



UN-HABITAT

GLOBAL REPORT ON HUMAN SETTLEMENT 2011



COOL CITIES: PULLING BACK FROM THE ABYSS

Transportation is responsible for 13 per cent of global greenhouse gas emissions

There are unprecedented opportunities for cities to act and change their future. And the time to cool our cities is now according to UN-HABITAT's **Cities and Climate Change: Global Report on Human Settlements 2011**.

If cities are the critical centres of economic clout, political power, law-makers and hotbeds of technical innovation, then it is in cities where alternative options will be designed and tested to promote reductions in greenhouse gas emissions (mitigation). As power-houses of social and economic development, cities are not just part of the problem they can be part of the solution.

Hot cities can be made cool again.

"Mitigation is at the heart of the global response. The reduction of greenhouse gas emissions and their capture and storage has been at the heart of policy responses to climate change over the past two decades," said UN-HABITAT Executive Director Dr Joan Clos. "But it is at a local level that we will really see these efforts take effect."

International targets are seen as modest by many and some national governments and local authorities have made commitments which go beyond them. However, achieving these ambitions depends upon implementation measures to reduce or capture greenhouse gas emissions on the ground where numerous constraints and opportunities wrestle as agendas and interests clash or coincide.

Cities and Climate Change argues that at the city level, the main areas where policy and practice can have mitigation impacts are in urban development and design; in the regulations around the built environment including urban infrastructures and transport policy.

URBAN DEVELOPMENT CHALLENGES FOR MITIGATING CLIMATE CHANGE

- In Chiang Mai (Thailand), research found that urban and commercial development coupled with growing economic prosperity has led to a surge in personal vehicle usage, related to both work commuting and leisure. The number of registered passenger cars and motorcycles increased more than 20-fold between 1970 and 2000, while the population only doubled, with a significant impact on greenhouse gas emissions.
- Few Canadian cities appear to be prioritizing climate change-related action in land-use planning. While most cities do not acknowledge the emission reduction benefits of growth management and increased density, Calgary, Vancouver and Toronto are making explicit connections between land use and emissions. Yet, even in these three cities – which are leading climate change action in Canada – few specific initiatives address these connections.

According to the report, over the past two decades, many local authorities have taken the initiative. Cities involved in responding to climate change have grown in number and now include cities in developing countries, in part facilitated by the emergence of new international initiatives.

From a handful of pioneering cities, the number of urban municipalities participating in climate change mitigation efforts has expanded. This reflects the changing international and national climate change policy context in which developing countries with growing contributions to global emissions — such as China, India, Brazil, Mexico and South Africa — increasingly recognise the role they can play, particularly at the local level.

Although the overall thrust of the report is cautionary and alerts the world to the insufficiency of current interventions, it also details numerous positive examples of cities trying to offer solutions to a very real, and growing problem.

CONGESTION CHARGES IN EUROPE

Congestion charge pricing is a system of charging road users a fee for using the road in certain areas at certain times. It has been introduced in a number of large European cities, such as Milan, London, Rome and Stockholm, with the aim of reducing inner-city traffic volumes, reducing air pollution and encouraging the use of more fuel-efficient and environmentally friendly vehicles.

- In Rome (Italy), the 'limited traffic zone' was set up in 2001 to improve mobility and limit private vehicle trips in the historic city centre. Around 250,000 vehicles (12 per cent of registered vehicles in Rome) were permitted inside the area, resulting in a 10 per cent decrease in traffic volumes overall, a 20 per cent decrease during the restriction period (06.30am to 18.00pm) and a 6 per cent increase in public transport use.
- In Milan (Italy), arguably Europe's third most polluted urban centre, more than half of citizens use private cars and motorcycles, which led the mayor of Milan to introduce 'Ecopass' in 2008. This is a pollution-adjusted congestion charge affecting the 8 square kilometre city centre (5 per cent of the city's total area), levied on a sliding scale of engine types (between 07.30am to 19.30pm on weekdays).
- In the UK, the London Congestion Charge Zone, one of the largest in the world, was introduced in Central London in 2003 and extended to some parts of West London in 2007. A daily charge of UK£8 allows drivers to enter the 21 square kilometre zone (07.00am to 18.30pm on weekdays). This resulted in traffic volume reductions of 18 per cent at peak times (15 per cent overall); a traffic delay reduction of 39 per cent; increased cycling by 20 per cent; and a 20 per cent increase in taxi and bus use.
- In Stockholm (Sweden), congestion fees were implemented on a permanent basis in 2007. These are levied every time a user crosses the cordon area, with the charge varying over the day according to the congestion levels (highest during morning and afternoon peaks, moderate during the middle of the day, and zero during nights and weekends). This scheme has resulted in an overall traffic reduction of 25 per cent; a waiting time reduction of 30 per cent; and a 50 per cent reduction in traffic volume during the evening rush hour.

RETROFITTING DOMESTIC, PUBLIC AND COMMERCIAL BUILDINGS IN THE UK AND THE US

- **London (UK):** the Carbon 60 project followed the commitment of the Sandford Housing Co-operative to reduce greenhouse gas emissions by 60 per cent. The combined financial support from private energy companies, the UK government and the rent increases within the co-operative made possible the retrofitting of 14 houses with wood pellet boilers and solar water heating.
- **Birmingham (UK):** the Summerfield eco-housing project in Birmingham (supported by Birmingham City Council and Urban Living and the Family Housing Association) developed a demonstration project in a Victorian house featuring solar photovoltaic panels; grey water recycling and air source heat pumps; sunpipes; high-performance insulation made from recycled paper, denim and sheep's wool; and kitchens made from recycled materials.
- **Manchester (UK):** the Cooperative Insurance Services 'Tower' was built in 1962 and is the tallest office building in the UK outside of London. In 2004, the Cooperative Financial Services started a UK£5.5 million project to retrofit photovoltaic technology, funded by the Northwest Regional Development Agency.
- **Philadelphia (US):** the Friends Center Building Project, initiated in 2006, involves the retrofitting of an 1856 building with sustainable technologies. The project integrates recycled materials, recycled construction waste, a white roof, and windows with spectrally selective glass, alongside sustainable and renewable technologies (e.g. geothermal exchange; solar array; wind power; storm water capture and reuse) and green building design with natural light.