

The next frontier

In a guest article, Jeffrey Sachs, the director of the Earth Institute at Columbia University, outlines his vision for sustainable development

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CLIMATE science tells us unequivocally that we need to “decarbonise” much of the energy system by the middle of this century. Yet advanced techniques for extracting fossil fuels—fracking, new deep-ocean drilling and the like—dominate today’s economic and political discussion. These measures may temporarily boost the economy but they would end up crowding out investments in low-carbon technologies. A boomlet in fossil fuels is bound to be a dead end. Short-term priorities and long-term needs are at odds.

This disconnect also exists in the realm of jobs policy. Youth unemployment is stuck in the stratosphere in part because conventional jobs have succumbed to advances in information technology, robotics and outsourcing, leading to lower employment and a decline in earnings among unskilled youth in particular. In response economists obsess about policies to manage demand. But that will not address these structural changes. New strategies in education and training, and in smoothing the tricky school-to-work transition, are also needed.

These examples illustrate the difference between mainstream economics and the policies that are needed to deliver sustainable development. Standard economic policies aim for growth, full stop. Sustainable development aims for growth that is broadly shared across the income scale and that is also environmentally sound. Mainstream economics divorces the short term from the long term. There may be big problems ahead—climate change, food scarcity, demographic shifts and poorly trained young people—but macroeconomists prefer to improvise today and worry about the future later. That approach also suits politicians, aligning the policy cycle with the electoral cycle. But it is not a recipe for producing robust, inclusive growth.

Global goalkeeper

Resolving this problem requires a new approach. On September 25th governments will meet at a special event at the United Nations. Part of their task will be to establish a road map that will lead, by 2015, to a set of “Sustainable Development Goals” (SDGs). Sceptics will scoff that a UN framework will make no difference to the problems of the world economy. They are wrong.

The UN’s Montreal Protocol successfully brought together scientists, industry and government to head off world-threatening ozone depletion. New technologies were spurred and rapidly diffused as a result. The SDGs will themselves succeed the UN’s Millennium Development Goals (MDGs), a blueprint for helping the world’s poorest people that has already achieved historic results in sub-Saharan Africa—including a drop in malaria deaths by at least a third from the peak and the saving of millions of lives by the introduction of new vaccines.

When the new SDGs are set, they should start by confirming the success of the MDGs and making a commitment to the end of extreme poverty by 2030, a goal recently adopted by the World Bank. They must also tackle more novel problems, including the transition to low-carbon energy by 2050; the protection of critically endangered biodiversity; the improvement of farm yields with reduced environmental costs; and the reshaping of cities to be much more energy-efficient and resilient to rising temperatures and sea levels.

Setting goals is one thing; achieving them quite another. All of these SDGs would require an overhaul of technology systems, whether for health, energy, transport, food supplies or safer cities. Target-driven technological change of this sort is very different from the normal evolutionary path of established industries competing through incremental changes in products and processes. We are perhaps more familiar with targeted technological change in the military context (the Manhattan Project, to take an obvious example) but there are enough civilian cases (the Moon landing, the Human Genome Project, the eradication of smallpox) to identify three elements of success.

The first is “backcasting”. Rather than saying with a shrug that the world will get to where it gets in terms of low-carbon energy in 2050, the SDGs should start with what is needed to achieve climate safety (for example, to stop a global increase in temperature beyond 1.5°C or 2°C). That goal defines a set of possible energy pathways to 2050 and a cumulative amount of greenhouse-gas emissions that are consistent with it.

The second element is “road-mapping”. The technologies needed for a low-carbon world, for example, are already in sight. They include renewable energy, energy storage, carbon capture and sequestration, electric vehicles and (safe) nuclear energy. But they are at very different stages of development. Some are already commercially viable. Others are still on the drawing board. Technology road-mapping identifies the obstacles to commercialisation and plans a 10-20-year research, development and demonstration strategy. Moore’s law, the sustained doubling of the number of transistors per integrated circuit every two years during the past 55 years, has been supported by a systematic, ongoing, industry-wide road-mapping process to identify, and then clear away, looming obstacles.

The third step is global co-operation, of the kind that in the past has helped reverse ozone depletion, develop new drugs for tropical diseases, improve seed varieties and create international standards and processes for aviation safety. The MDGs were successful in part because they gathered together public-health experts, industry leaders and government officials to create a new public-health ecosystem. Collaboration of this sort would accelerate progress in all sorts of areas, from the prevention of flooding in coastal cities to the development of high-yield seed varieties with preferred traits such as saline resistance, flood tolerance and drought resistance.

Getting from A to SDG

Nobody can be exempt from the next round of global goal-setting. The current economic crisis is global. China and America, the world’s two largest economies, are both beset by deepening social and environmental problems. In the next phase of global development there will be no clear division between leaders and followers. All countries will be pioneers. Just as the MDGs opened new pathways to disease control and poverty reduction, the SDGs have the potential to open up a new era of technological and organisational breakthroughs. They can lead to a better life in the coming decades and unleash a wave of growth-creating investments along the way.