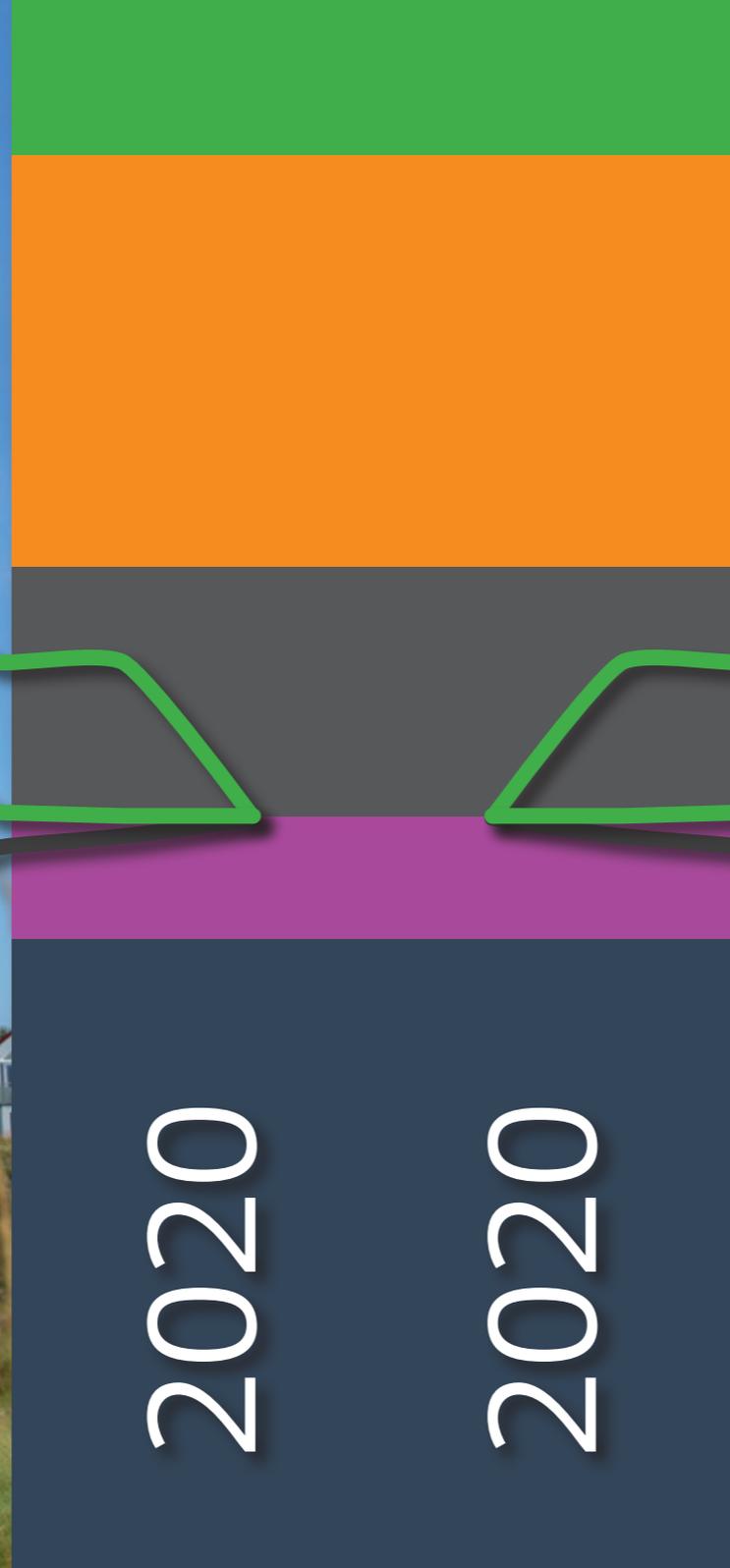


ACCELERATING GREEN ENERGY TOWARDS 2020

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The Danish Energy Agreement of March 2012



The most ambitious energy plan of the world

In March 2012 a historic new Energy Agreement was reached in Denmark. The Agreement contains a wide range of ambitious initiatives, bringing Denmark a good step closer to the target of 100% renewable energy in the energy and transport sectors by 2050.

In many ways, Denmark has started the green transition well. However the Agreement moves us up a gear, with large investments up to 2020 in energy efficiency, renewable energy and the energy system. Results in 2020 include approximately 50% of electricity consumption supplied by wind power, and more than 35% of final energy consumption supplied from renewable energy sources.

No energy agreement has ever been reached by a larger and broader majority in the Danish Parliament than this one; and no Danish energy agreement has previously covered such a long time horizon. In other words, a solid framework has been provided for the huge private and public investment to be made in the years to come.

In the following pages, and on behalf of the Government and all the other parties behind the Energy Agreement, I present the initiatives and the results that will bring Denmark to the forefront internationally of modern energy policy.

Martin Lidegaard
Danish Minister for Climate, Energy and Building

Denmark in 2020 – results of the Energy Agreement

The long-term goal for Danish energy policy is clear: the entire energy supply – electricity, heating, industry and transport – is to be covered by renewable energy by 2050.

Only by improving energy efficiency, electrifying our energy consumption and expanding supply from renewables will it be possible to phase out fossil fuels completely. The initiatives in Denmark's Energy Agreement for the period 2012–2020 cover these crucial areas.

These are the headline results for 2020:

More than **35%** renewable energy in final energy consumption

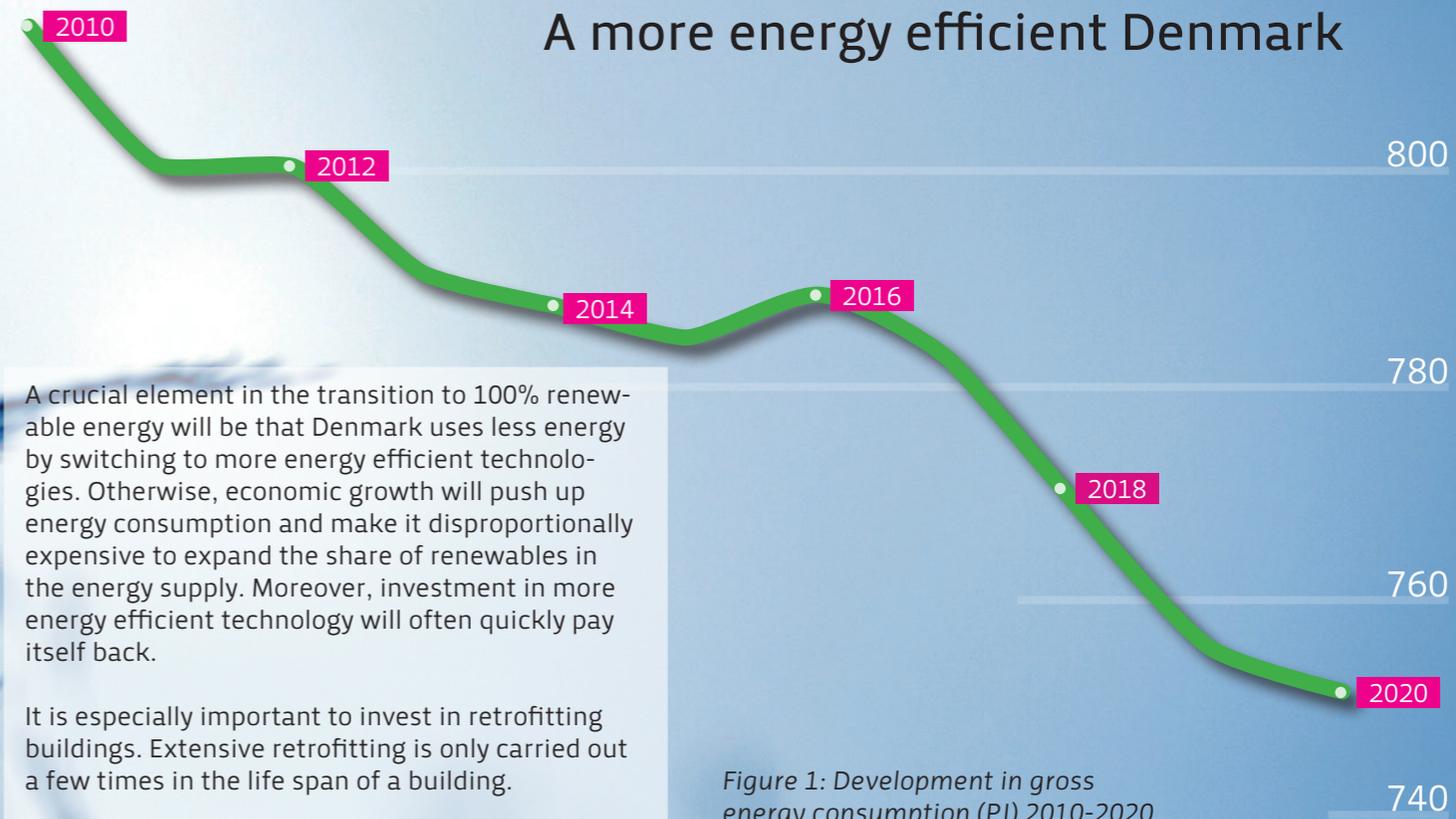
Approximately **50%** of electricity consumption to be supplied by wind power

7,6% reduction in gross energy consumption in relation to 2010

34% reduction in greenhouse gas emissions in relation to 1990

Consequently, in 2020 the Danish enterprises and households will be significantly less dependent on scarce and expensive fossil fuels.

A more energy efficient Denmark



A crucial element in the transition to 100% renewable energy will be that Denmark uses less energy by switching to more energy efficient technologies. Otherwise, economic growth will push up energy consumption and make it disproportionately expensive to expand the share of renewables in the energy supply. Moreover, investment in more energy efficient technology will often quickly pay itself back.

It is especially important to invest in retrofitting buildings. Extensive retrofitting is only carried out a few times in the life span of a building.

Initiatives to make energy consumption more efficient:

- In 2013 and 2014, energy savings realised by energy companies have to increase by 2.6% of final energy consumption excl. transport compared to the 2010 level. From 2015 to 2020 this figure will rise to an annual 2.9% compared to the level in 2010. In comparison, the EU's Energy Efficiency Directive suggests a yearly reduction up to 2020 of 1.5% of 2010 final energy consumption excl. transport.

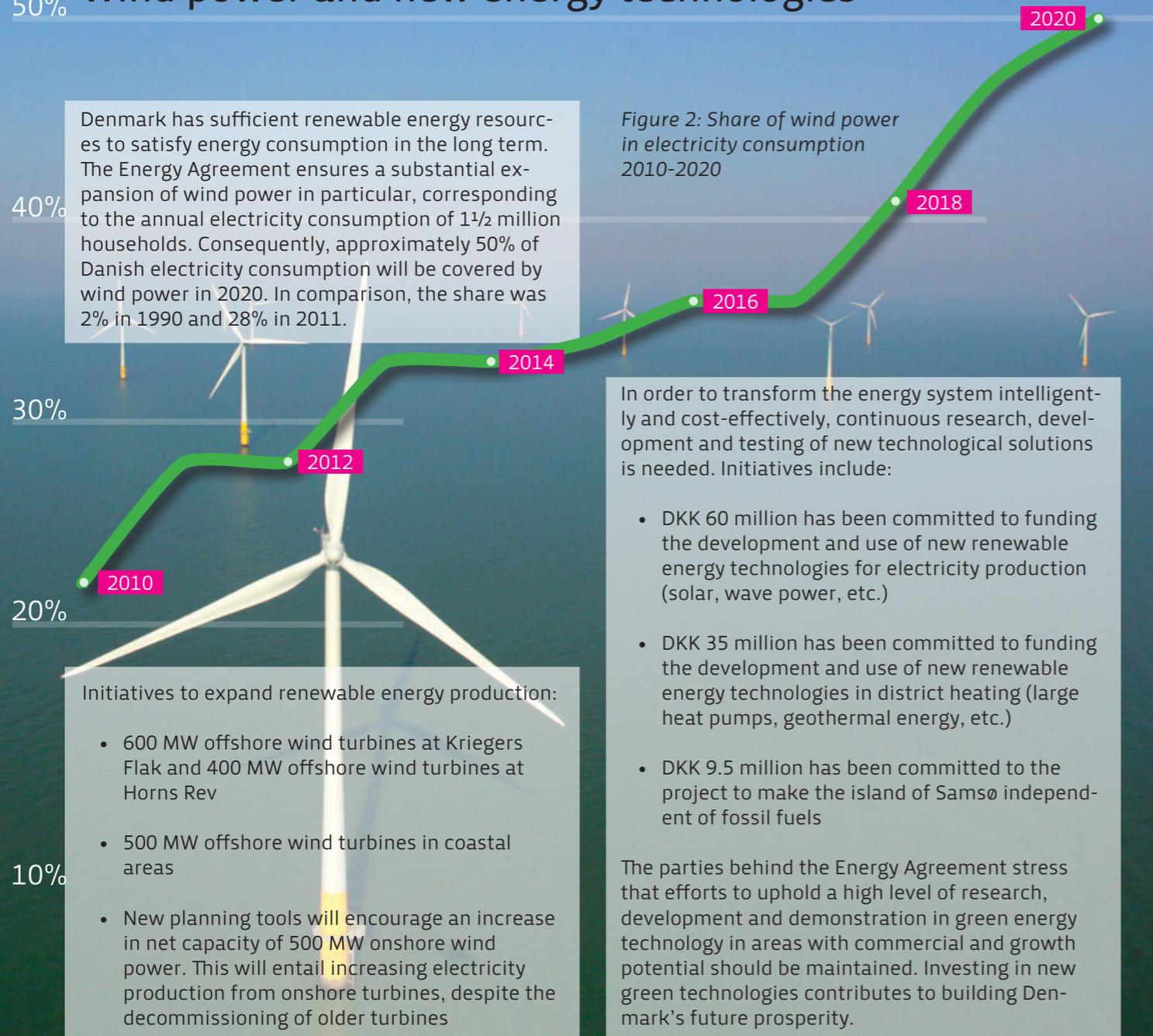
Energy companies are obliged to realise energy savings in enterprises and households by offering subsidies or consultancy, for example. The initiatives will target industry and buildings.

Figure 1: Development in gross energy consumption (PJ) 2010-2020

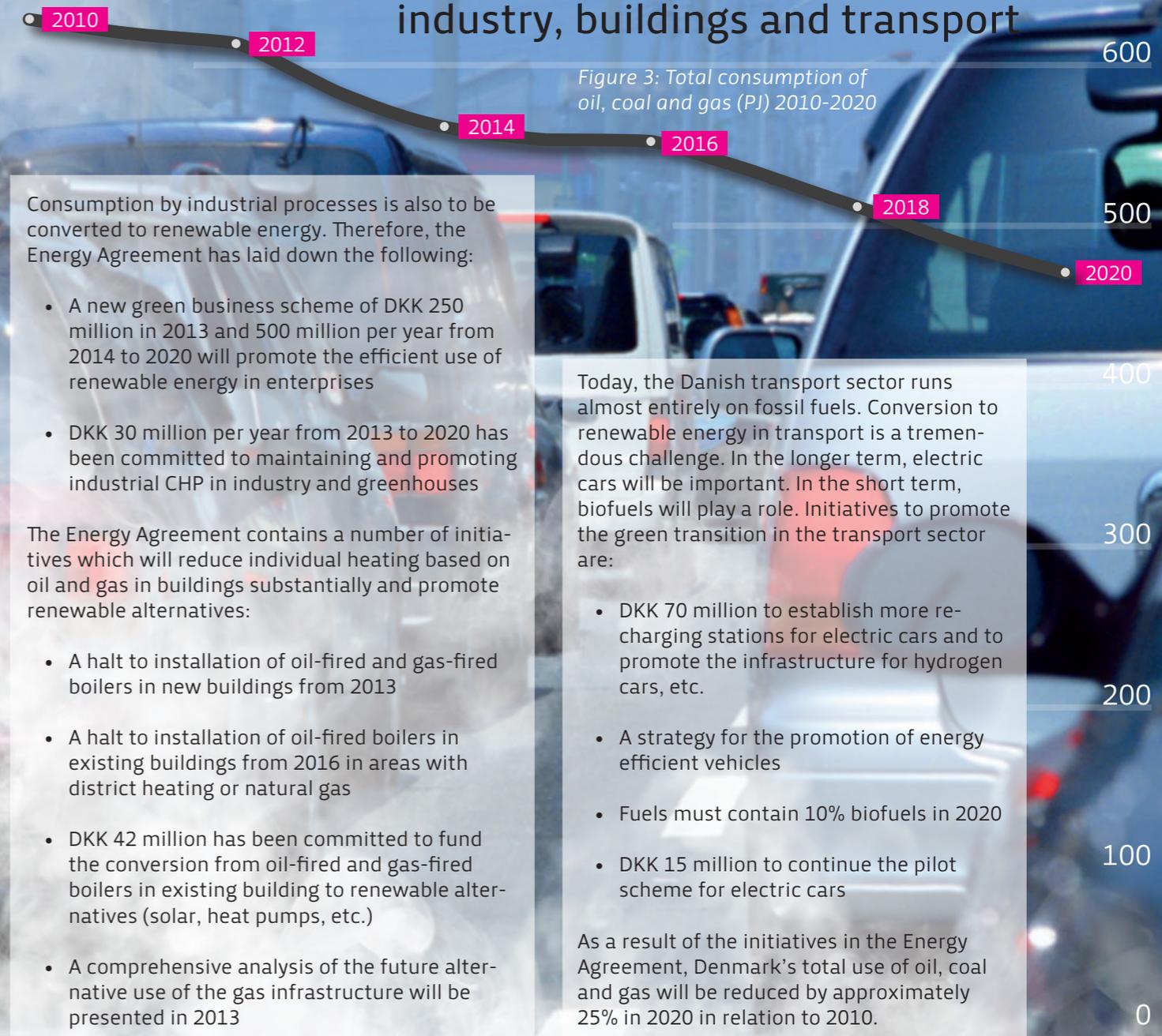
- A comprehensive strategy for energy retrofitting of all Danish buildings will be presented in 2013.
- The efforts by the Knowledge Centre for Energy Savings in Buildings will continue

As a result of these and other initiatives, Danish gross energy consumption will decrease by 7.6% in 2020 in relation to 2010.

Wind power and new energy technologies



Renewable energy in industry, buildings and transport





Bioenergy in Danish energy supply

Figure 4: Share of renewable energy in final energy consumption 2010-2020

An important challenge for Denmark is to ensure the expansion of biogas. Biogas is useful in the energy system, and the technology reduces environmental problems. The ambitious plan for biogas expansion is underpinned by the following initiatives in the Energy Agreement:

- Funding of biogas for CHP to continue
- Introduction of subsidy equality so that biogas sold to the natural gas grid receives the same subsidy as biogas used at CHP plants
- Introduction of a new subsidy when biogas is used in industrial processes or as a fuel for transport
- The start-up aid for new biogas projects has been increased from 20% to 30%
- A task force has been established with the view of studying and supporting specific biogas projects
- If the required number of new biogas projects is not realised in 2012 and 2013, the parties behind the Energy Agreement will discuss further options, e.g. a proposal for a duty to purchase biogas in order to secure expansion

Biomass is an important replacement for coal. In the long term, biomass will also be a vital element for flexible electricity production and for the transport sector. Initiatives in the Energy Agreement to increase the consumption of biomass include:

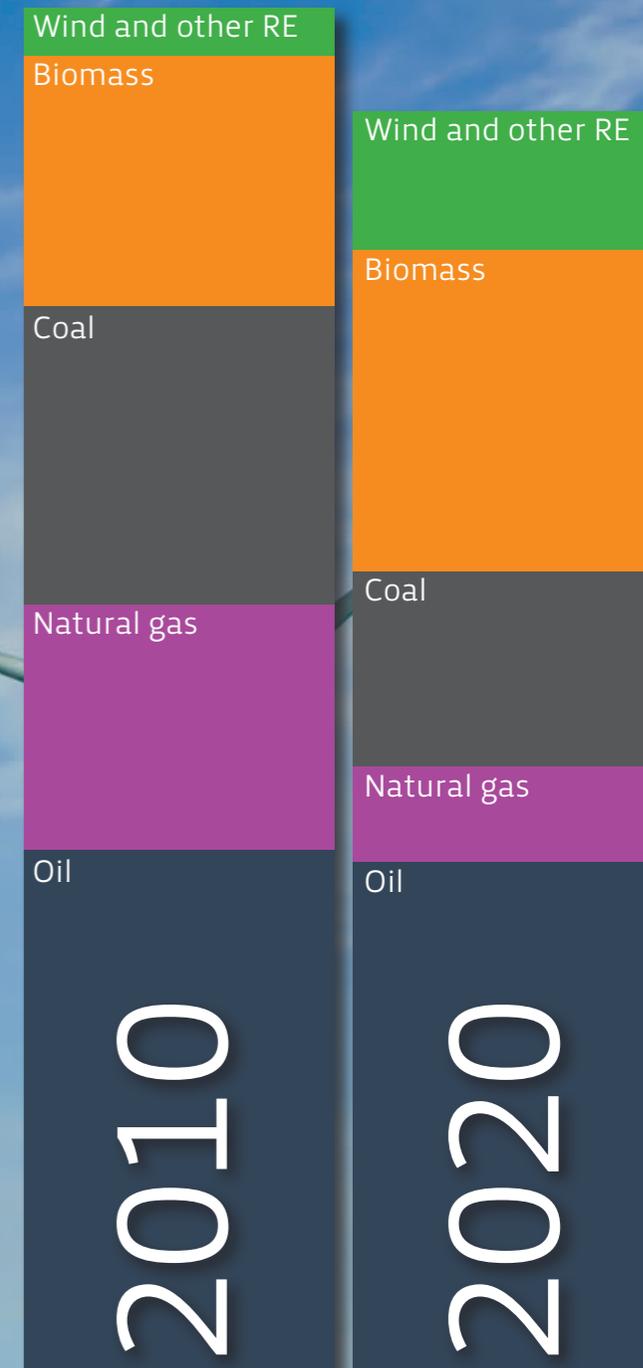
- Conversion from coal to biomass at large-scale CHP plants will be made more attractive by allowing producers and consumers to make price agreements
- Smaller open-field plants struggling with high heating prices can now produce heating based on biomass
- An analysis of the future role of district heating in the energy system will be presented in 2013
- An analysis of the use of bioenergy in Denmark will be presented in 2013. The analysis will focus on the effective and sustainable use of the Danish biomass resources for energy purposes

Smart grids

Due to the increasing share of wind power in the Danish energy system, electricity will be a main energy carrier in the future. However wind power is volatile and energy storage is still expensive. Consequently, initiatives in the Energy Agreement point towards transforming and future-proofing the energy system:

- A strategy for smart grids in Denmark will be presented in 2012
- Agreements will be established with grid companies on the installation of intelligent, remotely readable hourly electricity meters
- New electricity transmission lines between Denmark and Germany
- A comprehensive analysis of the continued functionality of the grid with an increased share of wind power in the system will be presented in 2013
- A thorough analysis of the regulation of the Danish electricity supply sector will be carried out to ensure incentives for green conversion, cost effectiveness, competition and consumer protection

Figure 5: Consumption of fossil fuels and renewable energy (PJ) in 2010 and 2020



Financing the initiatives in the Energy Agreement

The Energy Agreement requires financing. The total financing requirement amounts to DKK 3.5 billion in 2020. The initiatives are to be fully financed and should not impact the public purse. The Agreement thus stipulates the following:

- Energy saving initiatives by energy companies will be financed via the companies' tariffs and therefore through consumers' energy bills
- The expansion of renewables in electricity production such as offshore and onshore wind turbines will be financed through the Public Service Obligation schemes (PSO) which are a supplement to the price of electricity paid by all electricity consumers. In addition, there is a new gas PSO scheme, collected through the gas bills, which finances subsidies for renewable energy for the gas grid
- As the consumption of fossil fuels drops, state revenues from taxes on coal, oil and gas will also drop correspondingly. Therefore, a security of supply tax has been introduced on all fuels – biomass and fossil – for space heating. This new tax will also finance some of the subsidies for renewable energy which cannot be financed via the PSO schemes

As a result of the drastically reduced use of fossil fuels, the savings in the final energy consumption in 2020 have been estimated at DKK 6.1 billion.

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