



Danish Ministry
of Energy, Utilities
and Climate

Accelerating Energy Technologies in the Danish Context

Deputy Permanent Secretary Anders Hoffmann,
Danish Ministry of Energy, Utilities and Climate



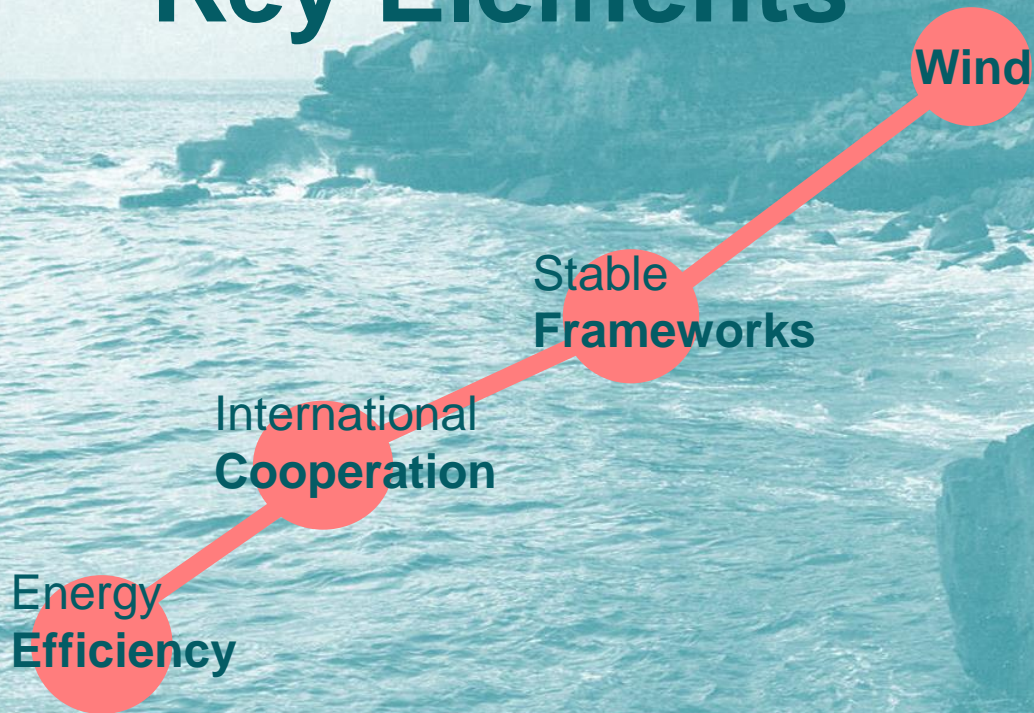
The Danish Model - A Journey

Oil Crisis
in the
1970'es

Fossil Fuel
Independence
in 2050

Since 1990:
Domestic Energy
Consumption has
declined by 8 pct.
and the adjusted Carbon
Emissions by 36 pct.

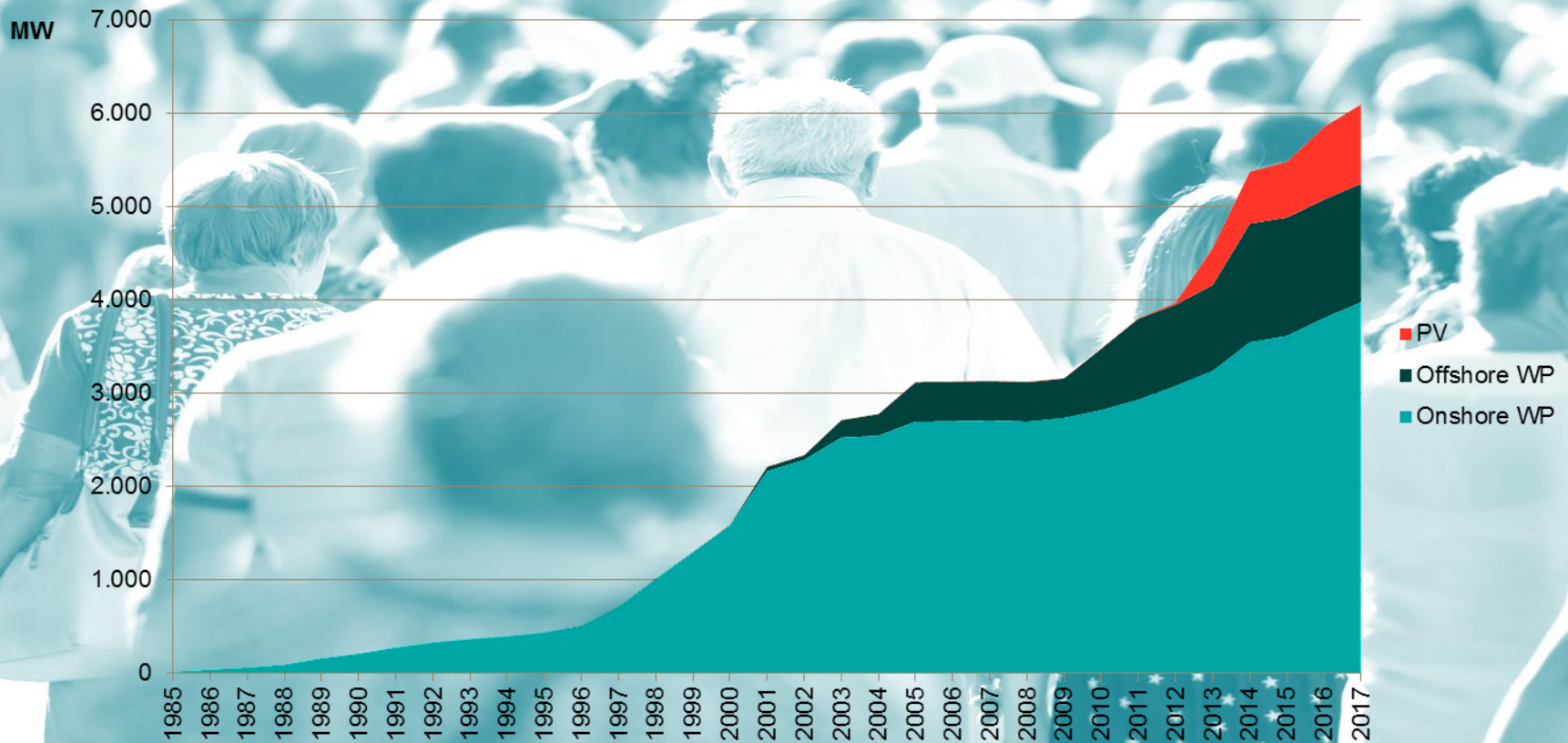
Wind Power Integration - Key Elements



*The Danish Meteorological
Institute:*

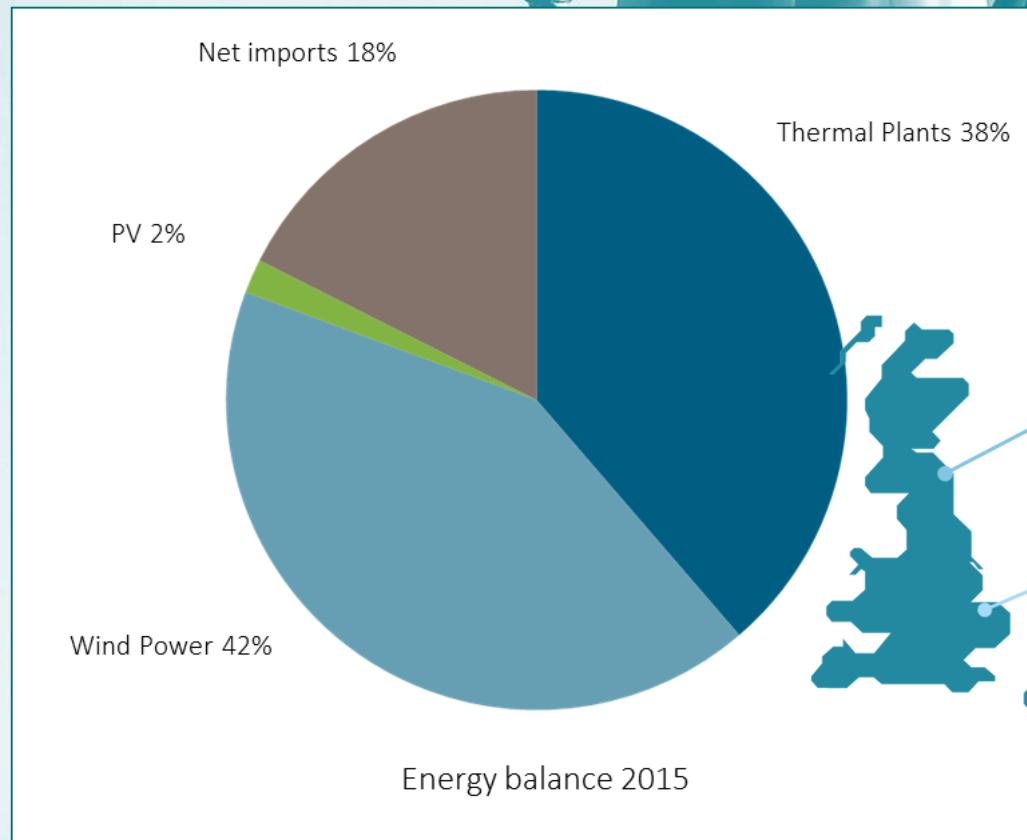
**The wind is
blowing 355
days a year
in Denmark ...**

Danish Experiences in 30 Years



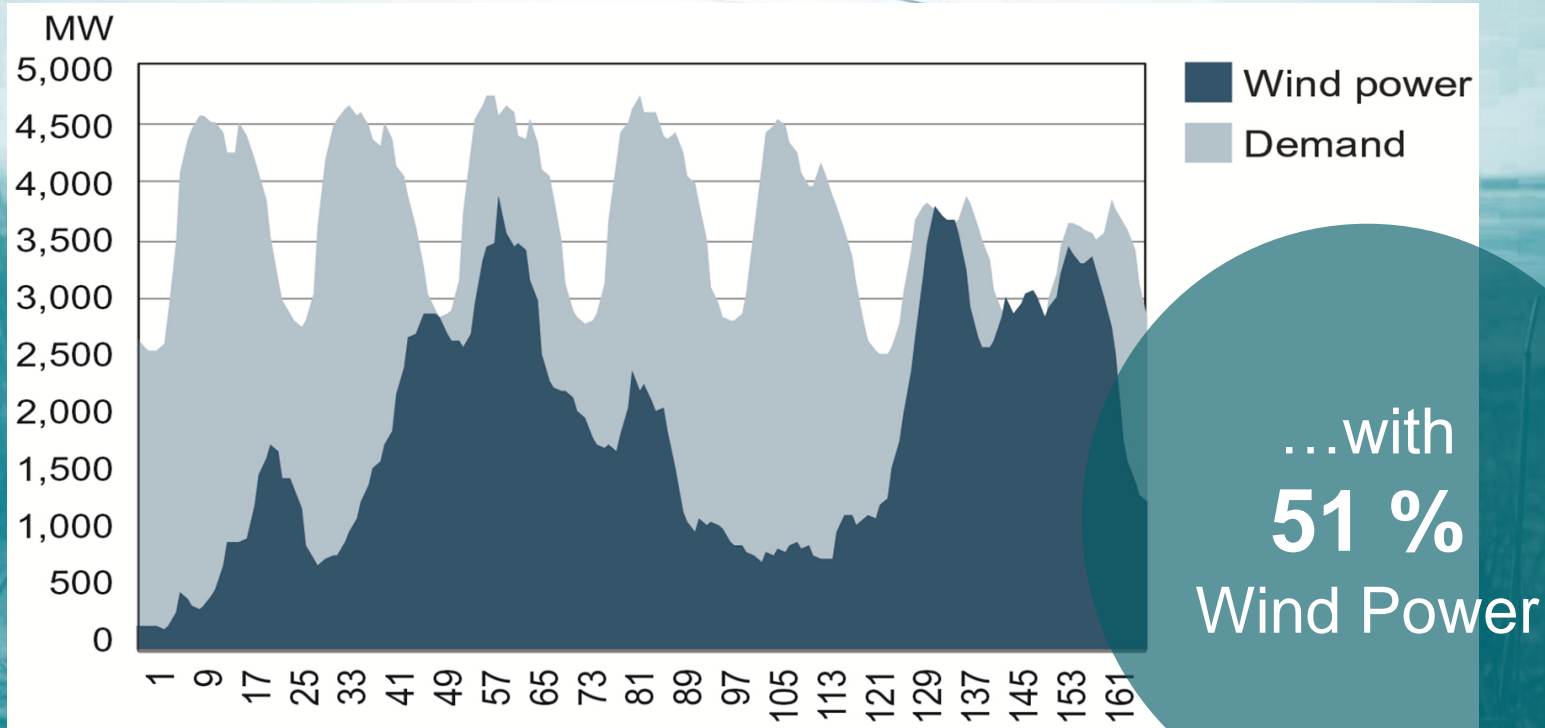
Source: Energinet

Denmark – Wind Power and Interconnectors



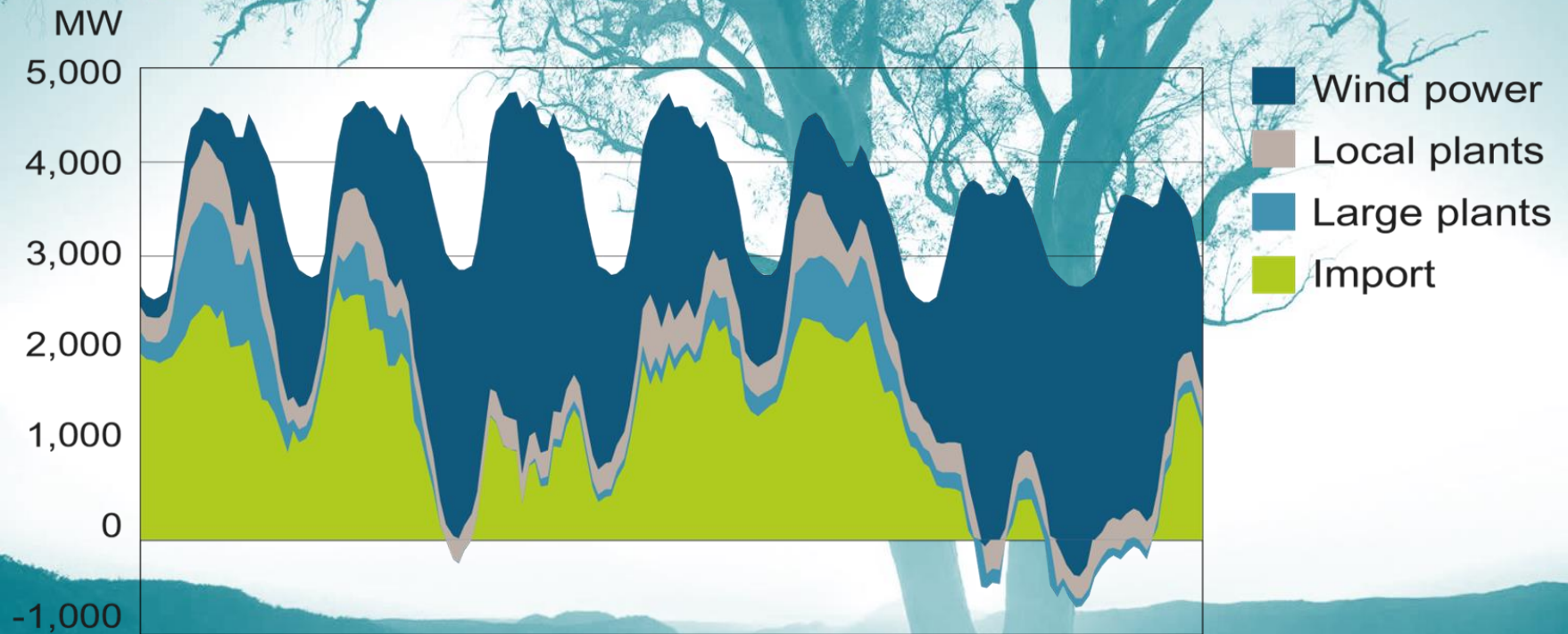
Source: Energinet

System Balancing in a Week



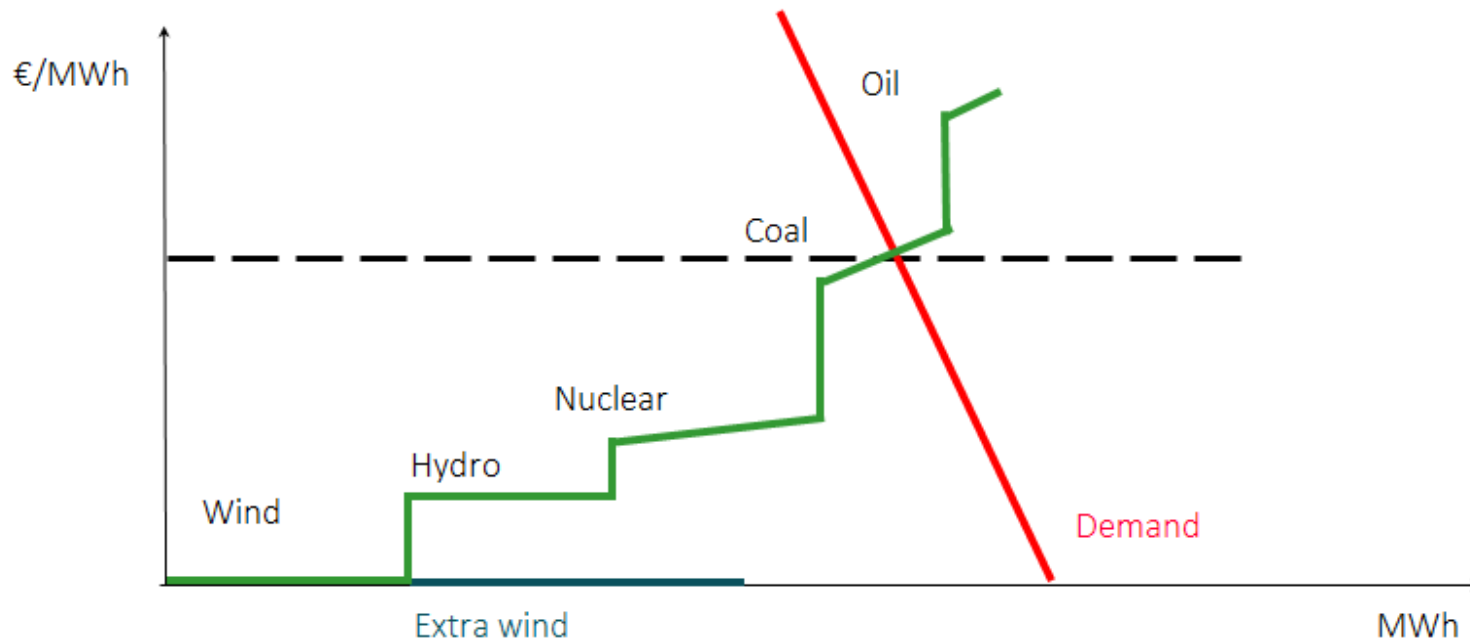
Source: Energinet

Balance in a Flexible System



Source: Energinet

Merit Order Dispatch to Minimize Generation Costs



Source: Energinet



From **research**
and **Innovation** ...to **Market-Ready**
Solutions

The background of the image is a close-up photograph of a stack of Euro coins on a dark, textured wooden surface. Several loose coins are scattered around the stack. A thick red arrow starts from the bottom left and points diagonally upwards towards the top right corner of the image. Two teal-colored circles are overlaid on the image, each containing white text. The first circle is positioned on the left side, partially overlapping the stack of coins. The second circle is on the right side, overlapping the scattered coins. The overall image conveys a message of economic growth and investment in the green sector.

**Exports of
Wind Technology
accounted for
6,5 billion Euro
in 2015**

**Almost
67 thousand
people employed
in the green
sector in Denmark**

The background is a photograph of several people sitting around a table, possibly in a restaurant or meeting setting. The image is overlaid with a semi-transparent teal color. Three circles are positioned over the image: a teal circle at the top, a red circle in the center, and two teal circles at the bottom left and right. Each circle contains text.

**International
Cooperation**

**Public
Support**

**Bilateral
Mexico,
China..**

**Multilateral
IEA,
IRENA,
CEM, M.I**



Thank You
for your attention



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