

Power Purchase Agreements importance for getting financing in the Chilean energy market

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PPAs, a requirement to get financing



ENERGÍA

26/10/2015

Banco Bice: “Hoy es difícil que un proyecto de energía renovable se financie si no tiene contrato”

El volumen de negocios para la banca rondaría los US\$ 1.400 millones al año, y hay alta competencia, dice el ejecutivo.

(...) Banks are not interested anymore in financing projects with PPAs indexed to market spot prices, only with long term PPAs (...)

Panorama financiero del sector energético

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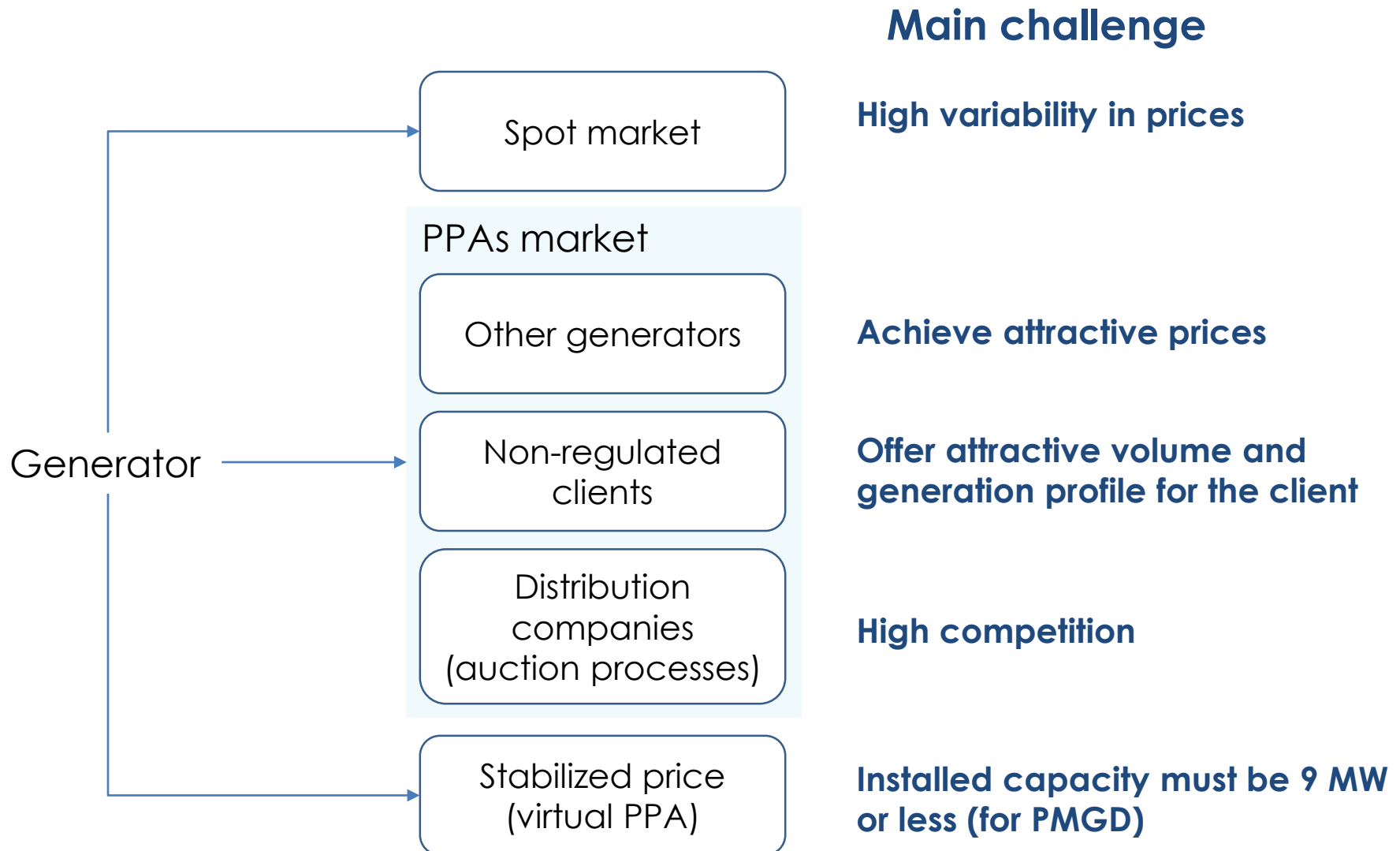


Electricidad

Analistas del sector confiesan que la banca ya no está interesada en financiar contratos en el mercado spot, enfocándose en contratos de largo plazo, lo que plantea nuevos desafíos para los desarrolladores en generación, además de las menores proyecciones en el consumo, debido a la menor actividad de la minería.

“It is difficult nowadays for a renewable project to get financing without a PPA”

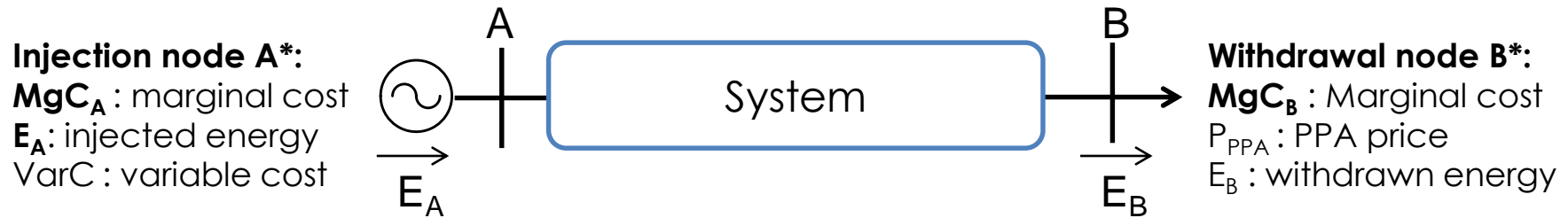
Energy trading schemes and main challenges



PPAs main purpose in Chilean market: Diminish revenues variability



- Energy incomes and costs



$$\text{Energy revenues} = \underbrace{\text{MgC}_A \cdot E_A - \text{MgC}_B \cdot E_B}_{\text{Spot balance}} + \underbrace{P_{PPA} \cdot E_B}_{\text{PPA incomes}} - \text{VarC} \cdot E_A$$

PPA energy margin

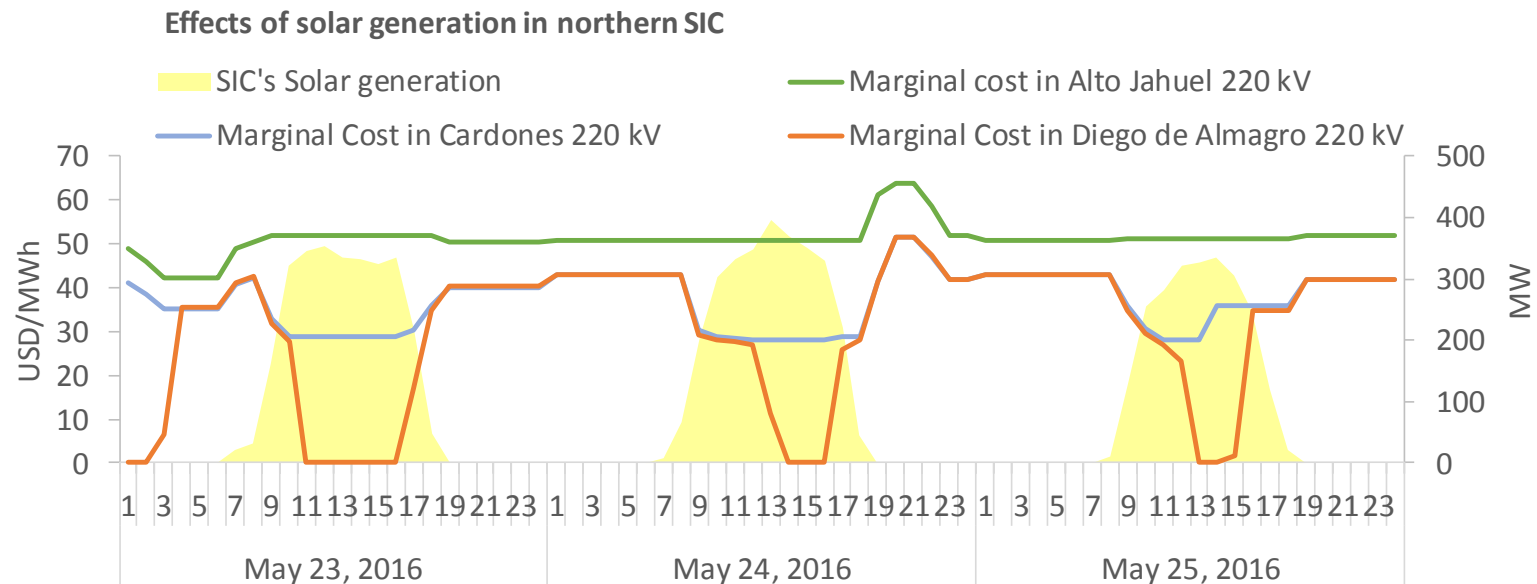
Stable energy revenues are accomplished when: $\text{MgC}_A \approx \text{MgC}_B \rightarrow$ Decoupling risk

E_A covers E_B in each time period \rightarrow Production risk

Decoupling risk



- **Differences in injection and withdrawal marginal costs ($MgC_A \neq MgC_B$)**
 - Transmission congestions produce price decoupling
 - Currently, transmission lines connecting the central and northern SIC present severe bottlenecks
 - The 500 kV transmission system intended to overcome this situation is expected to be commissioned in January 2018



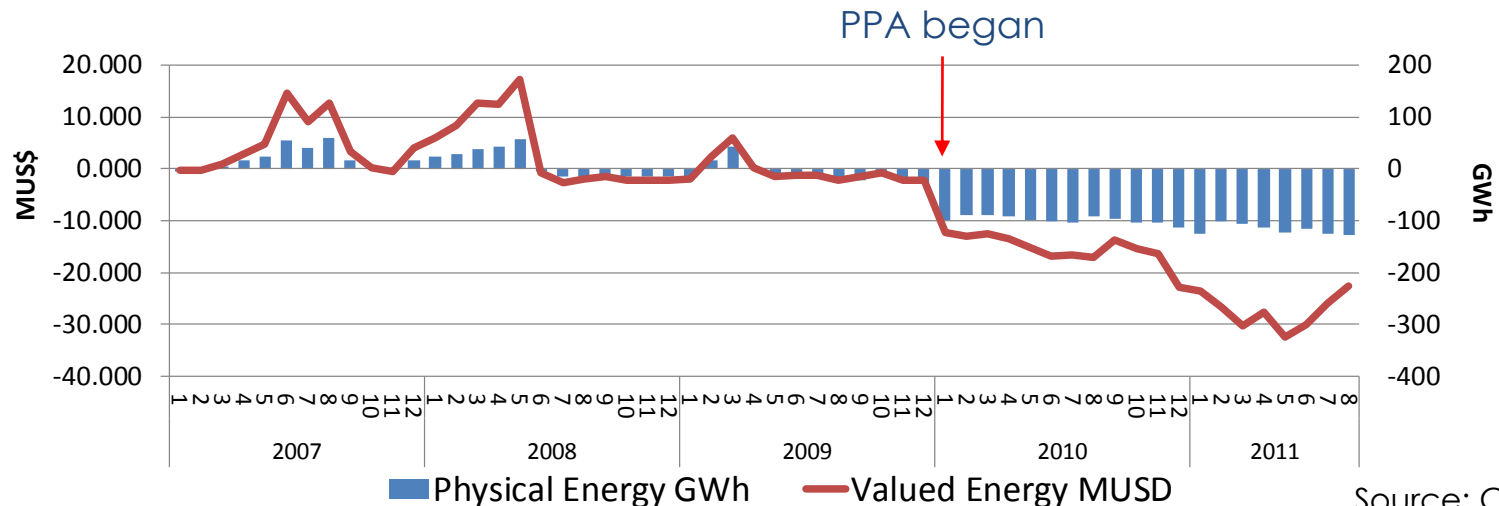
Source: CDEC, System

Production risk



- **Differences in generated energy and withdrawn energy (E_A does not cover E_B)**

- Example: Campanario was a generation company that began its operation in 2007 with diesel generation units
- It signed a PPA with distribution companies whose supply began in 2010
- During 2010 and 2011, marginal costs were higher than the PPA price and its units were not operating due to their high variable costs
- In late 2011 the company went out of business because PPA incomes could not cover the negative spot balance produced by injection and withdrawal unbalance



Source: CDEC, System