

Webinar on the Joint Crediting Mechanism (JCM) Implementation in Mexico – Utilizing the JCM during the COVID-19 Period

Introduction of 1.2MW Power Generation with Methane Gas Recovery System - MGM Innova Consulting LLC

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MGM INNOVA

MGM Innova Energy Services LLC is a

project development firm focusing on the identification, design, technical and financial structuring, implementation, operation and monitoring of energy efficiency and renewable energy projects, as well as through the provision of energy services.

The firm serves as the energy services arm of the MGM Innova Group.



MGM Innova Capital LLC is a private equity and green infrastructure investment firm focusing on socially responsible, triple bottom line (financial, social and environmental) investments in energy efficiency and renewable energy in Latin America and the Caribbean.

The firm serves as the financial arm of MGM Innova Group

MSSEF MGM SUSTAINABLE ENERGY FUND

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MGM Innova Consulting specializes in the design, development, promotion and implementation of innovative solutions that enable their clients to incorporate sustainable and climate change practices in their products, projects, services, operations and corporate strategies.

The firm serves as the climate change consultancy arm of the MGM Innova Group.

Energy Efficiency: Investment Types, Strategy and Technologies

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Commercial Efficiency	Municipal Efficiency	Industrial Efficiency	Distributed Generation/Hybrid
Hotels, hospitals, shopping malls, fast food chains, universities, yacht clubs.	Street lighting.	Food and beverage (biogas to energy), agro-industry (biomass to energy), cement, glass, steel (waste heat to energy).	Hotels, hospitals, supermarkets, shopping centers, TV stations.
*Target large buildings and apply multiple measures	*Street lighting is one of the largest expenses of municipalities. *50% + savings with LED lights.	*Larger size and greatest savings potential, both in electric and thermal energy.	*Seek opportunities in countries with a clearly defined regulatory framework and attractive retail/commercial electricity prices. *Establish portfolios of projects.
Air conditioning, high efficiency lighting, high efficiency steam boilers and water heaters, solar water heating, control and automation.	High efficiency LED street lighting.	Energy cogeneration systems, waste heat recovery to generate electricity (Organic Rankine Cycle), steam and hot air, biogas from wastewater treatment to generate electricity (biogas-powered internal combustion engines), steam and hot water (efficient boilers), high efficiency motors.	Solar photovoltaic (PV) generation for self-consumption.



Renewable Energy: Investment Types, Strategy and Technologies





MGM Innova Group – JCM Experience

- Pionner in JCM in Latin America
- Implemented the first projects in Costa Rica, Mexico and Chile
- 5 JCM projects approved to date
- 4 projects fully implemented and 1 to start implementation
- List of projects:
 - 1.2MW Power Generation with Methane Gas Recovery System in **Mexico**, Energreen (100% implemented) 2016
 - 5MW Solar Power Project in Belen, **Costa Rica** Coopeguanacaste (100% implemented) - 2016
 - High Efficiency Chiller and the Exhaust Heat Recovery System in San Jose, **Costa Rica** Wyndham Hotel (100% Implemented) 2016
 - 992kWp Rooftop Solar Power System in Chile University Federico Santa Maria (100% implemented) - 2016
 - 2MWp Solar Power and 4MWh Storage Battery Project in San Pedro de Atacama, **Chile** (to be implemented) 2018



★ JCM Atizapan LFG to Energy Project

Atizapan Landfill – 1.2 MW Installed Capacity



Atizapan Landfill Summary

- Location Atizapan de Zaragosa, State of Mexico
- Begining of commercial operations August 2019
- Sale Electricity Initially: Sale to CFE grid Currently: Sale under private PPA
- Installed capacity 1.2 MW

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- Nominal capacity 1.0 MW
- Annual generation 12,000 MWh/year
- Average Emission Reductions 80,000 tCO₂/year (est.)
- EPC Provider Grupo Abarmar
- Technology Fuji Electric / 2G Gensets (Germany)
- Model AVUS 1200
- Japanese Representative Company NTT Data
- JCM Subsidy 40%



1.2 MW Power Generation with Methane Gas Recovery System









1.2 MW Power Generation with Methane Gas Recovery System







Atizapan Landfill Gas Recovery System

- # Extraction wells 49 x 4" (average 25 m wells)
- ERMs (manifolds) 5 (10 wells each)
- Main gas lines 1,300 m (12" lines)
- Secondary gas lines 300 m (10" lines)
- Compressed air lines 1,000 m (2"lines)
- Other critical systems condensate traps, leachate extraction pumps, registers, portable monitoring equipment, etc.



JCM Project Structure - Participants





Representative Company

- Support MRV for GHG emission reduction
- Report to GEC



Project Developer

- Investment
- Project Development & Implementation
- Support MRV



Project Partner

- Operations & Maintenance
- Project monitoring and reporting
- Sale of electricity

F Fuji Electric

Supplier of Genset

- Supply of 2G Gensets
- Technical supports

Grupo Abarmar

EPC

- Engineering
- Procurement
- Construction



Utilizing the JCM during the Covid-19 Period





Covid-19 has been a challenge to all our JCM projects.

Most affected projects are the ones related with tourism (Wyndham, SPV + Batteries Chile).

Atizapan project not that affected commercially because it is connected to the grid.

In Atizapan however, we had to take important health precautions to avoid workers contagious. Still 2 operators tested positive while at work.

We continue monitoring and testing field personel regularly to minimize health risks and ensure operations continuity

JCM is an important mechanism to support the post-pandemia recovery. Promotion of high efficiency sustainable technology and Japanese subsidy are critical to help with economic recovery.



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Gracias!

Thank you !