canada, China, the European Union, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, Republic of Korea, Turkey, the United Kingdom, the United States of America
G8	Group of 8: Canada, France, Germany, Italy, Japan, Russia, the United Kingdom and the United States of America
GDP	Gross Domestic Product
GET	Global Education Trend
GHG	Greenhouse gas
HIV	Human immunodeficiency virus
ICT	Information and Communications Technology
IEA	International Energy Agency
IIASA	International Institute for Applied Systems Analysis
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
IZT	Institut für Zukunftsstudien und Technologiebewertung
MA	Millennium Ecosystem Assessment