

Lower carbon emission, higher energy lifestyle possible in developing countries: Danish scientist

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Danish scientist Bjorn Lomborg is interviewed in Copenhagen, capital of Denmark, on Sept. 6, 2010. Although emerging economies will witness a major buildup in carbon emission in the years ahead, smarter technologies could help them mitigate the effects of global warming, Danish scientist Bjorn Lomborg said. (Xinhua/Devapriyo Das)

by Devapriyo Das

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Although emerging economies will witness a major buildup in carbon emission in the years ahead, smarter technologies could help them to mitigate the effects of global warming, Danish scientist Bjorn Lomborg said.

In an interview with Xinhua, Lomborg, who is a political scientist and influential author on issues of climate change, said people in developing countries would like to have their life improved, which would require higher energy consumption.

"It is especially important to recognize the 3 or 4 billion people who are reasonably aspiring to have a much greater lifestyle ... We are going to see a dramatic increase in emissions in the third world," he added.

"The only way we can realistically stop that is by giving people all the benefits of an energy-based civilization but without emitting the carbon dioxide. And that is only possible if green energy is competitive and preferably cheaper than fossil fuels," he said.

Although committed to reducing carbon emission, emerging economies like Brazil, China, India, Russia and South Africa still use a lot of fossil fuels like coal, oil and gas.

GROWTH

Moreover, for emerging economies, a single-minded focus on cutting carbon emission could hurt economic growth by diverting resources from poverty eradication programs and industrial plans.

"When you have populations not adequately fed, who need better water and so on, there are other and much more important priorities," Lomborg said.

He said China and India were both already developing and using renewable energy technologies, adding it was "from a very low base."

For instance, he said China had greatly increased production of solar panels, but still relied heavily on coal-fired plants for electricity generation.

While recognizing emerging economies should also respond to climate change, Lomborg said they had to boost economic growth first.

SMART SOLUTIONS

That approach is acknowledged in Lomborg's latest book, "Smart Solutions to Climate Change: Comparing Costs and Benefits," which is to be released next week.

It features contributions from 28 leading climate economists, who explore how to mitigate climate change while being aware of development priorities.

Their suggestions include research and development into green energy, clean technology transfer, reduction of carbon dioxide and methane gas emissions, cutting black carbon and soot in the atmosphere, planting trees, capturing carbon from the air and from power plants, and geo-engineering. "We wanted to ask what is the cost of implementing these different solutions, and what is the avoided climate damage."

Lomborg then asked five leading economists, including three Nobel Prize-winners, to rank these solutions to find out: "Where do you get the most climate benefit for every dollar spent?"

The top suggestions include more investment into geo-engineering and green energy technologies. "You can see the first as a short-term insurance policy, and the second as the long-term solution to global warming," he said.

GEO-ENGINEERING

According to Lomborg, geo-engineering tries to change the earth's reflectivity, so that it reflects more sunlight and gets less warm. One method is to make marine clouds over the mid-Pacific, whiter, by seeding them with salt particles, so that they carry less rain and reflect more sunlight back into space. Another way is to pipe sulphur dioxide, which has a cooling effect, up into the atmosphere.

"It doesn't solve everything, but solves a large part of the global warming problem, mainly the temperature rise we are worried about," he said.

However, the risks of geo-engineering are still unknown. "Would it, for instance, change the monsoon?" Lomborg asked.

"Would it have damaging impacts on other factors? 'We don't know' is the short answer."

He recommended much more research before geo-engineering was implemented, but felt it could be the most cost-effective response to climate change.

"The potential solution is incredibly fast and incredibly cheap, compared to virtually everything else we look at... For about 6 billion U.S. dollars in total, the economists estimate we could avoid all of global warming in the 21st century."

By contrast, Lomborg said under current policies, the EU's promise to cut carbon emissions to below 1990 levels by 2020 would come at a cost of around 250 billion dollars a year, and would reduce temperatures by just one-twentieth of one degree centigrade by the end of this century. Similarly, the cost of keeping global temperature rise to below two degrees centigrade, would be around 40 trillion dollars per year.

GREEN ENERGY

However, despite these technological advances, Lomborg said he expected emerging economies would keep using cheap, conventional energy sources to meet their energy needs. So the only solution will be to make green technologies and renewable energy cheaper and more competitive than fossil fuels.

"The long-term sustainable strategy is investing in research and development into green energy technologies," he said. "For every dollar spent there, you will probably avoid about 11 dollars of loss caused by climate damage."

Lomborg said he especially hoped countries in the world would spend 0.2 percent of their gross domestic product into research on green energy.

"If every country in the world did that, that would be about 100 billion dollars. That would give a good chance of solving climate change in the medium term."

But whatever the solution, will there be enough time to reduce global warming and let people in developing countries actually enjoy higher standards of living?

"Changing the climate system is like changing the course of a supertanker," Lomborg replied.

"It really takes a large amount of time ... That's why this is much more a discussion of what we do across the century, rather than, what we do today or tomorrow or next year."

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