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Cost-effective ways to address climate change

By Bjorn Lomborg

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One of the scarier predictions about global warming is the suggestion that melting glaciers and ice caps could cause sea levels to rise as much as 15 to 20 feet over the next century. Set aside the fact that the best research we have - from the [United Nations climate panel](#) - says that global sea levels are not likely to rise more than about 20 inches by 2100. Rather, let's imagine that over the next 80 or 90 years, a giant port city - say, Tokyo - found itself engulfed by a sea-level rise of about 15 feet. Millions of inhabitants would be imperiled, along with trillions of dollars' worth of infrastructure. Without a vast global effort, could we cope with such a terrifying catastrophe?

Well, we already have. In fact, we're doing it right now.

Since 1930, excessive groundwater withdrawal has caused Tokyo to subside by as much as 15 feet. Similar subsidence has occurred over the past century in numerous cities, including Tianjin, Shanghai, Osaka, Bangkok and Jakarta. And in each case, the city has managed to protect itself from such large relative sea-level rises without much difficulty.

The process is called adaptation, and it's something we humans are very good at. That isn't surprising, since we've been doing it for millennia. As climate economist Richard Tol notes, our ability to adapt to widely varying climates explains how people live happily at both the equator and the poles. In the debate over global warming, in which some have argued that civilization as we know it is at stake, this is an important point. Humankind is not completely at the mercy of nature. To the contrary, when it comes to dealing with the impact of climate change, we've compiled a pretty impressive track record. While this doesn't mean we can afford to ignore climate change, it provides a powerful reason not to panic about it either. There is no better example of how human ingenuity can literally keep our heads above water than the Netherlands. Although a fifth of their country lies below sea level - and fully half is less than three feet above it - the Dutch maintain an enormously productive economy and enjoy one of the world's highest standards of living. The secret is a centuries-old system of dikes, supplemented in recent decades by an elaborate network of floodgates and other barriers. All this adaptation is not only effective but also amazingly inexpensive. Keeping Holland protected from any future sea-level rises for the next century will cost only about one-tenth of 1 percent of the country's gross domestic product.

Coping with rising sea levels is hardly the only place where low-cost, high-impact adaptation strategies can make a huge difference. One of the most pernicious impacts of global warming is the extent to which it exacerbates the phenomenon known as the urban "heat island effect" - the fact that because they lack greenery and are chockablock with heat-absorbing black surfaces such as tar roofs and asphalt roads, urban areas tend to be much warmer than the surrounding countryside. Ultimately, we're not going to solve any of these problems until we figure out a way to stop pumping greenhouse gases into the atmosphere.

But in the meantime, there are simple adaptive measures we can employ to cool down our cities: We can paint them. [Hashem Akbari](#), a senior scientist at Lawrence Berkeley National Laboratory who specializes in cost-effective methods of combating the effects of climate change in urban areas, has shown that by painting roofs white, covering asphalt roadways with concrete-colored surfaces and planting shade trees, local temperatures could be reduced by as much as 5 degrees Fahrenheit. Akbari and colleagues reported in the journal *Climatic Change* last year that for every 100 square feet of black rooftop converted to white surface, the effects of roughly one ton of carbon dioxide would be offset.

Painting streets and rooftops white may sound impractical, if not silly, but it's a realistic strategy - which is to say, it's effective and affordable. Indeed, for an initial expenditure of \$1 billion, we could lighten enough Los Angeles streets and rooftops to reduce temperatures in the L.A. Basin more than global warming would increase them over the next 90 years.

Obviously, whether it involves dikes or buckets of white paint, adaptation is not a long-term solution to global warming. Rather, it will enable us to get by while we figure out the best way to address the root causes of man-made climate change. This may not seem like much, but at a time when fears of a supposedly imminent apocalypse threaten to swamp rational debate about climate policy, it's worth noting that coping with climate change is something we know how to do.

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His previous pieces for [The Post](#) include: [A better way to fight global warming](#), [Carbon cuts liable to harm more than help](#), [A better way than cap and trade](#) and [Stop fighting over global warming - there's a better way to attack it](#).