



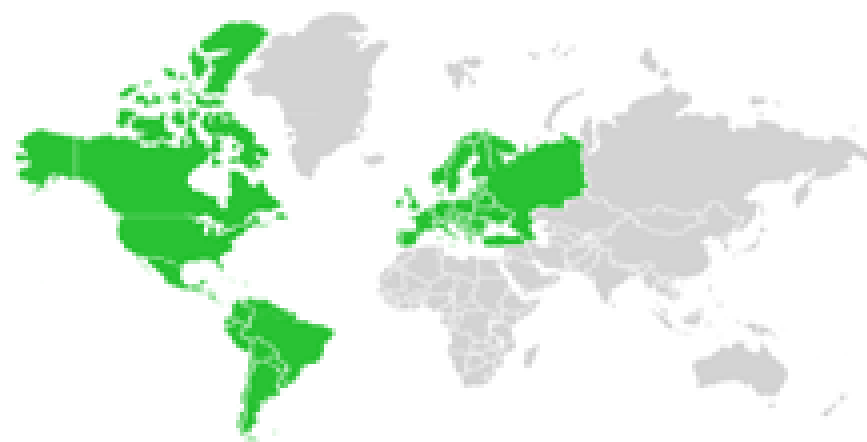
Green Power

# Key factors affecting renewable investments

Leon - Mexico, October 9<sup>th</sup> 2009

# Enel Green Power

- **Enel Green Power** is the Enel Group company dedicated to develop and manage worldwide energy generation from renewable sources (hydro, geothermal, wind, solar and biomass).
- With nearly **4,500 MW** of installed capacity, **Enel Green Power** is the leading Italian organization with operations in **13 countries** of Europe, North America and Latin America.
- Enel Green Power has operations in Bulgaria, Canada, Chile, Costa Rica, El Salvador, France, Greece, Guatemala, Italy, Romania, **Mexico**, Panama, Spain, Brazil and United States.
- In Central and South America the installed capacity of Enel Green Power is 667 MW (hydro, geothermal and wind).



# Investment decisions are generated through a competitive process between projects

- 1. Renewable compete with traditional generation for investment** – Traditional investments are better understood. The risk involved is well known and the investment less fragmented
- 2. The competition is global** – Large industrial players and other providers of capital assess investment opportunities as part of their portfolio. As corporations globalize the competition among projects become more intensive
- 3. Projects compete on profitability and risk**– Capital is highly mobile and seeks the best return for a given level of risk (macro-economic, tariff, regulatory, currency) or the lower risk for a given level of remuneration

**Scaling-up renewable investments in a given area requires to do better than the competition**

# Does risk really matter?

## Impact of risk on cashflows

### Example - Mexico 2009

- **Driest July in 60 years**

Affecting both generation volumes and flexibility in hydro plants

- **Depreciation of pesos (25%)**

As a result of the global crisis

### Artificial reduction in tariffs

Measure to soften the impact of global crisis

\* Financial crisis are more frequent

\* Extreme environmental events are more frequent

## Risk mitigation to limit cost of capital

- **Financial innovation does not reduce systemic risk.** It redistributes risk among actors
- **Diversification** across technologies and geographies looking for anti-correlations
- Solid forecast through data integration from different sources
- Smart dispatching to optimize the energy cost for the system (day-ahead market, market integration, etc.)
- **Macro-economic policies** (inflation, exchange rate, interest rates)
- Limited and predictable government intervention
- **Adoption of market fundamentals.** Subsidies create value during transitions and destroy value in the long run

**Scarcity of capital due to increased risk not followed by increased profitability**

# Lessons learned from the private sector

## Scaling-up renewable investments needs...

- 1. FOCUS** – the same organization struggles to deal with both traditional and renewable investments. Strong differences in philosophy (concentrated vs. distributed), size of investments/priority, skills, speed of execution, etc. Enel tackled the issue by creating a company able to compete on both the local and global scales: **Enel Green Power**
- 2. INNOVATIVE MODELS** e.g. grid investments can be reduced through the integration of industrial and energy programs to move the energy demand (industrial development) to areas with high potential of intermittent technologies (wind, solar)
- 3. LOGIC OF PORTFOLIO** - some traditional solutions to reduce risk might not be available to renewable projects (e.g. gas derivatives but no wind derivatives). A portfolio approach allows to reduce the volatility of intermittent resources like wind, sun, water

**Thank You!**

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