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2nd Dii Desert Energy Conference – Panel Discussion

Integration of Renewable Energies into Markets

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Cairo, 2 November 2011

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Agenda

European Regulatory Framework

Challenges to Integrate Renewable Energies into European Markets

Promotion of Renewable Energy Integration in Europe

European Regulatory Framework (1)

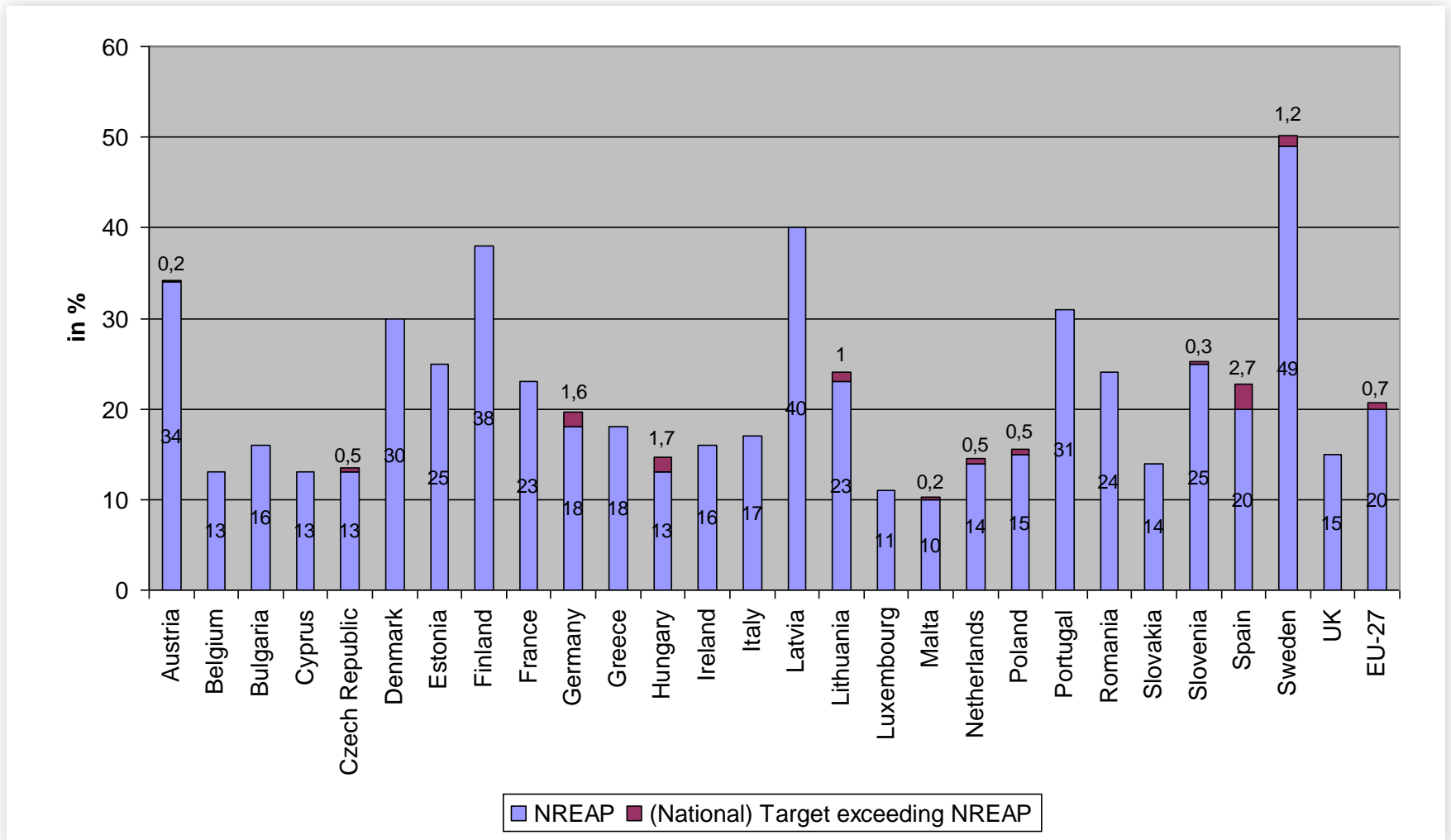
Renewable Energy Directive (2009/28/EC):

- **Overall EU target:** 20 % share of energy from renewable sources in gross final consumption of energy in 2020

- **Measures to achieve target**
 - Support schemes (e.g. feed-in tariff remuneration)
 - Cooperation between Member States
 - Joint projects between Member States and third countries (e.g. MENA countries)

European Regulatory Framework (2)

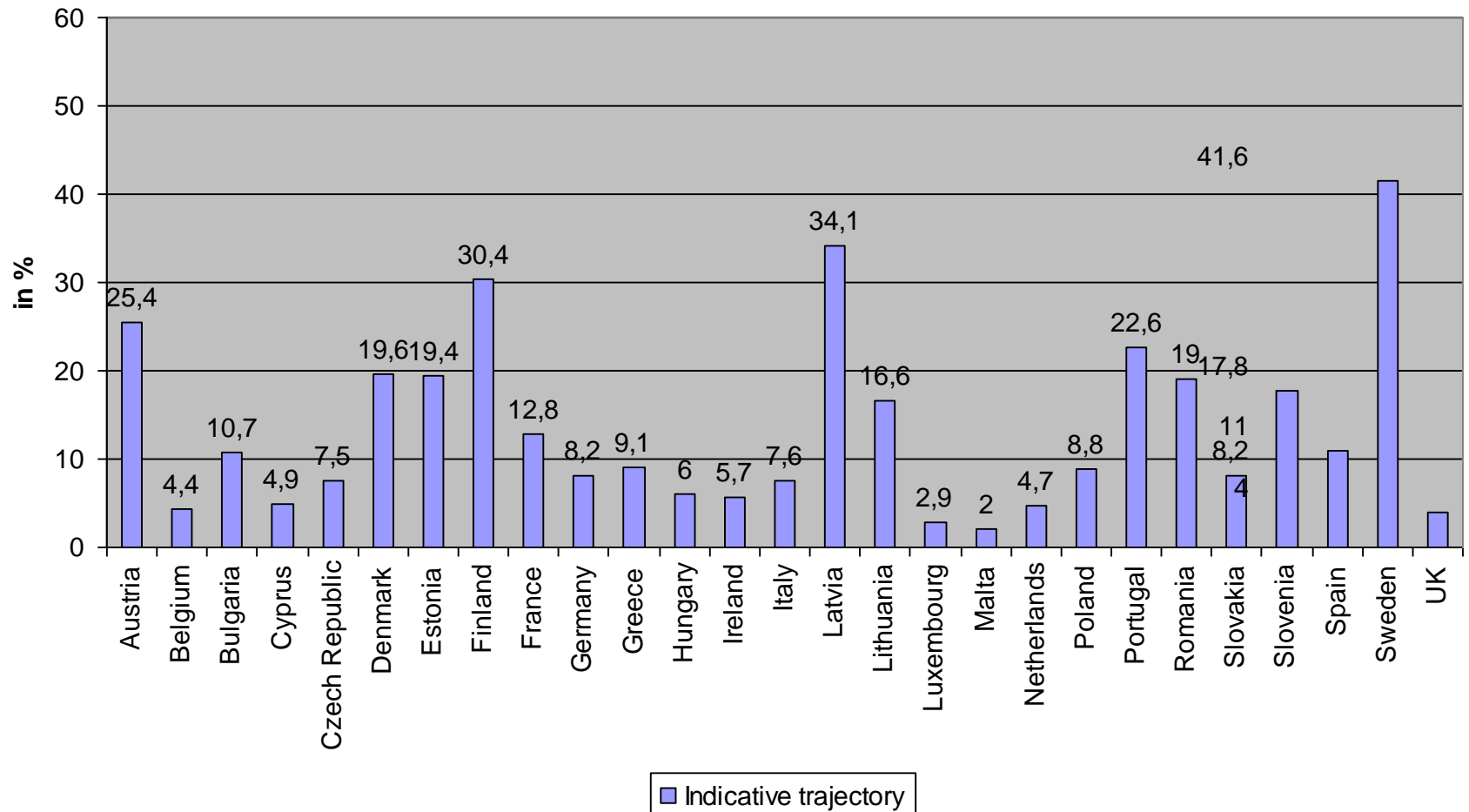
NREAP: Renewable Energy Share in 2020*



4 * In gross final consumption of energy (transport, electricity, heating and cooling).
Source: ECN/EEA, Renewable Energy Projections (Feb. 2011), p. 184 et seq.

European Regulatory Framework (3)

Indicative Trajectory Renewable Energy Share in 2011/12



Challenges to Integrate Renewable Energies into European Markets (1)

➤ **National scope:**

- Regulatory framework to further promote renewable energies
- Comprehensive grid integration (e.g. privileged grid connection, feed-in management)

➤ **European scope:**

- Coordination of renewable energy integration between Member States (facilitate development of internal energy market)
- E.g. integrated transnational (smart) grids; cross-border transmission

➤ **International scope:** Intensifying cooperation with third countries

- Supporting development of domestic generation and transmission infrastructure
- Connecting domestic renewable energy facilities with European transmission grid

Challenges to Integrate Renewable Energies into European Markets (2)

- **Key issue: Grid extension** to ensure transmission of electricity (particularly from offshore wind and solar energy) from site of generation to consumers
 - Identified need of European transmission grid extension
 - Amendment of legislative framework and necessity of administrative instruments to facilitate planning and realisation of grid extension

- **Key issue: Estimated capital investment needs** (in EU until 2020)
 - Electricity generation (including renewable energy facilities): EUR 500 billion
 - Grid infrastructure (both transmission and distribution): EUR 500 billion

Promotion of Renewable Energy Integration in Europe (1)

European Scope:

- **Guidelines for trans-European energy networks (Decision No 1364/2006/EC)**
 - Objective: To promote the interconnection, interoperability and development of trans-European energy networks and access to such networks
 - Projects of priority, including projects of European interest (Annex I of Decision)
 - In particular cross-border investment projects
 - E.g. increasing electricity interconnection capacities with MENA countries, namely connection link Tunisia - Italy
 - Projects of common interest (Annexes II and III of Decision)
 - Must display potential economic viability
 - Projects of common interest and priority projects shall have priority for the grant of Community financial aid

Promotion of Renewable Energy Integration in Europe (2)

- **Energy infrastructure priorities for 2020 and beyond (COM(2010) 677)**
 - Concept for an integrated European energy network (10-year network development plan)
 - In particular:
 - Offshore grid in the Northern Seas; connection to Northern as well as Central Europe
 - Interconnection in South Western Europe (also to enable import from MENA)
 - Preparing longer term networks (2050 roadmap)
 - „European Electricity Highways“ between Member States and between Europe and MENA
 - Concept of a „Supergrid“ in the EU

Promotion of Renewable Energy Integration in Europe (3)

- **Energy 2020 – strategy for competitive, sustainable and secure energy (COM(2010) 639)**
 - In particular priority 2: Building a pan-European integrated energy market
 - Timely and accurate implementation of the internal market legislation
 - Establishing a blueprint of the European infrastructure for 2020-2030
 - Streamlining permit procedures and market rules for infrastructure developments
 - Providing the right financing framework

- **Irrespective of EU guidelines further facilitating (offshore) infrastructure projects, e.g. NorGer and Nord.Link**

Promotion of Renewable Energy Integration in Europe (4)

National Scope:

➤ **Market integration of renewable energies**

- Price support schemes and investment aid
 - Feed-in tariff remuneration (e.g. German EEG); premium payment; direct marketing
 - State subsidies; investment aid; preferential credits
- Feed in management and compensation payments

➤ **Realisation of (European) priority projects:**

- Instruments: New legislation (e.g. EnLAG and NABEG in Germany and national grid extension plans)
- Problem: Permit granting procedures
 - Conflict of objectives: Need of grid extension to be balanced with environmental issues and conflicting interests of affected population