Europe’s Energy Transition: What’s in for the MENA Region?

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Status Quo EU Energy Transition: key challenges for the European electricity market

- **Costs!** The energy transition costs are too high - regulatory change needed!

- **Regulatory intervention!** Growing national and EU regulatory intervention and less market (U turn from liberalization agenda, and from EU market integration)

- **System approach is lost!** Progress in market integration and necessary system solutions (grids ...) is too slow to accommodate growing share of variable renewables: system risks and costs growing

- **Lack of European and market perspective** in defining energy policies by Member States resulting in sub-optimal and costly policy choices
Useful experiences from the EU transition

1. RES for less: cost reduction of renewables
2. Cost-effective integration of RES is crucial
3. Utilities’ future relies on innovation, including Energy Efficiency
4. Regional cooperation as the only way forward
5. Sound regulation and empowering governance - decisive for investors
6. CO2 has no borders: Climate Change is world-wide issue
1/ Europe’s RES deployment has pushed further cost reductions

The cost of key RES technologies is expected to decrease by as much as 60% to 2020: huge cost reduction (competitiveness) potential- MENA can take advantage!

1 Cost refers to the levelised cost of energy attainable using leading technology in favourable conditions. Assumptions include (2011, 2020): Onshore wind capex in EUR/kW (1188, 1108), load factor (36%, 39%), WACC 9%; Offshore wind capex in EUR/kW (3772, 2830), load factor (51%, 54%), WACC 10%; Solar PV capex in EUR/kW (2162, 927), load factor (16%, 16%), WACC 7%

Source: EURELECTRIC
2/ RES capacity has grown, but at a too high cost. Cost-effective, market-based integration is key. Avoid Europe’s mistakes

- Static schemes (like FIT) that don’t allow market integration and cost-effective deployment
- Average RES unit support at ~70 EUR/MWh, and support totalling 38bn in 2012

RES support reforms all over Europe: avoid overcompensation and limit market distortions

Source: EURELECTRIC
3/ European utilities’ future depends on innovation in new segments

European EBIT pool, EUR billions, Percentage, 2012 real

100% = 114

- Conventional generation³
  - 2011: 16
  - 2012: 16 (with -1%)
  - 2020E: 10

- Power sales
  - 2011: 62
  - 2012: 55 (with -11%)

- New Downstream²
  - 2011: 11
  - 2012: 14

- Utility scale renewables
  - 2011: 22
  - 2012: 23

- Transmission and distribution¹
  - 2011: 5
  - 2012: 17

¹ Includes transmission, conventional distribution, and smart grids
² Includes distributed generation, EV infrastructure, new downstream products and services
³ Excludes earnings from ancillary services
⁴ Assuming no change in commodity prices vs. today

SOURCE: EURELECTRIC
R&D expenditure by large European utilities has nearly doubled over the last decade

R&D expenditure by 13 major European utilities in early 2000s\(^1\) and early 2010s\(^2\)

EUR millions

- **2003**
  - Statkraft
  - CEZ
  - Centrica
  - SSE
  - EDP
  - Enel/Endesa\(^4\)
  - Dong

- **2012**
  - Iberdrola\(^3\)
  - RWE
  - E.ON
  - Vattenfall\(^5\)
  - GDF Suez\(^6\)
  - EDF

+90%

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2. 2010: CEZ; 2011: Centrica, Dong, RWE, EDP; others 2012
3. Adjusted for acquisition of Scottish Power Ltd.
4. Adjusted for acquisition of Endesa
5. Adjusted for acquisition of Nuon Energy

Source: Capital IQ, company annual reports; EURELECTRIC Innovation Action Plan Task Force analysis
New downstream value pools have a high potential

“In 2030, the utility business model will be about delivering reliability of service (not kWh throughput)”

SOURCE: EURELECTRIC Innovation Action Plan

Huge potential for energy efficiency improvements, in Europe as well as in MENA
4/ EU Transition can only be successful with a regional approach, not a national one

A national patchwork of CRMs, RES support, and even CO2 regimes in Europe: this is not the way forward

Completion of the EU energy market requires a European-wide coordinated energy policy (improve Lisbon’s Treaty Article 194)
5/ A sound regulatory framework and an empowering governance is decisive for investments.
CO2 has no borders: the jump on the decarbonisation pathway is worthwhile for fostering clean investments and access to energy

But climate policies must be cost-effective, this requires

1. Focus on emissions reduction (not renewables, imports)
2. Economy-wide targets (not just a few sectors)
3. Regional (EU-wide) instruments (not national)
4. Market instruments (not command)
5. A steady pace of change (early + high ambition, not delay + low ambition; stable framework, not stop/start)

...do not replicate EU’s 20/20/20 package
Europe’s transition provides useful (good and bad) lessons

1. Pursue decarbonisation via strong GHG reduction target
   - The ETS as the key driver for investment in low-carbon technologies and
   - Access to energy through clean decentralised solutions

2. Secure supply through competitiveness and innovation
   - Completion of the European Internal Energy Market: wholesale markets and adequate network infrastructure
   - Support energy innovation: master the energy efficiency potential
   - Sound regulation for sound investments
EURELECTRIC supports its MENA members!

- Through the WG Neighbourhood
- In bilateral exchange
- Through MEDELEC
- A conference on Investment in the MENA will be set up by EURELECTRIC and MEDELEC in 2015!
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