

# GREEN ECONOMIC DEVELOPMENT CAN BE GOOD FOR HEALTH

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**A**s concerns mount over the long-term risks of climate change to the planet's health, there is a wave of interest in "green" economic development among UN and multi-lateral aid agencies, national governments and industry. But can "green" economic initiatives also yield more immediate public health benefits?

Early findings emerging from a new series of global reviews by WHO of climate change mitigation policies in key economic sectors say "yes", health can be a winner in greener development strategies.

Well-designed initiatives that curb greenhouse gas emissions in energy, residential construction, transport, and agricultural systems can not only enhance global public health, but also improve health among poor populations and save scarce health resources – in a relatively short time frame.

Better understanding of the multiple "win-win" health and climate benefits that could be obtained from mitigation could help build support for existing and future climate change agreements, such as the one being negotiated in the talks in Cancún.

Embracing "health-enhancing" low-carbon strategies can allow policy-makers to demonstrate positive health and wealth-generating results within a period of years – while averting devastating long-term impacts to the planet.

The general public can potentially be motivated to adopt more sustainable lifestyles when there is better understanding of how such measures also improve personal health and well-being in tangible ways.

## THE HEALTH COST OF GREY, THE SAVINGS OF GREEN

Overall, WHO estimates that nearly one-quarter of the global disease burden is attributable to environmental pollution and degradation, which could be readily addressed by available technologies in various economic sectors (WHO, 2009). For instance, most deaths from indoor air pollution (2 million annually) are due to leaky and inefficient household energy systems that burn biomass fuels and coal, and upon which 3 billion people still rely for fuel (WHO, 2009).

However, much of this burden of disease could potentially be reduced or eliminated through improved access to cleaner-burning cookstoves or fuels now becoming available in developing countries (Wilkinson P et al, 2009; WHO 2006). Concurrent reductions in stove emissions could also reduce the climate impacts of black carbon (USAID/RDMA, 2010; Ramanathan and Carmichael, 2008).

The burden of disease from urban outdoor air pollution (1.2 million deaths annually) and traffic injury (1.3 million deaths annually) could similarly be addressed by policies that promote more compact urban development around public transport corridors as well as "active" transport by walking and cycling. An ever growing body of literature indicates that active transport to work, school and shopping can also address obesity-related diseases caused by physical inactivity (3.2 million deaths annually) (Aytur, et al, 2008; WHO, 2006; WHO, 2008).

Recent modeling of cities in developed and developing countries indicated that the potential is huge. A major

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study published last year in *The Lancet*, carried out with WHO participation, modelled effects on health in London and Delhi from low-emission vehicles and policies to increase "active travel" and reduce car travel. A combination of active travel and lower-emission motor vehicles was projected to reduce the number of years of life lost from ischaemic heart disease by 10-19 per cent in London and 11-25 per cent in Delhi (Woodcock et al, 2009). In many cases, the health and health care cost savings resulting from climate change mitigation actions can also cover much of the cost of the interventions (Metz B, et al eds., 2007).

## FINE-TUNING MITIGATION POLICIES TO CONSIDER HEALTH

Significantly, some mitigation policies may be better than others, in health terms. For instance, mitigation policies to encourage lower-emission vehicles can

indeed help combat air pollution. But some experts contend that improved public transport, walking and cycling systems could potentially do much more – by attacking air pollution, obesity and traffic injury in an integrated and cost-effective way (Wright and Fulton, 2005; Kahn Ribeiro et al, 2007; Woodcock et al, 2009).

Sometimes, tradeoffs also need to be considered. For instance, improving the insulation quality of homes in developed countries offers one very major climate change mitigation opportunity, according to the reviews of the Intergovernmental Panel on Climate Change. Better insulation can also help protect against extreme heat and cold waves that become more frequent with climate change. However, in health terms, adequate provision for ventilation must also be assured to keep down levels of indoor air pollution from dust and mould and chemicals that otherwise might build up in closed spaces.

This is why more careful health assessment and analysis of mitigation policies is required in order to explore what combination of climate change mitigation policies can yield the most optimal health benefits in any given economic sector. Relative costs and benefits also need to be examined by diverse economies and regions.

## LEADING BY DOING

Mitigation policies can and should also be applied in the health sector itself to obtain better use of health system resources. Currently, hundreds of thousands of health clinics in Africa, Asia and Latin America have no power at all. If such clinics could be supplied with renewable electricity for basic needs from solar panels, the quality of health care could potentially be improved, at little long term cost to the planet.

In developing world cities, where power outages are often common, expanded hospital access to renewable energy sources and on-site co-generation of heat and electricity could potentially provide health facilities with more efficient, reliable and independent sources of energy for emergencies. Building energy efficiencies into construction and the use of medical devices can help hospitals, large or small, and in developing or developed countries, better rationalise resources.

Recognising these realities, the health sector is already "leading" with its own "greening" initiatives. Hospitals in a number of Chinese cities recently launched programmes to promote "green and safe" hospitals – that can function better in emergencies. From the UK's National Health Service to small NGOs at the grass roots, health facilities are launching energy audits and

examining how carbon efficiencies can benefit both the planet and health.

### “ADAPTIVE” MITIGATION

Initiatives for “green and safe” hospitals recognise that many measures that “mitigate” against future climate change can also be integrated with measures that improve adaptation to the impacts of climate change already being felt. Other such “adaptive mitigation” measures could include:

Integrated vector management, which combines environmental management with wise use of chemicals, can help combat climate change-induced changes in vector borne disease transmission, while also reducing long-term environmental impact of chemicals (van den Berg et al, 2007; Campbell-Lendrum, et al, 2005).

Improved home and hospital design to facilitate natural ventilation can improve air flows for better infection control and heat wave resilience while reducing reliance on air-conditioning (Atkinson et al, 2009).

Greener urban development could improve home siting and construction to better protect from heat waves, flooding and mudslides that may be caused by climate change – while also improving access to public transport, walking and cycling, to mitigate against future climate change.

### “KNOCK-ON” BENEFITS

Greening initiatives in one sector also can have other indirect “knock-on” health benefits in other areas.

For instance, new programmes in China and Nepal to develop household biogas installations for home cooking not only provide people with a more efficient and less-polluting source of home energy, but encourage the building of latrines to provide the fuel source (Remais, 2009; Acharya, 2005).

That is of considerable importance in light of the fact that some 2.6 billion people worldwide had no access to a hygienic toilet or safe latrine in 2008 (WHO/UNICEF, 2010). Improved sanitation is a critical means of reducing deaths (1.9 million people annually) from unsafe water and sanitation (WHO, 2009).

Despite their enormous potential, the health impacts of climate change mitigation are not measured systematically enough today. But it is possible to develop that knowledge with more health sector research and involvement overall. Reviewing and consolidating such evidence, together with our

partners and stakeholders, is a key aim of WHO's climate change adaptation and mitigation efforts.

Such efforts can help strengthen the global community's capacity to protect health from climate change and thus reap more immediate and wider benefits from strong mitigation policies.

### GETTING HEALTH ON THE CLIMATE CHANGE AGENDA

To date, health issues have been marginal in the climate talks – even though “adverse effects of climate change on the economy, public health and the quality of the environment” were noted in the first United Nations Framework Convention on Climate Change as the three critical arenas of global climate-related commitment (UN,1992).

Less than 2 per cent of the international funding on climate change adaptation goes to protect health, and there has been no systematic quantification of potential health opportunities and funding in the context of IPCC mitigation reviews. Out of the 323 side events at the COP15 conference in 2009 in Copenhagen, only one focused on health.

The very significant health gains and cost savings that can be realised through climate change mitigation policies are not typically considered in economic models that aim to guide decision-making on greenhouse gas emission reduction. This, in fact, can lead to incomplete evidence and a bias against more sustainable and greener decisions! Finally, quantifiable health gains are not typically considered in the context of UNFCCC clean development mechanisms used to finance many types of low-carbon development.

WHO believes this can change. Initial findings from WHO's series of reviews on *Health in the Green Economy* to be presented at the Cancun conference cover the potential co-benefits to health of mitigation action in: agriculture, transport, household energy, residential construction and health care facilities.

These reviews will summarise current knowledge and evidence of the health impacts of climate change mitigation strategies in different sectors and identify opportunities for fine-tuning and strengthening existing policies to both enhance health and reduce our global carbon footprint. But this is only a first step towards ongoing, global and systematic reviews of the evidence on climate change mitigation and health.

Our aim is to make the strategic, political and scientific case for placing greater emphasis on the health dimension at COP16 as a way to improve public engagement, relevance, and effectiveness of climate policy. A new and strengthened health focus, we



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believe, can revitalise climate change processes and lead to future climate change agreements that take the biggest step yet towards global health in human history.

### ABOUT THE AUTHOR

**Dr Maria P. Neira was appointed Director of the Department of Public Health and Environment at the World Health Organisation, Geneva, Switzerland in September 2005. Prior to that, she was Vice-Minister of Health and President of the Spanish Food Safety Agency.**

**She had previously held senior positions in WHO as Director of the Control, Prevention and Eradication Programme on Communicable Diseases and as Coordinator of the Global Task Force on Cholera Control.**

**Dr Neira began her career as a field physician and medical coordinator working with refugees in El Salvador and Honduras and later as a public health adviser in Mozambique and Rwanda.**

**Dr Neira is a Spanish national, and a medical doctor by training. She specialised in Endocrinology and Metabolic Diseases and also obtained an International Diploma in Emergency Preparedness and Crisis Management.**

**Among her many distinctions, Dr Neira has been awarded the Médaille de l'Ordre national du Mérite by the Government of France and is a member of the Academy of Medicine, Asturias, Spain.**