

# the biomass sector

**Commitments to reduce greenhouse gas (GHG) emissions are leading to a carbon-constrained economy.**

**A market is emerging in carbon, providing opportunities for cost-effective management of a business' carbon assets and liabilities.**

**Developing a CDM emissions reduction project using biomass can secure, from carbon finance, sizeable additional revenue streams for the project developer**

## Background

The Kyoto Protocol created flexible mechanisms known as the Clean Development Mechanism (CDM) and Joint Implementation (JI), which allow industrialised (Annex 1) countries to finance emission reduction projects in developing countries (CDM projects) or other Annex 1 countries (JI), in exchange for carbon allowance 'credits' called Certified Emission Reductions (CERs) or Emission Reduction Units (ERUs). These credits can help project participants to meet their GHG reduction targets. For biomass project developers, these credits represent a means of acquiring additional revenue.

## Opportunities in the Biomass Energy Sector

There are currently several opportunities to generate carbon finance from a number of different biomass related project types. The following project types

have tangible potential to sell carbon credits:

- use of biomass to generate electricity;
- use of biomass for cogeneration;
- use of biomass to replace fossil fuel use in boilers; and
- avoidance of the deposition of biomass in landfills.

There are approved procedures for these kinds of project types, which makes the carbon structuring relatively straightforward.

### Benefits of developing a CDM/JI project

- making use of the economic value of a waste stream
- solution for waste disposal
- local sourcing of raw material; use of local resources
- creation of additional revenue for biomass supplier
- avoidance of methane emissions
- reduction of uncontrolled burning of the biomass and therefore reduced smoke pollution locally

The period of political uncertainty over the Kyoto Protocol and its instruments such as the Clean Development Mechanism (CDM)



is over, and early risk-takers in the carbon market have gained large financial rewards from investing in emissions reduction projects. Greenhouse gas mitigation is now mainstream, and makes clear business sense, with the CDM becoming a well established international financing mechanism creating billions of dollars in future carbon revenues, and leveraging billions more in investments in renewable energy and other sectors. The current status of the new carbon market presents excellent funding opportunities for companies to develop new biomass projects.

## Why work with EcoSecurities?

We will:

- Develop all the CDM components of the project
- Buy the CERs through an Emissions Reduction Purchase Agreement (ERPA).

For the project developer, this means:

- Constant and additional revenues from the carbon credits
- Immediate start of CDM project development providing a wider window of opportunity
- Deal only with one partner which speeds up process and produces more revenue
- Low risks from CDM project development to commercialisation of the credits

### Case Study. Felda biomass CDM project, Malaysia

EcoSecurities worked together with the project developer to win carbon revenues for Felda Biomass CDM project in Malaysia. The project will displace the use of diesel for electricity and steam generation in the palm oil production

process with biomass in the form of palm oil husks, or empty fruit bunches. The Felda Biomass project has the capacity to generate emission reductions of 755,000 tCO<sub>2</sub>e over its 10-year crediting period.

### Case Study. Irani renewable energy project, Brazil

Irani is a renewable energy project in the South of Brazil. The project consists of the construction and operation of an 9.43 MW biomass generation plant. Fuelled by wood residues generated by the region's industry. The plant will generate electricity required by paper company Cellulose Irani in the paper manufacturing process. The project activity displaces more carbon-intensive electricity from the grid with electricity generated by a GHG-neutral option. It also involves methane avoidance from biomass as it is not being landfilled. The emission reduction potential is 3,800,00 tCO<sub>2</sub>e. The project has been validated by Det Norske Veritas (DNV).

### Case Study. Nobrecel biomass boiler project, Brazil

Located in the South-East of Brazil, the Nobrecel project

consists of a new biomass boiler construction. The new boiler will reduce the Nobrecel pulp and paper plant oil consumption, generate additional GHG-neutral electricity, and avoid the deposition of wood residues used in the new boiler in landfills. Another component of the project will allow the reduction of oil consumption through a more efficient use of black liquor. Black liquor is a by-product of pulp and paper production that can be used as fuel. The annual emission reductions are around 100,000 tCO<sub>2</sub>e.

### Case Study. A.T. Biopower biomass project, Thailand

The biomass energy project has been undertaken in conjunction with Bank of Tokyo Mitsubishi. A.T. Biopower is a Thai private power producer developing several power plants fuelled by rice husks, a largely untapped renewable energy resource in Thailand. The project has the capacity to generate emission reductions of 4,517,000 tCO<sub>2</sub>e over the 13 year lifetime.

**EcoSecurities is positioned at the forefront of carbon market development, and is a world leader in origination and development of CDM projects and trading of carbon credits. EcoSecurities developed the first project to obtain CDM registration and was one of the first to be issued carbon credits under CDM. They are currently involved in 213 projects, spanning 26 countries using 17 technologies, and have been voted the best CDM/JI Advisory Company by Environmental Finance Magazine survey for the past five years.**