



## WOOD ENERGY AND THE CLEAN DEVELOPMENT MECHANISM

Climate change is becoming an issue of ever-increasing concern to our society. There is widespread agreement amongst scientists that the atmospheric accumulation of greenhouse gases (GHG) deriving from the use of fossil fuels (80 percent), deforestation and unsustainable harvesting (20 percent) is a major contributor to climate change.

However, forests and forest management also contribute to mitigating climate change through the **sequestration** (by afforestation and reforestation) and **substitution** of **carbon** (using sustainably produced wood instead of fossil fuels).

The Kyoto Protocol (KP), adopted in 1997, entered into force on 16 February 2005. It contains legally binding obligations for developed countries<sup>1</sup> to limit their overall emissions of six greenhouse gases by an average of 5.2 percent below 1990 levels between 2008 and 2012 (the first commitment period) with specific targets varying from country to country. The Kyoto Protocol also established three flexible mechanisms to assist the Parties in meeting their national targets cost-effectively. The Clean Development Mechanism (CDM) is one such mechanism. It aims to help industrialized countries meet their obligations while promoting sustainable development in developing countries [see box].

In forestry, afforestation and reforestation, as well as bioenergy projects, offer opportunities under

### What is the CDM?

The Clean Development Mechanism (CDM) is one of the flexibility mechanisms of the Kyoto Protocol that Annex I parties can use to increase the cost-effectiveness of climate change mitigation actions. Specifically, the CDM is designed to:

- lower the cost of reducing greenhouse gas (GHG) emissions, and
- support sustainable development projects in non-Annex I countries.

The CDM promotes coordination between developed (Annex I) and developing countries in achieving the common objective of reducing the accumulation of GHGs.

A fundamental feature of the CDM is that it allows the industrialized countries to invest in low-cost emission reduction activities in developing countries, thus contributing to sustainable development, and to receive credits for the emission reductions resulting from such activities that can be used against their 2008-2012 targets. The main principles are that:

- several abatement opportunities are less expensive in developing countries, and
- the contribution of GHG emissions to climate change is the same irrespective of where such emissions occur.

The benefits for developing countries come from the increased investment flows and from the specific requirements for CDM projects to both offset GHG emission and achieve sustainable development objectives.

Given the pressing development priorities in many poor countries, which tend to outshine global environmental issues, the CDM represents a unique opportunity to include GHG emission reduction initiatives and climate protection principles in the framework of sustainable development.

In pursuing development actions, the CDM recognizes that the ability of all countries to play an active role on climate protection depends primarily on long-term development perspectives involving developed and developing countries alike.

<sup>1</sup> More specifically, Annex 1 Parties ( Australia, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, European Economic Community, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom and United States of America).

the CDM. Forestry projects aiming at wood energy production not only qualify as potential carbon 'sinks' but can also reduce (and displace) fossil fuel use.

It is expected that the CDM and the other flexibility mechanisms will (a) improve the cost-effectiveness of bioenergy projects; (b) encourage the transfer of know-how to developing countries and (c) mobilize investments in developing countries. However, it remains to be seen how these promising new opportunities will play out in markets and in practical terms.

Assessing the modalities and procedures for small-scale CDM project activities opens up questions and uncertainties which need to be clarified. Some of these are concerned with understanding the use of biomass for energy and others with the measurement of main parameters and indicators of environmental, economic and social impacts. As a consequence, no baseline and monitoring methodology for afforestation and reforestation CDM project activities have been approved so far by the CDM Executive Board.

The situation is equally complex for those small-scale CDM projects specifically devoted to energy production. The eligibility rules defined in the Marrakech Accords (ratified at the 7<sup>th</sup> Conference of the Parties in November 2001) state that certified emission reductions (CERs) can be obtained under the small-scale modalities only for projects that substitute fossil fuels or non renewable biomass with renewable fuels, or for afforestation or reforestation.

As a consequence, guidance is not yet available in relation to emission reductions for the use of biomass from non-sustainable sources, such as the biomass derived from land use changes, over-exploitation of forests and other wooded lands (i.e., agroforestry). Moreover, the limitation set by the Marrakech Accords for baseline emissions, which refer mainly to fossil fuels, automatically excludes those project activities in vast developing areas of the world that are using fuelwood as the main source of energy and cannot yet "afford" fossil fuels.

The approaches developed by the Marrakech

Accords for small-scale projects using non-renewable biomass are quite different from FAO's understanding of how woody biomass derived from land use changes, over-exploitation and agroforestry systems is used for energy – an understanding born from many years of fieldwork in Africa, Asia and Latin America and documented in numerous FAO wood energy publications.

Fortunately, there is still time and scope to refine CDM methodology. In fact, recognizing the importance of this matter and subsequent to the suggestions made by FAO, the UNFCCC's Methodology Panel, at its twelfth meeting in September 2004 in Bonn, began considering the issue of biomass use for energy from non-renewable sources as an applicable category in CDM projects. Upon Panel request, the CDM Working Groups are currently assessing the eligibility of such activities under CDM modalities and procedures.

It is hoped, therefore, that such constraints can be removed since this would greatly enhance the eligibility under the CDM of those energy projects in poor rural areas of developing countries, which are the prime targets of the United Nations' Millennium Development Goals and of the Johannesburg Plan of Implementation. In such an auspicious scenario, the CDM (which is meant to attract capital investment primarily from the private sector) could complement, and thus consolidate, development aid in the poorest areas of developing countries.

In conclusion, while the CDM could become an excellent tool supporting both global GHG emission reduction and sustainable development, there are still ambiguities. Clarification of these and the formulation of consistent CDM modalities are imperative and require the support of the agencies that operate in the fields of energy, bioenergy, forestry, agriculture and sustainable development.

FAO, with its long-term experience in wood- and agro-energy, can make a valuable contribution to overcoming the main constraints regarding the eligibility of wood energy projects by the CDM for those countries most in need.