



Blue
Planet
Prize

*Environment and Development Challenges:
The Imperative to Act*

— *Executive Summary* —

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The Blue Planet Prize laureates
THE ASAHI GLASS FOUNDATION

Key Messages

- We have a dream – a world without poverty – a world that is equitable – a world that respects human rights – a world with increased and improved ethical behavior regarding poverty and natural resources - a world that is environmentally, socially and economically sustainable, where the challenges such as climate change, loss of biodiversity and social inequity have been successfully addressed. This is an achievable dream, but the current system is deeply flawed and our current pathway will not realise it.
- Population size and growth and related consumption patterns are critical elements in the many forms of environmental degradation and social problems we currently face. The population issue should be urgently addressed by education and empowerment of women, including in the work-force and in rights, ownership and inheritance; by improving health care of children and the elderly; and by making modern contraception accessible to all.
- There is an urgent need to break the link between production and consumption on the one hand and environmental destruction on the other. This can allow risking material living standards for a period that would allow us to overcome world poverty. Indefinite material growth on a planet with finite and often fragile natural resources will however, eventually be unsustainable. Unsustainable growth is promoted by environmentally-damaging subsidies in areas such as energy, transportation and agriculture and should be eliminated; external environmental and social costs should be internalized; and the market and non-market values of ecosystem goods and services should be taken into account in decision-making.
- The immense environmental, social and economic risks we face as a world from our current path will be much harder to manage if we are unable to measure key aspects of the problem. For example, governments should recognise the serious limitations of GDP as a measure of economic activity and complement it with measures of the five forms of capital—built, financial, natural, human and social capital—i.e., a measure of wealth that integrates economic, environmental and social dimensions. Green taxes and the elimination of subsidies should ensure that the natural resources needed to protect poor people are made available to them directly rather than via subsidies that often only benefit the better off.
- The present energy system, which is heavily dependent on fossil fuels, underlies many of the problems we face today: exhaustion of easily accessible physical resources, security of access to fuels, and degradation of health and environmental conditions. Universal access to clean energy services is vital for the poor, and a transition to a low carbon economy will require rapid technological evolution in the efficiency of energy use, environmentally sound

low-carbon renewable energy sources and carbon capture and storage. The longer we wait to transition to a low carbon economy the more we are locked into a high carbon energy system with consequent environmental damage to ecological and socio-economic systems, including infrastructure.

- Emissions of GHG emissions are one of the greatest threats to our future prosperity. World emissions (flows) are currently around 50 billion tonnes of carbon dioxide-equivalent (CO₂e) per annum and are growing rapidly. As the terrestrial and oceanic ecosystems are unable to absorb all of the world's annual emissions, concentrations (stocks) of GHG emissions in the atmosphere have increased, to around 445ppm of CO₂e today and increasing at a rate of around 2.5ppm per year. Thus we have a flow-stock problem. Without strong action to reduce emissions, over the course of this century we would likely add at least 300 ppm CO₂e, taking concentrations to around 750 ppm CO₂e or higher at the end of the century or early in the next. The world's current commitments to reduce emissions are consistent with at least a 3°C rise (50-50 chance) in temperature to a temperature not seen on the planet for around 3 million years, with serious risks of 5°C rise to a temperature not seen on the planet for around 30 million years. Given there are some uncertainties present in all steps of the scientific chain (flows to stocks to temperatures to climate change and impacts), this is a problem of risk management and public action on a great scale.
- Biodiversity has essential social, economic, cultural, spiritual and scientific values and its protection is hugely important for human survival. The rapid loss of biodiversity, unprecedented in the last 65 million years, is jeopardising the provision of ecosystem services that underpin human well-being. The Millennium Ecosystem Assessment concluded that 15 of the 24 ecosystem services evaluated were in decline, 4 were improving, and 5 were improving in some regions of the world and in decline in other regions. Measures to conserve biodiversity and make a sustainable society possible need to be greatly enhanced and integrated with social, political and economic concerns. There is a need to value biodiversity and ecosystem services, and to create markets that can make the value for these services the basis for a 'green' economy.
- There are serious short-comings in the decision-making systems at local, national and global levels on which we rely in government, business and society. The rules and institutions for decision-making are influenced by vested interests, with different interests having very different influences on how decisions are made. Effective change in governance demands action at many levels to establish transparent means for holding those in power to account. At the local level, public hearings and social audits can bring the voices of marginalized groups into the forefront. At national level, parliamentary and press oversight are key. Globally, we must find better means of reaching agreement and implementing measures to achieve

collective goals. Governance failures also occur because decisions are being made in sectoral compartments, with environmental, social and economic dimensions addressed by separate, competing structures; better communication and coordination of decision-making is needed.

- Decision makers should learn from ongoing grass-root actions and knowledge in areas such as energy, food, water, natural resources, finance and governance. This is key, not the least in rural communities with a view to their management, control and ownership of these resources. There is a need to scale-up the grass roots actions by bringing together a complementary top-down and bottom-up approach to addressing these issues. Global cooperation can be improved by building on on-going regional cooperation to deal with common sustainable development issues.
- Effective training programs should be implemented to multiply the number of competent decision makers in business and government. They must learn how to integrate programmes and policies within sustainability constraints, to understand the business case thereof, and acquire the skills to strategically move towards such sustainability goals.
- All of the problems mentioned above demand that we increase investments in education, research and assessments of knowledge.
- If we are to achieve our dream, the time to act is now, given the inertia in the socio-economic system, and given that the adverse effects of climate change and loss of biodiversity cannot be reversed for centuries or are irreversible (for example, species loss). The current—and inevitable—scientific uncertainties mean that we are facing a problem of risk management on an immense scale, but we know enough to act. Failure to act will impoverish current and future generations.