

**Study Tour to Denmark and Sweden, May 2013
In the framework of
"Engaging Citizens in Sustainable Energy to improve environment and local Economy"
ECSE Project in 2012-14.**

Danish Energy Situation and Policies

By

Gunnar Boye Olesen, INFORSE Europe

More about the Project:

<http://www.inforse.org/europe/ECSE.htm>

http://inforse.org/europe/ECSE_RU.htm

This document has been produced by the Project "Engaging Citizens in Sustainable Energy to improve environment and local Economy" (ECSE) with the financial assistance of the European Union and Swedish International Development Cooperation Agency (SIDA). The contents of this document are the sole responsibility of the ECSE Project Partners: INFORSE-Europe, Denmark (Project Coordinator), Skåne Energy Agency (SEA) Sweden, and Centre of Environmental Solutions (CES), Belarus; and can under no circumstances be regarded as reflecting the position of the financial supporters i.e. European Union and SIDA.



Danish Energy Situation and Policies



Gunnar Boye Olesen
21st May 2013

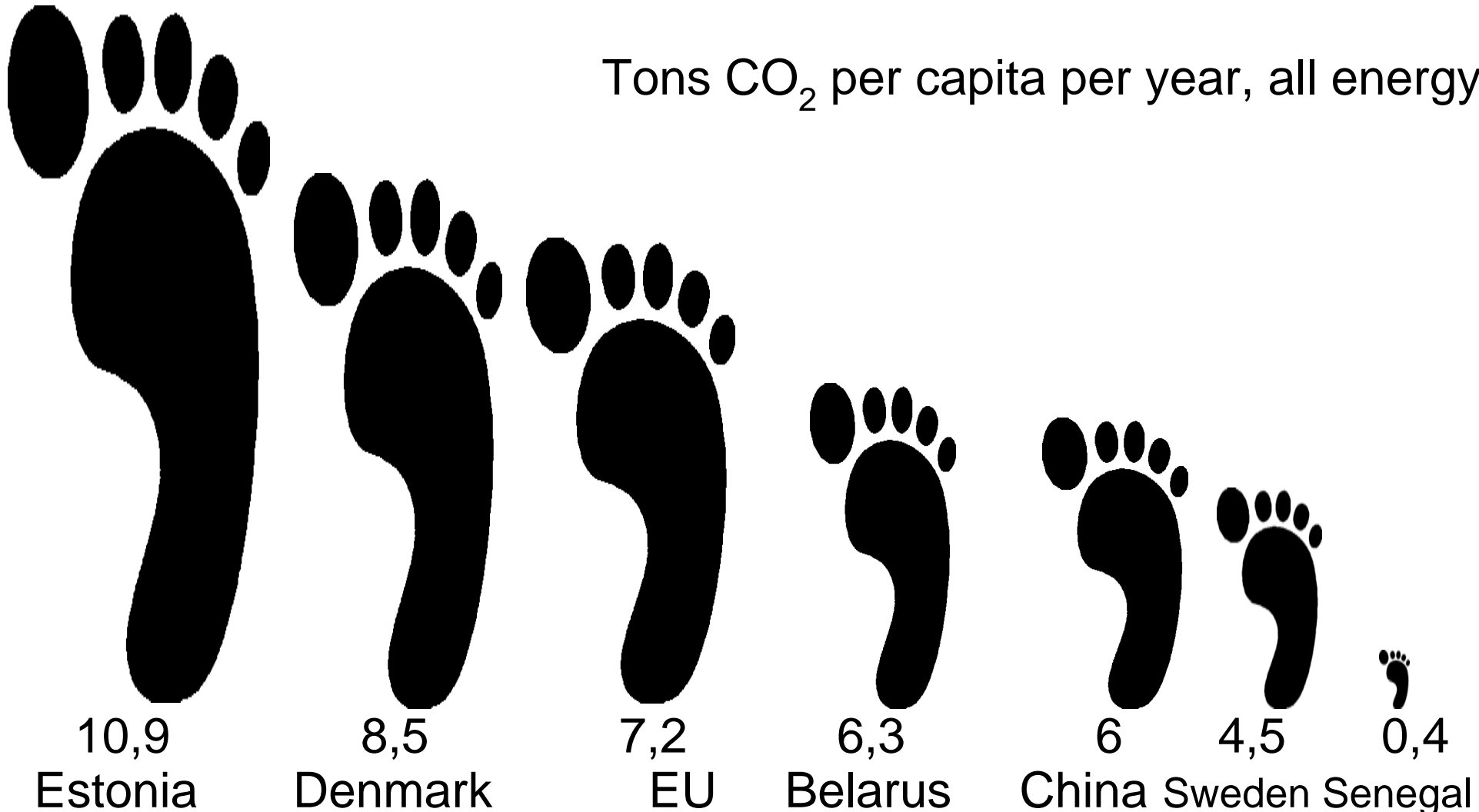
INF  **RSE**

International Network for Sustainable Energy

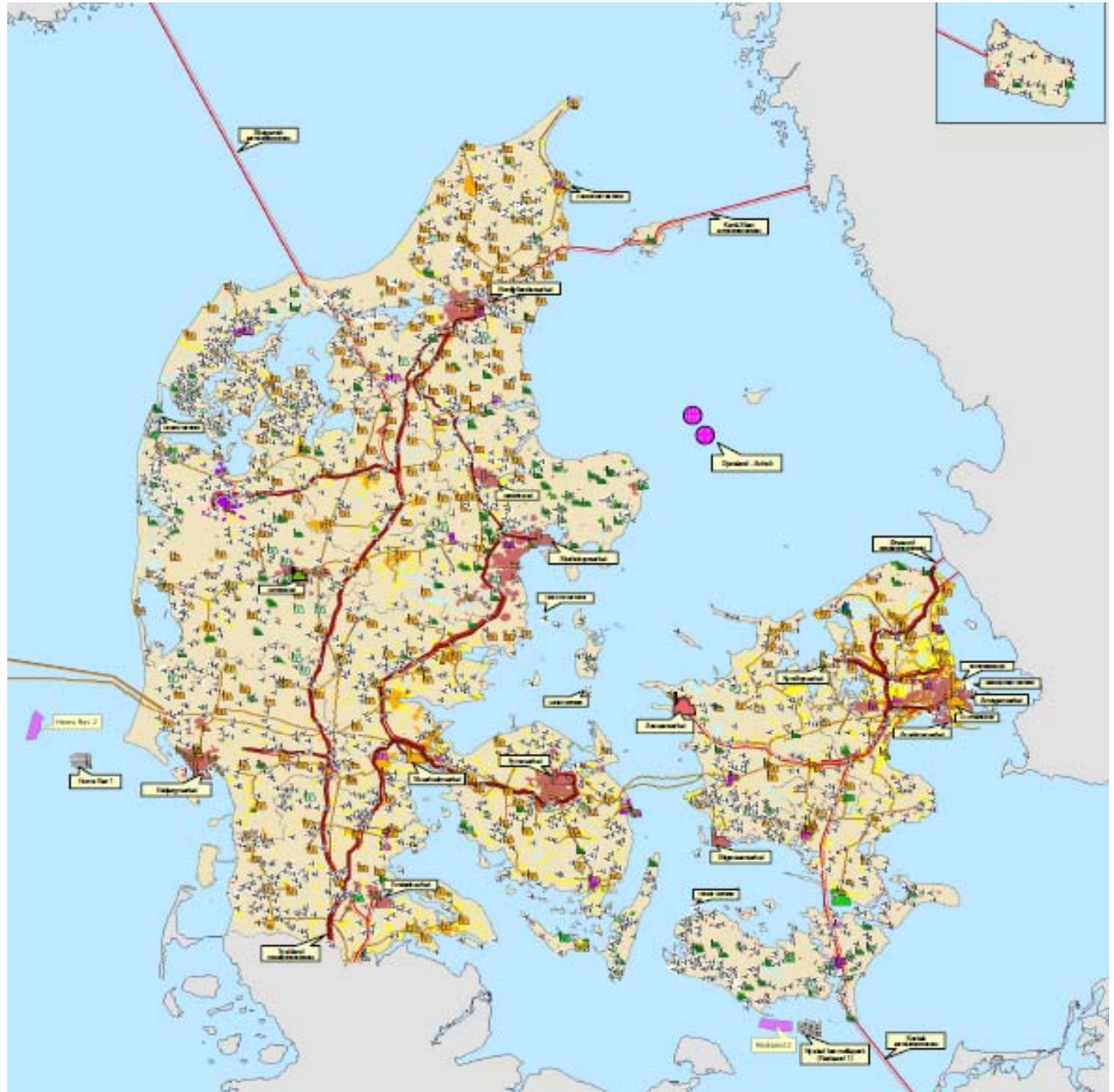


Danish among the highest CO2 emmitters (but plan to reduce)

Tons CO₂ per capita per year, all energy:



Danish Energy Supply Structure

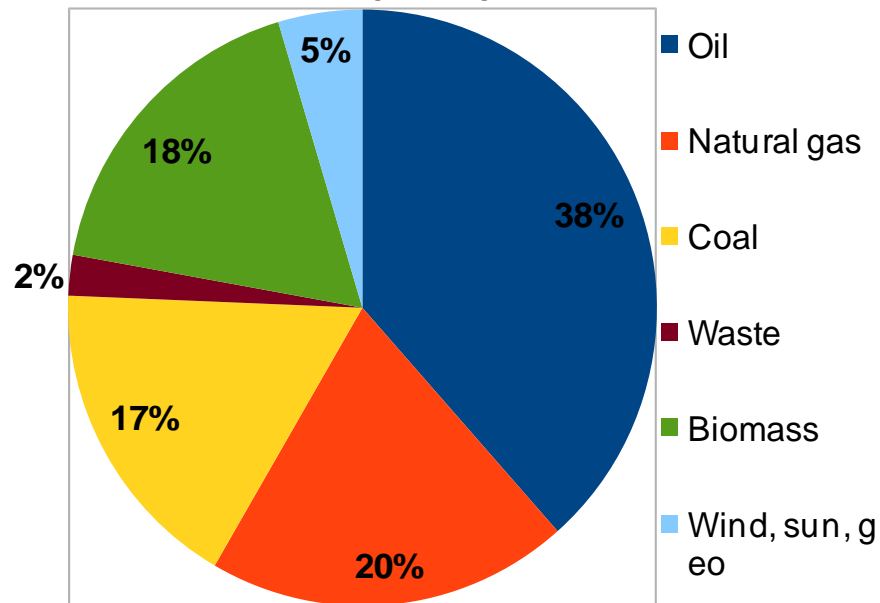


Regional Energy Supply

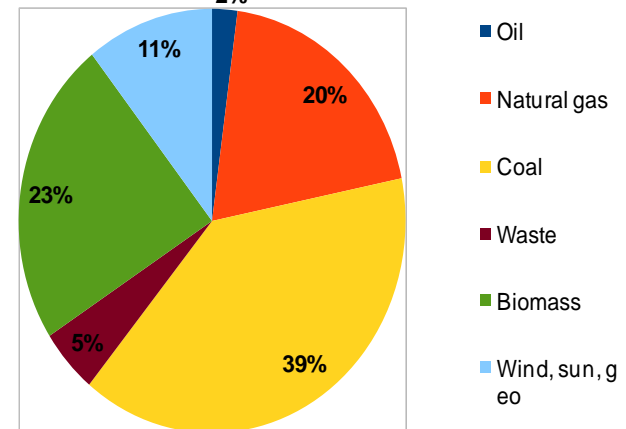


Danish Energy Supply

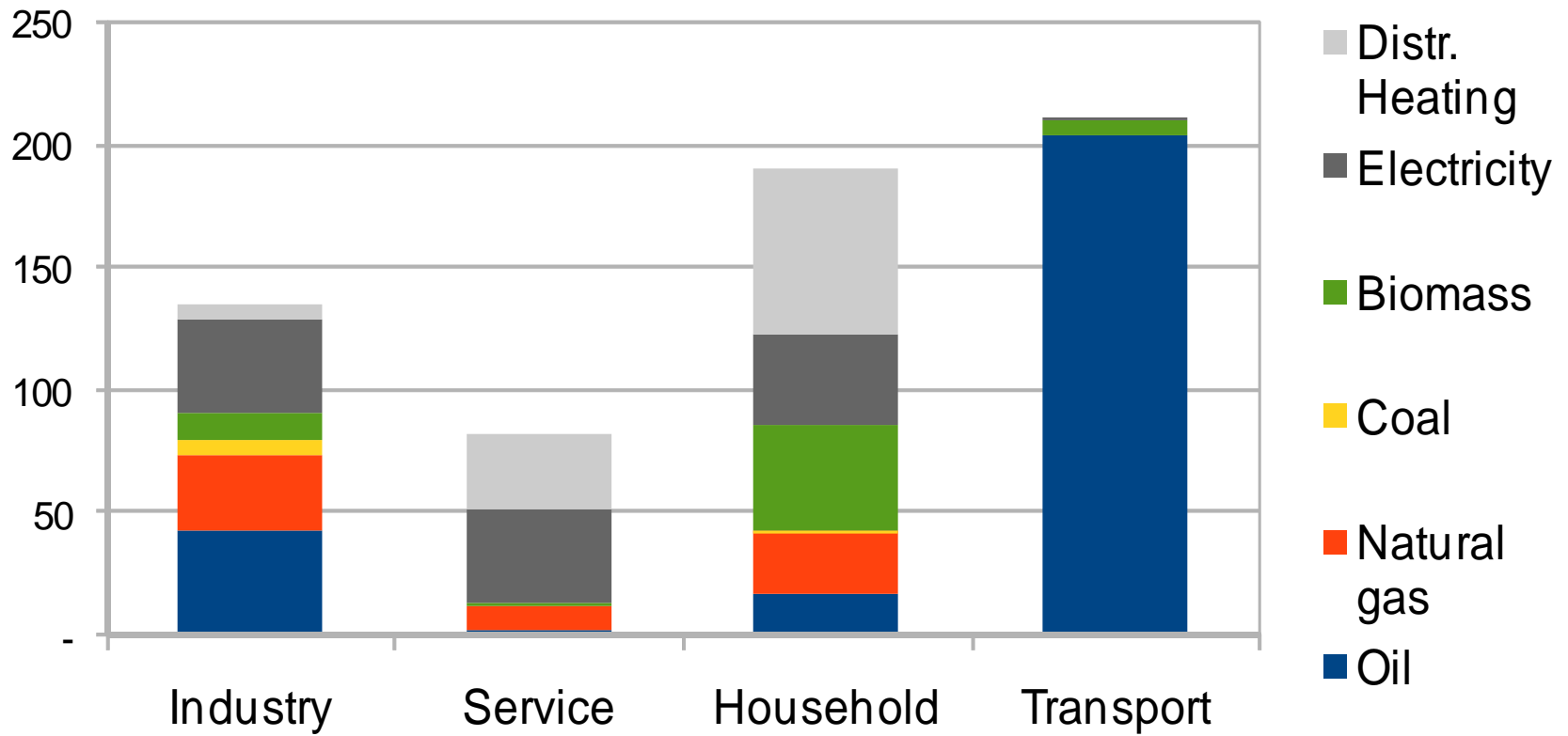
Primary energy Supply: 792 PJ
(2011)



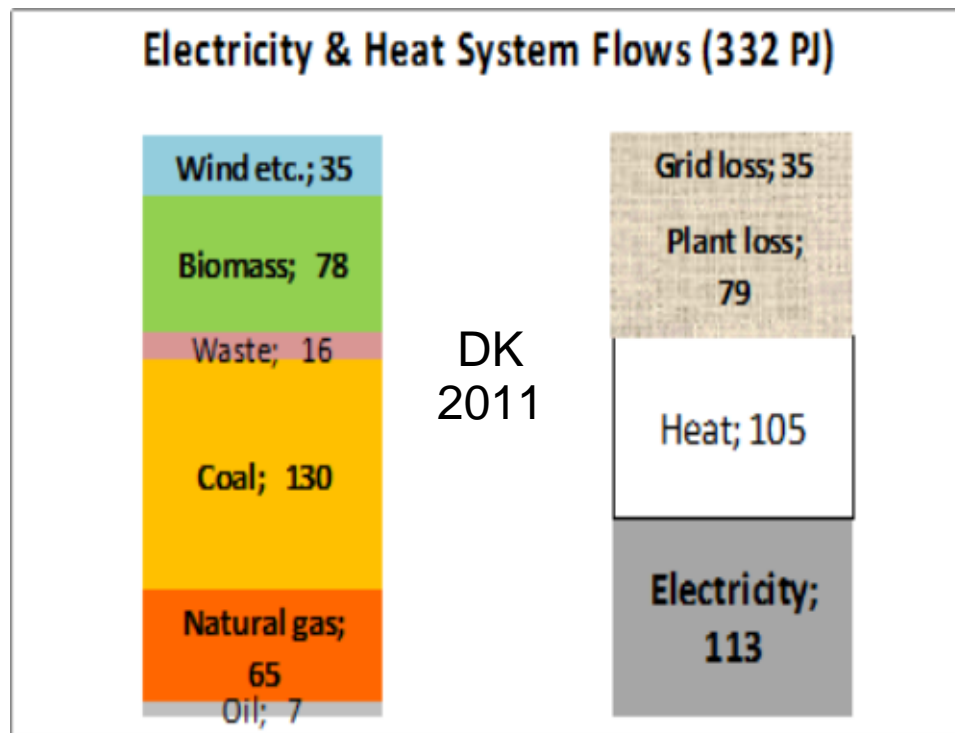
For Power & Distr. Heat Supply:
332 PJ



Final energy demand in PJ (2011)

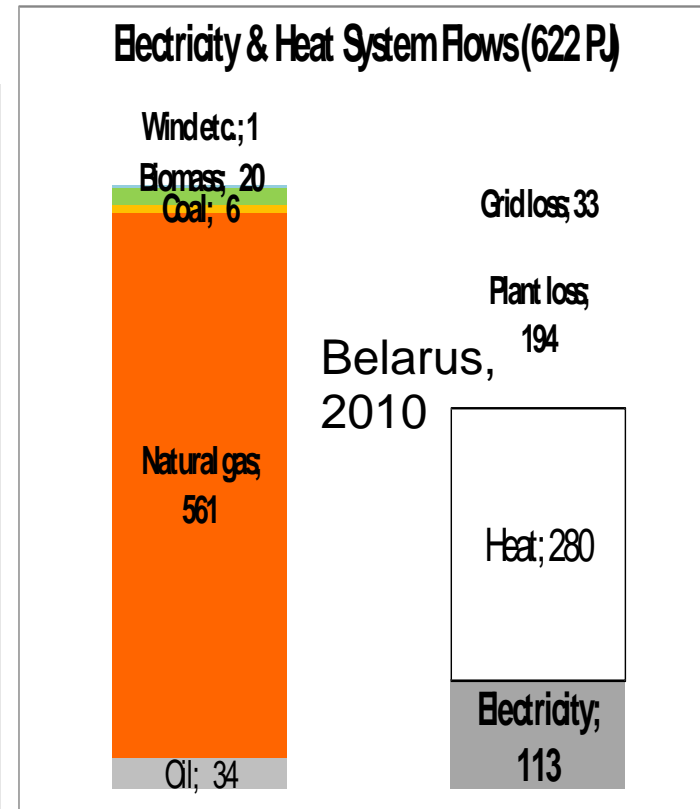


Efficient Electricity & Heat Supply



Input

Output



Input

Output

New Danish Energy Strategy

- By 2020: 49½% windpower in power supply
- CO₂ reduction 34% 1990 – 2020 agreed, aim 40%
- Support for windpower with feed-in bonus
(pool price + 3 €/kWh, ca. 8 €/kWh)
- Increased energy efficiency by power companies
- Support for renewables
& efficiency in companies
- High tariffs for biogas, to
use half of manure
- Change coal to biomass
- Smart grid strategy



Danish Energy Strategy, cont.

Aim of 2000 MW new windpower till 2020

Aim of 100% renewable energy in 2050

New energy taxes etc. of 1300 DKK/family in 2020, but cheaper energy for households

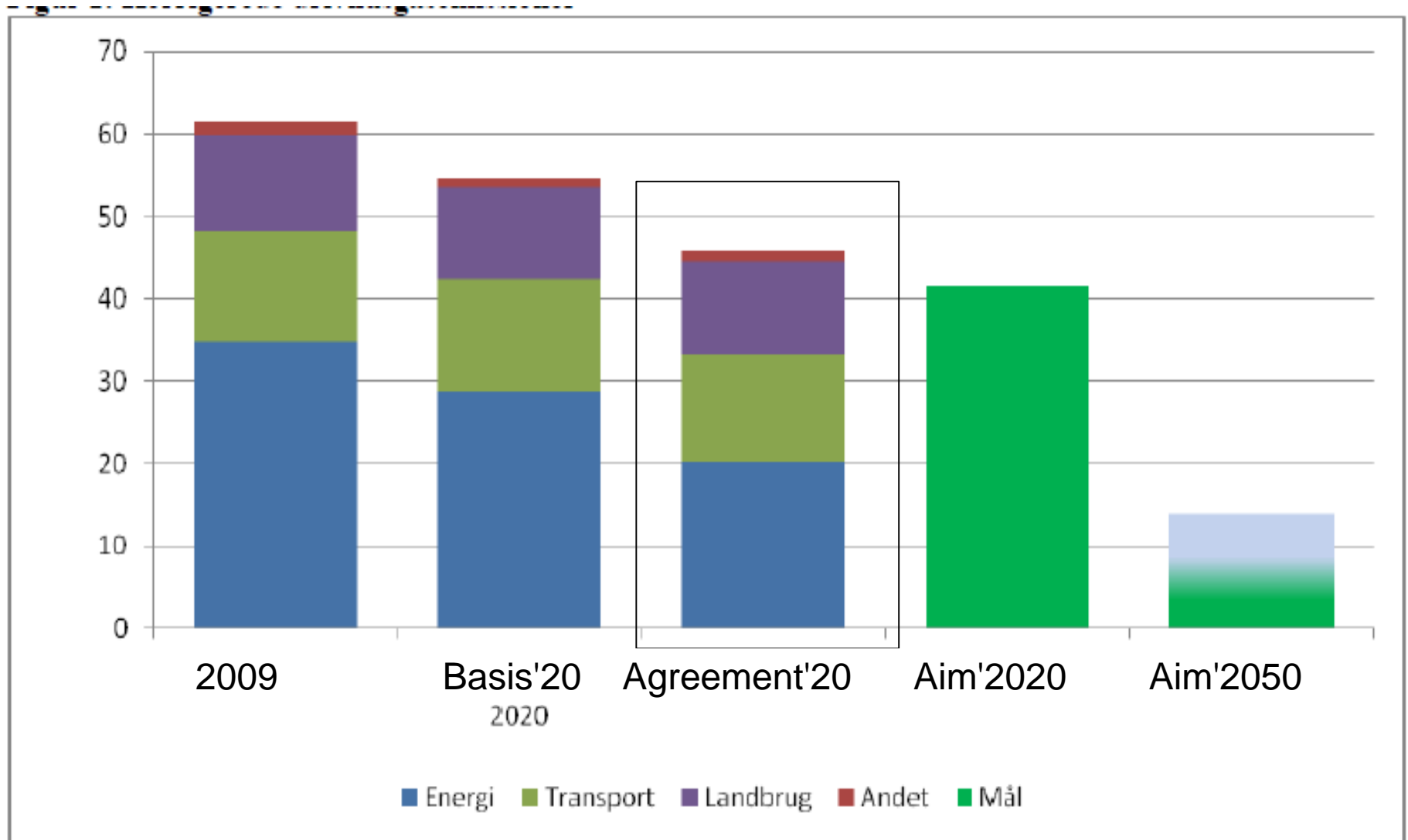
Electricity and gas in transport,

Continued R&D, 1 bill. DKK/year

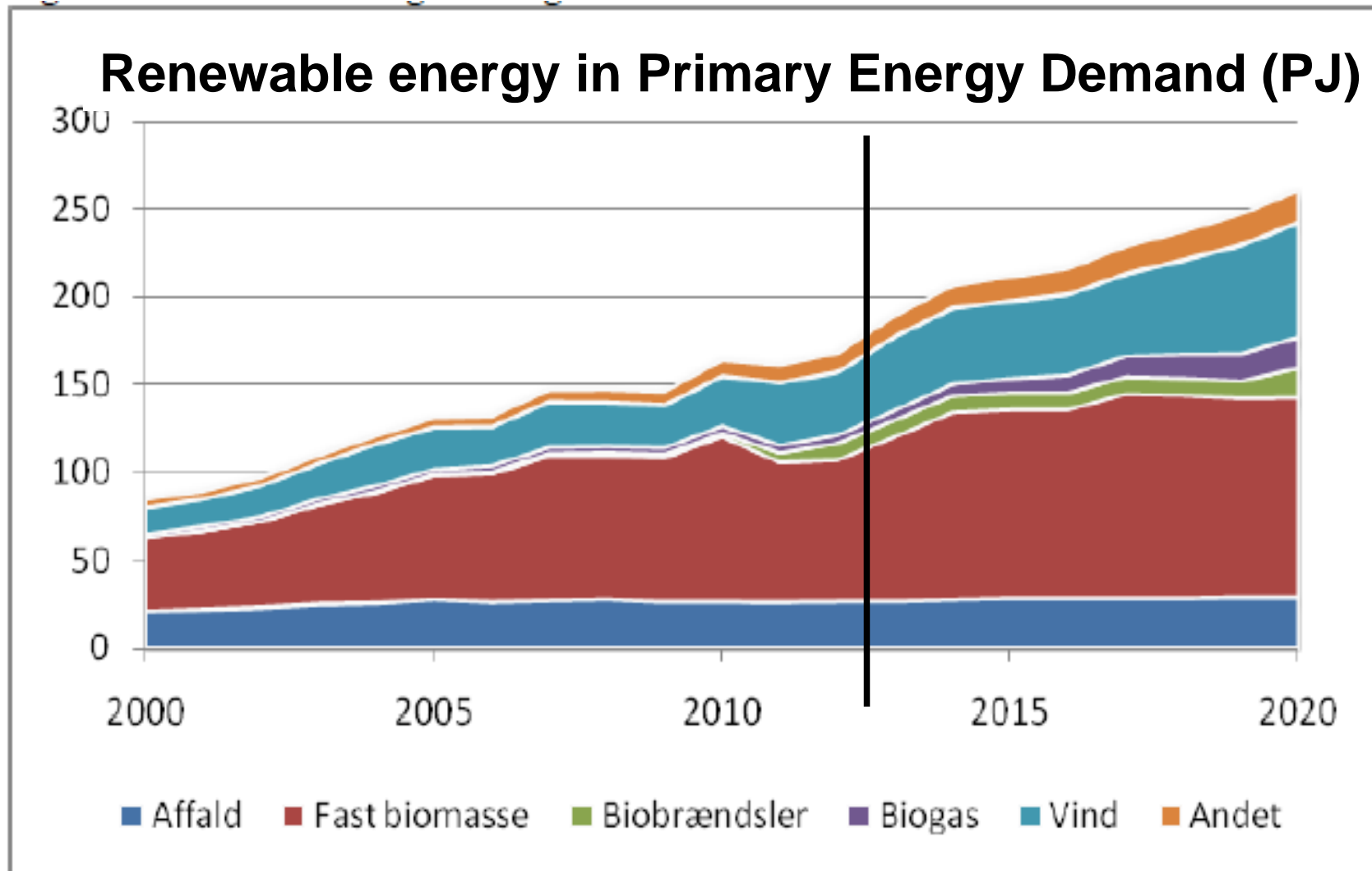
A large number of analyses on strategic energy planning, revision of energy taxes, and much more.

CO₂-Emmissions w. energy strategy

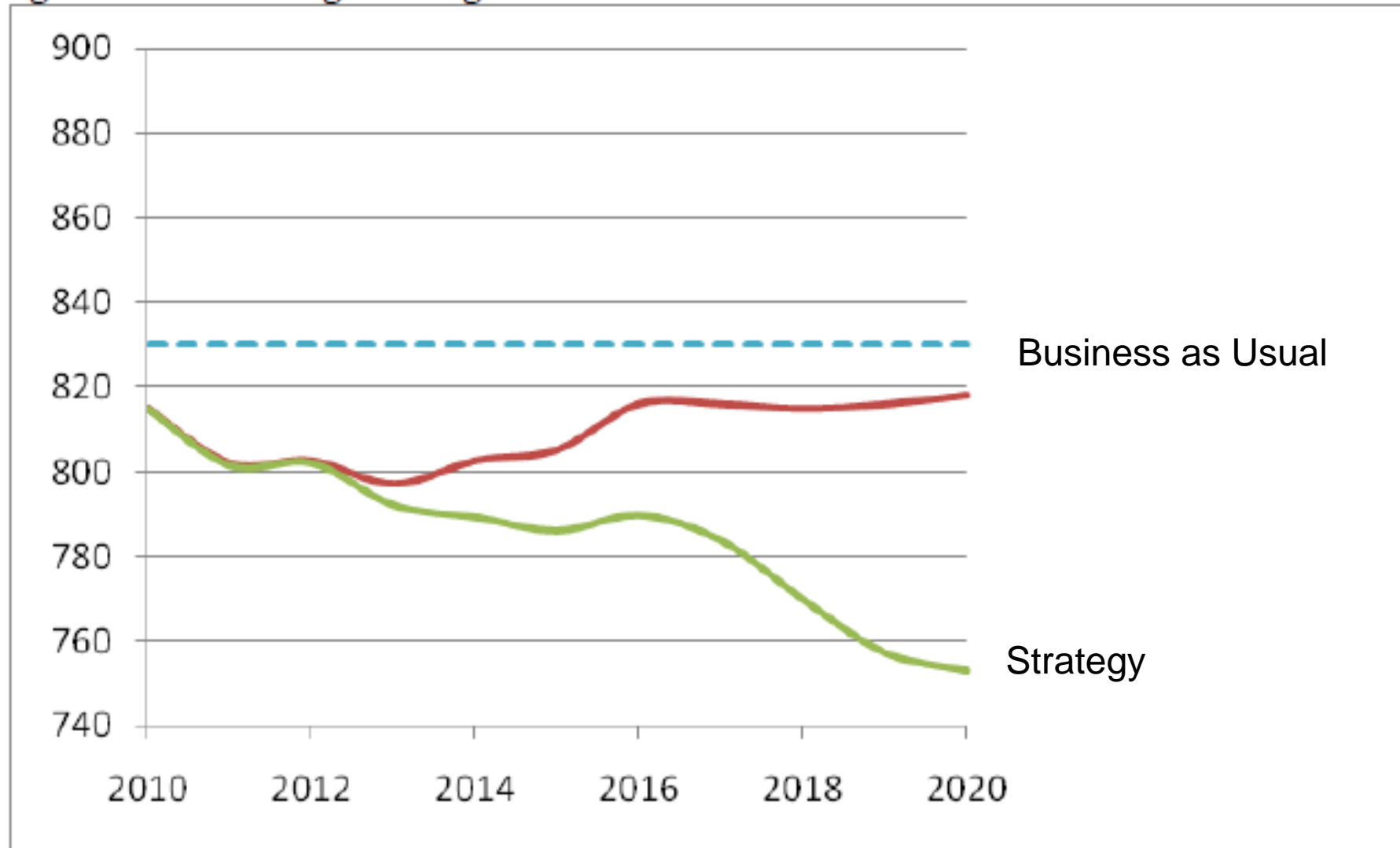
mill. ton CO₂-equivalent



Renewables



Primary Energy Demand (PJ)



The EU Plans

- **20% renewable energy by 2020 (or more), 1% more renewables every year**
- **20-30% less greenhouse gases by 2020 (or less), 2 % less every year (or buying of credits)**
- **Stable or decreasing energy consumption, energy efficiency is key.**

Danish and EU Energy Strategies

EU: Ecodesign = energy efficient products

EU: Near Zero Energy Buildings by 2020

DK: Higher energy requirements for buildings
2015 (40 kWh/m²) and 2020 (20-30 kWh/m²)

EU: Renewable energy directive with targets

DK: Higher targets for renewables

EU: Energy Efficiency Directive

DK: Energy efficiency by energy companies etc.

EU: several nuclear countries, DK: no nuclear

Our vision for DK power production

