CERTIFICATION AND FINANCING PROPOSAL

LOREAN LANDFILL GAS-TO-ENERGY PROJECT IN SALTILLO, COAHUILA

Revised: May 5, 2013

CERTIFICATION AND FINANCING PROPOSAL

LOREAN LANDFILL GAS-TO-ENERGY PROJECT IN SALTILLO, COAHUILA

INDEX

EXECUTIVE SUMMARY

LOREAN LANDFILL GAS-TO-ENERGY PROJECT IN SALTILLO, COAHUILA

Project:	The project consists of the design, construction and operation of a biogas facility to capture and use methane gas to generate up to 2.0 MW of energy, located at the landfill that serves Saltillo, Coahuila (the "Project"). The plant will supply electricity to the Municipality of Saltillo to be used for public lighting and for its general electricity consumption under a self-supply permit.
Project Objective:	The Project will increase the installed capacity for power generation based on renewable energy resources, reducing the demand on traditional fossil fuel-based energy production and contributing to the displacement of greenhouse gas emissions and other pollutants produced by fossil fuel-based processes.
Expected Project Outcomes:	The environmental and human health outcomes anticipated for the Project include a total of 2.0 MW of new renewable energy generation capacity, with a phased installation of 1.0 MW at startup.[1] The full Project is expected to displace an estimated 45,015 metric tons/year of carbon dioxide equivalent (CO_2e).[2]
Project Cost:	$76.0 million pesos (US$6.15 million) for the 2.0 MW.[3]
Population Benefitted:	725,123 residents of Saltillo, Coahuila.
Sponsor:	Lorean Energy Group, S.A.P.I. de C.V.
Borrower:	Lorean Energy Group, S.A.P.I. de C.V.
Loan Amount:	Up to $38.0 million pesos (US$3.07 million) for the 2.0 MW.

[1] Once the initial 1.0 MW facility becomes operational, NADB will validate, on its own behalf or through a third party, the gas production at the facility in order to confirm NADB loan financing for the installation of an additional 1.0-MW component.
[2] The carbon dioxide equivalent for a gas is derived by multiplying the tons of a certain greenhouse gas, such as methane, by the associated global warming potential. Should the Project conclude with the initial 1.0-MW facility, the target emission reduction is estimated to be about one half of the reduction calculated for the full Project.
[3] Unless otherwise noted, all U.S. dollars figures are quoted at an exchange rate of $12.36 pesos per dollar as of April 1, 2013, according to Bloomberg.com.

Uses & Sources:
(US$ millions)

Uses	Amount	%
Construction*	$ 69.7	91.7
Other Costs**	6.3	8.3
TOTAL	**$ 76.0**	**100.0**
Sources	**Amount**	**%**
NADB Loan	$ 38.0	50.0
Equity	38.0	50.0
TOTAL	**$ 76.0**	**100.0**

* Construction includes development, construction, project management, equipment acquisition and installation, training, and contingencies.

** Other costs include financial costs such as fees, interest capitalization, and debt service reserve, among others.

CERTIFICATION AND FINANCING PROPOSAL

LOREAN LANDFILL GAS-TO-ENERGY PROJECT IN SALTILLO, COAHUILA

1. ELIGIBILITY

Project Type

The Project falls within the category of clean and efficient energy.

Project Location

The Project is located in the municipality of Saltillo, Coahuila, within the southeast region of Coahuila, about 224 kilometers south of the U.S.-Mexico border.

Project Sponsor and Legal Authority

The private-sector project sponsor is Lorean Energy Group, S.A.P.I. de C.V. ("Lorean" or the "Project Sponsor"), a Mexican special-purpose company (SPC) owned by Colibrí Capital, S.A.P.I. de C.V., Eco Energías Renovables, S.A. de C.V., Guascor de México, S.A. de C.V., Desarrollo de Proyectos de Energías Renovables, S.A. de C.V., and Desarrollo Ecoambiental de México, S.A. de C.V. On July 5, 2011, the partnership created Lorean as a special-purpose company to implement the Project. The Municipality of Saltillo (the "Municipality") joined Lorean's shareholding structure on September 20, 2011. Lorean's legal representative is Israel Alvarado.

2. CERTIFICATION CRITERIA

2.1 TECHNICAL CRITERIA

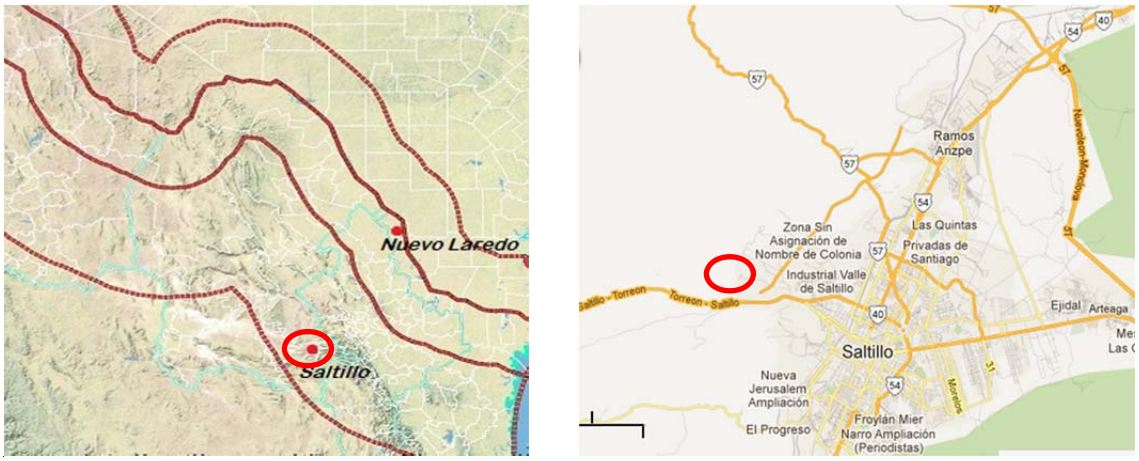
2.1.1. Project Description

Geographic Location

Saltillo, the capital of the state of Coahuila, is located about 55 miles southwest of Monterrey, Nuevo Leon. The Project will be built at the Saltillo landfill on approximately 60 hectares (148 acres) of land located at kilometer 3.5 on the Saltillo-Torreon highway. The landfill is located west of the city and is owned by the Municipality.

Figure 1, below, shows the approximate geographical location of the Project.

Figure 1
PROJECT VICINITY MAP



General Community Profile

According to the 2010 census in Mexico, the municipality of Saltillo has 725,123 residents, representing 26.4% of the total population of Coahuila. During the last five years the city experienced a 1.94% growth rate.[4]

Saltillo and the neighboring municipality of Ramos Arizpe forms one of the largest industrial areas in the country. One of the primary sources of jobs for area resident is the automotive industry; however, there are also companies engaged in the manufacture of ceramics and cast metal, among many others.

According to the most recent economic census, the manufacturing industry is the largest contributor to Saltillo's economy, generating 53% of the city's gross domestic product (GDP) and providing jobs to 26% of its workforce. Power generation and distribution represents the second largest sector, contributing 22% of the GDP and employing 3% of its workforce. Trade is the third largest sector, as it represents 7% of its economic activity and employs 27% of its workforce. Overall, Saltillo's economy generates 25% of the state's GDP and employs 25% of the workforce in the state of Coahuila.[5]

Local Energy Profile

Based on information provided by Mexico's Federal Electricity Commission (CFE), the state of Coahuila currently has seven power plants in operation. Table 1, below, provides basic information about these facilities.

[4] Source: Mexican national statistics institute, *Instituto Nacional de Estadística, Geografía e Informática* (INEGI), 2010 general population and housing census.
[5] Source: INEGI, 2009 Economic Census.

Table 1
POWER PLANTS IN COAHUILA*

NAME	LOCATION	FACILITY TYPE	INSTALLED CAPACITY (MW)
La Amistad	Acuña	Hydropower	66
Carbón II	Nava	Coal-fueled	1,400
José López Portillo	Nava	Coal-fueled	1,200
Monclova	Monclova	Turbo-gas	48
Saltillo	Ramos Arizpe	Combined cycle	247.5
Laguna-Chávez	Fco. I Madero	Turbo-gas	28
Esperanza	Múzquiz	Turbo-gas	12

*Source: http://www.cfe.gob.mx/QuienesSomos/estadisticas/listadocentralesgeneradoras/Paginas

During 2005, these plants generated more than 19,799 GWh. Ninety-three percent (93%) of this power was produced using coal as fuel.[6] It must be noted that the only two coal-fueled facilities in the country are located in Coahuila.[7] Table 2 below shows more detailed information regarding the Coahuila energy portfolio by type of power generation.

Table 2
COAHUILA ENERGY PORTFOLIO BY SOURCE

ENERGY SOURCES	COAHUILA* (2010)	CFE MIX AT THE NATIONAL LEVEL** (2012)
Hydrocarbons	1.5%	43.8%
Independent Producers	8.1%	32.6%
Hydroelectric	0.8%	11.3%
Coal	89.6%	5.8%
Nuclear	-	4.1%
Other Renewable Sources	-	2.4%
Total	**100.0%**	**100.0%**

* Source: Ministry of Energy, 2011-2025 Electricity Sector Outlook, basic information on major operating power plants, 2010.
** Source: http://www.cfe.gob.mx/QuienesSomos/estadisticas/Paginas/Indicadoresdegeneraci%C3%B3n.aspx

The Saltillo 2010-2013 Municipal Development Plan (SMDP) states that one of its objectives is to extend the life of the landfill and reclaim waste to produce electricity and proposes, as a course of action, using waste for biogas-based power generation. The energy generated by the Project

[6] Source: Ministry of Energy, *2011-2015 Electricity Sector Outlook*, basic information on major operating power plants, 2010.
[7] Source: http://www.cfe.gob.mx/QuienesSomos/estadisticas/listadocentralesgeneradoras/Paginas/Carboelectricas.aspx.

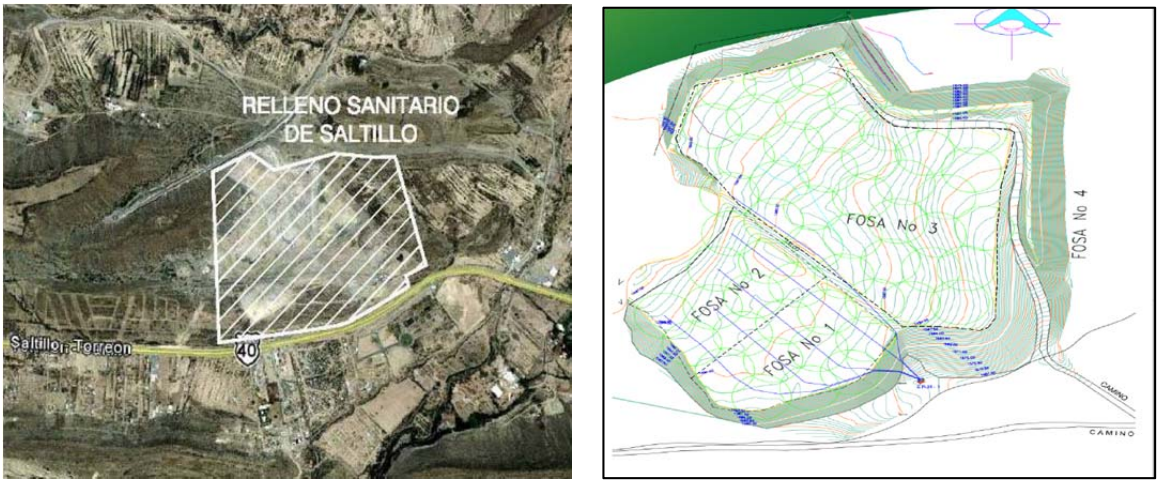
will reduce the demand on traditional fossil-fuel-based energy production, contributing to the displacement of greenhouse gas emissions and other pollutants that result from power generation using those technologies.

The electricity generated by the Project will be sold to the Municipality of Saltillo for street lighting purposes. Street lighting power requirements in 2011 averaged 3,232 MWh/month. The full Project is intended to supply up to 45% of the total amount of energy required for street lighting.

Project Scope and Design

The scope of the Project is to design, construct and operate a biogas facility to capture and use methane, as well as to design, construct and operate an electrical facility with up to 2.0 MW of generation capacity to be fueled by the biogas and supply electricity to the Municipality of Saltillo to be used for its energy consumption under a self-supply permit.

Figure 2
PROJECT SITE



The land use permit issued by the Municipality of Saltillo for the landfill includes the five cells projected to be located on the same site. There are currently four cells in the landfill, three of which are no longer in use and are in the process of being closed. Cell #4, which was constructed and began operating in 2012, has an expected useful life that will end in 2016. Municipal plans include the construction of Cell #5 to meet the objective of ensuring urban solid waste management capacity through 2022.

The Project proposed for certification and financing includes biogas capture at the landfill and electricity generation through 2034. The Project Sponsor was awarded a concession from the Municipality to operate the landfill, as well as a separate service contract to implement the Project, through a national competitive bidding process. Table 3 shows a detailed list of key project tasks.

Table 3
PROJECT MILESTONES

Key Milestones	Status
Land use permit for landfill with biogas extraction	Completed
Environmental clearance authorization from State	Completed
Self-supply permit from CRE	Completed
Feasibility of CFE interconnection and wheeling	Completed
Interconnection agreement with CFE	In process
Operation Start-up Date – first MW	May 2013
Operation Start-up Date – second MW	September 2013 (anticipated)

Project construction has already begun, and the only pending agreement is expected to be completed in the second quarter of 2013. The selected contractor obtained all necessary building permits before starting any Project development activities.

2.1.2. Technical Feasibility

Selected Technology

Projects designed for the recovery of biogas generated at landfills are directly linked to the waste disposal site where the gas is produced. Therefore, the best location option for the generation facility is at the landfill site. All of the proposed infrastructure will be installed within the landfill, and no off-site facilities are required. The connection to the CFE grid is adjacent to the landfill.

Lorean proposed the selected technology and the infrastructure required for the Project as part of the bid package. The Project components are described below:

- *Biogas extraction wells*: Vertical biogas extraction wells were selected for the Project based on their moderate operating costs, ease of implementation, and because they allow for a greater recovery flow of biogas. Moreover, their construction process facilitates the installation of leachate extraction systems. To date, of the 53 biogas extraction wells proposed under the Project, 41 have been drilled to an average depth of 15 m (49 ft.) and up to a maximum depth of 20 m (66 ft.). The wells consist of an underground high density polyethylene (HDPE) pipe.

- *Biogas transmission lines*: To convey biogas from the extraction wells to the corresponding automated regulating and metering station, a transmission system consisting of HDPE pipes will be installed on the filler surface. The Project proposes a total of 12 biogas transmission lines with an outer diameter of 11 cm (4 in.).

- *Automated regulating and metering station*: The regulating station will consist of 12 intakes and one outlet, including ducts, valves, and enclosures with the necessary

analysis, metering, and control components. Ducts will be made of stainless steel and will be supported by a metal structure anchored to a concrete slab. The ducts will include the necessary pneumatic and manual valves, as well as elements required for gas sampling and metering (temperature probe, orifice plate, etc.). Each intake will have a pneumatic control valve operated by a Programmable Logic Controller (PLC), while the single outlet manifold will include an automated, PLC-operated main valve.

- *Main line*: A 40-cm (16 in.) diameter HDPE line will be installed to transmit biogas from the regulating and metering station to the biogas extraction and power generation facility. The line is 36.5 m (120 ft.) long.

- *Gas extraction and power generation facility*: The facility will incorporate various components and elements to ensure the proper functioning of the system, including: condensate separation tanks, settling basin, biogas drying and cooling equipment, blowers, filters, containers, instrumentation, flare, etc., as well as a Supervisory Control and Data Acquisition (SCADA) system to oversee and manage the biogas facility operations.

- *Motor and generator*: Two internal combustion motor-generator modules are required for the full Project, each consisting of a gas engine, air-fuel mixture, and electronic ignition system. Each of these devices and their accessories (cooling system, exhaust, electrical panels, controls, etc.) has 1.0-MW power generation capacity.

- *Substation and interconnection*: The Project includes the construction of an internal substation to increase energy voltage for transmission to the CFE substation. There will also be eleven (11) concrete posts for the new transmission line. The total length of the line will be 561 meters (1,841 ft.).

NADB's procurement policies require that private-sector borrowers use appropriate procurement methods to ensure a sound selection of goods and services at fair market prices and that their capital investments are made in a cost-effective manner. As part of its due diligence process, NADB reviews compliance with this policy.

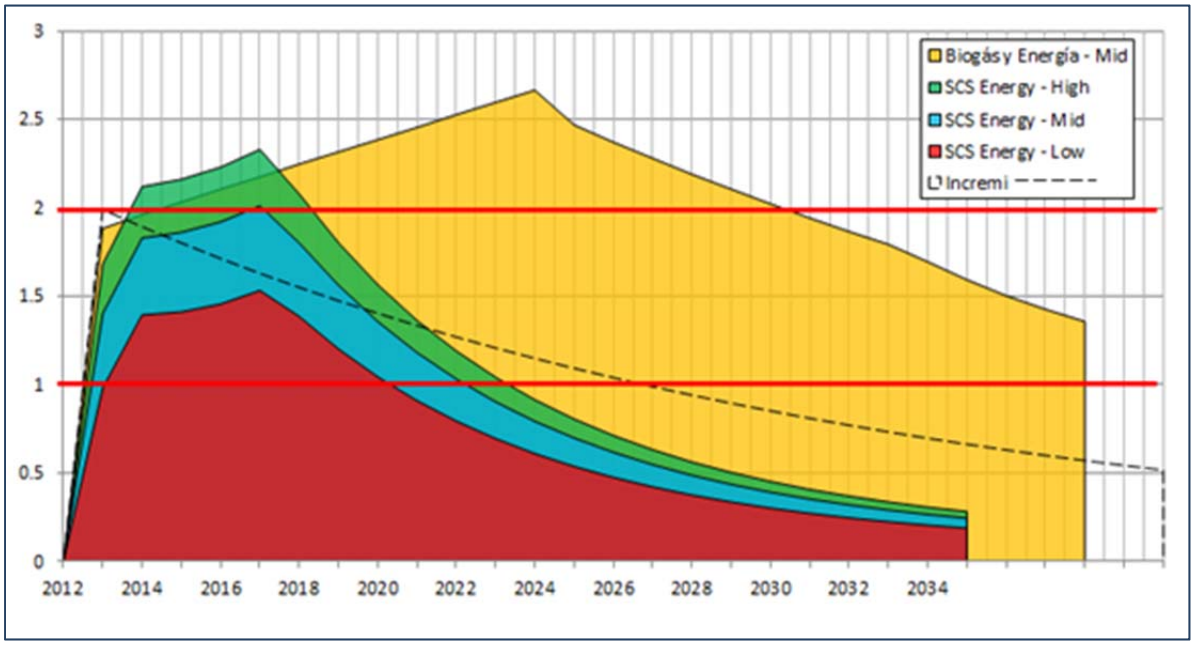
Resource Assessment - Biogas Recovery Potential

Studies have been conducted to assess the biogas potential at the Saltillo landfill. An initial prefeasibility study of the landfill conducted by *Ingeniería para el Control de Residuos Municipales e Industriales, S.A. de C.V.* in 2008 was managed by BECC with funding made available by the U.S. Environmental Protection Agency (EPA) through its Landfill Methane Outreach Program (LMOP) Methane-to-Markets initiative, which is implemented in partnership with the Mexican Ministry of Environment and Natural Resources (SEMARNAT). In general, this study concluded that the potential for landfill gas recovery existed at this site and further study should be considered.

Additional studies were developed by the Sponsor, and the most conservative results for the generation of biogas were used in the Project's biogas generation modeling scenarios. The following parameters were measured at each biogas well: percentage of methane, sulfur

dioxide, and oxygen; gas balance; temperature; static pressure; differential pressure; and biogas flow rate. The information obtained was used to determine that the methane recovery rate remained stable throughout the test period. The mid- and low- energy generation estimates are used, respectively, as the "Base-case Scenario" and "Low-case Scenario". Figure 3 shows the biogas recovery projections.

Figure 3
ESTIMATED GAS RECOVERY POTENTIAL
(Maximum Power Plant Capacity in MW)



The gas recovery studies support the energy generation potential for the installation of a plant of at least 1.0-MW capacity. Once the initial 1.0-MW facility becomes operational, NADB will validate, on its own behalf or through a third party, the gas production at the facility to confirm the Bank's participation in the financing of an additional 1.0-MW component.

2.1.3. Land Acquisition and Right-of-Way Requirements

The Project site is located at km 3.5 on the Saltillo-Torreon highway, within the Municipal Landfill that serves Saltillo, Coahuila. The site covers an area of 60 hectares, of which 34 hectares (84 acres) will be used to build five landfill cells throughout the life of the Project. Initially, the gas recovery system will be developed in Cells 1, 2, and 3, which are in the process of being closed, and subsequently in Cells 4 and 5 at the end of their life cycle in 2016 and 2034, respectively.

The Saltillo 2010-2013 Urban Development Master Plan (SUDMP) authorizes a change of land use from urban park (R1) and nursery (U8) to sanitary landfill with biogas extraction and capture for power generation, on a 60-hectare property located to the west of the city. The Project

Sponsor has obtained a land use permit for a landfill with biogas extraction, capture, reduction, and power generation, as reflected in Official Communication No. 06S-US-8337-21/10/11 issued by the Saltilllo Office of Public Works. The concession for the landfill biogas recovery and self-supply biogas power generation service agreements were awarded to Lorean.

The interconnection with CFE will be at the entrance of the landfill, where the CFE line currently runs, while the transmission line will be installed within existing rights-of-way and will connect at CFE's Saltillo Substation, where electricity produced at the landfill will be delivered.

2.1.4. Management and Operations

Lorean developed the biogas capture project at the landfill to generate electricity for the Municipality of Saltillo. The Lorean partnership includes Grupo Guascor, a power generation technology supplier, who will be responsible for providing and installing the main Project components, such as the generation equipment. Grupo Guascor, headquartered in Spain, is an industrial corporation with more than 45 years of specialized experience in providing customized energy solutions based on renewable energy and power systems. Its technologies span a wide range of energy sources, positioning it as a company capable of providing comprehensive solutions in the changing world of renewable energy.

An operations and maintenance agreement with Grupo Guascor has been duly executed to ensure the proper operation of the facility. The agreement includes the following services:

- Operating the facility;
- Performing routine and non-routine maintenance of the facility during and after the contractor's warranty period;
- Providing all the materials and services necessary for maintenance of the biogas facility;
- Monitoring the operations of the biogas facility and the power generation equipment via a computer monitoring system;
- Performing all duties to the standard mandated by the service agreement executed with the Municipality;
- Complying with all regulatory obligations;
- Developing operating and safety plans; and
- Maintaining all Project information and facility data, including providing reports to its respective stakeholders.

The Project is designed to operate automatically with minimal human intervention. Built-in telemetry will be incorporated to allow for monitoring, control and identification of issues, maximizing system availability and power output over the Project’s expected life. This information system is designed for remote troubleshooting so that issues can be corrected on the first site visit.

2.2 ENVIRONMENTAL CRITERIA

2.2.1. Compliance with Applicable Environmental Laws and Regulations

Applicable Laws and Regulations

Since the Project will be built in Mexico, the formal environmental clearance process is based on environmental policy instruments within the legal framework of the General Law of Ecological Balance and Environmental Protection. The law applies nationwide and establishes the obligations of federal, state and local authorities regarding biodiversity, sustainable use of natural elements, environmental protection, community participation and environmental information, control measures, and safety. Under this law, generation facilities of less than 3.0 MW do not require federal environmental authorization. Based on this determination, the Project only requires environmental authorization in accordance with the Coahuila State Ecological Balance and Environmental Protection Law.

Since the Project will be constructed within an existing landfill site, initially in Cells 1, 2, and 3 and subsequently in Cells 4 and 5, no cultural or historical resources are expected to be disturbed. However, should any cultural resources be found, construction tasks would be deferred until an assessment could be performed by the Mexican National Institute of Anthropology and History (INAH).

Environmental Studies and Compliance Activities

In accordance with applicable laws and regulations governing environmental impacts, in September 2012, Lorean submitted for review and approval of the Coahuila Ministry of the Environment (SEMAC) an environmental impact study that includes the preventive and mitigation measures to be implemented during the life of the Project, as well as after its closure. The environmental studies conducted by the consultant on behalf of the Project Sponsor considered the following environmental conditions at the site and the potential impacts of the Project:

- climate, geology, land use and hydrology;
- vegetation and fauna;
- landscape;
- socioeconomic characteristics; and
- environmental inventory.

In September 2012, Lorean submitted to SEMAC an environmental impact statement for the use of biogas at the Saltillo, Coahuila municipal landfill. SEMAC issued a favorable finding on October 12, 2012, as reflected in Official Communication No. SGA 1218/2012.

Additionally, the Project Sponsor developed emission reduction estimates based on the requirements for obtaining Clean Development Mechanism (CDM) certification for greenhouse gas reduction under the U.N. Framework Convention on Climate Change (UNFCCC). This project is registered with the United Nations under code DB/2MHFYFV1REDWGGVHCI5590VT8FMMAZ.

Pending Environmental Tasks and Authorizations

There are no pending environmental tasks or authorizations required.

Compliance Documentation

The following formal authorizations have been obtained for the Project or Project site:

1. Environmental Impact Finding No. CSA 203 regarding Cells 4 and 5, issued on February 15, 2010 by SEMAC.
2. Change of land use from urban park (R1) and nursery (U8) to sanitary landfill with biogas extraction and capture for power generation, published in the official gazette of the State of Coahuila de Zaragoza, Volume 71, September 6, 2011.
3. Land Use Permit No. 06S-US-8337-21/10/11, issued by the Saltillo Office of Public Works on October 21, 2011.
4. Environmental Impact Finding No. SGA 1218/2012 regarding the construction, management, and/or operation of facilities to capture and use the biogas in the municipal landfill of Saltillo, Coahuila, issued by SEMAC on October 12, 2012.
5. Federal Electricity Commission Notice No. PL-407/2011 regarding interconnection and wheeling feasibility, issued July 20, 2012.
6. Electricity Self-supply Permit No. CRE E/958/AUT/2012, issued by the Energy Regulatory Commission on November 1, 2012.

2.2.2. Environmental Effects / Impacts

There is a need for affordable and environmentally beneficial alternatives to conventional fossil-fuel-derived energy sources. Renewable energy projects create an opportunity to generate electricity without the atmospheric emissions generated by fossil-fuel-based plants. Biogas is a clean form of renewable energy and is currently used in many developed and developing nations to meet their demand for electricity.

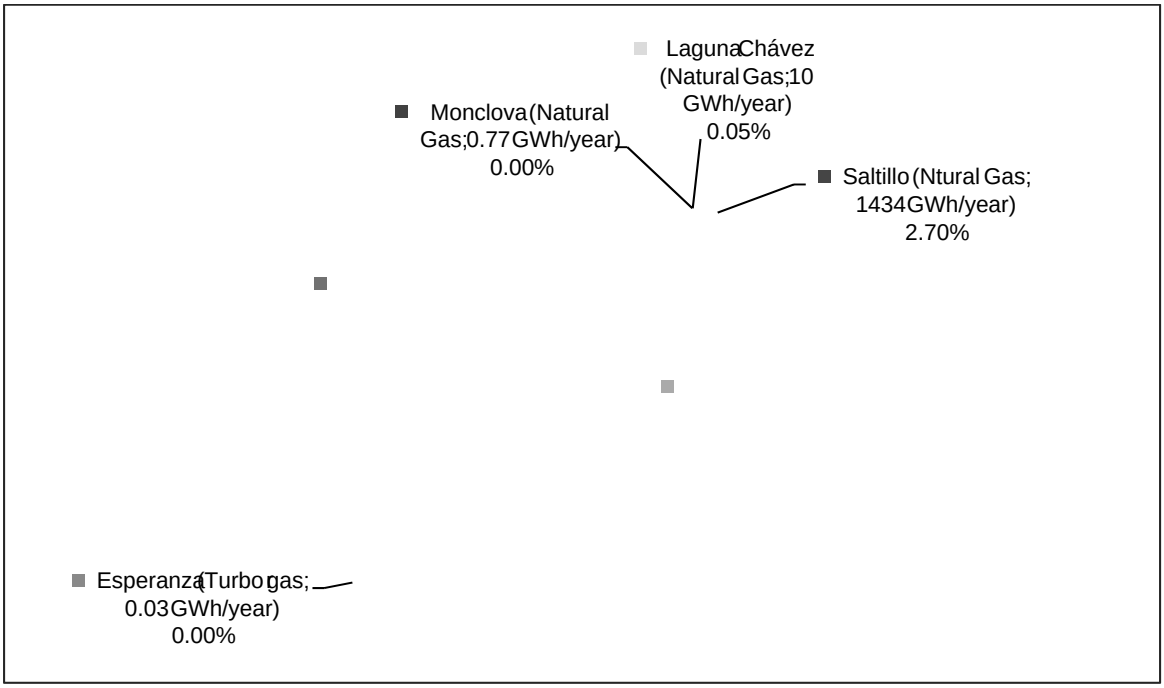
The Project provides an opportunity to displace greenhouse gases (GHG) and other pollutants produced by traditional fossil-fuel-based energy generation, while providing the Municipality of Saltillo with a safe and reliable energy alternative. This operation will have a beneficial and synergistic impact, since capturing and burning biogas (methane) will prevent the release of methane into the atmosphere.

Existing Conditions and Project Impact – Environment

Historically, the state of Coahuila has depended to a great extent on fossil fuels for the generation of energy. This conventional energy development can affect the natural environment due to the harmful emissions associated with the generation process, including the release of GHG, as well as other pollutants such as nitrogen oxides (NOx). According to the 2011-2025 Electricity Sector Outlook prepared by the Mexican Ministry of Energy (SENER), power plants in

Coahuila generated 19,799 GWh in 2005.[8] Carbon dioxide (CO_2) emissions from these plants, excluding "La Amistad" hydroelectric power plant, amounted to 19.72 million metric tons.

Figure 4
CARBON DIOXIDE (CO_2) EMISSIONS FROM COAHUILA POWER PLANTS, 2005



Source: SEMARNAT, Commission for Environment Cooperation (CEC) Air Emissions from Power Plants in North America, 2005.

The state of Coahuila currently relies on a combination of energy production technologies for its power generation, including coal (91%), natural gas (8%), and hydroelectric plants (1%). Based on nearly 19,799 GWh of net power generation in Coahuila, 19.7 million metric tons of CO_2, 6,561 metric tons of PM_{10}; 219,085 metric tons of SO_2, and 107,679 metric tons of NOx were emitted in 2005.

[8] Source: http://www.sener.gob.mx/res/1825/SECTOR_ELECTRICO.pdf

Table 4
ESTIMATED POWER INDUSTRY EMISSIONS IN COAHUILA DURING 2005*

Energy Source	GWh in 2005	Metric tons in 2005			
		PM_{10}	SO_2	NOx	CO_2
Total Power Industry	**19,799**	**6,561.**	**219,085**	**107,679**	**19,720,837**
Natural Gas	1,455	180	3	1,892.	542,084
Coal	18,354	6,381	219,082	105,787.	19,178,837
Turbo-gas	33	0.02	0	0.02	49

*Source: SEMARNAT, Commission for Environmental Cooperation (CEC). *Air Emissions from Power Plants in North America, 2005*

As shown in the table above, approximately 98% of the nitrogen oxide, sulfur dioxide, and carbon dioxide emissions may be attributed to coal-fired power plants.

The Project will help to reduce the demand for fossil-fuel-based electricity and will displace related harmful emissions. Biogas-based power generation has zero emissions and zero water use. Over the next 10 years of the Project's crediting period for Certified Emission Reductions (CERs) under the U.N. Clean Development Mechanism, the production of approximately 118,566 MWh of energy from biogas will help to avoid the emission of nearly 589,280 metric tons of CO_2e into the atmosphere. The anticipated environmental outcomes include 2.0 MW of new renewable energy generation capacity, as well as the expected displacement of 45,015 metric tons/year of CO_2e.[9]

Mitigation of Risks

Some temporary impacts produced during the construction of the plant, including elevated noise levels, vibration, visual intrusion and dust, are being managed according to best construction practices. Additionally, the following specific mitigation tactics have been employed to reduce any anticipated environmental effects:

- *Air quality*:
  - Construction machinery and trucks will be maintained in good working order to reduce particulate emissions and combustion gases. The above measures are intended to ensure compliance with Official Mexican Standard NOM-041-SEMARNAT-2006 and NOM-045-SEMARNAT-2006, which establish the maximum permissible levels of pollutant emissions from the exhaust of vehicles powered by gasoline, and the maximum levels of opacity of the smoke from vehicles and machinery powered by diesel, respectively.
  - Electrical power generation motors will be tuned up and maintained in good working order to ensure that their emissions comply with Official Mexican Standard NOM-085-SEMARNAT-2011.

[9] The carbon dioxide equivalent for a gas is derived by multiplying the tons of a certain greenhouse gas, such as methane, by the associated global warming potential. Should the Project conclude with the initial 1.0-MW facility, the target emission reduction is estimated to be about one half of the reduction calculated for the full Project.

- *Noise and vibration*:
    - Construction machinery must comply with Official Mexican Standard NOM-011-STPS-2001, which establishes safety and health conditions on job sites where noise is generated, as well as with NOM-024-STPS-2001 regarding vibration levels. NOM-080-ECOL-1994 establishes the maximum permissible levels of noise from motor vehicles, motorcycles, and three-wheel motor vehicles, as well as noise measuring methods.
    - The operation of biogas combustion engines must comply with NOM-011-STPS-2001, which establishes safety and health conditions on job sites where noise is generated, as well as with NOM-024-STPS-2001 regarding vibration levels. Peripheral noise levels must not exceed the maximum allowed by NOM-081-SEMARNAT-1994.

- *Risk of hazardous waste spills*: The risk of fuel or lubricating oil spills must be minimized by not performing maintenance activities on site. Machinery must be refueled using a backup container suitable for containing fuel leaks, to prevent fuel contact with the ground. In case of accidental spills, absorbent quilts must be used and waste material must be disposed of by an authorized environmental services provider, pursuant to the provisions of the General Law of Ecological Balance and Environmental Protection and its related hazardous waste regulations.

Natural Resource Conservation

The Project will support natural resource conservation by improving air quality and reducing the demand for fossil fuels for energy production. The Project expects to supply up to 45% of the total amount of energy required for street lighting in the urban area and for the Municipality's general electricity consumption.

No Action Alternative

The no action alternative to the development of renewable energy sources would result in greater demand for conventional fossil-fuel-based energy production, further depleting natural resources for purposes of meeting an ever-growing demand for energy.

Existing Conditions and Project Impact – Health

Epidemiological research has shown that both chronic and acute exposure to harmful emissions associated with fossil-fuel-based energy production can lead to serious respiratory problems. It is estimated that, at the very least, prolonged exposure to excessive levels of pollutants can deteriorate the respiratory capacity of humans and greatly contribute to the increased incidence of cardiopulmonary diseases, such as asthma, heart ailments and lung cancer.

By using biogas resources instead of fossil-fuel sources for electrical power generation, the Project will positively impact the region by reducing air pollutants. In addition, the reduction of GHG emissions is expected to mitigate climate effects that create more vulnerable conditions for human health.

Transboundary Effects

No negative transboundary impacts are anticipated as a result of the development of the Project; on the contrary, a beneficial effect is anticipated on air quality due to the decreased demand for coal-fired power plants in the region. Furthermore, the Project will help address the larger environmental concerns related to greenhouse gases and global warming targeted by international agendas.

Other Local Benefits

During the construction phase the Project generated an estimated 75 to 80 direct jobs. Once operational, the Project is expected to generate eight (8) permanent full-time positions, including administrative and operational personnel. Additionally, the Municipality will reduce its energy expenditures, based on the more affordable energy source provided by the Project.

2.3. FINANCIAL CRITERIA

2.3.1. Sources and Uses of Funds

The total cost of the Project includes development, construction, project management, as well as contingencies, financial and other related costs. Lorean has requested a NADB loan in order to complete the financing of the Project. Table 5 presents the estimated uses and sources of funds.

Table 5
PROJECT COSTS AND SOURCES OF FUNDS
(Millions of pesos)

Uses	Amount	%
Construction*	$ 69.7	91.7
Other Costs**	6.3	8.3
TOTAL	**$ 76.0**	**100.0**
Sources		
NADB Loan	$ 38.0	50.0
Equity	38.0	50.0
TOTAL	**$ 76.0**	**100.0**

* Construction includes development, construction, project management, equipment acquisition and installation, training, and contingencies.
** Other costs include financial costs such as fees, interest capitalization, and debt service reserve, among others.

The Project Sponsor has requested a loan from the North American Development Bank (NADB) to complete the financing of the Project. The proposed payment mechanism is consistent with the project structure normally seen in Mexico's renewable energy industry. The source of payment will be the revenue generated by the Project in accordance with the pricing established under the Power Purchase Agreement (PPA) signed with the Municipality of Saltillo (the

"Municipality") for a term of 21 years. NADB loan will have no recourse beyond the Project Company, Lorean Energy Group S.A.P.I. de C.V. ("Lorean").

NADB performed a financial analysis of the source of payment, the Municipality; the proposed payment structure; and the Project's cash flow projections. The Municipality's financial ratios show that Saltillo enjoys favorable credit ratings. Its most recent ratings are AA-, and AA-, by Fitch Ratings and Standard & Poor's, respectively, showing strong credit quality.

The Project's expected revenue from the sale of electricity is estimated to be sufficient to: a) cover scheduled O&M expenses, b) fund any Debt Service Reserve, c) pay the debt service on the loan, and d) comply with debt service coverage requirements.

In addition, NADB's analysis verified that Lorean has the legal authority to contract financing and pledge its revenue for the payment of financial obligations. Lorean also has the legal and financial capacity to operate and maintain the Project based on the experience provided by Guascor Mexico, who will provide the Project's O&M services through a contract that is already in place, and who has the experience and expertise in these types of projects. NADB has verified that construction costs and the projected O&M costs and contract warranties are reasonable in accordance with industry standards.

Considering the Project's characteristics and based on the financial and risk analyses performed, the proposed Project is considered to be financially feasible and presents an acceptable level of risk. Therefore, NADB proposes providing a market-rate loan for up to $38.0 million pesos to Lorean Energy Group, S.A.P.I. de C.V. for the construction of the Project described herein.

3. PUBLIC ACCESS TO INFORMATION

3.1. PUBLIC CONSULTATION

BECC released the Draft Project Certification and Financing Proposal for a 30-day public comment period beginning April 5, 2013. The following documents related to the Project were available for review upon request:

- Saltillo 2010-2013 Urban Development Master Plan (UDP).
- Saltillo 2010-2013 Municipal Development Plan.
- Environmental Impact Finding No. CSA 203 regarding Cells 4 and 5, issued by SEMAC on February 15, 2010.
- Change of Land Use from urban park (R1) and nursery (U8) to sanitary landfill with biogas extraction and capture for power generation, published in the official gazette of the State of Coahuila de Zaragoza, Volume 71, September 6, 2011.
- Land Use Permit No. 06S-US-8337-21/10/11, issued by the Office of Public Works of Saltillo on October 21, 2011.
- Environmental Impact Finding No. SGA 1218/2012 regarding the construction, management, and/or operation of facilities to capture and use the biogas in the municipal landfill of Saltillo, Coahuila, issued by SEMAC on October 12, 2012.
- Federal Electricity Commission Notice No. PL-407/2011 regarding Interconnection and wheeling feasibility, issued July 20, 2012.
- Electricity Self-supply Permit No. CRE E/958/AUT/2012, issued by the Energy Regulatory Commission on November 1, 2012.
- *Estudio de prefactibilidad para uso de metano en el relleno sanitario* (Prefeasibility study on the use of methane from sanitary landfills), INCREMI, 2008.
- Lorean's Saltillo Landfill Gas to Energy Project, Clean Development Mechanism Project Design Document (CDM PDD), November 2011.

The public comment period ended on May 5, 2013, with no comments received.

3.2. OUTREACH ACTIVITIES

In addition to the public comment period and as is the normal practice in Saltillo, information about the Project has been made available to community residents through the public bidding process for the landfill operation concession and the contract for energy generation services under a self-supply permit.

In the context of the Clean Development Mechanism (CDM), the Project Sponsor held a public meeting on November 23, 2011, to publicly present a report on the implementation of the biogas recovery project at the Saltillo sanitary landfill. The meeting was conducted by Biogas y

Energía and Lorean Energy Group at the *Universidad Autonoma del Noreste* (UANE). Personal invitations were sent to the stakeholders by e-mail and confirmed by a phone, as well as to representatives from federal, state and municipal governments, academics, and representatives from the local neighborhoods. The public event was announced in the state newspaper *Zocalo Saltillo*. The presentation included an explanation of global warming and climate change, the Kyoto Protocol, CDM projects/process and a conceptual idea of the proposed Project activity. The presentation described the Project, as well as its environmental, social and economic impacts for the region. All the participants were interested to know and understand how the electricity is produced from the waste in Saltillo's landfill. More than 100 people attended the meeting.

Finally, BECC conducted a media search to identify public opinion about the Project. References were found in several articles, including:

- "Presenta Jericó proyecto de biogás a energí limpia," (Jerico presents biogas to clean energy project) in the daily newspaper, *El Diario de Coahuila*, January 16, 2012;
- "Convierten a Saltillo en municipio verde," (They are turning Saltillo into a green municipality) in the newspaper, *Zocalo Saltillo*, November 24, 2011;
- "Proxima planta de biogás en Saltillo," (Next biogás plant in Saltillo) in the online paper, *ALCALDES de Mexico*, December 2012; and
- "Promueve Saltillo uso de energías alternativas," (Saltillo supports use of alternative energy) in the online magazine, *Empresarios*, September 13, 2011.

Some of the information highlights the reduced power demand and potential economic benefits of the Project for the municipality, as well as promoting the opportunity to become the third community in the nation to produce energy from solid waste. No opposition to the Project was detected in the media search.