

CDM projects development in Latin American Regions J-POWER's perspective

Natsuki Tsukada



Electric Power Development Company

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Topics

- ❑ What is J-POWER
- ❑ How J-POWER perceives CDM
- ❑ J-POWER's CDM development in Latin American countries
- ❑ J-POWER's future perspective for CDM development

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J-POWER is Power Generation Company

Operating Revenues	US\$ 5,392M (FY2003)
Net Income	US\$ 261M (FY2003)
Created by the Government	1952
IPO (100%)	2004.10.6
Power Sales	58,787GWh (FY2003)
Installed Capacity	16,375MW (*)
Transmission Lines	2,404km (*)
Telecommunications	1,002,146ch-km (*)

**as of March 31,2004*

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J-POWER develops, owns and operates power projects that promote Sustainable Development

Power Sources	Domestic	Foreign
	(MW)	(MW)
Hydropower	8551	-
Efficient and Clean Coal	7812+316	172
Geothermal	13	49
Wind	133	64
Waste	21	-
Biomass		10
Gas Turbine Combined Cycle	503	1601
Combined Heat and Power	92	356

Note: Figures in italics are total installed capacity of plants in operation and under construction as of May 2004 in which J-POWER has partial Ownership¹

J-POWER uses CDM to hedge Carbon Risk

- ❑ Policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest cost (UNFCCC)
- ❑ CDM allows us to take such measures to ensure global economic efficiency
- ❑ CER can be issued for CDM activities after 2000
- ❑ Other Kyoto credits, i.e. ERU & AAU, can be issued only after Kyoto Protocol entering into force and for activities after 2008
- ❑ CDM can be used to establish fluid market, avoiding market domination by such countries who has huge hot air supply potential

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J-POWER first set of projects as CER buyer: Developed together with MGM International

Renewable Energy

- **Brazil:** Aquarius Hydroelectric
- **Guatemala:** Candelaria Hydroelectric
- **Colombia:** La Vuelta and La Herradura Hydroelectric*

Fuel Switching

- **Chile:** Graneros Plant Fuel Switching Project * (AM0008)

Cogeneration

- **Chile:** Metrogas Package Cogeneration Project* (AM0014)

Methane Recovery

- **Chile:** Metrogas Methane Recovery from Pipeline Rehabilitation

* Baseline, monitoring and verification methodologies that were developed by MGM International.

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Aquarius Hydroelectric Project

Brazil

•**Installed Capacity:** 4.2 MW utilizing the water of the Correntes river, and generating about 25,750 MWh of electricity per year.

•**Location:** Itiquira and Sonora Municipalities

•**Project Developers:** Companhia Agricola Sonora Estancia (CASE)

•**Estimated GHG reductions:** 15,000 tonnes of CO₂e per year. Over a 21-year crediting period, a total reduction of 300,000 tonnes of CO₂e is expected.

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Aquarius Hydroelectric Project



Validation:
May 2003 - DNV



Candelaria Hydroelectric Project

Guatemala

- **Installed Capacity:** 4.3 MW utilizing the water of the Trece Aguas river, and generating about 27,000 MWh of electricity per year.
- **Location:** Senahú, in the Alta Verapaz Department
- **Project Developers:** Companhia privada Hidroeléctrica Secacao S.A.
- **Estimated GHG reductions:** 24,000 tonnes of CO₂e per year. A total reduction of 500,000 tonnes of CO₂e is expected over a 21-year crediting period.

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Candelaria Hydroelectric Project



La Vuelta y La Heradura Project

Colombia

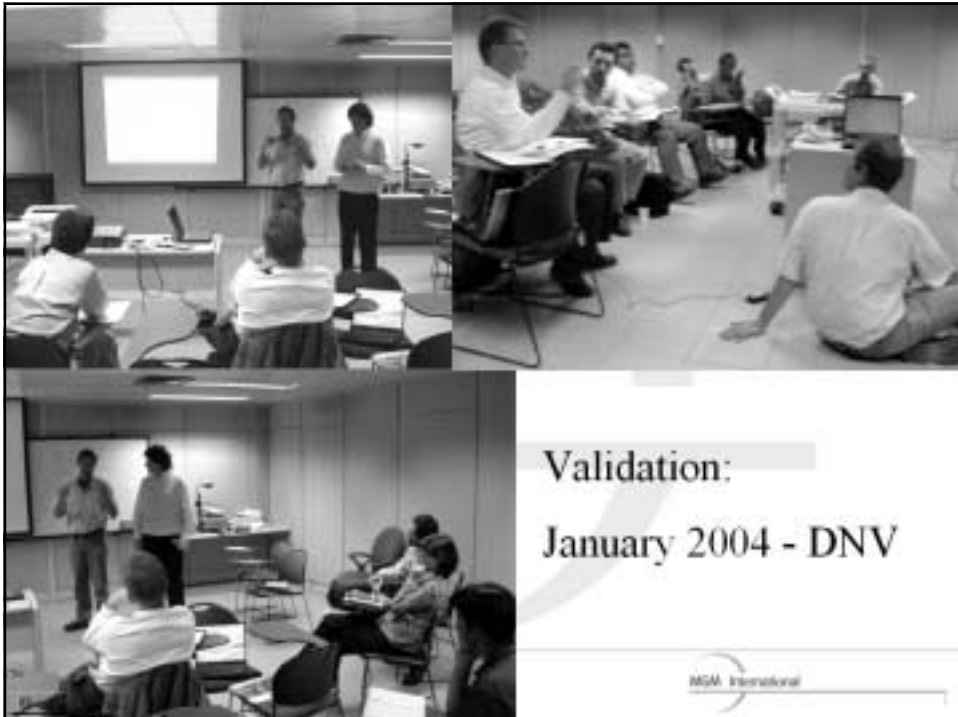
•**Installed Capacity:** La Vuelta 11.7 MW and La Herradura 19.8 MW utilizing the water of La Herradura river, and generating about 232,140 MWh of electricity per year.

•**Location:** Antioquia Department

•**Project Developers:** Empresas Públicas de Medellín (EPPM)

•**Estimated GHG reductions:** A total reduction of 1,600,000 tonnes of CO₂e is expected over a 21-years crediting period.

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Graneros Plant Fuel Switching Project Chile

- Objective of the project:** to replace the use of coal, diesel and GLP by natural gas.
- Location:** Region VI, Chile
- Project Developers:** NESTLE S.A.
- Estimated GHG reductions:** A total reduction of 400,000 tonnes of CO₂e is expected over a 21-years crediting period.

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J-POWER / 電源開発株式会社 J-POWER's CDM development in Latin American countries

Metrogas Package Cogeneration Project **Chile**

- **Objective of the project:** Installation of a cogeneration system consuming natural gas and sell electricity and heat to an industrial plant. Cogeneration electric capacity is 2.99 MW_e.
- **Location:** Santiago Metropolitan Area
- **Project Developers:** Metrogas S.A. would own the cogeneration system.
- **Estimated GHG reductions:** A total reduction of 115,530 tonnes of CO₂e over a 10-years crediting period is expected.

www.jpower.com www.metrogas.com www.mgm-international.com www.nestle.com

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Metrogas Methane Recovery from Pipeline Rehabilitation Project

Chile

- Objective of the project:** refurbish gas pipeline that distributes gas to users in the metropolitan area of Santiago. Consists of inserting a new polyethylene pipe into the old one and replace the distribution of city gas by natural gas.
- Location:** Santiago Metropolitan Area
- Project Developers:** METROGAS S.A.
- Estimated GHG reductions:** A total reduction of 150,000 tonnes of CO₂e over a 10-years crediting period is expected.

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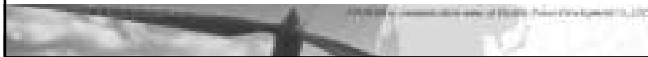


Metrogas Methane Recovery from Pipeline Rehabilitation Project

Validation:
October 2003 - DNV

Landfill Projects in Latin America J-POWER / MGM International

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Loma Los Colorados landfill project Santiago, CHILE

- Feasibility study Completed
- Project under negotiation



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El Henequén Landfill Project

Barranquilla, COLOMBIA

- Feasibility study Completed
- Project under negotiation



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Curva de Rodas Landfill Project

Medellin, COLOMBIA

- Feasibility study Completed
- Project now under investigation for options



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J-POWER Next Set of Projects

Several biomass projects under preparation

- Mainly in Brazil (sugarcane bagasse)

Industrial Projects under preparation

- Aluminum Industry (Argentina, Brazil)
- Chemical Industry (Mexico, Venezuela)

Landfill Projects

- Five Feasibility Studies completed
- 9 Feasibility Studies under preparation

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Thank you very much.



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