

PLANET UNDER PRESSURE

2012 MARCH 26-29
LONDON

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www.planetunderpressure2012.net

PRESS RELEASE

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Planet Under Pressure organizers and experts are available for interviews. [Live audio stream](#) of the news conference starting at 9:15 GMT (10:15 British Summer Time), Tuesday March 27

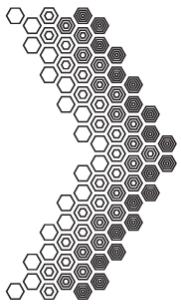
Cities Expand by Area Equal to France, Germany and Spain Combined in less than 20 years

Urbanization choices to be fundamental to environmental sustainability, say experts;
Equivalent of a city of 1 million needed weekly given population growth trend;
Four-day Planet Under Pressure Conference in London attracts 2,800 participants

Unless development patterns change, by 2030 humanity's urban footprint will occupy an additional 1.5 million square kilometres - comparable to the combined territories of France, Germany and Spain, say experts at a major international science meeting underway in London.

UN estimates show human population growing from 7 billion today to 9 billion by 2050, translating into some 1 million more people expected on average each week for the next 38 years, with most of that increase anticipated in urban centres. And ongoing migration from rural to urban living could see world cities receive yet another 1 billion additional people. Total forecast urban population in 2050: 6.3 billion (up from 3.5 billion today).

The question isn't whether to urbanize but how, says Dr. Michail Fragkias of Arizona State University, one of nearly 3000 participants at the conference, entitled "Planet Under Pressure". Unfortunately, he adds, today's ongoing pattern of urban sprawl puts humanity at severe risk due to environmental problems. Dense cities designed for efficiency offer one of the most promising paths to sustainability, and urbanization specialists will share a wealth of knowledge available to drive solutions.



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How best to urbanize is one among many “options and opportunities” under discussion by global environmental change specialists today, Day 2 of the four-day conference March 26-29, convened to help address a wide range of global sustainability challenges and offer recommendations to June’s UN “Rio+20” Earth Summit.

Other leading options and opportunities being addressed include green economic development (Yvo de Boer, former Executive Secretary, UN Framework Convention on Climate Change), securing food and water for the world's poorest (Bina Agarwal, Director, Institute of Economic Growth, Delhi University, India), and planetary stewardship: risks, obstacles and opportunities (Georgina Mace, Professor, Imperial College, London). For a full list of “options and opportunities” conference sessions and topics, see [conference website](#).

Cities responsible for 70% of CO₂ emissions

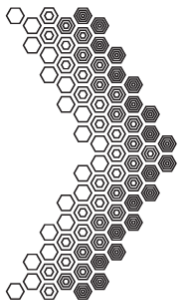
Shobhakar Dhakal, Executive Director of the Tokyo-based Global Carbon Project, says reforms in existing cities and better planning of new ones offer disproportionately large environmental benefits compared with other options.

“Re-engineering cities is urgently needed for global sustainability,” says Dr. Dhakal, adding that emerging urban areas “have a latecomer’s advantage in terms of knowledge, sustainability thinking, and technology to better manage such fundamentals as trash and transportation.”

Over 70% of CO₂ emissions today relate to city needs. In billions of metric tonnes, urban-area CO₂ emissions were estimated at about 15 in 1990 and 25 in 2010, with forecasts of growth to 36.5 by 2030, assuming business as usual.

Addressing climate change therefore demands focusing on urban efficiencies, like using weather conditions and time of day-adjusted toll systems to reduce traffic congestion, for example. Congestion worldwide costs economies an estimated 1 to 3% of GDP – a problem that not only wastes fuel and causes pollution, but time – an estimated 4.2 billion hours in the USA alone in 2005. Estimated cost of New York City’s congestion: US\$4 billion a year in lost productivity.

An “Internet of things” is forming, he notes – a fast-growing number of high-tech, artificially intelligent, Internet-connected cars, appliances, cameras, roadways, pipelines and more -- in total about one trillion in use worldwide today.



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High-tech ways to improve the efficiency of urban operations and human health and well-being include:

- Rapid patient screening and diagnostics with digitalised health records;
- Utility meters and sensors that monitor the capacity of the power generation network and continually gather data on supply and demand of electricity;
- Integrated traveller information services and toll road pricing based on traffic, weather and other data;
- Data gathering and feedback from citizens using mobile phones;

And many more.

“Our focus should be on enhancing the quality of urbanization – from urban space, infrastructure, form and function, to lifestyle, energy choices and efficiency,” says Dr. Dhakal.

Care is needed, he adds, to avoid unwelcome potential problems of dense urbanization, including congestion, pollution, crime, the rapid spread of infectious disease and other societal problems – the focus of social and health scientists who will feature prominently at the conference.

Says Prof. Karen Seto of Yale University, who with colleagues is organizing four of the 160 conference sessions at Planet Under Pressure: “The way cities have grown since World War II is neither socially or environmentally sustainable and the environmental cost of ongoing urban sprawl is too great to continue.”

For these reasons, “the planet can’t afford not to urbanize,” says Seto. “People everywhere, however, have increasingly embraced Western styles of architecture and urbanization, which are resource-intensive and often not adapted to local climates. The North American suburb has gone global, and car-dependent urban developments are more and more the norm.”

How humanity urbanizes to define the decades ahead

Fragkias notes that while there were fewer than 20 cities of 1 million or more a century ago, there are 450 today. While urban areas cover less than five per cent of Earth’s land surface, “the enlarged urban footprint forecast is far more significant proportionally when vast uninhabitable polar, desert and mountain regions, the



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world breadbasket plains and other prime agricultural land and protected areas are subtracted from the calculation.”

“We have a unique opportunity now to plan for a coming explosion of urbanization in order to decrease pressure on ecosystems, improve the livelihoods of billions of people and avoid the occurrence of major global environmental problems and disasters. That process cannot wait,” says Roberto Sánchez-Rodríguez, Professor Emeritus of Environmental Sciences at the University of California, Riverside.

“It is also important to stress that differences exist in the urbanization process in high-, low- and middle-income countries and reflect them in our strategies. We need to move beyond traditional approaches to planning and be responsive to informal urban growth, to the value of ecosystem services, and to the need of multidimensional perspectives (social, economic, cultural, environmental, political, biophysical).

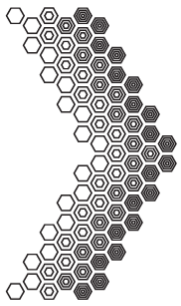
Ultimately, the researchers say, solutions include:

- Planning and investments in public infrastructure that encourage transit and accessibility
- Better land-use zoning and building standards that increase efficiency and multiple uses.
- Reversing the trend to ever larger homes
- Ending subsidies that promote low density and leapfrog development and discourage compact development, or favour cars at the expense of public transit
- Improving the quality of inner city schools and addressing other growing urban challenges, such as growing income inequality, segregation and social polarization, crime rates and heightened health threats including stress;
- Through social marketing, foster demand for efficient styles of living

Beyond city limits

Professor Sybil Seitzinger, Executive Director of the International Geosphere-Biosphere Programme said, “A truly sustainable planet will require cities to think beyond city limits.”

“Everything being brought into the city from outside: food, water, products and energy need to be sourced sustainably. We need to rethink the resource flow to cities.”



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Says Dr. Mark Stafford Smith, Planet Under Pressure co-chair: "A more general theme of the conference is underlined by the urbanization issue – that much of the planet's future is tied up in interconnected issues – climate change and city design, city resource demands and impacts on rural areas, rural food and water productivity and the ability of cities to continue functioning. The deep intensity of interconnectedness of these issues requires an integrated approach, tackling challenges together rather than each individually, one at a time."

Professor Elinor Ostrom of Indiana University, the 2009 Nobel laureate in economics and opening day plenary speaker at the Planet Under Pressure conference, underlines the importance of cities in giving effect to globally-developed policies to achieve environmental sustainability.

Indeed, through initiatives such as C40, a consortium of cities committed to emissions reductions, cities are showing strong leadership. This approach can help ensure a move to a more sustainable pathway should global policies fail to deliver.

NOTE TO EDITORS

The research discussed in the press release, the conclusions drawn and the opinions offered are those of individual speakers or research teams at the Planet Under Pressure conference.

More information about Planet under Pressure Conference

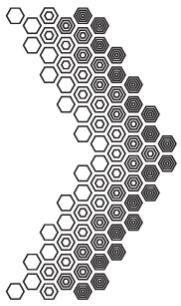
The international science conference will be the biggest gathering of global environmental change specialists in advance of the United Nations Rio+20 Summit: 2,800 scientists, policymakers, industry and media representatives will meet to hear the latest research findings on the state of the planet and discuss concepts for planetary stewardship and societal and economic transformation towards global sustainability.

More information on the web: www.planetunderpressure2012.net/

Follow the conference via RSS: www.planetunderpressure2012.net/xml/news.xml

Live webstreaming, daily news show and live audio feeds:

<http://c3379912.workcast.net/planetunderpressure.html>



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Planet under Pressure Conference Organizers

International Geosphere-Biosphere Programme

IGBP provides essential international scientific leadership and knowledge of the Earth system to help guide society onto a sustainable pathway during rapid global change.

www.igbp.net

DIVERSITAS

By linking biology, ecology and social sciences, DIVERSITAS produces socially relevant new knowledge to support sustainable use of biodiversity.

www.diversitas-international.org

International Human Dimensions Programme on Global Environmental Change

IHDP provides international leadership in framing, developing and integrating social science research on global environmental change, and promotes key findings of this research to help address these challenges.

www.ihdp.unu.edu

World Climate Research Programme

WCRP improves climate predictions and our understanding of human influence on climate through observations and modeling of the Earth system and the policy-relevant assessment of climate conditions.

www.wcrp-climate.org

Earth System Science Partnership

ESSP is a partnership of the four international global change programmes. It is an integrated study of the Earth System, the ways that it is changing, and the implications for global and regional sustainability.

www.essp.org

Scientific sponsor of the conference: **International Council for Science.**

ICSU is a non-governmental body with a global membership of national scientific bodies (120 Members, representing 140 countries) and International Scientific Unions (31 Members). Its mission is to strengthen international science for the benefit of society. www.icsu.org