

A New Climate for Change (C4C) Stream

The world is changing more quickly than at any time in human history. Whether in the oceans, on land, or in the world's climate, the impact of human activities on planet Earth is strikingly evident. The *New Climate for Change* stream at Congress will consider the challenges and solutions to the rapidly changing world – one in which the forces of climate change, globalization, and a growing demand for energy are increasingly impacting on biodiversity and people. Through a series of events across Congress, the stream will address questions such as:

- How can biodiversity help to mitigate and adapt to climate change?
- What are the implications of a changing climate for the conservation of biodiversity?
- How can we respond to increasing global energy demand, and what is the role of biofuels?
- How do we value and market biodiversity and ecosystem services in today's world?
- What are the new ways of going about our business that will lead to more sustainable futures?

Over the next 40-50 years, the world's population is likely to reach 9 billion, up from 6.7 billion today – and each of these people needs to be free from poverty. At the same time, the world is changing around us, increasing the challenge of meeting people's needs whilst conserving biodiversity. Changes in the global climate system are picking up pace, and we now face the dual challenges of significantly and urgently reducing emissions to avoid dangerous climate change, and adapting to the impacts of climate changes already underway. The world's oceans are rising – by 1cm every 3 years at current rates, and over the next 50 years or so, temperatures could be an average of 2°C warmer on the planet, with significant and dire consequences for nature and people.

In this changing world, people are becoming increasingly connected – through communications, transport and trade, but also through culture, politics and the environment. Such “globalization” brings tremendous opportunities for cooperation, new models of governance, rapid spread of technologies, and for the emergence of new markets and economic approaches. However, it also brings risks – of the spread of invasive species and disease, of the loss of cultural diversity and traditional knowledge, and of ignoring the degradation of local environments by displacing supply, trade and environmental impacts to distant sources.

Meeting rapidly increasing energy demands will require changes in behaviour as well as new energy solutions that reduce the impact of energy production and consumption on the climate and on nature. We need to move away from an economy dependent on fossil fuels; nature can provide some solutions, and yet all currently available energy options – even so-called “green energy” – have implications for biodiversity and people. The current debate and uncertainty around the use of biofuels is likely to be typical of a range of emerging energy solutions.

Amidst these many changes, biodiversity continues to be lost, despite a growing recognition of its contribution to human well-being. Even though the values derived from biodiversity and ecosystem services – monetary and otherwise – are increasingly recognised, these values are rarely captured. Consequently, much of the world's ‘natural capital’ is either degraded or lost. New ways of thinking about economics and markets that better incorporate the values of nature will play a key role in a sustainable future.

The New Climate for Change stream of the WCC aims to influence the science, the policy, and the practice of the future. It aims to better understand the challenges faced by a world where climate change, energy demand, globalization and economics are intertwined with biodiversity loss; and it aims to find solutions to these challenges that work for both people and nature.

Key challenges addressed specifically by events during the C4C stream include mitigation and adaptation to climate change, addressing energy demand, the nexus between conservation and development, and the roles of local people and indigenous people in conservation and ecosystem management.

Mitigation: Equitable mitigation will depend on achieving both temperature and emissions targets – brought about by changes in the energy sector, development of the carbon market, rates of deforestation, and use of marine technology and engineering.

Adaptation: Adaptation of societies to the challenges of population growth, globalization, and climate change will require coordinated local, regional, and global approaches to integrated ecosystem management and reducing vulnerability. Important underlying considerations include climate risk assessment techniques, appropriate funding, implementation of national adaptation plans, links between mitigation and adaptation strategies, defining the role of indigenous leadership, and how to support more effective community based management.

Energy: Workshops will draw links between global energy solutions and climate change solutions. Discussion will look closely at the impacts of different energy strategies, including the role of biofuels, energy efficient designs, and the subsequent impacts on biodiversity, agricultural production, and people.

Conservation and Development: The nexus between conservation and development in a changing world will be widely discussed. A range of workshops in the stream focus on urban agriculture, watershed management, energy, gender, and security.

Indigenous Peoples: The role of indigenous peoples in conservation and ecosystem management is particularly important to adaptation strategies and the effectiveness of mitigation techniques. Workshops will highlight the role of indigenous peoples in making progress on both fronts.

Key tools for and approaches to these challenges will also be addressed by the C4C Stream events. These include the valuation of ecosystem services, the use of protected areas, assessment and monitoring systems, improved communication and education, and multi-stakeholder partnerships.

Biodiversity and ecosystem service values: The future status of biodiversity, both in protected areas and production landscapes, will have dramatic implications for people. A range of events will focus on the concepts of ecosystem valuation and the value of protected areas.

Protected Areas: Workshops will debate the impact of natural corridors, fragmentation of ecosystems, the integration of parks and reserves, and protected areas management in the face of global change.

Assessment: A major barrier in the resolution of international environmental issues is the lack of quantification of impacts and results. A variety of workshops will discuss the status, role, and importance of green accounting, ecological footprints, ecological forecasting, evaluation methodology, investments, and issues in international trade and climate change.

Communication and Education: Scenario building, advertising campaigns, increased eco-literacy, and climate-integrated education are all discussed in workshops on this theme.

Governance: The role of coherent environmental policy at multiple scales will become more crucial. Workshops cover national climate change legislation, climate change and the CBD, decentralized approaches to legislation, and climate change and international trade.

Partnerships and Alliances: One approach to climate change problem-solving is strengthening local and regional networking. Workshops will demonstrate case examples in South Asia, the Mediterranean, Latin America, and between the public and private sectors.