



Tired of hearing the planet is going to hell in a handcart?
With concerted planetary management, and a strong vision,
the future could be bright – for everyone, says **Jill Jäger**.

In 2050, the nine billion people living on Earth have found a way to manage the planetary system effectively. Hunger and poverty have been eliminated. Everyone has access to adequate food, clothing, housing, health-care, education, energy, clean water and sanitation. Under-fives no longer die from preventable disease or endure heavy-metal exposure. The elderly do not die from cold or heat exposure.

In 2050, everyone participates fully in society and has equal opportunities. Human health is no longer considered outside of the health of the ecosystems in which people live. Ecological awareness is an integral part of the education system. People respond effectively to social and environmental hazards and societies care and provide for the most vulnerable amongst them.

The economic system has shifted from “growth”-oriented to “development”-oriented. Carbon dioxide management is under control. Energy efficiency is the norm. The few remaining rainforests have been preserved as global lungs and sinks. The acidity of the

Hunger and poverty have been eliminated.

oceans is falling. Coral reefs are recovering. Fish stocks are thriving. Global biodiversity loss has stopped accelerating.

Is any of this really possible? How can our complex social and economic systems interact with a complex planetary system undergoing rapid change to create a future we all want?

In October 2008, as part of an IGBP Fast Track Initiative, a group of economists, sociologists, historians, ecologists, climatologists, oceanographers, biogeochemists, biologists, chemists and others met in Lund on the southern tip of Sweden to draw up a vision for the planet in 2050. What you have just read is the beginning of that vision. But how to get from here to there?

The planet in 2010

Before thinking about the 2050 vision, we took stock of where we are today. While people often talk about massive changes since the start of the industrial revolution in 1750, the pace of change in the last 50 years, the last two generations, is truly unprecedented.

At the start of the industrial revolution the population was

just under 800 million. By 1950, it hit 2.5 billion. In July 2008, we reached 6.7 billion. Now, nearly half of the land surface has been transformed by direct human action. More nitrogen is now fixed synthetically for fertilisers and through burning fossil fuels than is fixed naturally in terrestrial ecosystems. Between 1970 and 1997, the global consumption of energy increased 84 percent. In the last 150 years, we have exhausted 40 percent of the known oil reserves, which took several hundred million years to generate.

Humans appropriate more than half of all accessible fresh water, and are depleting underground water resources rapidly. Nearly one quarter of recognised marine fisheries are overexploited. About 44 percent more are at their limit of exploitation.

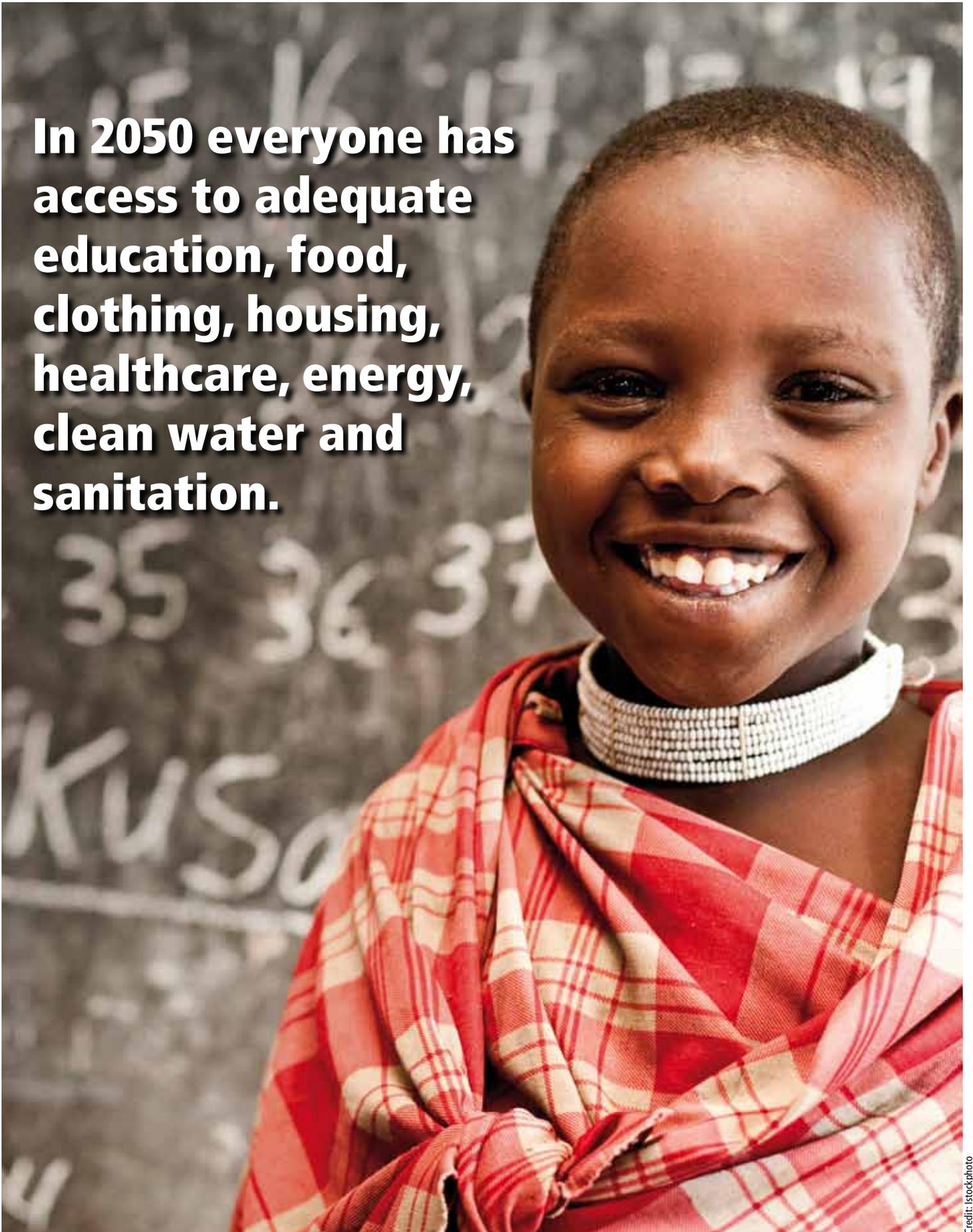
The global economy and human behaviour are driving massive changes on a planetary scale. Our analysis of the state of the planet in 2010 presents a picture of overuse of natural resources, environmental degradation at local, regional and global scales and weak governance.

There is no one-size-fits-all solution to the variety of problems listed above. The world is a diverse place. From coral reefs, to fisheries, to forest management, to agriculture, rangeland and rural and urban environments, society has so far responded through partial solutions to specific problems without a systematic and careful consideration of impacts or effectiveness. People depend on the natural world, but integrated solutions that acknowledge the innate coupling between people and the environment have been rare.

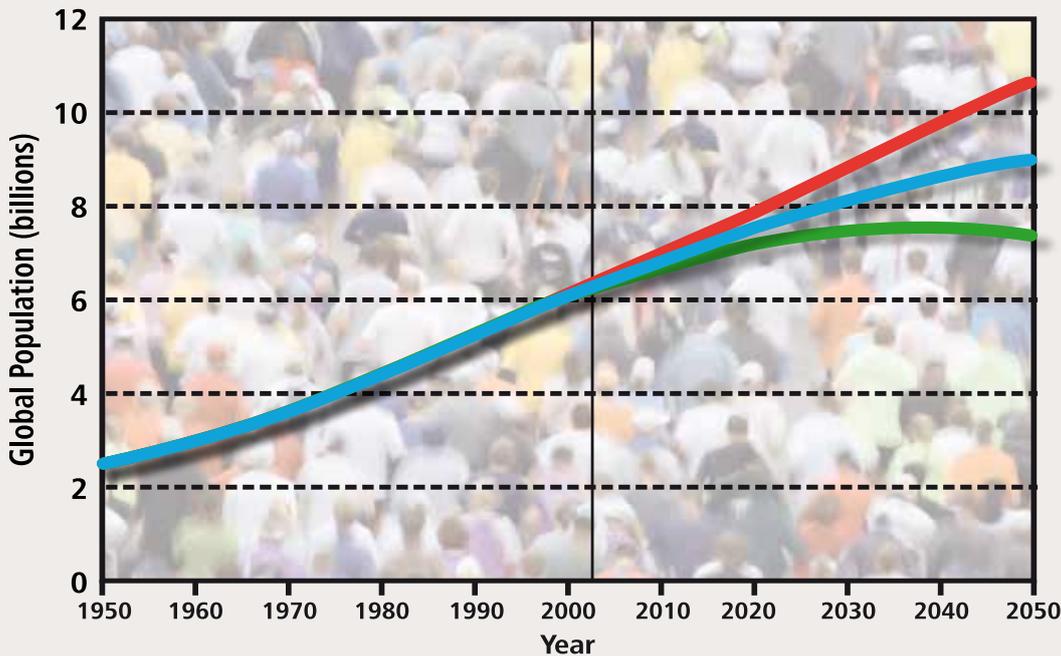
The vision for 2050

Let's return to the vision for 2050 before exploring how to get there. The Lund workshop went beyond thinking of the environment and how society exerts pressure on it. The meeting identified

In 2050 everyone has access to adequate education, food, clothing, housing, healthcare, energy, clean water and sanitation.



Credit: iStockphoto



peace, non-violence, democracy, social justice and global equity as the defining values of societies. In 2050, the dignity of people and integrity of nature underpin decision-making at all levels. Transparency, accountability, openness, inclusiveness and participation are the defining characteristics of governance processes so that policies are effective and coherent across levels and sectors. The decision-making process itself is characterised by mutual learning (science and education have considerable roles), cooperation and dialogue.

The new economic system values all the diverse kinds of capital and wealth (social, human, cultural, biological, social, infrastructural and physical) as the core assets of society. The indicators used to track progress in development have expanded greatly and include qualitative and quantitative measures of all these types of capital.

Revolutionary transformations of our energy system – from fossil-fuelled to carbon-neutral – have taken place, in parallel with aggressive improvements in energy efficiency. There is

United Nations population projections, indicating low, medium, and high range estimates.

Our analysis presents a picture of environmental degradation and weak governance.

now universal access to modern energy services to meet basic needs brought about by new technology and changes in lifestyles.

In 2050, society has struck a balance between humans' needs for fresh water and nature's own needs, through an integrated land and water governance and management approach. At the same time, air pollution in cities has fallen although there are still hotspots of poor air quality.

The oceans have received far more recognition in global environment governance and the acidification trend of the 20th and early 21st centuries has been reversed. On land, the few remaining rainforests, in the Amazon, the Congo and in South-east Asia, are preserved. Forest systems worldwide are managed to increase their capacity to perform as global carbon sinks.

In 2050, approximately two-thirds of the world's population lives in cities and towns. From a global perspective there is a more balanced distribution of small, medium and large urban areas. The cities and towns of 2050 have creative, vibrant and diversified economies that contribute to the

well-being of all of the population. The citizens enjoy better health. Food and water security as well as personal security have improved. Urban areas provide opportunities for living, caring, working, recreation and communication. The pressures of urban areas on the Earth system have been considerably reduced.

The pathways from 2010 to 2050

No one denied the vision for 2050 was ambitious. Achieving it required concerted action and change along five pathways: governance, the global economy, knowledge and education, creativity, and value and belief systems.

The **governance pathway** involved recognising and empowering people as citizens and strengthening cosmopolitanism. It was recognised that global issues had to be addressed through new forms of democracy based on acknowledging the universal rights of global citizens. Governance transitions were supported by creating a shared normative framework that included a well-established human rights framework, international environmental law and policy, and a consensus on desired objectives for environment and human well-being. Institutions and governance processes were made to recognise citizenship, responsibility and equitable opportunity. Citizenship took on a global, in addition to a national, meaning. A fundamental shift away from adversarial systems to consensus-building through dialogue was central in making governance transitions.

Along the **global economy pathway**, the new development model was based clearly on the goal of development not as economic development but as improvement in human well-being in line with sustainable development. The new model focused on sufficiency of material consumption, whereby consumers considered their needs rather

than their wants, so controlling material consumption. Rather than measuring progress by GDP, the new model used measures of improvement in human well-being and environmental and social sustainability.

A central strategy in the **knowledge and education pathway** was the conscious promotion of a set of values that placed central importance on care for the lives and experiences of people, other species and the ecosystems in which they live. The educational system was transformed to ensure a balance of building values and developing every person's intellectual, emotional, social, physical, artistic, creative and spiritual potentials.

The **creativity pathway** built on changing patterns of behaviour and new forms of media already visible in the early 21st century, such as the increasing use of the internet. These provided opportunities for greatly expanding the positive role of creative expressions for societal change. This celebration of creativity in all its diverse forms became a tool in the intercultural communication. The focus on creativity, and the associated attention this gives to inner well-being, helped to redefine notions of success, moving it from material wealth to a more inclusive approach of fulfilment related to spiritual and moral values as well.

Simply giving people facts about the speed of global change alone does not always convince them to change behaviour. Change comes about by aligning new ideas with people's core beliefs and values. By 2050, religious organisations became strong voices for a shift towards an ecological, well-being culture and so making a significant contribution in shaping the **values and beliefs pathway**.

Back to reality

The workshop participants demonstrated clearly that the state of the planet in 2010 is far



During the workshop in Lund, southern Sweden, delegates visited sustainable developments in the surrounding region, Västra Hamnen (Western Harbour), a leading international example of sustainable city development and the ecologically designed Augustenborg.

from satisfactory. Their vision for 2050 is truly ambitious and sets a goal that should provide a focus for **discussion by society**. The pathways to the vision are equally ambitious and demonstrate the kinds of deep structural change that will be necessary. Achieving an equitable and sustainable future will require **strong leadership** supported by and even pushed by a society that is fully aware of the need for change and willing to accept some of the inevitable trade-offs. There are small examples of the kinds of transition that are needed to achieve the 2050 vision already being implemented. These must be nurtured, copied and strengthened through learning from experience until they become the mainstream. ■

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The results of the Planet in 2050 workshop will be published in a book entitled *The Planet in 2050 - The Lund Discourse of the Future*. The workshop was an International Geosphere-Biosphere Programme fast-track initiative.

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The economic system has shifted from "growth"-oriented to "development"-oriented.