

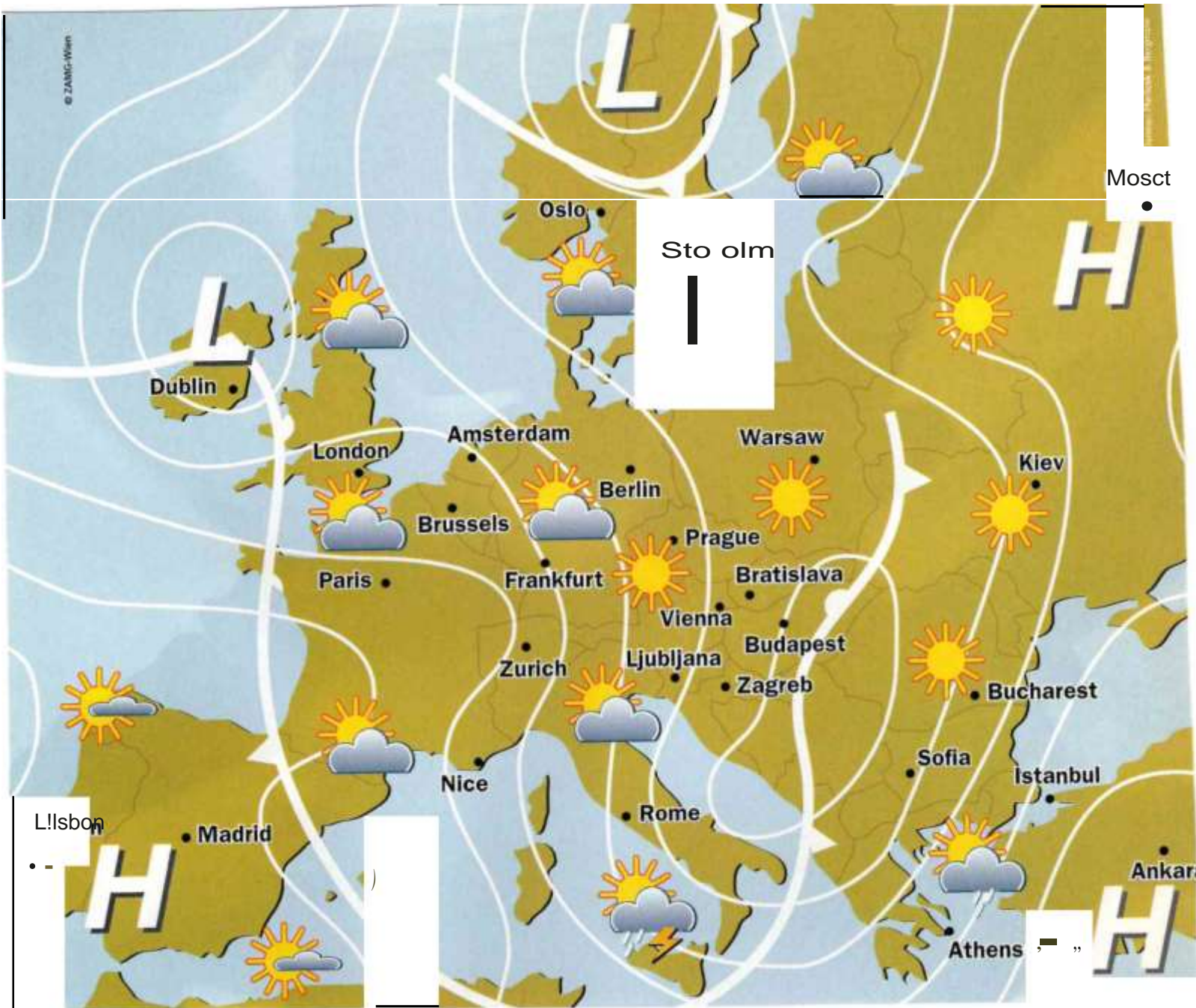
***GOVERNMENT AND INDUSTRY CO-  
OPERATION TO FOSTER ENERGY SECTOR  
TRADE, INVESTMENT AND INNOVATION***

***by Sergio Garribba  
Ministry of Foreign Affairs and International  
Co-operation of Italy***

**Third IEF - EU Energy Day  
Riyadh, 26 February 2019**

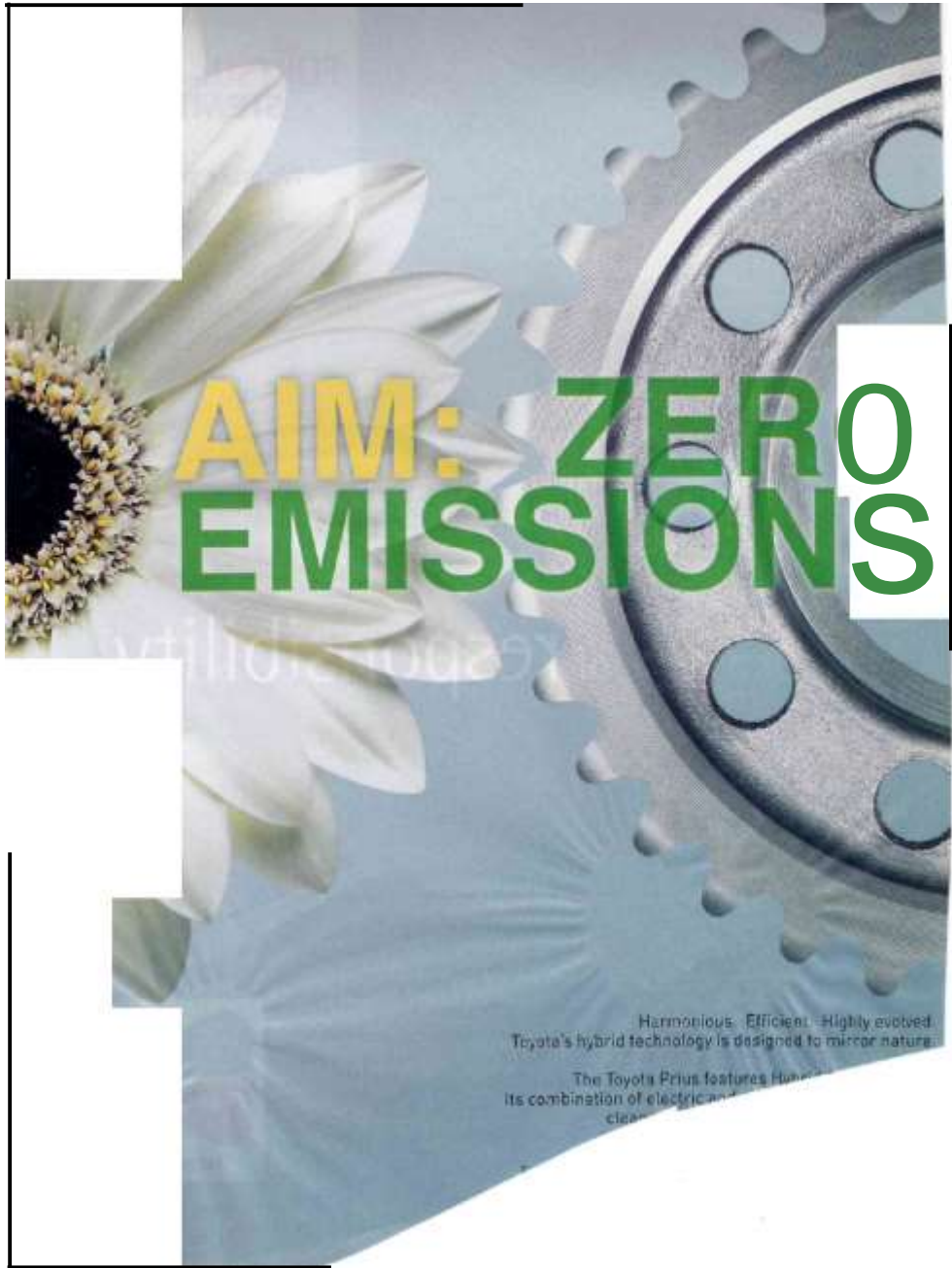
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# **OUTLINE**

- 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

Hybrid Power

Harmonious. Efficient. Highly evolved.  
Toyota's hybrid technology is designed to mirror nature.  
The Toyota Prius features Hybrid Synergy Drive.  
Its combination of electric and gasoline engines provides  
clean, efficient performance.

# 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



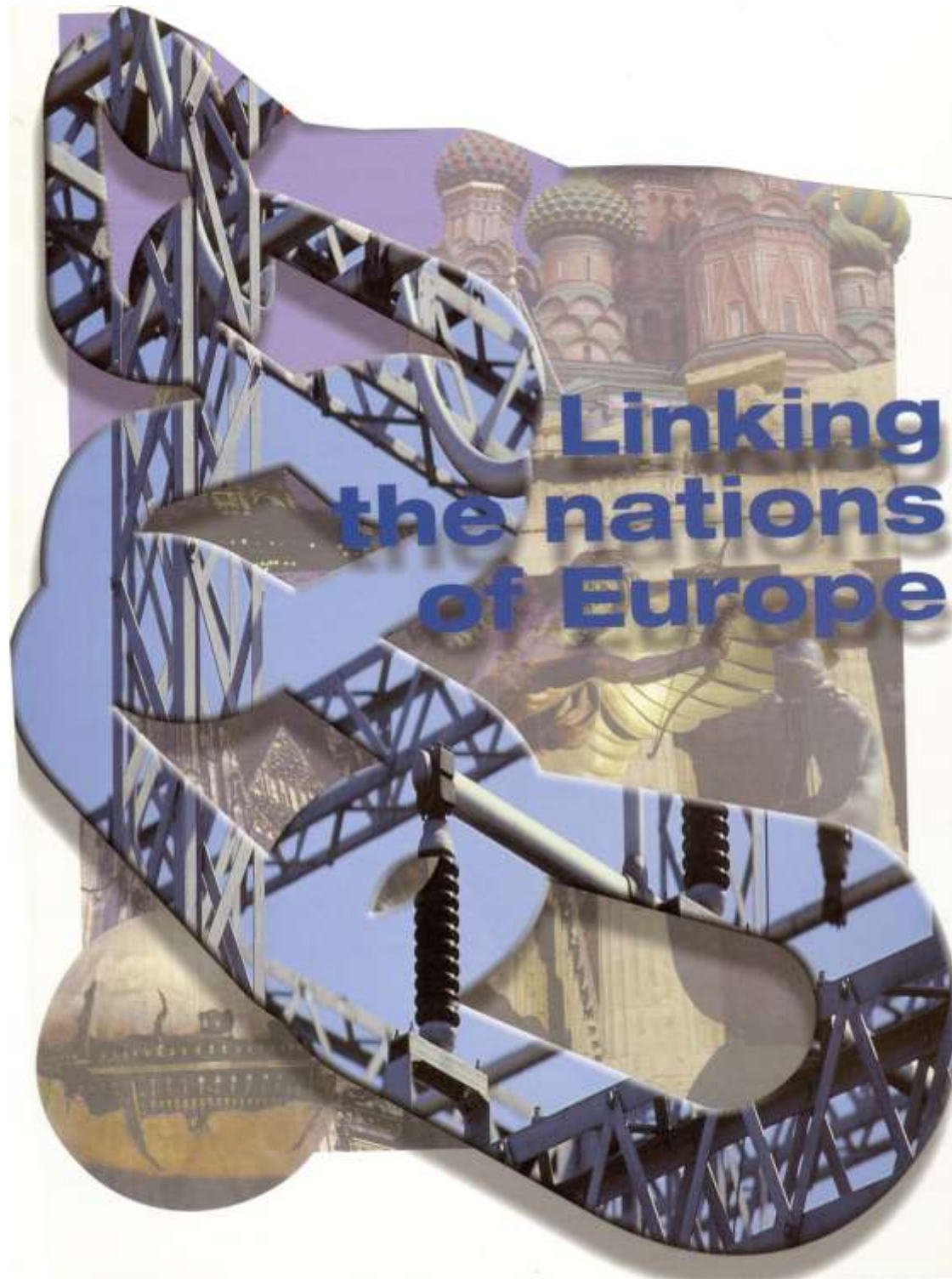
# 1. THE CLEAN ENERGY FOR ALL EUROPEAN PACKAGE: THE MEANS (II)

- 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

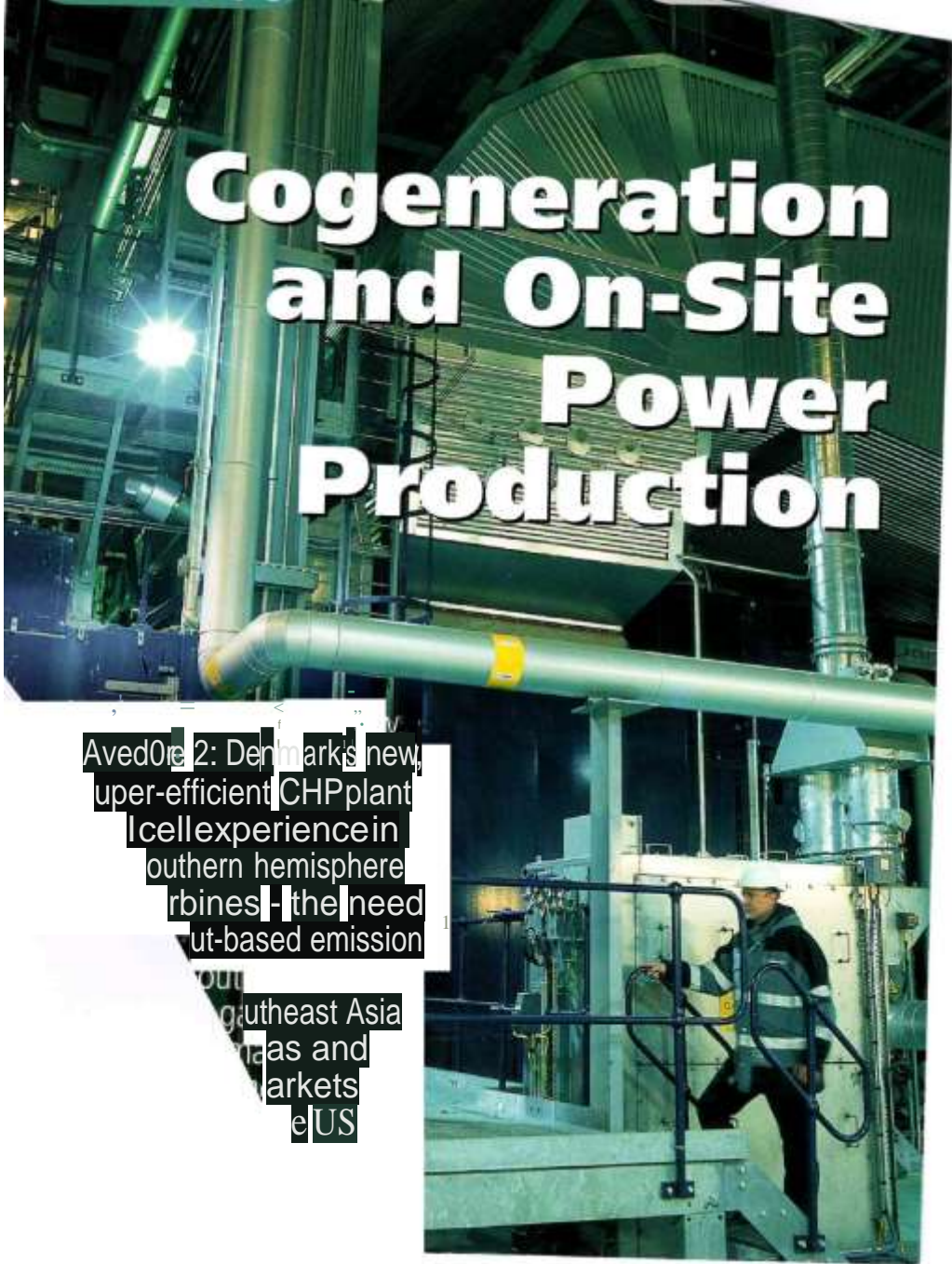


Clean energy for aU Europeans package - state of pray (1 January 2019}

|  | <b>Eur op ean<br/>Com m i ssion<br/>Pro posal</b> | <b>EU I nt er-<br/>inst itutional<br/>Nego tiation s</b> | <b>European<br/>Parliament<br/>Adoption</b> | <b>Council<br/>Adoption</b> | <b>Official<br/>Journal<br/>Publica tion</b>              |
|--|---|--|---|-----------------------------|---|
| <b>Energy<br/>Performance<br/>in Buifdings</b> | <b>30/11/2016</b>                                 | <b>Political<br/>Agreement</b>                           | <b>17/04/2018</b>                           | <b>14/05/2018</b>           | <b>19/06/2018<br/>- Directive<br/>(EU)<br/>2018/844</b>   |
| Renewable<br>Energy                            | <b>30/11/2016</b>                                 | <b>Political<br/>Agreement</b>                           | <b>13/11/2018</b>                           | <b>04/12/2008</b>           | <b>21/12/2018<br/>- Directive<br/>(EU)<br/>2018/2001</b>  |
| Energy<br>Efficiency                           | <b>30/11/2016</b>                                 | <b>Political<br/>Agreement</b>                           | <b>13/11/2018</b>                           | <b>04/12/2018</b>           | <b>21/12/2018<br/>- Directive<br/>(EU)<br/>2018/2002</b>  |
| Governance                                     | <b>30/11/2016</b>                                 | <b>Political<br/>Agreement</b>                           | <b>13/11/2018</b>                           | <b>04/12/2018</b>           | <b>21/12/2018<br/>- Regulation<br/>{EU)<br/>2018/1999</b> |
| Electricity<br>Regutation                      | <b>30/11/2016</b>                                 | <b>Political<br/>Agreement</b>                           | Pelilding                                   | Pending                     | -   |
| Erect r foity<br>Direc ilVe                    | <b>30/11/2016</b>                                 | <b>Political<br/>Agreement</b>                           | Pelilding                                   | Pending                     | -   |
| R isk<br>Pr ep ar ed n ess                     | <b>30/11/2016</b>                                 | <b>Political<br/>Agreement</b>                           | Pelilding                                   | Pending                     | -   |
| <b>ACER</b>                                    | <b>30/11/2016</b>                                 | <b>Political<br/>Agreement</b>                           | Pe11ding                                    | Pending                     | -   |



**Linking  
the nations  
of Europe**



# Cogeneration and On-Site Power Production

Avedøre 2: Denmark's new, super-efficient CHP plant  
Local experience in southern hemisphere  
turbines - the need  
out-based emission

South East Asia  
gas and  
markets  
the US





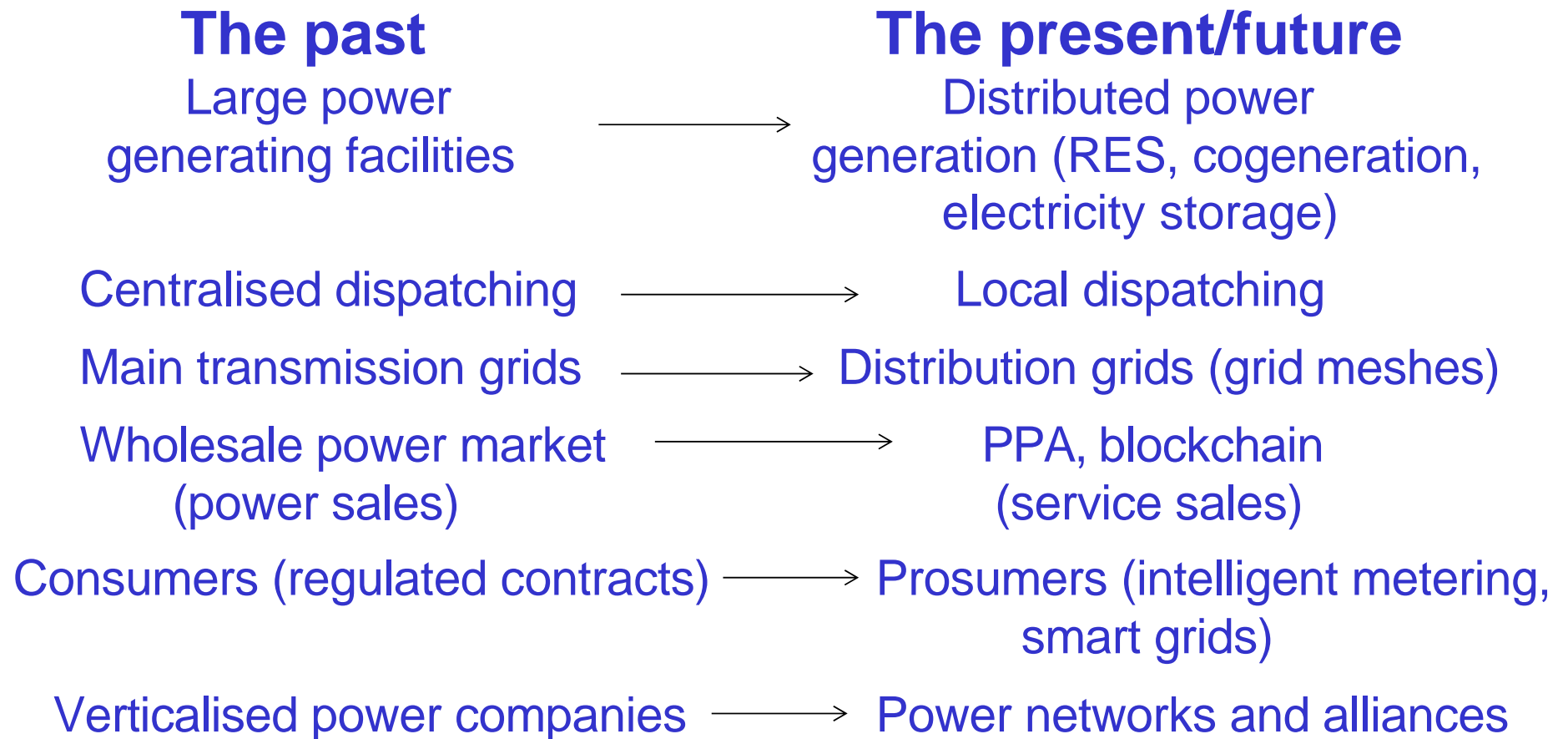
# Keeping the customer satisfied



2 8 11 11111

|      |     |         |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|---------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0016 | 888 | Denmark | 0045 | 0021 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | 012 | 013 | 014 | 015 | 016 | 017 | 018 | 019 | 020 | 021 | 022 | 023 | 024 | 025 | 026 | 027 | 028 | 029 | 030 | 031 | 032 | 033 | 034 | 035 | 036 | 037 | 038 | 039 | 040 | 041 | 042 | 043 | 044 | 045 | 046 | 047 | 048 | 049 | 050 | 051 | 052 | 053 | 054 | 055 | 056 | 057 | 058 | 059 | 060 | 061 | 062 | 063 | 064 | 065 | 066 | 067 | 068 | 069 | 070 | 071 | 072 | 073 | 074 | 075 | 076 | 077 | 078 | 079 | 080 | 081 | 082 | 083 | 084 | 085 | 086 | 087 | 088 | 089 | 090 | 091 | 092 | 093 | 094 | 095 | 096 | 097 | 098 | 099 | 100 |
| 0016 | 888 | Denmark | 0045 | 0021 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | 012 | 013 | 014 | 015 | 016 | 017 | 018 | 019 | 020 | 021 | 022 | 023 | 024 | 025 | 026 | 027 | 028 | 029 | 030 | 031 | 032 | 033 | 034 | 035 | 036 | 037 | 038 | 039 | 040 | 041 | 042 | 043 | 044 | 045 | 046 | 047 | 048 | 049 | 050 | 051 | 052 | 053 | 054 | 055 | 056 | 057 | 058 | 059 | 060 | 061 | 062 | 063 | 064 | 065 | 066 | 067 | 068 | 069 | 070 | 071 | 072 | 073 | 074 | 075 | 076 | 077 | 078 | 079 | 080 | 081 | 082 | 083 | 084 | 085 | 086 | 087 | 088 | 089 | 090 | 091 | 092 | 093 | 094 | 095 | 096 | 097 | 098 | 099 | 100 |

## 2. THE INDUSTRY TRANSFORMATION IN THE POWER SECTOR

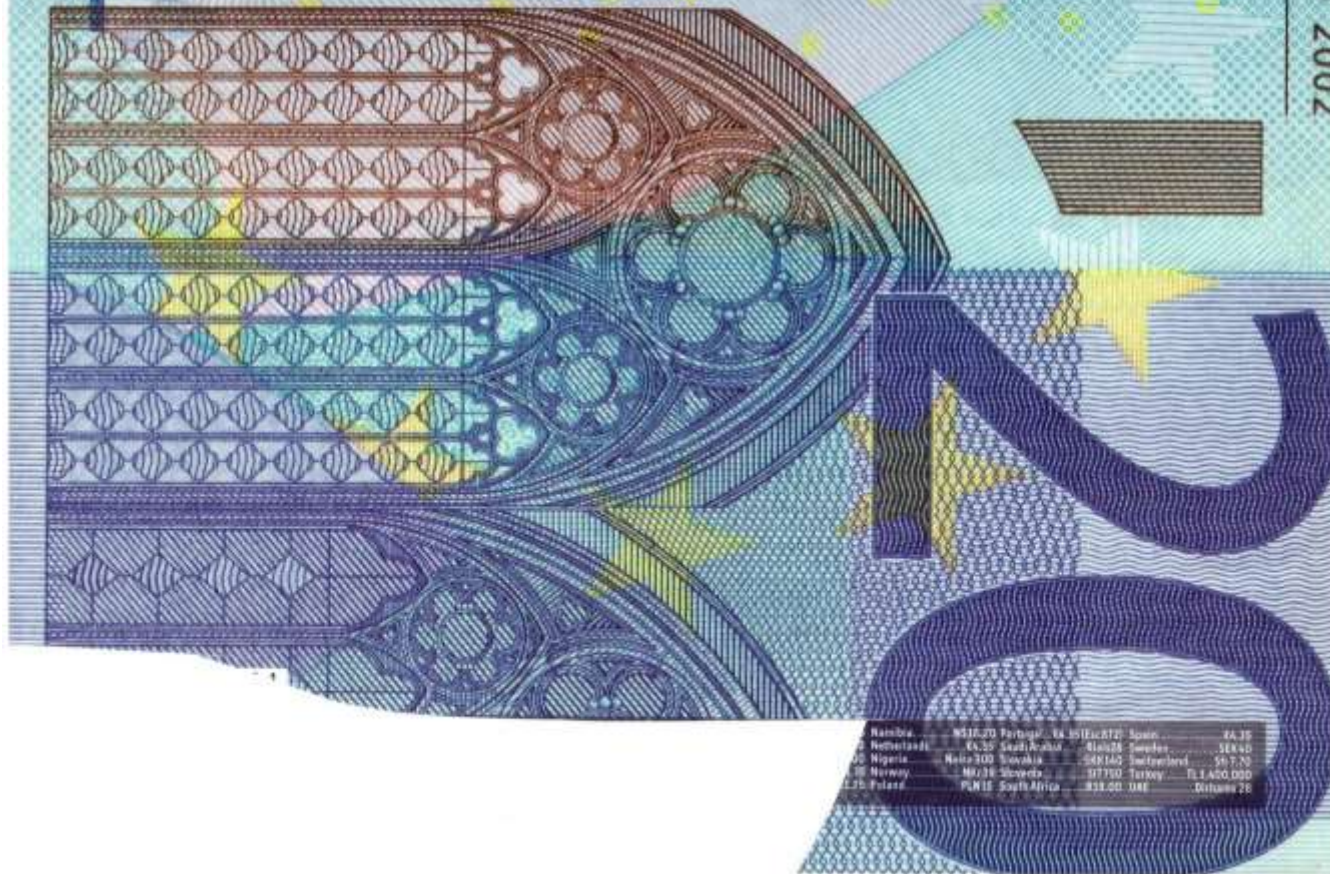






# Europe's big idea

ECB EZB EKT EKP 2002



### **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 over 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



ACCELERATE



## 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:

|   |                 | EU    | Italy |
|---|-----------------|-------|-------|
| ➤ Renewable energy contribution to TPES | by 2020         | 20%   | 17%   |
|   | by 2030         | 32%   | 30%   |
| ➤ Energy efficiency                     | by 2020         | - 20% | - 21% |
|   | by 2030 - 32.5% | - 43% |       |
| ➤ GHG Reduction by 2020 vs 2005         | - 21%           | - 23% |       |
|   | by 2030 - 43%   | - 43% |       |

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?

