



Environmental Finance Services

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UNDP Environment & Energy Group



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The United Nations Development Programme

On the ground in 166 countries, the United Nations Development Programme (UNDP) is the UN's global development network, connecting countries to knowledge, experience and resources to help people build better lives. Together with its development partners, UNDP helps to coordinate and ensure the most effective use of UN and other international aid resources. Environment and sustainable development is one of UNDP's four key areas of work, together with poverty reduction, improved governance, and crisis prevention and recovery.

The world faces a number of inter-connected crises – from poverty and inequality, to food insecurity and civil unrest, battered financial markets, soaring energy costs and the threat of climate change. If left unchecked, environmental degradation is likely to result in further and more severe social and economic crises in the not-too-distant future.

UNDP disbursements on environment, 2004-2007 by source of funds (in US dollars)

Source of funds	Total	Percent
Global Environment Facility	760,735,562	48.1%
Montreal Protocol (MLF)	103,996,427	6.6%
Regular resources	181,771,066	11.5%
Programme countries	391,859,784	24.7%
Others donors	143,437,790	9.1%
Total	1,581,800,630	100.0%

UNDP believes that if environmental management is treated not as a constraint but as an opportunity, it can become part of the solution. If policies, skills and incentives are developed to encourage investments in environmentally-friendly and climate-friendly businesses such as energy efficiency, renewable energy, sustainable transportation, and

Box1: Highlights of UNDP Results in Environment (2005-2009)

- An estimated 413 million tonnes of CO₂ emissions were avoided as a result of projects being funded by GEF and active in mid-2008. This is almost equal to the total CO₂ emitted in Mexico in 2004.
- 127 new protected areas covering more than 10 million hectares were created in 50 countries through the implementation of 65 biodiversity projects funded by GEF. This is roughly equivalent to 2.5 times the total surface area of Switzerland.
- Over 100 countries and 20 international water bodies are being assisted by UNDP to ensure long-term sustainability including the Danube, Nile and Tumen rivers; the Black, Caspian and East Asian Seas; lakes Tanganyika and Baikal; and the small island developing states of the Pacific and Caribbean.
- 63,000 tonnes of ozone depleting substances (ODS) have been eliminated since 2001 in 100 countries with UNDP assistance under the Montreal Protocol, which also brought climate benefits as most ODS are also powerful greenhouse gases.

greening of commodity supply chains, not only can environmental challenges be addressed but new economic opportunities and millions of new jobs can be created.

In financial terms, UNDP is one of the largest brokers of environmental grants in the developing world, having disbursed US\$ 1.58 billion directly and leveraged over US\$ 3 billion in co-financing from public and private sources to support sustainable development during 2004-2007.

Assessing the Challenge

The demand for environmental resources – from water and food to fiber and fuel – has exploded as a result of increasing consumption and growing populations. Between 1960 and 1999 alone, the world population doubled from 3 billion to 6 billion people. In 2005, the Millennium Ecosystem Assessment concluded that our ecosystems have been altered “more rapidly and extensively” during the past 50 years than at any time in the history of our planet.

Of particular concern is climate change, which has been called “the greatest market failure the world has seen” and one of the most serious development challenges of the 21st century. The Fourth Assessment Report of the Inter-governmental Panel on Climate Change (IPCC) published in 2007 stated unequivocally that climate change is happening and that human activity is the main cause. The IPCC reported that:

- Between 75 and 250 million people in Africa could be exposed to increased water stress by 2020, and in some African countries yields from rain-fed agriculture could decrease by as much as 50%.
- More than 1 billion people in Asia could be adversely affected by glacier melt, loss of snow cover and the reduced availability of freshwater by 2050.
- Crop yields in Central and South Asia could decrease by as much as 30% by 2050; the tropical forests of eastern Amazonia in Latin America

could be replaced by savannah with significant losses to biodiversity; and sea level rise could increase inundation, storm surges and erosion in coastal areas, islands and river deltas in Asia, the Pacific and the Caribbean.

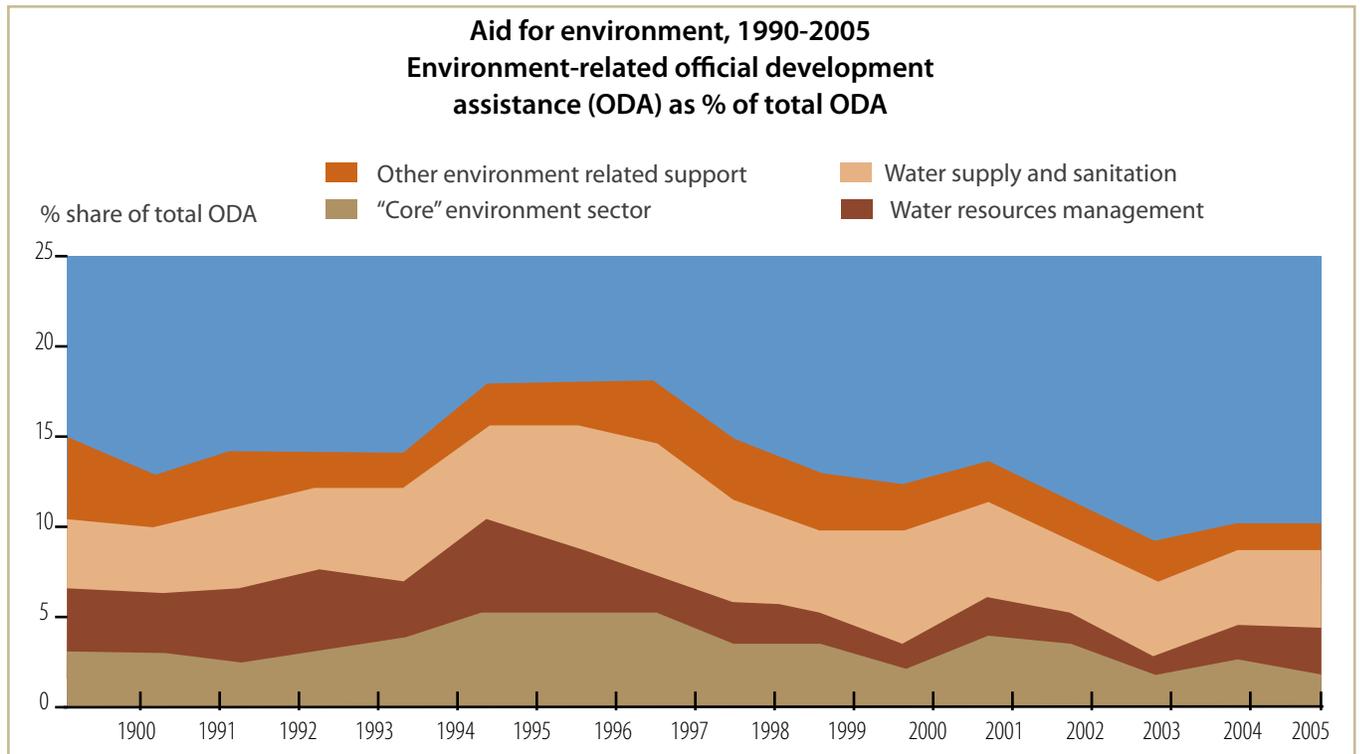
In all of this, it is often the poorest people who face the greatest risks, whether in the drylands of Africa, the river deltas of Asia, the tropical forests of Latin America, or the megacities emerging all over the developing world. These very same people provide the bulk of labor that keep economies running. Therefore environmental considerations must be part and parcel of any proposed solution for economic growth, revitalization and stability.

A Paradigm Shift

Unfortunately, the window for action to deal with these problems is closing quickly. UNDP’s Human Development Report 2007/2008 estimated that stabilizing greenhouse gas concentrations in the atmosphere at a level that would prevent catastrophic climate change will require a 50% reduction in greenhouse gas emissions by 2050 from 1990 levels. This in turn will require radical measures in terms of climate change mitigation and adaptation. In stark contrast, another 10 years of business-as-usual could lock the world into catastrophic and irreversible climate transformations.

The International Energy Agency estimates that between now and 2030, US\$ 550 billion per year is needed for clean energy investments if we are to reduce greenhouse gas emissions by 50% by 2050. Approximately 50% of these funds will be required in developing countries. Furthermore, UNDP estimates that at least US\$ 86 billion will be required annually for adaptation to climate change by 2015.

Unfortunately, development assistance by itself can do very little to close this gap. Official development assistance (ODA), at present, provides only about US\$ 10 billion per year for climate change-related activities, a small percentage of what is required, and this is declining.



Statlink <http://dx.doi.org/10.1787/262477124883>

Facing this massive challenge with limited resources requires a paradigm shift. Traditionally ODA has been used as a source of finance for discrete projects. Today, given the limits to this funding and the huge challenges outlined above, development organizations such as UNDP have to use their limited resources as a catalyst to redirect other financial flows towards sustainable development technologies and practices.

The Opportunity

In 2008, the private sector invested nearly US\$ 150 billion of new money in clean energy technologies. Although there is some concern that the current financial crisis may freeze financing for green energy projects, or that a number of financial incentives for energy efficiency and renewable energy will be phased out by governments trying to trim budget deficits, it is expected that investments in clean energy technologies will have grown to about US\$ 450 billion by 2012 and US\$ 600 billion by 2020. However, these financial flows often remain restricted to developed countries and a small number of rapidly developing countries, barriers still

need to be removed before such financial flows will impact many other developing countries.

For example, the Kyoto Protocol created the Clean Development Mechanism (CDM) to promote both sustainable development and greenhouse gas reductions in developing countries. The CDM is a global cap-and-trade mechanism, which allows developing countries to earn credits for emission reduction projects and sell these to industrialised countries. Despite its potential, only a limited number of countries are benefiting, and CDM benefits have bypassed Africa almost entirely. Only five countries – China, India, Brazil, South Korea, and Mexico – are expected to be generating significant CDM credits by 2010, but they will capture over 80 percent of the market. Existing markets in many countries often fail to attract investments in lower-carbon technologies and sustainable land-use projects. The specific market conditions of developing countries need to be incorporated into the design of new market-based and innovative financial mechanisms. At the same time, developing countries need assistance to put into place an enabling environment (e.g. public policies, institutions, human resources) so that they are in a better position to leverage these new sources of finance.

Classification of Climate Change Mitigation Instruments	International Schemes	National and Sub-National Schemes
Public Funds	ODA (multilateral, bilateral and decentralized cooperation) Multilateral Funds	Green economic stimulus Environmental Fiscal Reforms Export Credits Rebates & Subsidies Tax credits & Tax Free Bonds Low interest loans
Private Funds	Green Equity Finance Private investment funds Foundations Non-Governmental Organizations Global Philanthropic Foundations Corporate Social Responsibility	National Philanthropic Foundations Corporate Social Responsibility (National corporations)
Market based mechanisms	Tradable Renewable Energy Certificates Carbon Cap-and Trade Mechanisms (CDM, JI, voluntary) Tradable Renewable Energy Certificates Green insurance contract	Tradable Renewable Energy Certificates Utility Demand Side Management Green mortgages Tax free climate change bonds Domestic carbon projects
Innovative instruments	Transaction Taxes (Tobin) International CC Finance Initiative Air Travel Levy Global Carbon Tax Debt-for-Efficiency Swaps International Carbon Auction Funds International non-compliance fees Efficiency Penny	Carbon Taxes Energy Taxes Auction of Emission Allowances National Non-compliance fees Green Investment Schemes Efficiency Penny

Recognizing that most of the financing for climate change and ecosystem service conservation in the coming years will have to come from private sources, the international community is currently piloting a number of new market-based instruments and innovative financial mechanisms to attract and drive direct investment towards green technologies and practices. For example, the table above lists a range of these new financing mechanisms for climate change mitigation.

Removing these barriers and creating conditions that allow markets and private investment flows to address pressing environmental problems is a key priority for UNDP. Although its resources are small, UNDP can play a critical role in laying the foundation for effective markets that in turn can leverage new sources of environmental finance from the public and private sectors.

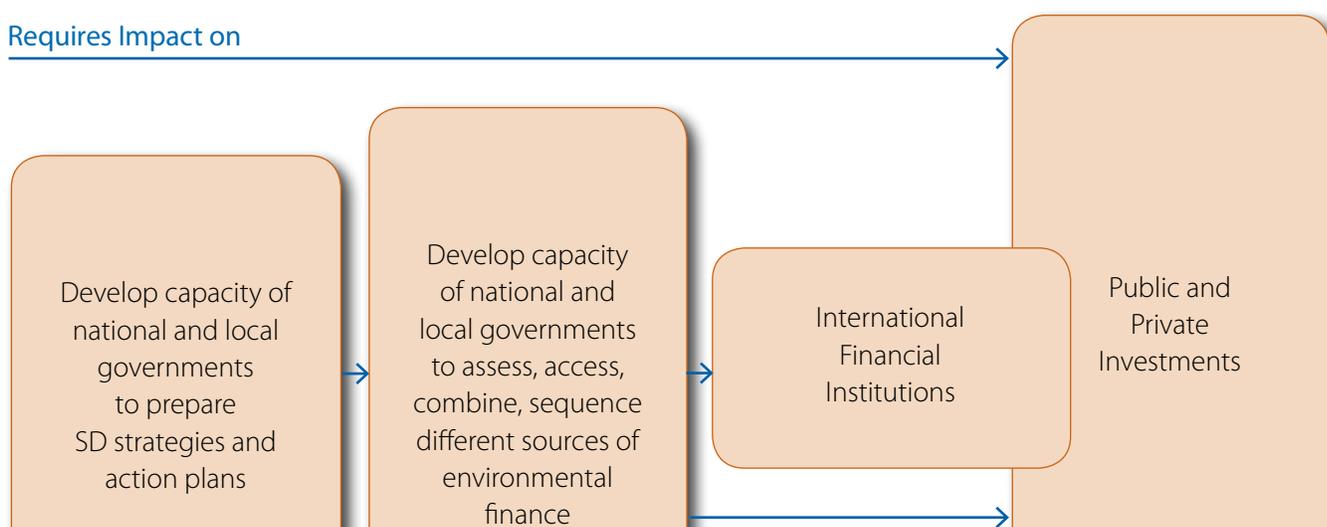
The UNDP Vision – Transforming Economies

To achieve such an economic transformation, UNDP helps national and sub-national governments prepare sustainable development action plans to identify priority measures. It then provides guidance to public authorities on how to choose and design the most appropriate policies and financing schemes to implement these priority measures, in a manner responsive to their unique national and sub-national conditions. Such financing schemes can include ODA, carbon finance, public-private partnerships, corporate social responsibility funds, index insurance schemes, green bonds and the like.

Once the policy measures have been identified, UNDP helps client countries translate these into individual projects that implement these policy changes, strengthen institutions and secure investments. Through a number of environmental finance facilities, UNDP can then help countries to access new sources of environmental finance to implement these projects. Such facilities include the Global Environment Facility (GEF), MDG Carbon Facility, the joint UN programme on reducing emissions from deforestation and land degradation (UN-REDD), and Climate Resilient Territories. As an illustration of the services provided by these environmental facilities, Box 2 summarizes how MDG Carbon operates.

A Big Vision - Transforming Economies

Requires Impact on



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https://www.yunbaogao.cn/report/index?reportId=5_13256

