



China is setting records for installing solar panels — even as most of the country's energy comes from coal.

SUSTAINABILITY SCIENCE

Exploiting the synergies

Dave Griggs relishes Jeffrey Sachs's analysis of the policy and practice key to a viable future for people and planet.

As a concept and practice, sustainable development emerged on the global scene in 1972, with the United Nations Conference on the Human Environment. Four decades on, in the year that the United Nations is due to set its Sustainable Development Goals (SDGs), the idea remains fuzzy around the edges. Jeffrey Sachs's *The Age of Sustainable Development* sharpens our understanding. It is, in my view, the best, most comprehensive and most articulate exposition of sustainable development ever written.

Sachs is a rock-star economist, leading thinker in sustainable development and senior UN adviser. *The Age of Sustainable Development* is based on his excellent massive open online course (MOOC) of the same name.

He defines sustainable development as a “normative outlook” aiming to solve global problems such as climate change through environmental, economic and social goals, along with good governance. He shows that it is a science of complex systems: the global economy, the Earth system, politics and social interactions such as support networks and social media.

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Sustainable development was once considered a problem of developing countries, solvable through, and almost as a by-product of, economic growth. But no country has pulled itself out of poverty without fossil fuels, whose emissions drive climate change and pollution, or nitrogen-based fertilizers, which promote algal blooms. And richer countries have demonstrated the problems of uncontrolled development of land and resources, a factor in biodiversity loss. Sustainable development is crucial for all countries, so the SDGs will apply to every nation.

Sachs recognizes the benefits of economic growth, citing the case of China, which has achieved history's most remarkable economic transformation, with extreme poverty falling from 84% in 1981 to just 12% in 2010. However, he also shows the limitations of growth through challenges still affecting billions, from poverty to food security. He explains some of how we got to where we are today,



The Age of Sustainable Development
JEFFREY D. SACHS
Columbia Univ. Press:
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highlighting the economic and social factors that maintain the status quo or make things worse, such as the historic, geographical and political forces that are widening inequalities in countries such as the United States.

How to achieve a sustainable future? Education, Sachs notes, is a lynchpin. When girls stay in school for longer, fertility rates drop. Households with fewer children invest more in education, health and nutrition. He quotes Scottish economist Adam Smith, who wrote in *The Wealth of Nations* (1776) that because society benefits when people are educated, the costs should be “defrayed by the general contribution of the whole society”. That we have not achieved this more than two centuries later is a baffling and damning indictment.

Alongside the social challenges are climate change, ocean acidification and the current mass extinction of species — serious threats to humanity's capacity to thrive or even survive. For example, the concentration of carbon dioxide in the atmosphere is rising by more than 2 parts per million each year. Sachs concludes that no country is currently on a path to sustainable development.

What becomes clear is that understanding the links between these issues is essential. Along with development aims such as sanitation and health care for a growing and ageing population, there are environmental challenges such as mitigating climate change. It is important to pinpoint solutions with positive trade-offs, such as encouraging people to walk or cycle, to reduce emissions while conferring health benefits. It is equally important to avoid fixing one problem by exacerbating another, for example providing universal access to affordable energy by burning more fossil fuels (see page 151).

Sachs struggles with this, as do businesses and governments. He compartmentalizes the book into chapters dealing with issues such as health, food security and climate change, which fails to show the interdependent nature of the beast in all its horrifying complexity. But in a finale on the SDGs, he delivers a unified message clearer, more insightful and more accessible than previous attempts.

Sachs explains the benefits of goal-based development such as mobilizing knowledge and practice networks — most importantly, those that include the scientific community, the public, politicians and non-governmental organizations. He explains how they might be financed through the public and private sector, and governed with accountability, transparency and participation.

I would make this book compulsory reading for all politicians and business leaders. ■

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