CNI Projects Examples

Brazil Hydro

A run-of-river hydropower plant with 182.3 MW installed capacity, enough to supply a city up to 1 million people, located in the south region of Brazil.

Overview:
Plant construction cost approximately R$ 530 million and was carried out in 40 months (from August, 2006 to December, 2009), creating about 1200 direct and indirect jobs, with special attention to the local workforce.
During the plant construction, 24 social and environmental programs were developed, with investments about R$ 35 million.
Only 57 families had to be resettled, including 10 non-proprietary families. All the affected families received letters of credence in order to acquire new properties in the same region.

Environmental Responsibility:
Contribution of the plant to Regional Development, which evidenced social and environmental actions aiming at mitigating and reducing impacts as well as compensation measures, such as: improvement and addition of schools and free health centers; donation of books; lectures; environmental education activities at schools; preservation of Historical Patrimony and preservation of the memories through video production; improvement of churches; construction of bridges; land acquisition for the construction of an Events Center and the knowledge Industry; creation of an interpretative track; improvement of the sports center; acquisition of the child care center; street paving; TV signal; construction of a new garage and acquisition of vehicles; acquisition of land for the construction of the Academy for Senior Citizens; restoration of the historical bridge; support to ecotourism: rafting and the return of the historic stream, the steam train.

China Biomass

The project replaces fossil fuel use by utilizing local surplus biomass residue to generate sustainable electricity for North-East China.

Overview:
In China's northernmost province, forestry and agriculture traditionally form the most important economic piles. With the economic development, modern industries evolve and demand for electricity rises. In this situation, the project has been implemented to fuel the province's economy with clean energy and at the same time benefit regional farmers.

Crop residues from maize, wheat and other agriculture are collected at four straw collection sites within a radius of 100 km from the plant, providing additional income for hundreds of farmers and their families. Before the implementation of the project activity, the valuable biomass (mostly maize stalks and husks) was considered as waste and burned it in an unregulated manner. Now, 269,000 tonnes of biomass are collected by the project activity annually and transformed into carbon neutral energy for the wider region. Ash is given back to the farmers as fertilizer free of charge.

Technically, the project has a capacity of 30 MW and consists of two state-of-the-art straw-fired boilers manufactured by a Western technology provider, and two turbines and two generators produced domestically. The project transfers advanced biomass technology to a developing region. It is estimated that, at full capacity, the project will deliver a total 200 GWh of electricity to the Northeast China Grid, which makes for an enormous emission reduction opportunity. The implementation of a second power production line is already under planning, presenting a promising outlook to truly sustainable development.

Socio-economic impact:
• The project generated jobs for locals, namely 180 staff on site, another 620 in biomass collection and at process stations, and many biomass transport drivers.
• Farmers receive additional income for supplying the biomass that before was considered waste.
• The project owner improved the local infrastructure (e.g. by building a new road near the power plant).
• As a good corporate citizen, the company supports the poor and those in need in the area. Financial aid was given to earthquake victims in several regions.
• Local farmers are supplied with free, green fertilizer in the form of straw ash.
• The project activity lead to the significant reduction of open-field biomass burning that caused accidents, air pollution and respiratory diseases.

Environmental impact:
• Better air quality due to less open fires from burning the biomass on the fields.
• Biomass waste streams from the plant are being recycled and reused.

Waste Heat Recovery, China

The project activity involves the installation of waste heat recovery (WHR) systems to generate electricity for the four clinker production lines of Zhejiang Leomax Group (hereafter referred to the 'project entity').

Overview
The project activity is located in three sites: Tonglu WHR captive power station lies in Yinfangwu, Tonglu County, Hangzhou City, Zhejiang Province, and the coordinates of the project location are 119°30' east longitude, 29°50' north latitude. Jiande WHR captive power station lies in Huang'ao Village, Jiande City, Zhejiang Province, and the coordinates of the project location are 119°27' east longitude, 29°43' north latitude.

Socio-economic impact:
• Many locals found permanent jobs in operation and maintenance of the waste heat recovery facility.
• The project owner regularly donates to the region, thus improving the quality of life.
Environmental impact:
• The project will significantly reduce sulphur oxide and nitrogen oxide emissions, mitigating air pollution and its adverse impacts on human health.
• The project will contribute to promoting advanced clean technologies in in China's cement industry, such project having a huge replication potential in industrial facilities throughout the country.

Indian Hydro Plant

The objective of the project activity is to construct, operate, maintain and aggregate wind power projects in the Indian state of Maharashtra to provide renewable power to the State Electricity Utility MSEDCL. The purpose of the project is to harness renewable energy in the state and country, and thereby displacing non-renewable natural resources and leading to sustainable economic and environmental development.

The project activity is a Wind energy based power generation project of capacity 8.70 MW consists of 8 Wind Turbine Generators (WTGs, also called as Wind Energy Generators (WEGs)) that includes 7.5 MW (1250 kW X 6 machines) and 1.2 MW (600kW X 2 machines). The WEGs are part of Suzlon wind farms in Sangli and Nandurbar districts of Maharashtra. The electricity generated is fed to the Maharashtra State Electricity Distribution Company Limited grid.

Social and Environmental Benefits
In the absence of the project activity, equivalent amount of electricity would have been generated by the operation of existing/proposed grid connected fossil fuel based power plants. The project activity will thus reduce the anthropogenic emissions of greenhouse gasses (GHGs) in to the atmospheric associated with the equivalent amount of electricity generation from the fossil fuel dominated grid connected power plant.

There has been an initiative to create of jobs in the local community, during the construction and operation phases. The project also supports the local community via procurement services, whilst developing the local infrastructure.

Reforestation, Peru

Overview
A conservation project under the Reducing Emissions from Deforestation and Forest Degradation (REDD) scheme is applied to a heavily endangered region in the upper Amazonas to protect it from illegal logging and poaching. Latest data already show the project's success in saving the remote forest's rich biodiversity.

Socio-economic impact:
• Numerous jobs for locals in the buffer belt have been created, enabling them to earn a living free of illegal activities. All workers receive training and personal protection equipment (to protect them from snakes, etc.).
• According to FSC principles, workers have access to labour rights, and receive training on industrial security, first aid, hygiene and health.

• Permanent workers are registered in Social Security National System.
• The communities in the buffer zone and their schools receive environmental education to children, teenagers and the general public.
• Induction programs on principles of inter-culturalism and respect to local populations are given to all employees.
• The project is engaged in developing sustainable development and income opportunities for locals, e.g. by providing education and knowledge in their "Environmentally Friendly Productive Projects" which aim to contribute to the sustainable development of rural producers living in the project zone. Locals and immigrant people are educated in order to promote environmentally friendly productive projects that do not involve deforestation.
• In all project activities, women are particularly encouraged.

Environmental impact:
• Active protection of this biodiversity hotspot saves numerous endangered plants and animals from further decline and extinction.
• According to the validated "without project scenario", the project saves 120,000 ha of rainforest from total deforestation in the next ten years alone.
• In order to protect the river banks in the buffer zone, all the water courses within the concession area are localized during the forest census and marked in a map. A buffer area along both sides of the river is defined as a protected area and clearly signalized in the map used as a guide for any forest management activities.

• All hunting activities are strictly forbidden within both concessions, which help to the good current status of wildlife, stating in its rulebooks even the prohibition of egg collecting, animal harassment and hunting of live specimens for pets.
• The project is supported by NGOs such as WWF, CESVI, ProNaturaleza, and Aider.

Cook-stove Project, Ghana

Overview

This small scale Gold Standard project will involve the free distribution of wood-burning improved cook stoves to households in Ga East West Akim and Akuapin South Districts in Ghana, close to the capital Accra.

Socio-Environmental Impacts

In Ghana, the main source of fuel for cooking is firewood and 90% is directly obtained from the natural forest. Subsequently, deforestation rates in Ghana are amongst the highest in Africa; approximately 1.8% per year. The impact of deforestation is widespread, affecting the livelihoods of local people, disrupting important environmental functions and severely destroying the original forest ecosystem.

We will be attempting to address some of these issues by distributing improved cook stoves in three districts in the south of Ghana. Each efficient wood stove distributed will reduce greenhouse gas emissions by approximately 3 tonnes of CO_2 per household per year, over a 7 year lifetime.

The use of traditional stoves with its associated problems of indoor air pollution and fire hazards also affects the health of the rural population. The new improved cook stoves address as the halving the amount of wood required for cooking reduces smoke and harmful emissions by 80% when compared to traditional methods.