CHP in Spain
Overview and current situation:

Undertaking regulatory and market challenges for CHP competitiveness

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MINISTERIO DE INDUSTRIA, ENERGÍA Y TURISMO

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Cogeneration (CHP) in Spain

- **6,000 MWe - 1,000 installations.**
- **12% Spanish electricity generation** by CHP (32 TWh/year) produced at sites demanding 6% national electricity consumption.
- **7% of Spain final energy supply** (saving 2% national final energy consumption)
- **25% of Spain natural gas consumption** (representing 40% of total Spanish industry consumption). (90 TWh/year NG.)..biomass CHP etc....
- **90% CHP capacity linked to INDUSTRIAL CHP** (food & beverage, chemicals, pulp & paper, refineries, ceramics, automobile, ...): **20% of Spanish Industrial GDP** (25.000 M€) produced at CHP related industrial sites (200,000 direct employees).

CHP capacity by sector

- Total: 5,986 MW
  - Agriculture, food, tobacco: 5,417 MW
  - Paper, cardboard, printing: 569 MW
  - Chemicals: 551 MW
  - Commercial and residential: 545 MW
  - Non-metallic mineral products: 305 MW
  - Refineries: 988 MW
  - Textile, clothing, leather: 1,089 MW
  - Other branches of industry: 1,018 MW

Spanish CHP Association
CHP stagnation in Spain since 2002 until 2012 despite 66% untapped Spanish CHP potential


Source: Spanish Regulator CNE and IDEA RE Plan

Spanish CHP Association
2013-14 Critical Transition into new regulation scheme

CHP in Spain is collapsing

- 1,800 MW stopped (1/3 of total power)
- 25% electricity reduction (first semester 2014, monthly maximum -40%)

Facing >50% SPANISH CHP SHUTDOWN for 2015?

Policy Measures and factors behind CHP collapsing

- **2013 – CHP Exceptional Energy Taxes** (7% Electricity + Fuels (5% NG) + CO2 ETS Costs)
- **2013 – Retribution reduction** (EE+ Power factor bonus) since July
- **2013-14 – Uncertainty** regarding regulatory framework, lack of information/collaboration/action with CHP users to foresee challenges. Lack of confidence in policy makers.
- **2013-14** Electricity Pool Volatility and very low pool prices 1S14 combined with very high fuel (NG) prices
- **2014: CAPEX+OPEX** retribution level too demanding for operation.
- Lack of energy efficiency scheme in electricity market operation rules.
KEY SPANISH CHP RENAISSANCE APPROACH
- NEW REGULATORY SCHEME IN PLACE: THE GOOD AND THE BAD

Right Legal Act Principle Regulation: Oriented to competition in Electricity Market

Conceptually correct CAPEX and OPEX retribution system + administrative scheme

Failure in some CHP parameter retribution system modellization difficulting CHP

OPEX:
• Higher energy efficiencies than EU HE CHP.
• Useful heat demand pricing not at Energy Service practice
• No provisions for only peak hours running CHP

KEY CHP LEGAL DEVELOPMENTS STILL PENDING ON ENERGY REGULATION AND OTHER KEY POLICIES. Non effective/Discouraging transition management.

Too slow... more collaboration, understanding, effectiveness and priority needed for CHP and EE-Industry-CC related Energy Policies
✓ **URGENT CHP REGULATORY SCHEME COMPLETION** – (already indexed by Spanish Regulation)

- Regulation to update **OPEX fuel costs** (NG, etc.). *Time period + Market oriented*
- Auto-producer or **self-Consumption regulation**. *Flexibility*
- Regulation to participate in **System Operation Adjustment Markets**. *Proper market access and recognition for services to grid and technical conditions and capacities.*
- **Refurbishment /RENEWAL Plan for CHP** facilities within obligations scheme EED.
- Competitive audience mechanisms for **new facilities**

✓ **ENERGY TAX POLICIES:** New approaches do CHP. **INCENTIVES** vs. overcharges

✓ **ENERGY MARKETS DEVELOPMENT:**

- **Electricity Market:** Rules and bidding participation development Bilateral contracting, Complex conditions, etc.
- **NG Spanish HUB.** Non existing, proper functioning and no discriminatory/RIGID participation
- **Future Markets.** New products, improve functioning and price signals
- **Demand Side Mechanisms:** GO `s, certificates,
Undertaking regulatory and market Challenges for CHP (2/2)

✓ **REGULATED COSTS** - T&D CHP Recognition/Proper Methodology Development
  - **Electricity T&D Tolls.** Distributed/proximity/losses mechanisms, etc.
  - **Natural Gas T&D Tolls Methodology.** Stability and competitiveness

✓ **OTHER POLICIES**
  - **R&D&i** oriented to increase **CHP FLEXIBILITY** in operation and related industrial processes, energy storage, RES integration and Hybridization.
  - **CHP VISIBILITY** (figures) AND SUPPORT IN ENERGY EFFICIENCY POLICIES – EED related targets, etc.
  - **COORDINATION WITH INDUSTRIAL REINASANCE POLICIES**

**ONGOING SPAIN CANDIDATE TO IEA CHP/DHC COLLABORATIVE COUNTRY SCORECARD PHASE IV PROGRAM - 2015**
Thanks for the attention

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