GOVERNMENT AND INDUSTRY CO-OPERATION TO FOSTER ENERGY SECTOR TRADE, INVESTMENT AND INNOVATION

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OUTLINE

1. Clean energy for All Europeans’ package
2. The industry change in the power sector
3. Research and technology innovation
4. Governance: Integrated national plans for climate and energy
5. Moving toward: five broad ideas
AIM: ZERO EMISSIONS
1. THE CLEAN ENERGY FOR ALL EUROPEANS’ PACKAGE: THE DIRECTIONS (I)

• Targets for greenhouse gas emission reduction, renewable energy sources, energy efficiency, sustainable mobility for 2030 and 2050 in line with Paris Agreement of 2016
• Transition towards low-carbon economy by 2030, towards climate-neutral economy by 2050
• Trends:
 ➢ Large-scale electrification (RES and low-carbon power generation)
 ➢ Digitalisation and smart infrastructure to allow energy sectoral integration
 ➢ Natural gas as the preferred fuel for the energy transition
 ➢ Decentralisation and energy technology diversification (transition is not technology-neutral)
The road to 2050
1. THE CLEAN ENERGY FOR ALL EUROPEAN PACKAGE: THE MEANS (II)

- European Directives with roles for the European Commission, Parliament, Council
- Energy industry transformation
- Research and technology innovation
- Governance for the energy transition: national plans and regulation
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<th>Clean energy for all Europeans package - state of play (1 January 2019)</th>
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<td><strong>Energy Performance in Buildings</strong></td>
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<td><strong>European Commission Proposal</strong></td>
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<td><strong>Renewable Energy</strong></td>
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Linking the nations of Europe
Cogeneration and On-Site Power Production

Avedøje 2: Denmark’s new super-efficient CHP plant

Ice! Experience in southern hemisphere turbines - the need for cut-based emission output

Southeast Asia: Gas and markets in US
Keeping the customer satisfied
2. THE INDUSTRY TRANSFORMATION IN THE POWER SECTOR

**The past**
- Large power generating facilities
- Centralised dispatching
- Main transmission grids
- Wholesale power market (power sales)
- Consumers (regulated contracts)
- Verticalised power companies

**The present/future**
- Distributed power generation (RES, cogeneration, electricity storage)
- Local dispatching
- Distribution grids (grid meshes)
- PPA, blockchain (service sales)
- Prosumers (intelligent metering, smart grids)
- Power networks and alliances
Europe's big idea
3. RESEARCH AND TECHNOLOGY INNOVATION: WHAT IS HORIZON 2020?

- Horizon 2020 is the biggest EU Research and Innovation Programme ever with 80 bn Euro of funding available other 7 years (2014 to 2020)
- Public-private funding and partnership promoted
- Basic aim to implement the Innovation Union to:
  - Make Europe a world-class science performer
  - Remove obstacles to innovation like expensive patenting, market fragmentation, skill shortage
  - Revolutionise the way public and private sectors work together
- Horizon 2020 and its successor are instrumental to the implementation of the Clean Energy for All Europeans’ package
4. GOVERNANCE: INTEGRATED NATIONAL PLANS FOR CLIMATE AND ENERGY - GENERAL (I)

- Plans to be adopted by each EU Member State since the year 2019 with a view at general EU energy and environmental objectives
- Plans should describe goals, means and situation with regard to five axis:
  - Decarbonisation
  - Energy efficiency
  - Energy security
  - Single (internal) energy market
  - Research, innovation and competitiveness
- Plans to be submitted to the European Commission while their enactment would be reviewed every three years
4. GOVERNANCE: INTEGRATED NATIONAL PLAN FOR CLIMATE AND ENERGY – ITALY (II)

- Proposal for the Plan submitted by the Italian Government to the EU Commission on 31 December 2018
- The targets:

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<th>Category</th>
<th>Target Date</th>
<th>EU</th>
<th>Italy</th>
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<td>Renewable energy contribution</td>
<td>2020</td>
<td>20%</td>
<td>17%</td>
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<td></td>
<td>2030</td>
<td>32%</td>
<td>30%</td>
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<td>Energy efficiency</td>
<td>2020</td>
<td>- 20% - 21%</td>
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<td></td>
<td>2030</td>
<td>- 43%</td>
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<td>GHG Reduction</td>
<td>2020</td>
<td>- 21% - 23%</td>
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<tr>
<td>vs 2005</td>
<td>2030</td>
<td>- 43% - 43%</td>
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IN BUSINESS YOU NEED
SPACE TO MANOEUVRE.
5. MOVING FORWARD: FIVE BROAD IDEAS (I)

• **Convergence.** Focus would be on the Gulf Region to exchange with EU and its Members States views on energy policies, programmes, energy market organisation and their goals:

• Events might help and contribute to this prerequisite action:
  - 7th EU Energy Day of 14 January 2019, Abu Dhabi at the World Future Energy Summit 2019
  - 3rd IEF – EU Energy Day of 26 February 2019, Riyadh
  - 1st EU – Arab League Summit of 25-26 February 2019, Shara el-Sheikh
5. MOVING FORWARD: FIVE BROAD IDEAS (II)

• **Horizon 2020 Outreach:** Joint research and innovation initiatives and programmes to be undertaken in the Gulf Region within the framework of Horizon 2020 and beyond

• **Elements of the action:**
  - Focus on clean low-carbon energy technologies or some sub-set
  - Gulf Region participation in the European Research Area (ERA)
  - Link to the Mission Innovation Initiative
  - Open labour market for researchers
YOU SEE A CHICKEN.
5. MOVING FORWARD: FIVE BROAD IDEAS (III)

• **Education and Training:** With aim at human capital upgrading and technical training towards the energy transition an ERASMUS-like programme might be conceived for the Gulf Region.

• **The programme would build upon:**
  - Existing ERASMUS for the EU Member States
  - Potential enablers: universities and education institutions in the Region
  - Possible new university networks or bilateral inter-university agreements
5. MOVING FORWARD: FIVE BROAD IDEAS (IV)

B (EU) to B (Gulf) Platform. Focus would be on green and low-carbon new energy technology

- How to plan for the platform
  - Joint ventures and technology exchange
  - Optimum market access for innovative technology
  - Optional circulation, access to and transfer of technology innovation
5. MOVING FORWARD: FIVE BROAD IDEAS (V)

• **EU – Gulf Financial Facility.** Aim would be at providing advice and financial services on low-carbon energy projects financial feasibility and bankability, as well as identification and enactment of means and sources of investment either public or private.

• **Ground for the action:**
  - Agreements between EIB and Arab Investment Bank while broadening their mandates.
  - Basing upon other experience, for instance the FEMIP Trust Fund by the European Investment Bank for the Mediterranean Region.
  - Concurrent action by the World Bank and international funds.
“A lift-off for great new benefits.”
Questions?