



## CUBA



### Progress Towards Environmental Sustainability

Forest fires have been a major constraint to the rapid expansion of forest-land in Cuba. Currently, forests cover 24% of Cuba's total land area. Government programmes have been somewhat successful in increasing forestlands and in developing strategies for foresters to prevent and minimize forest fire impacts.

Since the last decade, protected areas have been included in Cuba's national legal framework. Cuba currently has 35 protected areas, with pending approval for an additional 23, which will include national parks, ecological reserves and biodiversity reserves. Moreover, 6 Reserves of the Biosphere 2 are under UNESCO World Heritage Site legislation.

Cuba has been reducing carbon dioxide emissions thanks to national programmes that promote the modernization of industrial engines as well as the efficient use of energy by the population. Educational programmes highlight the important links between environment and economic development in order to develop effective regional strategies.

By 2003, most of the urban population had access to safe drinking water, thereby fulfilling MDG target 10. Despite this positive prospect, however, Cuba continues to face challenges regarding access to water supply and adequate water facilities in rural areas. Some of these problems include old and dysfunctional water pipelines and leakages.

Intensive dry seasons and tropical storms are major constraints to efforts to improve the living conditions of slum dwellers. Allowing foreign investment to fund community projects towards infrastructure are essential to enhancing Cuba's housing conditions.

## QUICK FACTS

### CURRENT PORTFOLIO BUDGET

<b>Total UNDP-GEF and Co-Finance:</b>	\$89,374,710
<b>Total UNDP and Co-Finance:</b>	\$7,768,013
<b>Total MPU and Bilateral:</b>	\$6,563,286
<b>Total:</b>	\$103,706,009

**Cumulative Total ODS Phased-Out:** 231.8 ODP tonnes

The Government has worked to integrate the principles of sustainable development into Cuba's national development programme. Despite this effort, inadequate dissemination of new technologies, bureaucracy, and lack of funding remain major obstacles to achieving environmental sustainability in Cuba.<sup>1</sup>

## SPOTLIGHT

### Energy Efficient Refrigerators Reduce GHGs and Human Health Problems<sup>2</sup>

Cold appliances such as refrigerators and freezers account for at least 2% of the world's emissions of CO<sub>2</sub>, thus significantly contributing to global climate change and poor air quality. Cuban refrigerators are on average relatively energy inefficient, therefore a tremendous opportunity exists to significantly decrease both the energy used and the resulting emissions by introducing more energy-efficient models into the market. In addition, since refrigerators can be used for many years, such an initiative can pay dividends for decades to come.

This was the objective of a UNDP-GEF project in Cuba assisting in the manufacture of energy-efficient refrigerators without the use of ODSs. The project was supported by a grant of US\$ 0.75 million and co-financing of US\$ 6.9 million. Based on UNDP-GEF's successful work in China, as well as other research, the project began in 2000, working with the country's sole refrigerator manufacturer, the *Industria Nacional Productora de Utensilios Domésticos*, to produce a new type of refrigerant compressor that reduces electricity consumption. Designers combined the compressor with more efficient insulation – produced without the use of ODSs – resulting in a refrigerator that uses 470 kilowatt-hours less each year than previous versions – a significant energy saving.

Today, Cuba manufactures refrigerators that are more energy efficient than most appliances marketed in the region or imported into Cuba. Since the project's completion in 2003, an estimated 20,000 new-model refrigerators have been introduced in Cuba, and 430,000 are expected to be produced over the next 15 years. Over that same period, over 1.5 million tonnes of CO<sub>2</sub> emissions will have been saved as a direct result of these investments. As a result, approximately 65,000 tonnes of CO<sub>2</sub> emissions have already been avoided to-date.



Cuba has developed an important programme of activities and projects in energy and environment. The programme promotes the interrelation of processes and stakeholders at the local, national, regional and international levels and is implemented within the overall framework of the MDGs. The key to the success of the UNDP projects and programmes in Cuba is its close interrelation and harmony with the national government policy, establishing that energy and environment issues are one of the pillars of any sustainable development strategy.<sup>3</sup>



**Bruno Moro, Resident Representative**

## PORTFOLIO

### WATER

UNDP is supporting effective water governance in Cuba to increase access to water and sanitation, and improve the environment. Projects include supporting the National Programme of Sanitation, improving water quality and people's environmental and living conditions, demonstrating technology and capacity-building at the local level for managing contamination problems within the Havana Bay watershed, and contributing to the sanitation of the Luyanó river – one of the main sources of pollution in Havana Bay. Funding is provided by GEF and the governments of Belgium, Norway and Italy.

### ENERGY

UNDP's efforts to promote access to sustainable energy and reduce climate change in Cuba are supported by funding from GEF, the Government of Norway, and PGTF. For example, one project is developing an electricity and steam co-generation facility using sugar-cane bagasse and garbage, using waste from local sugar mills. By demonstrating the technology and removing barriers to its large-scale replication, the project will reduce start-up costs for similar future installations. In terms of climate change, UNDP is assisting Cuba to take full advantage of the CDM, by supporting the development of decision-makers' technical capacities.

### LAND

To promote the adoption of sustainable land management practices in Cuba, UNDP is implementing a range of projects with support from GEF, CIDA, UNDP resources and the Government of Italy. For example, UNDP is assisting Cuba's response to drought through the development of vulnerability assessments and adaptation strategies at the local level. The application of this framework will demonstrate how adaptation policy can be integrated into national sustainable development. Two other projects are developing risk management strategies for climate change, while a fourth project is implementing site-specific interventions to demonstrate practices for the prevention of land degradation, conservation, and rehabilitation of ecosystem integrity.

### BIODIVERSITY

To promote the conservation and sustainable use of biodiversity in Cuba, UNDP is implementing projects funded by GEF, FFEM, and UNDP resources (including Capacity 21), for example by protecting the ecosystem of the Sabana Camaguey Archipelago. Three projects are working to establish protected areas, build capacities and consolidate processes to enhance their long-term sustainability, and prepare new projects to promote operational changes in the tourism, fisheries and agriculture sectors. Three further projects are strengthening the operation of protected areas by creating management strategies for the control of threats, designing education programmes, and supporting human development actions to improve the quality of life of communities living in the areas.

### CHEMICALS

UNDP's 10 years of support to Cuba's compliance needs under the Montreal Protocol (MP) have contributed significantly towards the enhancement of the country's institutional ozone-protection programme systems. In particular, institutional strengthening assistance has enabled Cuba to establish and develop effective legislative and regulatory mechanisms under the MP programme. In the aerosol sector, a project to phase-out CFC-12 in the manufacture of insecticides and technical aerosols is being implemented. In addition, and perhaps of most importance to Cuba, where asthma is a major concern, the phase-out of CFC consumption in the manufacture of aerosol metered dose inhalers (MDIs), and conversion to ozone-friendly MDI production is underway with the assistance of UNDP.

### CONTACTS

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### PARTNERS

#### Some of our Partners working with UNDP and the Government in Cuba

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<sup>1</sup>Cuba MDGR 2005 <http://www.undp.org/cu/mdg.html>; <sup>2</sup>UNDP-GEF, 'Meeting the Climate Change Challenge, Sustaining Livelihoods', 2004, available at: [http://www.undp.org/gef/undp-gef\\_publications/publications/climate\\_change\\_brochure2004.pdf](http://www.undp.org/gef/undp-gef_publications/publications/climate_change_brochure2004.pdf) and GEF Online database, available at: <http://www.gefonline.org/projectDetails.cfm?projID=804>; <sup>3</sup><http://www.undp.org/cu/energia.html>