



World Business Council for
Sustainable Development

Measuring Impact Framework Case Study

2009

EcoSecurities

Measuring the development benefits of emissions reduction

The business case

Mitigating climate change in the developing world requires more than just reducing carbon emissions. It requires a commitment to economic growth, poverty reduction and ultimately, sustainable development. With many companies investing in climate mitigation projects in the developing world through the Clean Development Mechanism (CDM), there is growing interest in understanding the socio-economic impact of these projects and their alignment with local and national development priorities. As one of the leading carbon developers, EcoSecurities set out to measure and understand how one of the CDM projects in their pipeline is contributing to sustainable development in local communities.

Situation

Company context

EcoSecurities specializes in sourcing, developing and commercializing carbon credits under the Kyoto Protocol and through voluntary markets internationally. With a network of more than 250 employees worldwide, EcoSecurities has amassed a portfolio of 378 emissions reduction projects (post due diligence) capable of producing more than 101 million Clean Development Mechanism (CDM) credits to 2012.

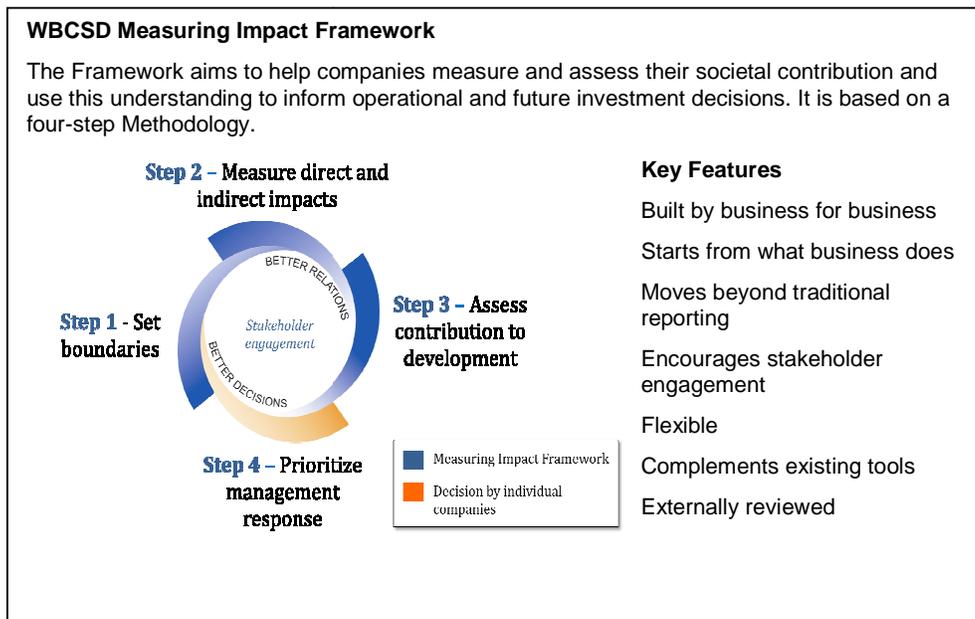
The CDM is an arrangement under the Kyoto Protocol allowing industrialized countries with a greenhouse gas (GHG) reduction commitment (called Annex 1 countries) to invest in projects that reduce emissions in developing countries as an alternative to more expensive emissions reductions in their own countries.

In developing countries, EcoSecurities works with companies to create carbon credits from projects that reduce GHG emissions. In industrialized countries, the company assists organizations in either meeting their compliance targets or fulfilling their voluntary emission reduction objectives.

In order to remain a pioneer in the field of climate change, EcoSecurities strives to continuously innovate in the space by finding new ways to enhance the value of projects in its portfolio. This is particularly relevant for the voluntary carbon markets, where buyers tend to be more interested in the complete picture of impacts on sustainability, including socio-economic impacts.

To better understand how to measure socio-economic impacts, EcoSecurities applied the WBCSD Measuring Impact Framework to one of their projects. The Measuring Impact Framework is designed to help companies understand their contribution to society and use this understanding to inform their operational and long-term investment decisions,

and have better-informed conversations with stakeholders. As part of the Framework's road-testing process, EcoSecurities applied it to a landfill-gas-to-flare project.¹



The project

The landfill gas collection and utilization project has the capacity to process an average of over 2,000 tonnes of waste. Before EcoSecurities' involvement, there was no system in place to actively capture or flare the gas generated by the landfill, so it was being vented into the atmosphere. Through the CDM, the company, in cooperation with a successful UK technology provider, invested in a highly efficient gas collection system and flaring equipment. The plant also has the potential to generate electricity through a modular electricity generation plant. The generators could combust the methane in the landfill gas to produce electricity for export to the grid, while excess landfill gas would be flared during periods when electricity is not produced.

Development context

Some 2 million people live in the area of this project. The Measuring Impact Framework assessment area consists of the municipality, the communities surrounding the landfill and, more specifically, the settlement of 80 households adjacent to the landfill. There are a number of development issues in the area, particularly around the lack of land ownership. Many community members work in the nearby industrial area where multinational companies such as Coca-Cola, Bayer and others are located. However, unemployment is high and many people who have not found local employment commute to the capital. The many low-income families in the area find work in construction or other low-paying jobs or make a living by separating recyclable waste at the landfill.

¹ This project was carried out as part of the WBCSD Future Leaders Team (FLT) program. Sonia Medina represented EcoSecurities on the FLT program and led the project within the company. See www.wbcds.org/web/flt.htm for more information about the Future Leaders Team.



Objectives

Three objectives were identified for the assessment of the CDM project:

- Identify key indicators that could be added to a CDM Monitoring Protocol from the Measuring Impact Framework that would enhance the visibility of a project's social impacts
- Create an analytical framework for identifying appropriate indicators for climate mitigation projects
- Evaluate the feasibility and value of EcoSecurities implementing the Measuring Impact Framework across the portfolio, or certain project types or geographies in the portfolio.

Process

The timeline for the assessment was as follows:

- April-May 2009: Secure internal buy-in, study Impact Framework and prepare for site visit
- 1-5 June 2009: Visit the office, project site and conduct interviews with stakeholders
- 5-30 June 2009: Consolidate findings into case study and presentation
- 6-10 July: Present results at the WBCSD Future Leaders Team gathering in India.

The assessment team included two EcoSecurities employees. They engaged a number of stakeholders to evaluate the direct and indirect social impacts of the project, including members of the community and the manager of the landfill site, who is in charge of the recovery, sanitation and operation of the site. Questions addressed by the manager of the landfill site included those on the legal processes for the municipality, those regarding the process of concessions and how the municipality was incorporating social considerations into their decision-making processes regarding the landfill (e.g., what was the municipality's position on hiring people from the community). The team also asked members of the community about their impressions of the management of the landfill, job opportunities in the area and management of the landfill during fire and health problems due to the proximity to the landfill.

Activities

This project represents a well-managed landfill operation that provides a number of benefits, as outlined in the CDM project approval stage:

- Properly collecting and destroying flammable landfill gas reduces the risks associated with explosions in and around the landfill. This is particularly important as the gas collection system will minimize the potential for gas migration, which can infiltrate zones outside of the landfill's boundaries and pose dangers to the surrounding population and structures.
- The destruction of the landfill gas improves the local environment by reducing the amount of noxious air pollution arising from the landfill, resulting in a considerable reduction of odors and health risks associated with these emissions, especially for the population located near the landfill.
- The project provides a model for managing landfill gas, a key element in improving landfill management practices throughout the host country.
- The project acts as a clean technology demonstration project, encouraging less dependency on grid-supplied electricity, and represents technology transfer from the UK to the host country.
- The project provides for both short- and long-term employment opportunities for local people. Local contractors and laborers were required for construction, and long-term staff are used to operate and maintain the system.

The project also helps the host country fulfill its goals of promoting sustainable development by increasing employment opportunities in the area, diversifying the sources



of electricity generation and optimizing the use of natural resources, while addressing health issues surrounding landfills.

To assess whether the project provided the intended benefits of well-managed landfill operations as well as to measure additional socio-economic impacts of the project, EcoSecurities started by identifying seven business activities or areas of impact (see the Measuring Impact Framework for eight suggested business activities): jobs, infrastructure, skills and training, procurement, corporate governance, environmental management and carbon credits.

The table below shows the key business activities selected as well as the breakdown of each activity into sources of impact or key aspects of the activity.

Business activity	Source of Impact
Jobs	Created within the company Working conditions
Infrastructure	Creation of infrastructure (sanitation, roads, recycling plant) Usage of existing infrastructure Maintenance of existing infrastructure (landfills, wells, flare, engine)
Skills & training	On and off the job training
Procurement	Technology cooperation and support
Corporate governance	Public policy and compliance Transparency and disclosure Code of conduct and corruption control Labor standards and rights of workers Engagement with the local community
Environmental management	Land use Hazardous material production Energy resource use Waste Greenhouse gas emissions
Carbon credits	Creation of carbon credits Use and sale of carbon credits Marketing of carbon credits

Impacts

The landfill project has direct and indirect impacts on both the municipality and the communities in close proximity to the landfill. Thirty-one indicators were identified for this project (see appendix).

Employment: The landfill currently employs 32 people in the recycling facility and 18 more at the landfill site. However, none of the current jobs are sourced from the local area or the adjacent community. There is clear interest by the municipality in changing their hiring policies to recruit people from the area.

Public health: When landfills are not well managed they can cause leachates, odors and general unsanitary conditions that can lead to severe health problems. The assessment revealed that the landfill was mismanaged for some time prior to the installation of proper equipment, which led to health problems in the community, including diarrhea, vomiting and skin problems. Many members of the community complained of health problems.

Behavior changes: One of the indirect impacts of the recycling site linked to the landfill involves a change in awareness and behavior around waste management in the community. A recycling program has been devised by the municipality and is scheduled to be progressively introduced in the local area whereby people will be asked to separate organic and inorganic waste. An indicator that will measure the effectiveness of this

recycling program can also tell more about increased awareness of environmental issues across the community.

Enterprise development: Another indirect impact in the future may be the creation of small- to medium-sized enterprises in the nearby area to support the recycling activities of the landfill site. At the moment, the site handles 200 tonnes per day of waste, with a capacity to increase to 2,000 tonnes per day. The recycling facility has the capacity to recycle tires, paper, plastic, tetra packs, PVC, glass and aluminum. A business support system could easily originate in the area to facilitate the commercialization of these recycled materials. This would also have an impact on employment in the area.

Carbon financing: This has both direct and indirect impacts on the area. It not only generates demand for higher skilled jobs in carbon management, but the revenue received by the municipality from the sale of carbon credits can then be dedicated to financing more equipment or social programs. More indirectly, carbon financing raises awareness in the community on climate change and mitigation/adaptation opportunities. Even more tangible is the potential replication effect of other carbon



Recycling facility

projects in the region. In the host country, there is no requirement to install a landfill-gas-to-flare or energy project, and therefore, projects will only go forward if there is a carbon finance incentive and/or major social pressure.

Management response, lessons learned and looking ahead

The assessment proved to be an eye-opener on the potential of the CDM to incentivize and inform better decisions, which could lead to impacts beyond the intended environmental benefits to include long-term social and economic development. It is clear that the CDM could be enhanced to capture a fuller picture of projects and their impacts on society. On the basis of this assessment, the Measuring Impact Framework is very useful for CDM and other carbon voluntary projects because of its robustness and ability to be adapted to multiple circumstances.

For the Measuring Impact Framework to be a feasible social standard that can be “overlaid” onto or added to the CDM or other carbon standards, several aspects need to be discussed and resolved:

- **Pass/fail or continuum** - In order for the Measuring Impact Framework to be valuable for carbon projects, a pass/fail result or a continuum (A, B, C, D scores) would need to be added. The former would tie in well with compliance-grade offsets. The latter will fit better with voluntary-type buyers. Based on the lessons learned from the assessment, the Framework seems to be better able to provide management information to engage on a continuous path of improvement, represented by moving up scores. In disastrous cases, it can represent a pass/fail situation, so perhaps there is a hybrid method available as well.
- **Timing** - Clearer guidelines on the timing for an assessment in the context of carbon projects is necessary. Given that the Framework is itself a management tool, it should be implemented at the outset of the project so as to properly identify needs and areas under the company’s control. If it is incorporated in the beginning, it will also help identify indicators for the monitoring plan of the project. The variables can be



measured on a bi-annual or annual basis since social changes need longer timeframes to materialize.

- A clear understanding of cost implications is also required. From the experience of this assessment, it appears that the Measuring Impact Framework does not increase carbon transaction costs significantly. A site visit and stakeholder engagement at the outset will be required to identify the indicators; then, actual monitoring can be done by the company on a bi-annual or annual basis, and confirmed during annual verification site visits.

Further Information

EcoSecurities – www.ecosecurities.com

Appendix 1

Full list of indicators identified using the Measuring Impact Framework for the project example

INFRASTRUCTURE

Creation of infrastructure

Direct: Size, cost and duration of investment in infrastructure (GRI EC8: Economic indicator) - Differentiate between landfill sanitation and operation, roads, recycling plant and biogas extraction and utilization equipment

Usage of existing infrastructure

Direct: TPD processed; tipping fee (private/public); quantity and frequency of trucks (public vs. private) that go to the landfill per month

Indirect: Change in stakeholder behavior/access (e.g., change in time needed to get to market) -- # colonies doing recycling

Maintenance of existing infrastructure

Direct: Frequency and amount of investment in maintaining existing infrastructure including landfill, wells, flare, engine (e.g., # of times per year, \$ per unit)

Indirect: Growth of infrastructure services enterprises (# and type; # of micro-enterprises) – Given that there is a recycling unit coming up, there may be companies that appear to handle the sale of recuperated materials (tetrapack, paper, plastics, glass, tires, etc.)

JOBS

Jobs within company

Direct: Jobs created, measuring specifically # of full time equivalent jobs created by the company; % of skilled workers; % of women; % of residents of assessment area/national residents/recruited abroad.

Working conditions

Direct: Occupational health and safety training provided (# of people, \$, types of training); prevalence of occupational illnesses (e.g., work days lost).



SKILLS AND TRAINING

On and off the job training

Direct: Training offered (e.g., type of training; # of training days per employee; # of trainings to suppliers) – differentiate type of jobs, number of people per job type and training related to job types

PROCUREMENT

Technology cooperation and support

Direct: Investment in technology (e.g., \$ invested in technology, support and provision of physical assets) – number of flares, number of engines, origin (local technology or foreign)

CORPORATE GOVERNANCE

Public policy and compliance

Direct: Monetary fines and sanctions due to non-compliance (GRI SO8: Compliance)

Indirect: Changes to regulatory frameworks (e.g., # of new laws introduced pertaining to higher standards; changes in fines for non-compliance to business in area) – Changes in transparency laws, changes in organic municipal laws to include clauses to protect this type of projects without having to go to the Congress

Transparency and disclosure

Direct: External reporting – financial and non-financial (e.g., # of reports; qualitative information) – Level of openness of the municipality and private companies with concessions regarding their activities, money spent, etc.

Indirect: Number of positive and negative articles in the press regarding the use and maintenance of the project

Code of conduct and corruption control

Direct: Anti-corruption policy and zero tolerance for corruption practices (Y/N); actions taken in response to corruption (GRI SO4: Corruption)

Indirect: Country corruption perceptions index rating (Transparency International)

Labor standards and right of workers

Direct: Protection of workers' rights (e.g., compliance with four core labor standards: Abolition of child labor, freedom of association, elimination of discrimination and forced and compulsory labor)

Engagement with local community

Direct: Availability of communication channels and complaint mechanisms(Y/N)

Indirect: Community perception, acceptance and trust of company (e.g., # of protests, intentional damage and/or demonstrations on/near property, complaints)

ENVIRONMENTAL MANAGEMENT

Land use

Direct: Number of hectares used for landfill and related infrastructure

Hazardous material production

Indirect: # and severity of incidents of toxic exposure related illness among workers and surrounding community, including changes in water quality that affect the community

Energy resource use

Direct: MWh and % of electricity produced and consumed on-site



Waste

Direct: Waste Recycled (ton, ton/ton product); Waste Landfilled (ton, ton/ton product)*

Indirect: Rate of depletion of available landfill space

Greenhouse gas emissions

Direct: Number of emission reductions (tCO₂e/year); # days flare is working

Indirect: Changes in local air quality (smells) – Number of days per month with smell problems

CARBON CREDITS (ASSETS)

Creation of carbon credits

Direct: Estimated viability of a project as CDM (estimated tCO₂/year as PDD); % performance (PDD number/issued); # direct employments to create carbon credits

Use and Sale of carbon credits

Direct: Transaction costs borne by the municipality (\$ invested); revenues from the sale of carbon credits (issued tons purchase price – relevant transaction costs)

Marketing of carbon credits

Direct: Number of articles in the press talking about the carbon credit component of the project

Indirect: Brand perception of the municipality by the community and wider public

About the WBCSD

The World Business Council for Sustainable Development (WBCSD) brings together some 200 international companies in a shared commitment to sustainable development through economic growth, ecological balance and social progress. Our members are drawn from more than 36 countries and 22 major industrial sectors. We also benefit from a global network of around 60 national and regional business councils and partner organizations.

Our **mission** is to provide business leadership as a catalyst for change toward sustainable development, and to support the business license to operate, innovate and grow in a world increasingly shaped by sustainable development issues.

4, chemin de Conches
CH – 1231 Conches-Geneva
Switzerland

Tel: +41 (22) 839 31 00
Fax: +41 (22) 839 31 31

E-mail: carpenter@wbcSD.org
Web: www.wbcSD.org