



China



UNDP China's **Energy and Environment Programme**

UNDP China's Focus Areas in Energy and Environment

UNDP supports the Chinese government in integrating its environmental commitments with national development goals and macroeconomic policies. In addition to drawing on its own resources, UNDP funds its work through government sources and bilateral donors. We also receive funding from multilateral funds such as the Montreal Protocol and the Global Environment Facility (GEF). We increasingly work with partners from the private sector.

UNDP's experience in tackling complex challenges across many areas of development enables us to help countries address the social and economic dimensions of environmental management and energy use. We do this in the following ways:

- Facilitating access to knowledge, innovative technologies and funds
- Improving coordination among different sectors of society
- Helping create effective policies and strengthen institutions to protect the environment

Sustainable Energy and Climate Change

In China, as in many other developing countries, energy is a key input in economic growth and social development. China aims to quadruple its GDP by 2020, while doubling its energy consumption. To do this, China will have to overcome huge challenges: heavy reliance on coal and the negative environmental consequences of that reliance; an insufficient energy supply; and a low overall level of energy efficiency.

Access to affordable and modern energy services is a prerequisite for reducing poverty, but many people in China's rural areas still rely on wood, dung, and agricultural residues for their heating and cooking needs. The use of such traditional fuels limit China's opportunities for introducing cleaner, more efficient forms of energy in these rural areas. Moreover, indoor pollution produced by burning these fuels harms human health. UNDP focuses on narrowing the gap in energy use between rich and poor, and on ensuring women do not face disproportionate exposure to harmful forms of energy production.

UNDP helps China to develop energy solutions with special attention to reducing poverty. We promote rural energy services that support growth and equity. Clean energy technologies are introduced to reduce greenhouse gases. Improved access to financing is promoted. We support community participation in environmental protection programmes to complement the traditional government-mandated approach. Special attention is given to promotion of renewable energy in remote areas as well as energy efficiency in industrial processes and buildings.

Biodiversity

China accounts for 7.5 per cent of the world's known plant and animal species, and encompasses a vast territory with complex climate conditions, varied geology and topography, a large river network, many lakes, and a long coastline. The large population, high-growth economy, limited resources per capita, and large-scale migration of people all create pressures on biodiversity and ecological processes. Yet, many decision-makers and much of the general public remain unaware of the need and importance of biodiversity conservation. Natural resources are used in unsustainable manner, many endangered species are consumed and their habitats destroyed. The rate of species extinction is faster than the worldwide average.

Development of technical and institutional capacity is at the heart of UNDP's biodiversity programmes. While focusing on protecting biodiversity, we ensure that local communities benefit from conservation efforts. Protected areas, although important for biodiversity conservation are not sufficient alone, so UNDP works to protect biodiversity wherever it occurs, including in production landscapes. UNDP maintains a special focus on creating alternative livelihoods for poor people who are affected by conservation activities.

Globally, UNDP has extensive experience working on biodiversity conservation in various ecosystems. We benefit from expert support from a global network connecting all 136 Country Offices for daily discussions, advice, experience sharing, and best practices. UNDP has supported China in biodiversity conservation since early 1990s when we assisted with the development of the first National Biodiversity Strategy and Action Plan. Today, the UNDP biodiversity programme covers a wide range of projects from marine ecosystems of South China Sea to Yunnan uplands and vulnerable wetlands across China.

Environmental Governance

Rapid economic growth and urbanization without proper consideration on environmental protection have created serious challenges for China's sustainable development. If growth continues to be based on excessive use of natural resources, China will be unable to achieve Xiao Kang and the environmental targets of the Millennium Development Goals.

Despite efforts by the government and civil society, actions to curb air and water pollution have been insufficient. China's challenges require innovative thinking and fresh approaches to environmental protection. Internalizing environmental costs into planning and decision-making are crucial when looking for sustainable solutions.

In addressing the environmental management challenges, we aim at establishing partnerships that involve all stakeholders in environmental planning and implementation - particularly civil society and businesses. We advocate for policies and regulations that respect people's basic rights, taking into account especially the welfare of the poor and the future generations. UNDP pays special attention to using market forces to make efforts in environmental governance efficient and sustainable. Public participation is promoted by capacity building, information sharing and awareness raising. New innovative technologies are demonstrated to test their feasibility and modify them to meet the local needs. UNDP's rich experience in environmental governance enables us to help China apply the lessons learned elsewhere, using our expertise in multi-sectoral partnerships.

Ozone Layer Protection and Reduction of Persistent Organic Pollutants

China is the largest recipient of the assistance provided by Montreal Protocol on Substances that Deplete the Ozone Layer, a landmark international agreement designed to protect stratospheric ozone by reducing the production and consumption of substances that deplete it. Montreal Protocol supported activities in China are designed to phase out all Ozone Depleting Substances (ODS) currently used in many industrial sectors. China's goal is to phase out 90,000 tonnes of ODS by 2010. Nearly 80 percent has already been phased out.

Since 1993, UNDP has supported many small and medium-sized Chinese enterprises in converting production and industrial cleaning processes to ozone-friendly alternatives, and helped build technical and managerial capacity to ensure an efficient and timely phase-out at the national level. As most efforts to support China in achieving its ODS targets in the foam and refrigeration sectors have already been made, UNDP will concentrate its future efforts on achieving phase-out targets in the solvent sector. Working with a range of partners, UNDP has gained substantial knowledge and experience on managing chemicals, technology transfer, and providing technical expertise to help enterprises convert from ozone-depleting substances to more environmentally friendly ones.

Drawing on its broad experience in implementing projects to assist governments to comply with global conventions, UNDP will now shift its focus from ODS towards controlling and reducing production and use of Persistent Organic Pollutants (POPs) – chemical substances that accumulate in the food chain and remain in the environment, where they pose a threat to human health. China has produced and consumed massive quantities of POPs. UNDP will focus on reducing and phasing out pesticidal POPs.

Disaster Management

China's climate and geological conditions make it prone to a wide range of disasters: floods, drought, earthquakes, blizzards, and typhoons. Each year, such disasters affect up to 200 million people and kill thousands. They cause annual economic losses ranging from RMB 100 billion to RMB 300 billion, 3-4% of China's GDP. In particular, human-induced disasters - mine explosions, chemical spills, fires, and building collapses - are an increasing concern for the government and the public.

UNDP plays an important role in disaster relief with respect to communicating and coordinating with the international community. Cooperating closely with specialized UN and other international agencies, UNDP introduces new practices for reducing disaster risks. UNDP has provided technical and advisory assistance to China in disaster management for more than 20 years, and as part of the UN Disaster Management Team, we coordinate international assistance for disaster victims. We provide information on damages, losses, and humanitarian needs to the international community and we help build the capacity of our partners to mitigate disaster risks.

Millennium Development Goals

In September 2000 at the United Nations, the world's leaders reached a historic agreement on the Millennium Declaration, giving voice to shared values and an unequivocal commitment to halving poverty by 2015. Later consultations led to agreement on eight Millennium Development Goals (MDGs), 18 targets and 48 indicators to track progress. UNDP, as the UN's global development network, links and coordinates global and national efforts to reach the Millennium goals.

Millennium Development Goal 7 calls for ensuring environmental sustainability. The three targets under Goal 7 are:

- Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources
- Halve, by 2015, the proportion of people without sustainable access to safe drinking water
- Increase the proportion of rural people with access to improved rural sanitation

China still faces large challenges in achieving MDG 7 – which cuts across various other goals and targets. There are large disparities in economic, social, and environmental conditions between various regions in China. To address these challenges, the Chinese Government has put forward a concept of human-centered and sustainable development. The Government is developing a system to plan and measure the achievement of the Well-Off (“Xiao Kang”) Society by 2020. More attention and efforts are being given to the development and calculation of Green GDP. There is a strong linkage between the MDGs and China's Xiao Kang targets. In this context, UNDP is working with China towards achieving the MDGs and Xiao Kang goals.

Sustainable Energy and Climate Change

The China End-Use Energy Efficiency Project (EUEEP)



China is the world's second largest energy consumer after the United States. To maintain a 7-8 per cent annual growth rate for the next 20 years, China must pay special attention to conserving energy. The EUEEP project is designed to help achieve that goal.

Launched in 2004, EUEEP is part of a 12-year government plan to dramatically improve the efficiency of China's major energy users:

commercial and residential buildings, and heavy industries such as iron, steel, cement, and petrochemicals. EUEEP's attempt to improve energy efficiency also comprises industrial equipment such as electric motors and boilers; household appliances such as refrigerators and washing machines; and office equipment such as photocopiers and computers.

Supported by GEF, this project will develop, implement, and enforce a comprehensive system of policy and regulation for energy conservation, consistent with the objectives of the Energy Conservation Law of 1998. This goal will be achieved through partnerships with government agencies, donors, and enterprises. By establishing a sustainable, market-based focus on energy efficiency, China will realize improved economic productivity, reduced greenhouse gas emissions, and a cleaner environment.

The project activities in various locations in China will include voluntary agreements with enterprises to save energy; creation and revision of design codes and standards for industries; development and updating of standards for buildings; as well as development and use of training materials and guidelines for energy conservation centers, architects, engineers, and industrial managers.

Capacity Building for the Rapid Commercialization of Renewable Energy

This project promotes the widespread adoption of renewable energy technologies (RETs) in China by removing institutional, technical, financial, and policy-related barriers. The project supports China by producing strategies and action plans for rural electrification, wind farm development, large-scale biogas production, co-generation of bagasse, and solar water heaters. The project has also provided significant support to the drafting of the National Promotion Law for Renewable Energy Development and Utilization.



In the past, RET development in China has focused on energy supply. The focus now is on providing financial incentives that allow producers to generate RET-based power at affordable rates, thereby creating more consumer demand and a real market for these technologies. UNDP takes knowledge gained from RET pilot projects and transfers it to more widespread applications, creating a favourable environment for RET development in China and a market for alternative energy technologies.

National Communications and Targeted Research for Climate Change

China signed the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 and ratified it soon after, becoming one of the first countries to join the convention. To fulfill its commitments, China has prepared its Initial National Communications to report on greenhouse gas emissions produced within its borders. The Targeted Research project helps China develop proper methodologies for quantifying these emissions and measuring them accurately to create sector emission inventories.

The Initial National Communications report covers emission inventories in the areas of energy, industrial processes, agriculture, forestry, and municipal waste. The document also outlines steps for implementing the convention. UNDP and GEF are helping China conduct the research on improving methodologies for calculating emission inventories accurately. The document will provide a better understanding of the status of China's greenhouse gas emissions, and will enable decision-makers to implement UNFCCC by incorporating emissions issues into the country's overall strategy for managing climate change.

Biodiversity

Multi-agency and Local Participatory Cooperation in Biodiversity Conservation in Yunnan Uplands

Project Sites: Nanjian and Yunxian Counties, Kunming, Yunnan Province

This four-year UNDP-GEF project aims to conserve globally significant biodiversity in Yunnan's upland ecosystems. For years, villagers who needed to use natural resources for their livelihoods found themselves at odds with government officials charged with protecting environmentally sensitive forests. Today, through the help of UNDP, villagers and the government work together through township and village comanagement councils that give communities a say in how natural resources will be used.



Human pressures on biodiversity have been reduced through educational campaigns, alternative agricultural practices and energy sources, and sustainable harvesting. In addition, a micro-credit scheme has provided sustainable livelihoods and income generation opportunities for villagers. The project uses participatory, bottom-up approaches for environmental protection and poverty reduction at the community level, as opposed to large-scale, top-down programmes such as logging bans or other administrative measures.

Biodiversity Management in the Coastal Areas of South China Sea

Project Sites: Nanji, Sanya, Shankou/Weizhou, Dongshan-Nan' Ao



China's richest coastal and marine biodiversity is found in the tropical and sub-tropical areas along the edge of the South China Sea. But the biodiversity of these areas is being threatened. For the past 10 years, the southeastern coast has experienced unprecedented economic development and population growth, resulting in poor land use planning, pollution, overfishing, and other activities leading to resource extraction. All of this threatens the health of coastal ecosystems - both terrestrial and marine - that support a significant portion of the world's biodiversity. In some localities, threats

to coastal ecosystems have already caused serious damage. Coral reefs continue to be exploited directly for building material, and some species for direct consumption. Nevertheless, with proper interventions, many sites can be sustainably protected.

The project will ensure long-term conservation and sustainable use of marine biodiversity on the South China Sea coast through innovative demonstrations concentrated in five coastal provinces. Conservation capacities of four existing Marine Protected Areas will be strengthened at these sites, helping address key threats to marine biodiversity. For example, the project will demonstrate that instead of taking coral from the reefs and selling it for use in building material, local communities can develop an eco-tourism industry that will serve as an ongoing source of revenue for many years into the future.

Partnership Framework for Conserving and Sustainably Utilizing Biodiversity in China

(Project proposal for 10 year partnership currently in the preparatory phase)

Whereas at the highest level the commitment to biodiversity conservation by the Chinese authorities is clear, there is often a disconnect between national policy and local implementation. Local governments are under pressure to provide income and livelihoods and to meet important short-term production targets set from above, and there is little real incentive for conserving biodiversity. Responsibilities for biodiversity conservation are dispersed across many government agencies, involving actors at all levels. To address these fundamental challenges



and to exploit unique opportunities, UNDP China is now developing together with the Government of China, the EU and other partners a long-term biodiversity partnership framework.

The partnership will be built around a multi-level and multi-phase framework of activities for conserving biodiversity, many of which are new and innovative in China. The partnership will help the government directly address the fundamental issues affecting biodiversity in China and it is to become fully integrated into the national development process. Overall, the proposal will build momentum around the programmes of the many partners, leading to a shift in the national approach to biodiversity conservation and sustainable use, to a fuller integration of biodiversity into development at all levels. It will encourage a progressively large number of biodiversity stakeholders to act within a single, coherent framework.

The framework will focus its activities into a strategic set of four inter-connected themes: (1) strengthening the overall enabling environment for biodiversity conservation; (2) mainstreaming biodiversity conservation into socio-economic sectors and development; (3) protecting biodiversity inside protected areas, and (4) protecting and sustainably utilising biodiversity lying outside of protected areas. The programme is expected to start in 2005.

Environmental Governance

We support good environmental governance by helping our partners to develop sound policies and effective management tools for environmental protection. In close cooperation with the Chinese government, UNDP provides assistance to 23 Chinese cities in the following way:

- Introducing market-based instruments (MBIs) for controlling urban air pollution
- Facilitating dialogue among various stakeholders, including end-users and water companies, toward establishing an urban water quality regulatory system
- Formulating reform policies for efficient municipal solid waste management



Promotion of Clean Energy for Urban Air Pollution Control

Project Cities: Lanzhou, Chongqing, Xian, Tianjin, Taiyuan, Beijing, Yinchuan, Shenyang, Jinan, Qujing, Mudanjiang, Liuzhou, Huhehaote, Urumqi, Tongchuan, Zunyi, Zigong, Gongzhuling

China consumes more coal than any other country in the world. Lacking adequate governance structures and sufficient capacity, many cities fail to balance the local economic development needs with environment protection. With UNDP's assistance, the Ministry of Science and Technology and the State Environment Protection Administration have helped 18 pilot cities across China - most of them located in the western region - to improve the air quality by promoting clean energy technologies through the use of market-based instruments and relevant training.

Teams representing various interests in the cities have developed Clean Energy Action Plans to curb the air pollution challenges. The preparation of these plans is not only focused on air pollution control, but also seeks to harmonize the economic growth with the fulfillment of clean air targets. The project aims to harness the market forces to create incentives for the energy end-users to use of clean energy and related technologies - thereby moving away from the predominant use of administrative orders.



The project brings together the government, the private sector, and community representatives to implement clean energy solutions. Such solutions include expanding the use of natural gas, phasing-out and retrofitting old and small boilers, and installing desulphurizing facilities. Pilot cities also use MBIs to attract investments and new technologies, in some cases allowing investors into previously state-controlled sectors. This in turn lowers overall costs, thereby ensuring sustainability of the efforts to promote clean energy technologies.

Capacity Building for Establishment of the Urban Water Quality Regulatory System in China

Project Cities: Beijing, Shenzhen and Urumqi

With the overall improvement in living standards, more attention is now being paid to the quality of the drinking water. Meanwhile, the old water management systems are not able to ensure safe drinking water to residents. With the assistance from UNDP, three project cities – Beijing, Shenzhen and Urumqi - each with their special water supply features, have prepared Urban Water Quality Regulation and the Action Plans to implement the regulation in line with the national regulation prepared under the project. The documents aim to strengthen the regulatory system by determination roles and responsibility of different stakeholders and to bring the public participation in the process to ensure water quality.

During the process of developing the systems at the city level, the project has recommended two key approaches to environmental governance: 1) To ensure that the public has access to relevant water quality information 24 hours a day; and 2) To allow the public to participate in the formulation and implementation of water quality regulations. By establishing a website on urban water supply, the public now has access to relevant information.

Following the outbreak of SARS in 2003, the project was further revised to include special considerations to safeguard water sources during emergencies and to create mechanism for water supply agencies and the residents to report on possible cases of water contamination.

Ozone Layer Protection



Phase-out of ODS in Foam and Refrigeration Sectors

UNDP has focused its efforts on ODS phase-out in the aerosol, foam, halon, refrigeration and solvent sectors, with particular emphasis on technical assistance and capacity development. UNDP has completed more than 130 projects in these sectors, phasing out consumption of more than 8,600 ODP tonnes of ozone-depleting substances.

Phase-out activities cover conversion to ozone-friendly production at enterprises that produce accessories for automotive use; insulating pipes and panels for oilfields and cold storage facilities; and manufacturing domestic and commercial refrigerators and freezers.

Solvent Sector Phase-out in China

UNDP has taken a lead role in phasing out environmentally harmful industrial solvents in China through conversion activities, technical assistance, training programmes, and public awareness campaigns. The “Solvent Sector Phase-Out Plan” will develop viable alternatives for cleaning processes where solvents are currently used, and to provide companies with new high-quality, low-cost cleaning equipment. UNDP helps companies implement non-ODS technology, and helps the Chinese government develop policies and legislative measures to achieve annual phase-out targets.

UNDP also works closely with the SEPA and the Ministry of Information Industry to strengthen national technical capacity through seminars, training programmes, and knowledge exchange. The phase-out plan also supports national laws, as well as control and monitoring of the production and usage of ozone-depleting solvents. National standards and technical specifications on non-ozone-depleting substitutes will be developed to help companies achieve optimal results in their cleaning processes.



Disaster Management

Following an earthquake with a magnitude of 6.8 degrees on Richter's scale in Xinjiang in February 2003, UNDP provided assistance to build an earthquake monitoring system in the disaster-prone region. The system is designed so that local communities without advanced technical training can use it. Six monitoring stations were set up with instruments that can record the degree of stress released by the earth's crust.

UNDP experts trained local residents to operate these stations and collect data, and produced training materials and held workshops on earthquake preparedness. Although earthquake monitoring usually requires specialized staff and large investment, this project invested a small amount. Monthly operation costs only amount to US \$15 per station. Moreover, the project increased awareness among residents and officials, who now have basic knowledge on earthquake monitoring and preparedness.



UNDP also works through the United Nations Disaster Management Team (UNDMT), the coordination mechanism for the UN agencies, donor countries and NGOs to share information and identify needs, and to coordinate the international assistance in responding to emergencies or disasters. The UNDMT also meets in routine time to discuss strategies in disaster reduction. UNDMT China maintains close cooperation with the relevant ministries and has made its unique contribution in disaster relief and reduction during the past years.

UNDP is the UN's global development network, advocating for change and connecting countries to knowledge, experience and resources to help people build a better life. We are on the ground in 166 countries, working with them on their own solutions to global and national development challenges. As they develop local capacity, they draw on the people of UNDP and our wide range of partners.

