Scaled-Up Investments in Sustainable Cities Crucial for Resource Efficiency and Poverty Eradication

Greening City Infrastructure Can Sustain Economic Growth while Using Fewer Resources

Nairobi, 17 April 2013 – Investing in sustainable infrastructures and resource efficient technologies in cities offers a golden opportunity to deliver economic growth with lower rates of environmental degradation, reductions in poverty, cuts in greenhouse gases, and improved well-being, according to a new report released by the United Nations today.

Around three-quarters of the world's natural resources are consumed in cities, and urban areas are set to be home to 70 per cent of the global population by 2050.

Achieving inclusive sustainable development for all, says the UN study, requires 'decoupling' city-based economic growth rates from the unsustainable increases in consumption of finite natural resources which has characterised most urban development to date.

Developed and developing countries across the world are already reaping major economic benefits from adapting their cities to meet the demands of a resource-constrained, rapidly-urbanizing 21st century. They know that as prices of depleting natural resources continue to rise, it becomes necessary to reconfigure urban infrastructures in ways that protect cities from these threats. This can mean reducing oil consumption by moving more people and goods onto public transport powered by electricity; or re-establishing peri-urban farms to supply locally grown food.

Melbourne, Australia, has seen a 40 per cent drop in emissions by introducing energy efficiency measures in public buildings, while in Cape Town, South Africa, a re-fit of low income housing with solar water heaters and efficient lighting has saved over 6,500 tons of carbon per year, cut respiratory illnesses by 75 per cent, created scores of green jobs and reduced the cost of hot water for poor households.

Thirty such case studies are featured in the report, *City-Level Decoupling: Urban Resource Flows and the Governance of Infrastructure Transitions*, produced by the International Resource Panel (IRP), which is hosted by the United Nations Environment Programme (UNEP).

"To date, the trend towards urbanization has been accompanied by increased pressure on the environment and growing numbers of urban poor," said UN Under-Secretary-General and UNEP Executive Director Achim Steiner at the launch of the report in Nairobi.

"But unique opportunities exist for cities to lead the greening of the global economy by increasing resource productivity and innovation, while achieving major financial savings and addressing environmental challenges. Although many cities are seizing such opportunities, a holistic vision for the urban centres of the future is still lacking."

Greener Infrastructure Vital

The study says much greater effort is needed to support new and improved infrastructure for water, energy, transport, waste and other sectors to wean the world's cities off unsustainable consumption patterns, and avoid serious economic and environmental implications for future generations. Cities are vast pulsating organisms. The massive quantities of resources that cities need are conducted into and through cities via massive complex infrastructure networks that consume on average 10% of the Gross Geographical Product of a city-region. If cities want to use resources more sustainably, it will be necessary to radically reconfigure these infrastructures so that a lot more can be done with much less and more can be done by harnessing as yet underutilized renewable resources.

Some 60 per cent of the built environment required to meet the needs of the world's urban population by 2050 still needs to be constructed.

The cost of meeting the urban infrastructure requirements of the world's cities between 2000 and 2030 is estimated at US$40 trillion - both through the building of new infrastructures (mainly in developing countries) or retro-fitting existing facilities (mainly in developed nations).

There is a major opportunity, underlines the IRP report, to channel these funds into sustainable infrastructure that reduces carbon emissions, improves resource productivity, and avoids the resource-intensive urban planning of the past.

Additionally, infrastructure projects are a common feature of fiscal stimulus packages and development plans currently being put forward by the United States, China and the African Union - providing a major investment window for a concerted, international transition to a green economy.

"Older cities may have to retrofit and replace inefficient infrastructure into which they have been locked for decades to achieve decoupling, but newer and expanding cities have the advantage of flexibility. They can 'get it right' the first time," said Joan Clos, UN Under-Secretary-General and Executive Director, UN Human Settlements Programme (UN-Habitat).

"In an era of rising energy prices, an early transition to systems that consume increasingly cheaper renewable energy sources will pay off quickly," added Mr. Clos.

Mark Swilling of the co-lead authors of the Report asks: “When we look at the rising expenditures on urban infrastructures across the globe, we need to ask ourselves what kind of cities of the future are envisaged by the designers and builders of these new infrastructure? Are these infrastructures preparing cities for twenty-first century low-carbon transitions to fairer more resource efficient futures? Or are they just fixing in concrete for the next 25 to 50 years nineteenth century urban planning modes and technologies that will need to be dismantled in 10 or 20 years from now?

Other case studies in the report include:

- **Transport: Lagos, Nigeria**, introduced a Bus Rapid Transit (BRT) system to address chronic congestion and pollution problems in the city. Supported by the World Bank and private investors, the BRT system has contributed to a 13 per cent drop in carbon emissions from urban transport. Around a quarter of commuters on the route use the service and journey times have been cut by up to 50 per cent.

- **Waste:** The Mariannhill landfill site near **Durban, South Africa**, collects and treats otherwise toxic liquid waste from the site before re-using it for irrigation. The landfill converts methane emitted from waste into US$20,000 worth of electricity per month. An on-site tree nursery supports indigenous plants and averts potential biodiversity loss caused by the landfill.

- **Water:** Faced with a limited supply of natural resources, **Singapore** is implementing a national plan to reduce domestic water consumption by around 10 per cent by 2030. Advanced technologies are used to treat waste water (sewage) which is safe to drink and can be re-used by industry. Treated wastewater could meet 30 per cent of Singapore’s water needs by 2030. Investments in desalination plants, repairs of leaking pipes and other efforts means the island state is on track to meet its 10 per cent goal.

Projections show the 3 billion people expected to be added to the global population between by 2050 will live mainly in Asian and African cities.

Investing in low-waste, low-carbon ‘circular’ urban infrastructure – such as in Linköping, Sweden, where a system to fuel buses and trains with biogas from municipal waste has

cut carbon dioxide emissions by 9,000 tonnes per year – will allow growing cities to adapt to a future of strained natural resources, while providing better services needed to alleviate poverty and provide jobs.

Future urban projects aiming to achieve 'more with less' must be led by coherent visions for the city agreed by residents, businesses, governments, and other groups, which fully address poverty challenges and the need for greater equity, says the report.

'Ecosystem services' such as water from lakes, or flood prevention from wetlands play a critical role in supporting cities.

The report says maintaining healthy ecosystems, and factoring their economic value into urban development plans, will be key to achieving city-level decoupling. The city of Rio de Janeiro invested in reforestation to re-establish aquifers needed for water supply, while Johannesburg's urban forest of over 2.5 million trees in municipal areas supports biodiversity and better air quality, and is worth over US$1 billion to the city economy.

Conclusions and Recommendations

The report outlines recommendations for city planners to minimize environmental damage and maximise the potential for using resources more sustainably.

- Government investments should support the role of cities in national sustainable development strategies, and support infrastructures that stimulate low-carbon, resource-efficient and equitable urban development

- More investment is needed to support the capacity of city-level governments and universities to collect and analyze data on resource use and flows in cities as a basis for efforts to enhance sustainability

- Cities should set specific targets to use resources more efficiently, (eg. litres of water per unit of GDP, percentage of passenger trips by public transport) and formulate plans to achieve them

- For procurement activities, promote and use criteria favouring low-carbon, resource-efficient, green technology goods and services

- The private sector can play a key role in investing, and sharing expertise, to take small-scale sustainable infrastructure projects to a city-wide scale

- The role of intermediaries is important when it comes to building the capacity for facilitating urban infrastructure transitions.

Notes to Editors

The full report, *City-Level Decoupling: Urban Resource Flows and the Governance of Infrastructure Transitions* (including all 30 case studies), is available at www.unep.org/resourcepanel/

The 2011 International Resource Panel report, *Decoupling Resource Use and Environmental Impacts from Economic Growth* is available at: http://www.unep.org/resourcepanel/decoupling/files/pdf/decoupling_report_english.pdf

About the International Resource Panel

The International Resource Panel (IRP) was established in 2007 to provide independent, coherent and authoritative scientific assessment on the sustainable use of natural resources and the environmental impacts of resource use over the full life cycle. The IRP contributes to a better understanding of how to decouple human development and economic growth from environmental degradation. The information contained in the International Resource Panel's reports is intended to be policy relevant and support policy framing, policy and programme planning, and enable evaluation and monitoring of policy effectiveness. The IRP website is available at: www.unep.org/resourcepanel/

For more information, please contact:

Nick Nuttall, Director, UNEP Division of Communications and Public Information, Tel. +254 733 632 755, E-mail: nick.nuttall@unep.org

Bryan Coll, UNEP Newsdesk, Tel. +254 207623088, Mobile: +254 731666214, E-mail: unepnewsdesk@unep.org