



Energy Co2 : Energy Efficiency

As the World Becomes Urban, Cities Are Key to Climate Protection

Most of the world's energy use and carbon emissions come from cities. By improving efficiency, transportation, and urban planning, the world's biggest cities could turn from polluters into a vital part of the solution to climate change - and better places to live.



Tokyo is a member of the C40 Cities Climate Leadership Group, an alliance of cities seeking to cut greenhouse gas emissions through more efficient buildings, use of green power, and city planning (Photo: Reuters)

When London introduced its congestion charge in 2003, motorists and local businesses feared for the worst - the same congestion, but higher costs and fewer customers. After half a year, traffic in central London was down by 30 percent with little impact on businesses. Two years later, building on this success, London Mayor Ken Livingston invited mayors and representatives from the 40 biggest cities in the world to discuss what else they could drive down carbon emissions and pollution. The C40 Large Cities Climate Summit was born - and none too soon.

According to the United Nations, 2008 will be the first year in which over half of the world's population - roughly 3.3 billion people - will live in cities. With the growth of large cities in Africa and Asia, the number of urbanites could climb to 5 billion by 2030. As cities grow, so does their impact on the global environment.

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"Cities are responsible for the vast majority of the world's energy use and greenhouse gas emissions," says Janet Sawin, director of the Energy and Climate Program at the Worldwatch Institute. For instance, Indian cities, where a third of the country's 1.1 billion people live, consume 87 percent of India's electricity - most of which is produced by coal-fired power plants that produce massive amounts of carbon dioxide.

Recognizing the problem, Worldwatch dedicated the latest issue of its annual "State of the World" report to the problems caused by bulging cities. The picture, however, is not all bleak. Cities are the worst polluters, but they can also effectively curb the greenhouse gas emissions that cause global warming.

Cutting energy use

Cities will always need lots of energy for light, heat, importing food, and transportation; they just need to find more efficient ways of doing it. During the latest C40 Large Cities Climate Summit in New York, five international banks committed to five billion dollars in loans to former U.S. President Bill Clinton's green building initiative, which will spend the money on energy efficiency projects in 15 of the world's biggest cities, including London, Sao Paulo, Mumbai, Tokyo, and Berlin.

New York City Mayor Michael Bloomberg even wants to outrun London by making his city the first "environmentally sustainable 21st-century city." Bloomberg is seeking to reduce the Big Apple's carbon emissions by 30 percent by 2030 through better building construction and operation, more efficient transport, cleaner electricity production, and a congestion fee for the city.



New York City Mayor Michael Bloomberg at the May 2007 C40 Summit. He said NYC would be the world's first "enviornmentally sustainable 21st-century city." (Photo: Reuters)

But Bloomberg may find it crowded at the top of the list of sustainable cities. So far, nearly 600 mayors have signed the U.S. Mayors' Climate Protection Agreement, which voluntarily commits cities and towns to meet or beat the Kyoto Protocol proposed for, but not accepted by, the United States - a 7-percent reduction in greenhouse gas emissions from 1990 levels by 2012. Participating cities include Portland, San Francisco, Seattle, and Chicago, all of which have set ambitious emissions reductions targets of their own.

"In the U.S. we're seeing competition among cities to reduce their emissions the most, partly because there hasn't been leadership at the federal level," says Janet Sawin of Worldwatch. "There are also cities around the world that are making changes not just for the environmental impacts and potential reduction in greenhouse gases; they just see that they can create more jobs and have a better quality of life."

Avoiding old mistakes

Mexico City and Bogotá, Colombia have made big improvements to local transport, such as replacing old taxis and introducing efficient mass transport systems. Traffic runs freer now and commute times have dropped, as well the cities' overall pollution and emissions.

Another strategy is city planning that prevents pollution from vehicles and transport by reversing urban sprawl and improving public transportation. This could help reduce reliance on cars, particularly in U.S. cities.

Switching to renewable energy

Incorporating clean, renewable energy is another concept. Ninety-nine percent of all homes in Rizhao, China - a coastal city of nearly three million people - use solar water heaters, while the local government has installed solar panels to power street and traffic lights. The Hammarby Sjöstad district in Stockholm uses residential waste to produce biogas, which is then used to heat homes and power local trains.

Encouraging examples, however, cities can only make a difference if they are supported and emulated by national governments. The C40 summit in New York ended with an appeal from mayors to the G8 leaders for "a long-term goal for the stabilization of atmospheric greenhouse gas concentrations." Without such a framework, central London could well be free of cars, but it would only be a drop in the bucket.

editor: Valdis Wish

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