

Green growth strategies

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NEXUS APPROACH: Food, water and energy security must be fully integrated



Konrad Adenauer Foundation director Dr Wilhelm Hofmeister and Isis senior fellow Dr Hezri Adnan launching 'Towards a Green Economy: In Search of Sustainable Energy Policies for the Future' last month.



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SINCE the 18th century, capitalism has raised incomes everywhere and nurtured political liberty in Europe and beyond. But the dynamic innovative forces of capitalism have also been responsible for turning the natural ecosystems into a resource base on the one hand, and a sink for wastes on the other.

What is the impact of industrial capitalism on ecological limits?

In 2009, eminent scientists published a set of quantitative thresholds or "planetary boundaries" for seven parameters in the reputable scientific journal *Nature*.

They proposed that humankind must remain within the boundaries identified to create a safe operating space for future generations.

Provocatively, they suggested that the boundaries in three systems have already been exceeded.

These are rate of biodiversity loss, climate change and human interference with the nitrogen cycle.

In addition, humanity may soon be approaching the boundaries for change in land use, global freshwater use, ocean acidification and interference with the global phosphorous cycle.

Therefore, greening capitalism is now widely discussed. Not only do we need to restructure the global financial markets, we also cannot afford production and consumption growths which are blind to ecological problems and natural resources scarcity.

Policy-makers now consider a greener capitalism as attainable through the option of green economy, broadly defined as low-carbon, resource-efficient and socially inclusive.

Some G20 countries have balanced their need to boost growth with targeted policies incorporating one-off green fiscal stimulus packages amounting to US\$522 billion (RM1.5 trillion). This economic policy strategy aims to develop a win-win solution for the economy and the environment, through finding economic opportunities in the response to climate change.

In China's 12th Five-Year Plan (2011-2015), environmental protection is highlighted as a "pillar industry", along with information technology and biotechnology.

The Chinese government is expected to invest US\$475 billion over the five-year period to implement its green growth strategy.

Energy policy is central to the debate on green economy because energy underpins the entire industrial edifice of capitalism. Changes in the energy markets are necessary because the burning of fossil fuels is the major cause of global warming.

The process of developing a new energy system, built around a greatly expanded use of renewable energies, has the potential to create new relations, productions, exchange and livelihood.

HSBC Global Research forecasts that the global market for clean energy and energy efficiency investment opportunities will triple to US\$2.2 trillion by 2020.

ISIS Malaysia in collaboration with the Konrad Adenauer Foundation has recently published a book entitled *Towards a Green Economy: In Search of Sustainable Energy Policies for the Future*.

It highlights experiences from nine countries in the quest to develop and utilise sustainable energy systems.

The findings confirm that the shift to renewable energy sources is under way, but could be accelerated by more potent use of market instruments and regulations to connect and scale up numerous small renewable energy projects.

Moreover, investments (both public and private) in innovation, technology, infrastructure and institutions are necessary so that economies can shift their course. Strategic long-term planning is essential to coordinate actions by many different actors in redesigning of markets by stimulating demand for clean, renewable energy.

Malaysia, for instance, has set quantitative targets of six per cent (or 985 megawatts) of national energy-mix to come from renewables by 2015 and 11 per cent (two gigawatts) by 2020. These targets are backed by a statutory provision, the Renewable Energy Act 2011, and administered by the Sustainable Energy Development Authority.

Addressing the energy challenge, although very important, is by itself insufficient to reverse the planetary boundaries that we have exceeded. Some renewable energy solutions such as hydropower are water-intensive.

Similarly, biofuels pose additional risks to food security by competing heavily for land and water. Agricultural intensification to ensure food security requires high energy costs. Indeed, the pressure on the natural resource base that generates food, water and energy, is more acute than at any previous time in human history.

Moving forward, we need to embrace the "nexus approach" between food, water, and energy security. If we are to stay within the safe operating space, all three strategic resources must be fully integrated and not treated separately.

The nexus approach recognises explicit trade-offs in policy-making, focusing on system efficiency rather than on the productivity of isolated resources.

By doing so, societies stand a better chance of decoupling economic development from resource depletion, which is fundamental to the transition to a green economy.

Governments need to set the right direction to balance the market forces.