



Electricity & Gas Energy & Energy Services



Brussels
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International Development

Executive Training Programme for Young Energy Leaders

Energy Charter Secretariat

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UPDATE FROM HQ GDF SUEZ

15 October 2013

- Some facts about electricity & gas
- Energy Systems & Regional Integration
- Doing business in the international arena
- Investment approach
- Conclusions



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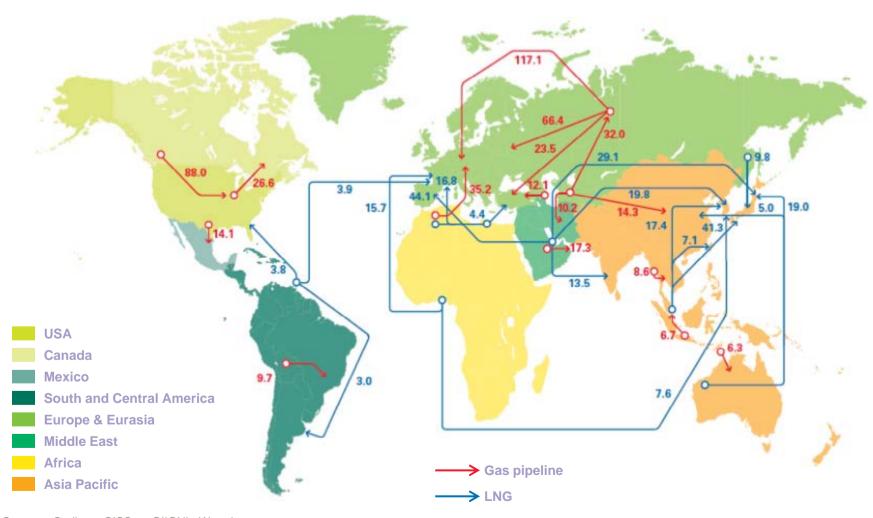
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Global exchanges intensify, mainly through LNG



Main natural gas exchanges in the world in 2011 (Gm³)



Sources: Cedigaz, CISStat, GIIGNL, Waterborne

Gas prices remain regional despite the growth of LNG



Very low gas prices in the US

Two more pricing systems in Europe

In Asia, oil indexing that is being challenged, but doesn't seem to have an alternative at this stage

3-6 \$ / Mbtu

8-12 \$ / Mbtu*

14-16 \$ / Mbtu*

EU - Canada

Liquid market
"gas to gas" competition approach
Benchmark market Henry Hub

United Kingdom and the Netherlands

Liquid market model
Benchmark market: TTF (Netherlands)
UK: "gas to gas" NBP market price

Japan - South Korea - Taiwan

Importer approach
(transfer of costs to the customer)
Oil indexation very much in the majority

South America

Most recent to enter the LNG market In competition with the other energies

Rest of Europe

But a convergence toward market benchmarks, with the exclusion of a few poorly interconnected zones

China - India

Important growth in electricity demand, affecting needs in fuel, including gas



Liquefied gas markets

* Mbtu: Million de british thermal unit (1 Mbtu = 22.5 tonnes of oil equivalent) Sources: CEEME / GDF SUEZ



Exploration & Production : Time to market



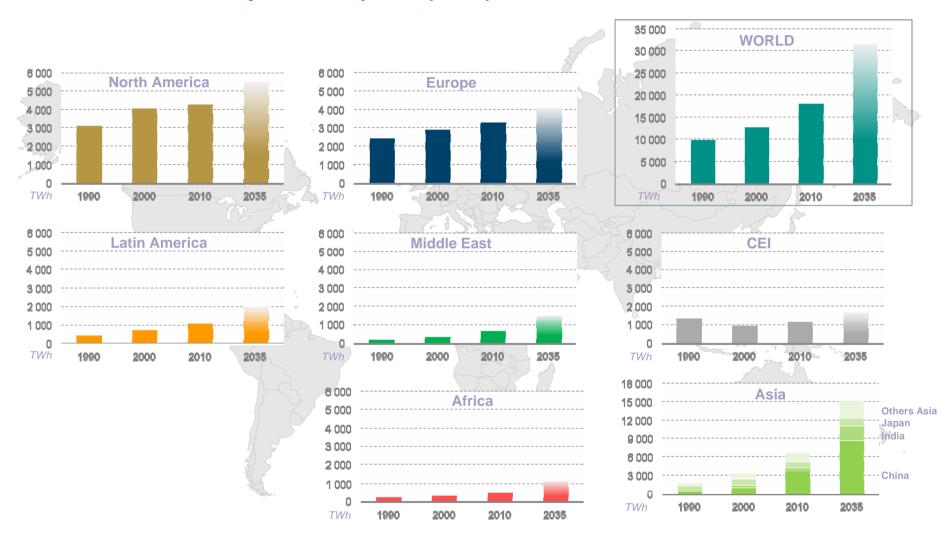


E&P full cycle present a long time to market. Average discovery to production time in the industry is >10 years for oil and >30 years for gas.

Large difference in electricity needs between global regions



Trends in electricity consumption (TWh)

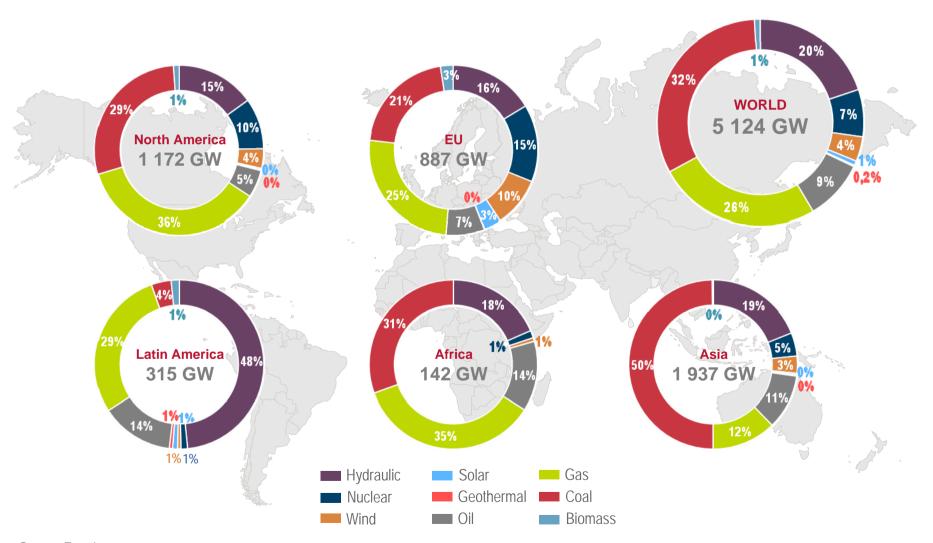


Sources: Actuals: Enerdata - Forecasts: IEA, WEO 2012

Specific electricity mixes by region depending on energy resources and policies



Breakdown of electricity installed capacities in 2010



Source: Enerdata



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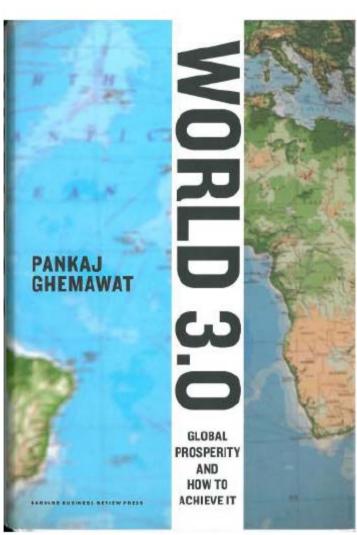
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Globalization, a reality? ... less than we think (1)







World View	World 0.0: "Wild world"	World 1.0: "Walled world"	World 2.0: "One world"	World 3.0: "A workable world"
Period of emergence	Prehistoric	Age of Enlightenment	Late 20th century	The third millennium
Level of market integration	Subnational markets: local integration	National markets: national integration	Global markets: complete global integration	Semiglobal markets: partial global integration
Geographic structure	Local borders	National borders	None	Borders plus distance: spatiality
Governmental policies	Minimal	Regulator of market failures	Integrator (limited role)	Integrator plus regulator
Business strategies	Local	Domestic / multidomestic	Global standardization	AAA strategies to adjust to, overcome, and harness differences
Individual mindsets	Communitarianism	Nationalism	Cosmopolitanism	Rooted cosmopolitanism (cultural distance)
Source: World 3.0 - Global prosperity and to achieve it By Pankaj Ghemawat				



Internationalization levels International mails postage International telephone calls Overseas university students **Immigrants** Foreign direct investment International internet traffic Global exports International equity investment

... where national borders and other differences continue to affect the intensity of interactions

5%

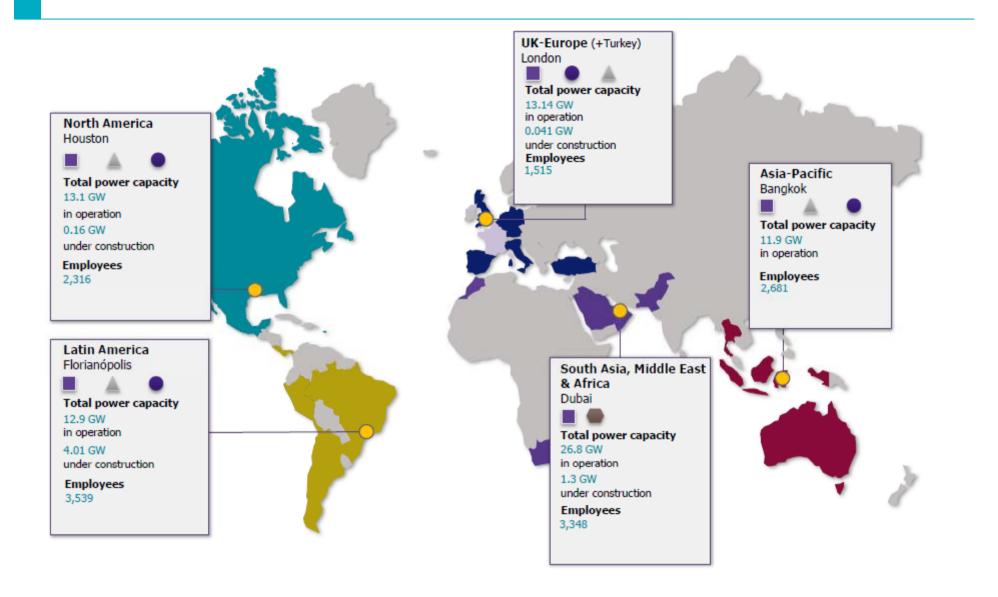
15%

10%

20%

GDF SUEZ Energy International







... but its businesses are in essence local, regional or national



Combined heat and power business in Map Ta Phut, Thailand



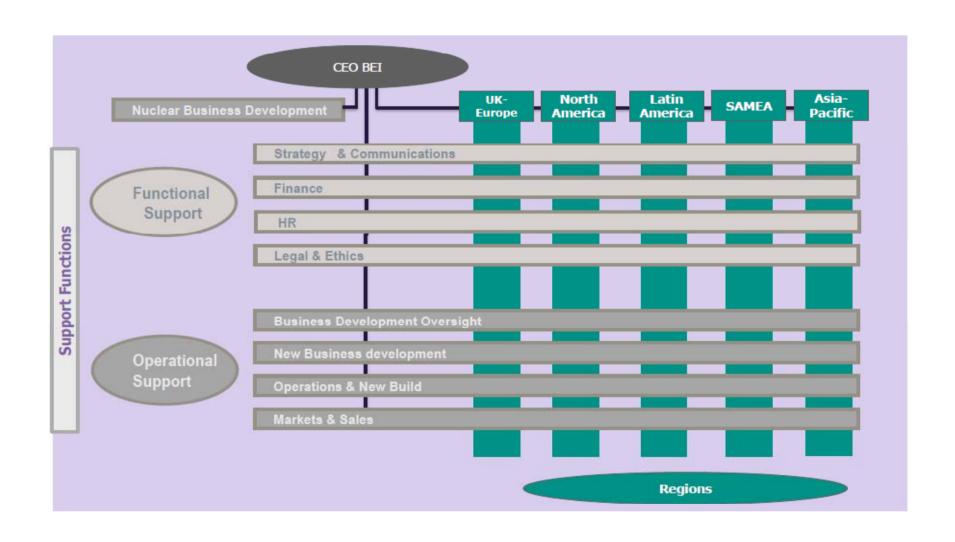
Mejillones power plant, Chile



Gasoducto Norandino, Chile-Argentina

We pursue a transnational strategy, which we implement through a matrix organisational structure







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THANK YOU

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