



 our

planet

The magazine of the United Nations Environment Programme - September 2009

WAN GANG
TURNING POINT

LARS BARFOED
GREEN TRANSPORT

STEVE RIDGWAY
FLYING AHEAD

PETER BAKKER
DELIVERING CHANGE

SUSTAINABLE
TRANSPORT
on the right track



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PO Box 30552 Nairobi, Kenya

Tel: (254 20)7621 234

Fax: (254 20)7623 927

e-mail: unepub@unep.org

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Director of Publication : Satinder Bindra

Editor : Geoffrey Lean

Coordinator : Naomi Poulton

Assistant Coordinators : Anne-France White, Geoff Thompson

Special Contributor : Nick Nuttall

Editorial Assistant : Wambui Munge

Distribution Manager : Manyahleshal Kebede

Design : Amina Darani

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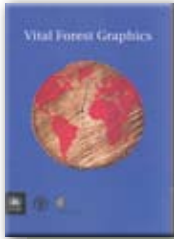
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Vital Forest Graphics

A joint FAO, UNEP and UN Forum on Forests publication that translates forest-related scientific findings into a common, user-friendly language and promotes interaction between science and various stages of the policy and decision-making process. Vital Forest

Graphics analyses, synthesizes and illustrates topical and important forest issues, it reviews the main ecological functions that provide support for human well-being, and it highlights proven innovative practices for forest conservation and securing livelihoods of forest-dependent communities.



Marine Litter: A Global Challenge

UNEP's Initiative on Marine Litter is a framework for regional action addressing marine litter around the world including the 12 Regional Seas programmes. This publication reports on challenges of marine litter to the international community, reviews and analyses the information and data from regional assessments and action plans. The report presents a discussion,

general conclusions and proposed recommendations for the control and reduction of the global problem of marine litter.



Trade and Climate Change

A collaboration with the WTO, this report examines the key linkages between trade and climate change. It presents a scientific review of climate change, its impacts and the options available for responding through mitigation and adaptation, and analyses economic aspects of the link between trade and climate change. The report provides a review of trade and climate change policies and measures at the

international and national levels.



50by50: The Global Fuel Economy Initiative

UNEP, IEA, ITF, FIA Foundation

Launched in 2009, this Initiative aims to dramatically improve motor vehicle efficiency globally. Its target is a worldwide improvement in average fuel economy of 50 percent by 2050. This 50by50 e-book describes the Global Fuel Economy Initiative. It discusses key

issues relating to large-scale automotive efficiency, potential global impacts of improved fuel economy, policy options and the steps planned to achieve the 50by50 target.



UNEP Environmental Assessment Expo 2010 Shanghai, China

This assessment reviews the effectiveness of environmental measures related to preparations for Expo 2010, which in promoting the green expo concept, is themed 'Better city, better life'. It highlights

several accomplishments including Shanghai's green transport vision, its off-shore wind farms and China's largest building-integrated solar power PV plant. The report also assesses, in general, measures being undertaken by Shanghai to revamp the overall infrastructure of the city.

2009 Climate Change Science Compendium

Evidence on climate change is mounting and the need for action is urgent. As pressures build for an internationally agreed response, keeping pace with the speed of research advances and developments in climate change science remains a vital challenge. This groundbreaking report is a compilation of new scientific findings, important observations, developments, and innovations which offer insights into various aspects of Earth Systems. The focus of the Compendium is on the biophysical evidence of climate change and its implications.



Vital GEO Graphics

This e-book and CD-ROM is based on Global Environment Outlook: environment for development (GEO-4), the fourth issue of the GEO reporting series. It utilizes graphics from the GEO-4 assessment report to illustrate the scientific findings that underpin and link UNEP's six cross-cutting thematic priorities: climate change, disasters and conflicts, ecosystem management, environmental governance, harmful substances and hazardous waste, resource efficiency and sustainable consumption and production.



Dictionary and Introduction to Global Environmental Governance

Richard E. Saunier and Richard A. Meganck
(Earthscan 2009)

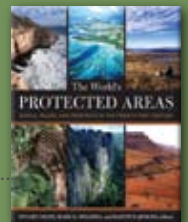
This unique reference book provides a compilation of over 5,500 terms, organizations and acronyms drawn from hundreds of official sources. An introductory essay frames the major issues in global environmental governance and outlines the pitfalls of talking past one another when discussing the most critical of issues facing the planet.



The World's Protected Areas: Status, value and prospects in the 21st Century

Edited by Stuart Chape, Mark Spalding and Martin Jenkins with a foreword by Achim Steiner and Julia Marton-Lefèvre (University of California Press, 2008)

This book aims to provide the most detailed assessment ever of the worldwide distribution and conservation status of national parks and reserves. It examines the relationship between people and protected areas, investigates threats and opportunities, cites the history of protected areas, provides expert conservation advice and celebrates the success of protected areas around the world.





ACHIM STEINER

UN Under-Secretary-General and Executive Director, UNEP

Mobility is rapidly becoming one of the greatest challenges facing developed and developing countries alike. Vehicles account for 20 per cent of greenhouse gas emissions. There are also rising concerns about their impact on the quality of urban life, including social inequities, and about the effects of their pollution on health and buildings.

Billions of hours are being lost in congestion, with commensurate financial losses for economies businesses and individuals. According to the Texas Transportation Institute, for example, congestion in United States in 2007 cost close to \$90 billion a year, due partly to four billion hours — and 11 billion litres of fuel — lost in travel delays.

We are on the road to nowhere if existing policies and economic models prevail with their over emphasis on private cars and on shifting shipments of goods to the roads. The world's vehicle fleet is projected to triple from less than one billion to 2.6 billion cars and light trucks by 2050. Developing economies will account for some 80 per cent of the increase. Greenhouse gas emissions are conservatively expected to double: especially when it is considered that roughly a third of an average vehicle's life-time emissions are released during its manufacture. And increasing areas of productive land will end up under asphalt.

A new UNEP strategic paper estimates that, if all these projected 2.6 billion vehicles were subcompact cars, their required surface area alone — excluding any roadway or parking spaces

— would cover about 10,500 square kilometres, equivalent to the entire surface of Lebanon. If they were comparable to the average American compact sedan, they would cover the entire surface of Djibouti and weigh more than ten billion tonnes.

Fortunately there is no gridlock in inspiring Green Economy ideas; but we need to embrace and accelerate them with creative public policies, including transformative market signals. Earlier this year, UNEP launched the 50by50 Global Fuel Economy Initiative, in collaboration with the International Energy Agency, the International Transport Forum and the FIA Foundation. This is essentially a road map on how six billion barrels of oil and two gigatonnes of CO₂ — equivalent to half the total current annual emissions of the EU — can be saved each year through an ambitious world wide programme in line with the recommendations of the Intergovernmental Panel on Climate Change.

Among the greatest challenges is demonstrating real and credible alternatives to the simplistic growth of private transport, while bringing some transparency to its economics. Countries and cities worldwide heavily subsidise highway infrastructure, parking, fuel, and other commodities. These subsidies — and the lack of real market pricing on vehicle-related goods — distort decisions in favour of using cars, vans and lorries.

UNEP is demonstrating alternatives in Guatemala City, Guatemala; Concepción City, Chile; Cartagena, Colombia; Dar-es-Salaam, Tanzania; and Jakarta, Indonesia in partnerships with the Network for Environmentally Sustainable Transport in Latin America and the Caribbean and the Institute for Transport Development and Policy, backed by funding from the Global Environment Facility.

The Concepción system, for example, includes plans to build four roadway corridors with 50 kilometres of exclusive bus way and three stations to integrate different modes of transport into the City's bus system. It also envisages a bus management centre, a centralised control system for railway traffic, improving the infrastructure of urban trains, and constructing 21.4 kilometres of bike lanes.

Funding is always a challenge. But a reformed Clean Development Mechanism (CDM), under the UN climate convention arrangements, could be a big boost. One CDM proposal is looking at introducing large numbers of electric scooters and three-wheelers to replace conventional ones in Indian cities. Another envisages modern fleet-control telecommunications systems to streamline bus movements. In Chongqing, China. Mass transit cable cars linking to the metro system are being planned for hilly areas of the city of Medellín, Colombia. And there are more fascinating and imaginative plans in the pipeline.

In just a few short weeks, representatives of more than 190 governments will gather in Copenhagen for the crucial climate convention meeting. If they can get into gear to propel the world to a low-carbon future, societies may also finally embark on a journey to more sustainable transport.

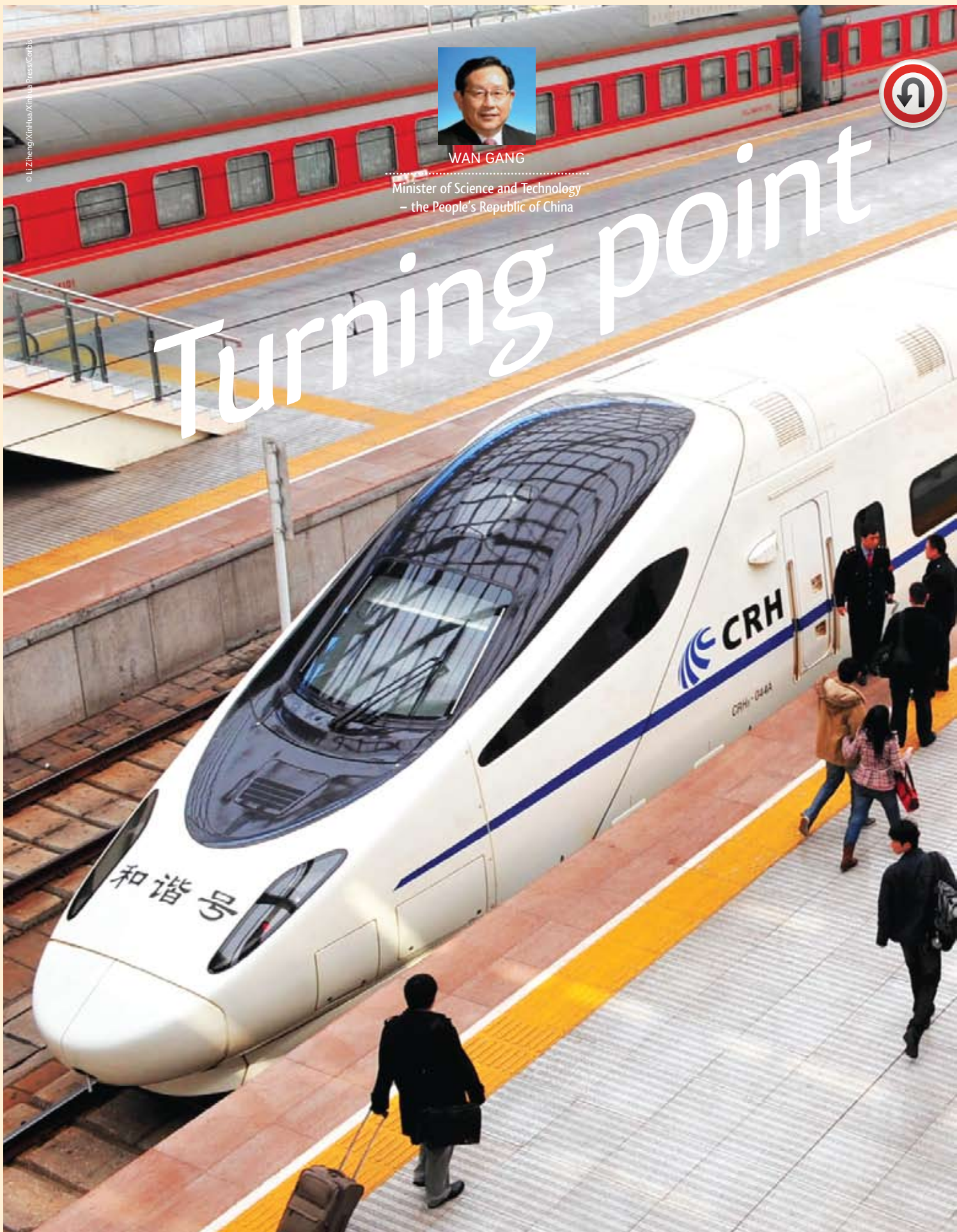


WAN GANG

Minister of Science and Technology
– the People's Republic of China



Turning point





Basic, as it is, to production and human life, energy is also a major factor influencing atmospheric changes — and humanity must develop and use it in a rational way if it is to live in harmony with nature. If we are successfully to tackle global climate change and meet increasing energy demand, we need to develop clean energy, raise energy efficiency, conserve energy and reduce emissions. Our efforts today will not just make an immediate difference, but shape the future of humankind.

Innovating and disseminating energy-efficient technologies is high on the agenda of the Chinese government, as are developing and using clean energy. China has made vigorous efforts to explore and promote new energy, energy-efficient lighting and clean energy vehicles. Since the beginning of the 21st century, it has systematically initiated a series of major new energy research and development (R&D) projects including on electric vehicles (EVs), light-emitting diode (LED) lighting, wind and solar power, the use of clean coal, and high-temperature gas-cooled reactors.

China's automobile industry has boomed since 2001 when cars began to be acquired by households on a large scale. The Ministry of Science and Technology has launched a special R&D project on EVs to ensure energy security, protect the environment, and stimulate innovation in the auto industry. It focuses on three types of new vehicles — hybrid, battery electric and fuel cell — and plans to develop the key technologies of battery, motor and electronic control systems. Since 2004, new energy vehicles have begun being demonstrated commercially in eight Chinese cities. At the 2008 Beijing Olympic Games, 600 EVs

of different types achieved zero-emission transport in Olympic venues, and low emissions in surrounding areas. Zero-emission vehicles driven by electricity and fuel cells will be demonstrated at the 2010 Shanghai World Expo, and the use of hybrid vehicles will be extended in surrounding regions.

The government's Outline of National Medium and Long-term Program on Scientific and Technological Development (2006–2020) — which aims to further innovation in energy — stresses that: developing solar, wind, nuclear and biomass energy for a diversified Chinese energy mix is of great significance; developing clean coal technology and coal bed methane to reduce pollution is vital; and cutting energy use and emissions — mainly through introducing advanced technologies in construction, transport and industry — is important.

As a result of these endeavours, China's new energy industry has accomplished much. By 2008, it ranked fourth in the world for installed wind power capacity, at 12,170 MW. Its share of the global solar cell market exceeded 30 per cent in 2007 with a production capacity of 2,900 MW and output of 1,088 MW. Efforts to develop and apply biomass energy enabled China to use more than 12 billion cubic metres of biogas a year.

The Government has decided that bolstering scientific and technological advances in new energy and developing the new energy industry are part of China's major measures to combat the world financial crisis and restructure industry. So it has launched demonstration projects in energy conservation and commercializing new energy.



*“We are now at
a turning point — moving from the fossil fuel age
towards renewable and clean energy.*

*We are also at
a juncture — evolving from industrial civilization
towards ecological civilization.”*

One — called “1,000+ Green Vehicles in each City” — promotes large-scale commercialization of new energy vehicles in the public transport systems making hybrid, electric and fuel cell buses and taxis available, initially in 13 cities. By 2012, over 60,000 clean buses and taxis are expected to be running in China.

Another project — “10,000+ high efficient Lamps in each City” — aims to introduce LED technology to public lighting systems, beginning with 21 cities. It will equip the country with 6 million functional and decorative LED lamps within three years, reducing energy consumption by more than 60 per cent.

Similarly, the “Golden Sun” project

In an era of globalization, no one country can make socio-economic or S&T progress without extensive international cooperation and exchanges. The fight against global climate change also entails intensified international partnerships. China highly values international collaboration in S&T and, in recent years, has actively taken part in the International Thermonuclear Experimental Reactor Program, Generation IV International Forum, Carbon Sequestration Leadership Forum, International Partnership for the Hydrogen Economy and other

gas, going from solid to liquid to gas, following a law of “decreased carbon and increased hydrogen”. Innovations in power equipment follow a technology roadmap of “higher energy efficiency and lower emissions”. Each technological evolution in energy generates tremendous economic returns, transforms industrial structures, and improves people’s lives

We are now at a turning point — moving from the fossil fuel age towards renewable and clean energy. We are also at a juncture — evolving from industrial

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