

Official Danish Plans: over 100% renewable electricity, close to 100% renewable heat, 70% GHG reduction all in 2030.

INFORSE-Europe & SustainableEnergy in Denmark: Plans for 100% Renewables

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INFORSE-Europe webinar, 21/9 2020**

International Network for Sustainable Energy

Network of 140 NGOs worldwide, 70 in Europe

An international voice to NGOs promoting renewable & energy efficiency

→Active on Climate EU policies

→Sustainable energy scenarios

→Sustainable Energy News

→Local Energy Communities

→Eco-Village Solutions for Climate

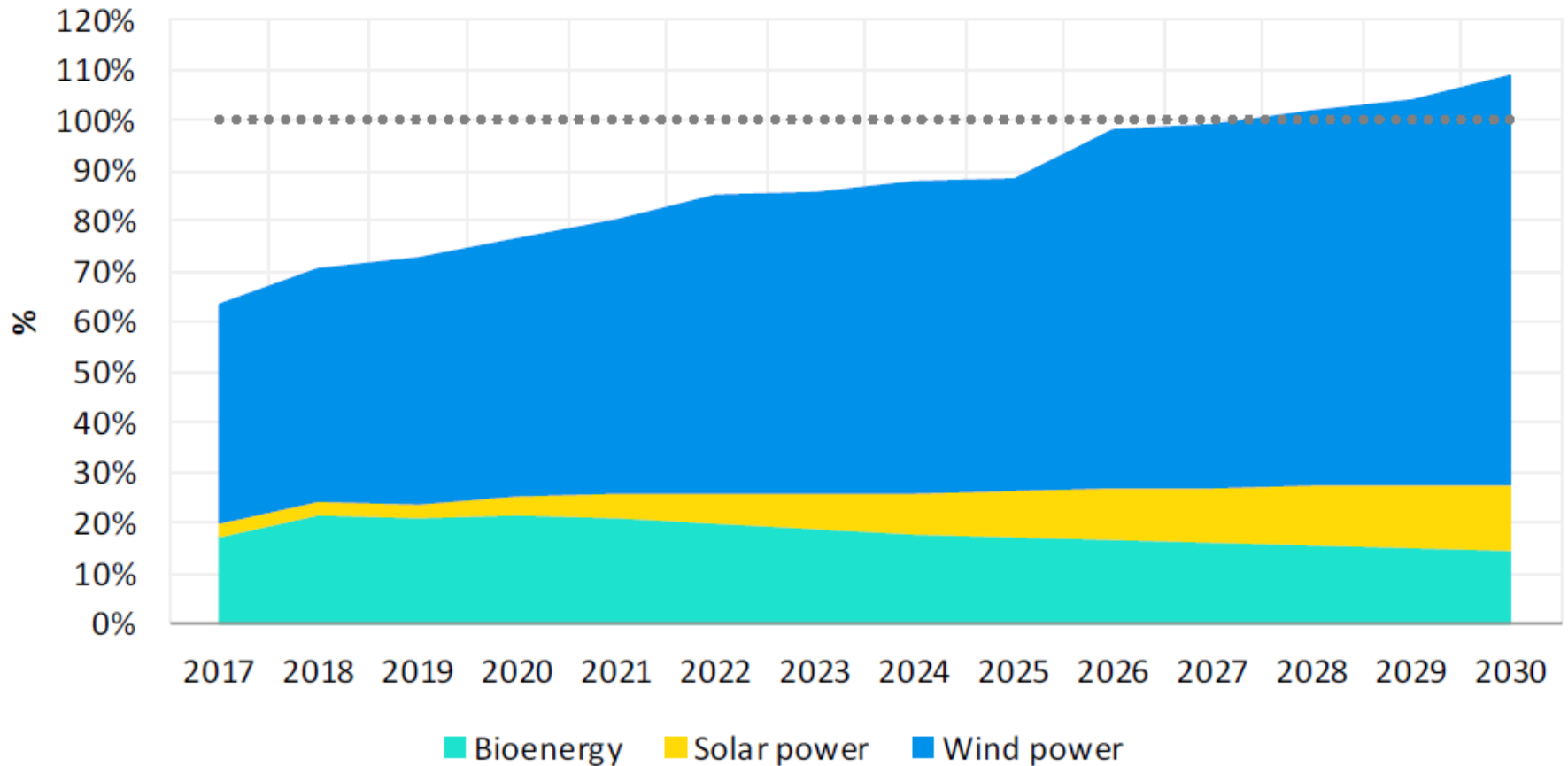


Denmark has ambitious targets:

- 100% renewable energy and climate neutrality, economy-wide in 2050**
- More than 100% renewable energy in electricity in 2030**
- 70% reduction in GHG 1990 - 2030**

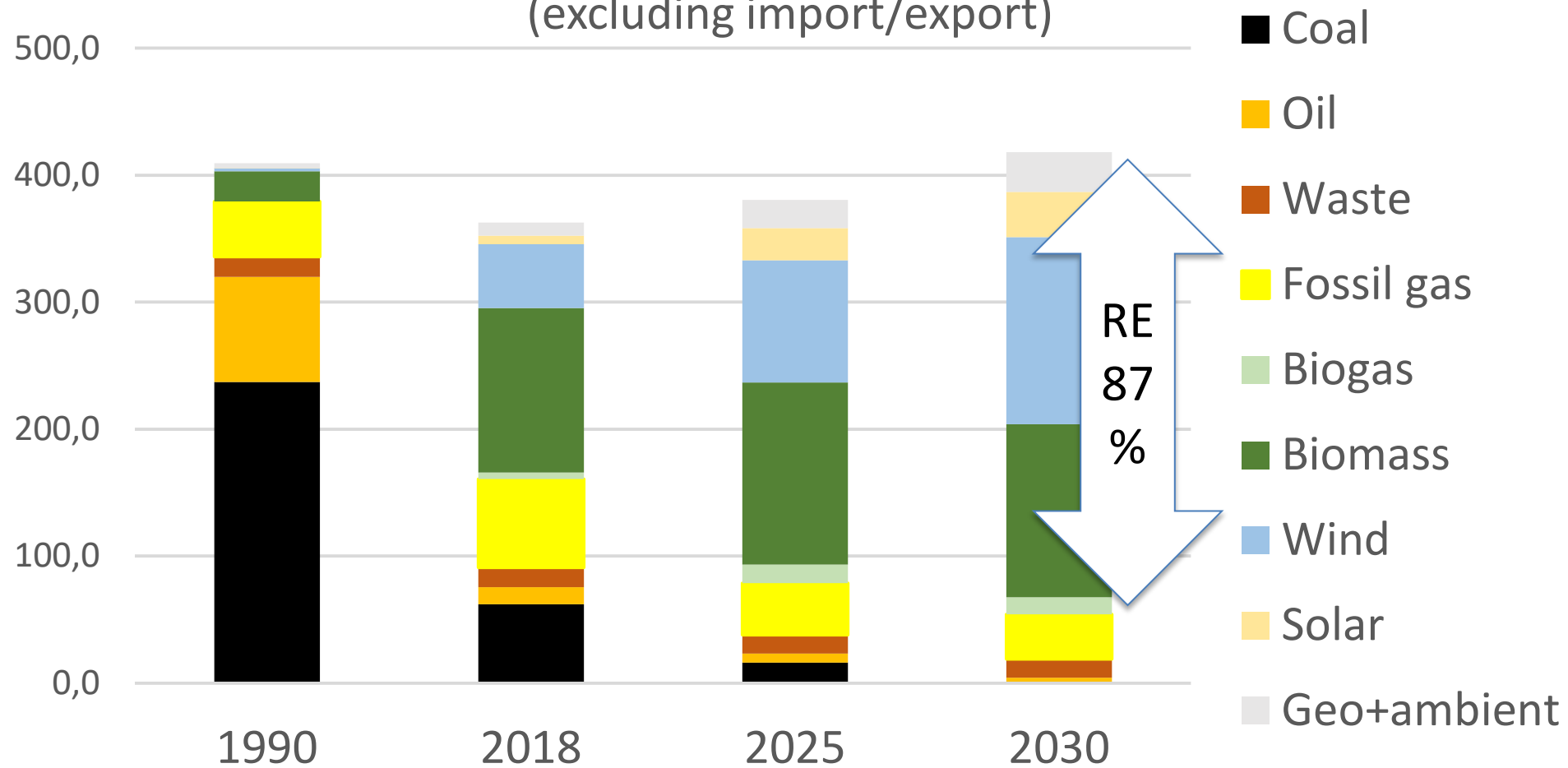


Renewables in Electricity to Reach 110% of Demand by 2030, Official Plans



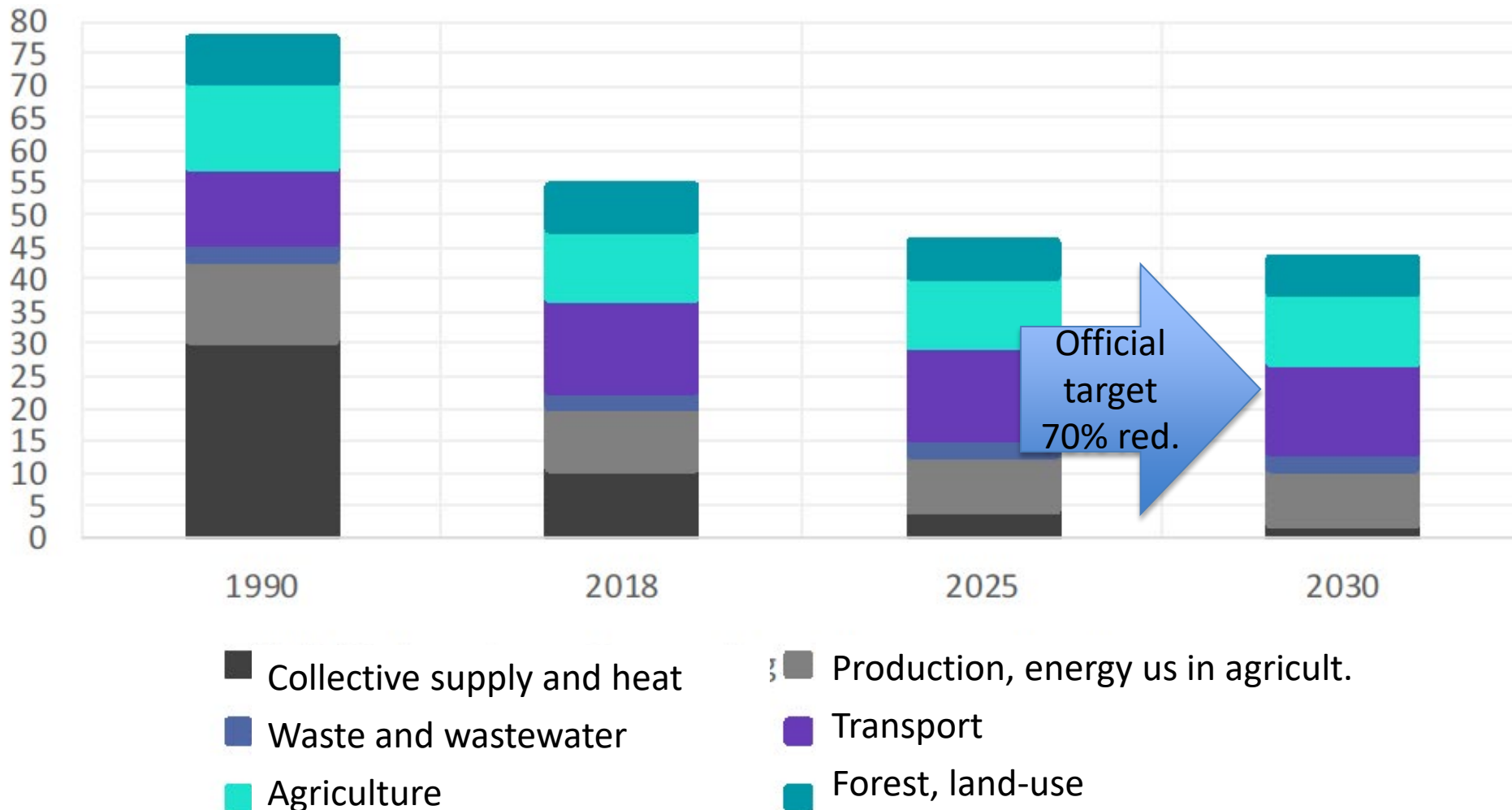
Official Forecast 2020

Energy for heat and Electricity in Denmark (PJ) (excluding import/export)



Danish Emissions (mill. ton CO₂-e)

Official forecast



INFORSE-Europe and Sustainable Energy Denmark: Fast Transition of Denmark to Renewable Energy

**Limit energy
services:
energy
sufficiency**



**Increase end-
use Energy
Efficiency**



**Efficient
energy
supply**



**Renewable
Energy**



+ Intelligent & flexible energy systems

Energy Sufficiency in our Plans

- Official forecast is 22% (600,000) more car driving in 2030 than today
- With a mixture of taxation, spatial planning for less car use (denser cities, decentral functions, work from home), and mobility alternatives, car use can be stabilised or reduced
- Housing area is expected to increase 8% until 2030
- With action to make people move to more appropriately sized houses and rent out rooms, there might not be need for more and bigger houses



Energy efficiency:
We can save 40% energy in
buildings in 15 years

- High requirements for new buildings – and quality control of construction & renovations
- Energy renovations – old buildings to reach 2010-standard + some air heat recovery



The industry can save 33% energy and convert to renewable energy

Today the industry invest with only 3-5 years simple pay-back

- The society will benefit from a more energy efficient industry with energy-efficiency investments up to 10 years pay-back time
- Companies should plan a transition to renewables in 10-15 years
- Vi propose state guarantees for loans for energy efficiency
- Vi propose tax rebates for companies that make a transition to renewables

Transition to Intelligent transport

- Transport costs, we shall use it intelligently
- Electric cars will soon be cheaper than diesel, when all costs included
- But for busy routes railways are cheaper – and bicycles are cheapest
- We should change transport investments from motorways to rail and bicycles , -and use car-sharing



VERSGO!
100%
VEDVARENDE
ENERGI

Expand renewable energy

11000 MW windpower in 2030, half on land (today 6700 MW)

4000 MW solar PV in 2030 (today 1000 MW)

1800 MW heat pumps in district heating (today ca. 50 MW)

850 MW bio-CHP and 3000 MW biogas peak power

20 PJ solar heat (11 mill. m² = 1100 ha), 19 PJ geotermi

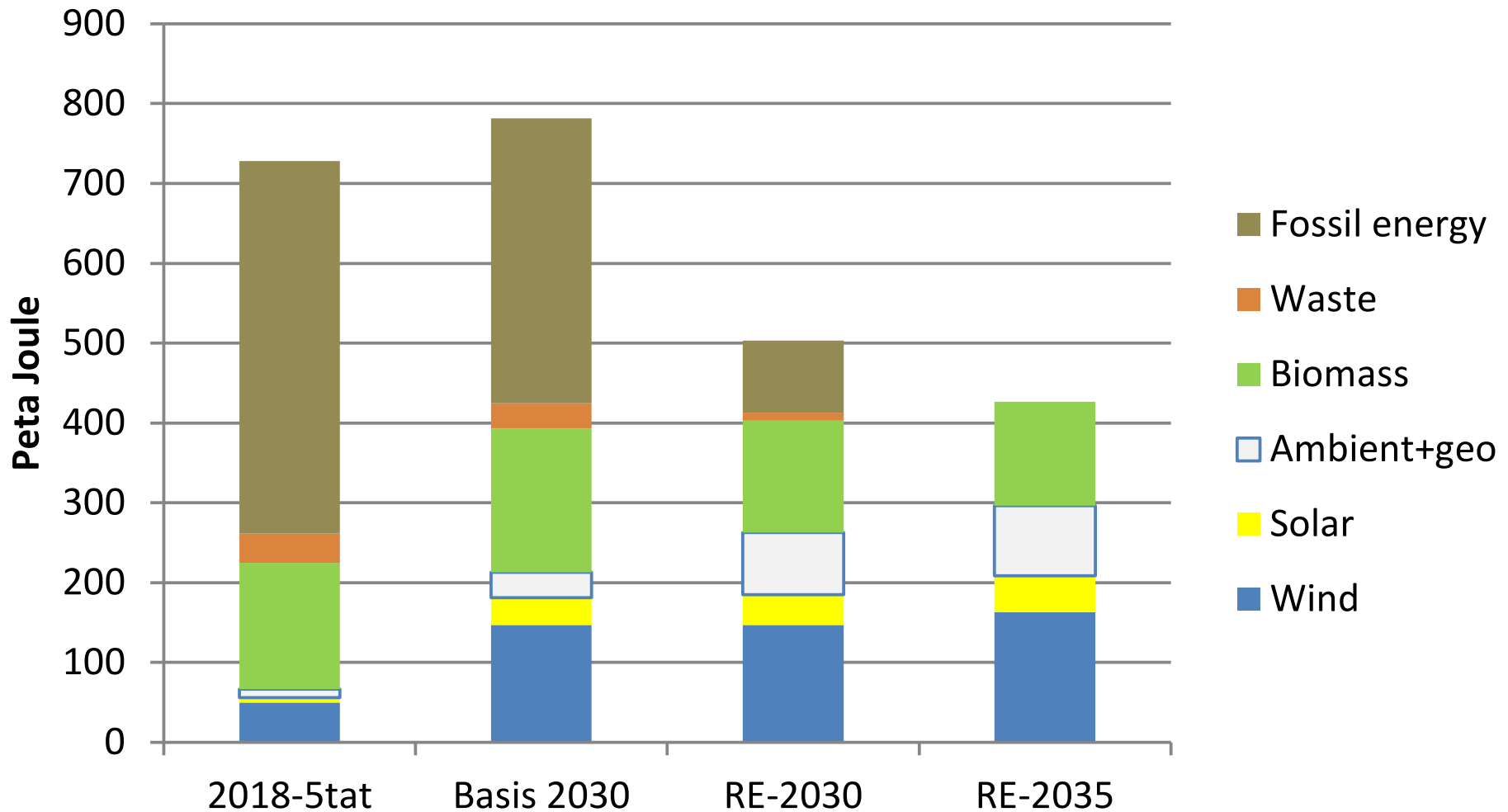
Sustainable biomass – 150 PJ in Danmark, less than today

Energy Transition in 15 years is realistic for Denmark & the economy can benefit

- Analysis of energy system – hour by hour with the EnergyPLAN programme shows that an electricity system with 84% windpower and 7% solar can supply in all hours of the year.
- Compared with continued use of fossil fuels, renewable energy supply will be cheaper, if we also save energy and make a transport transition

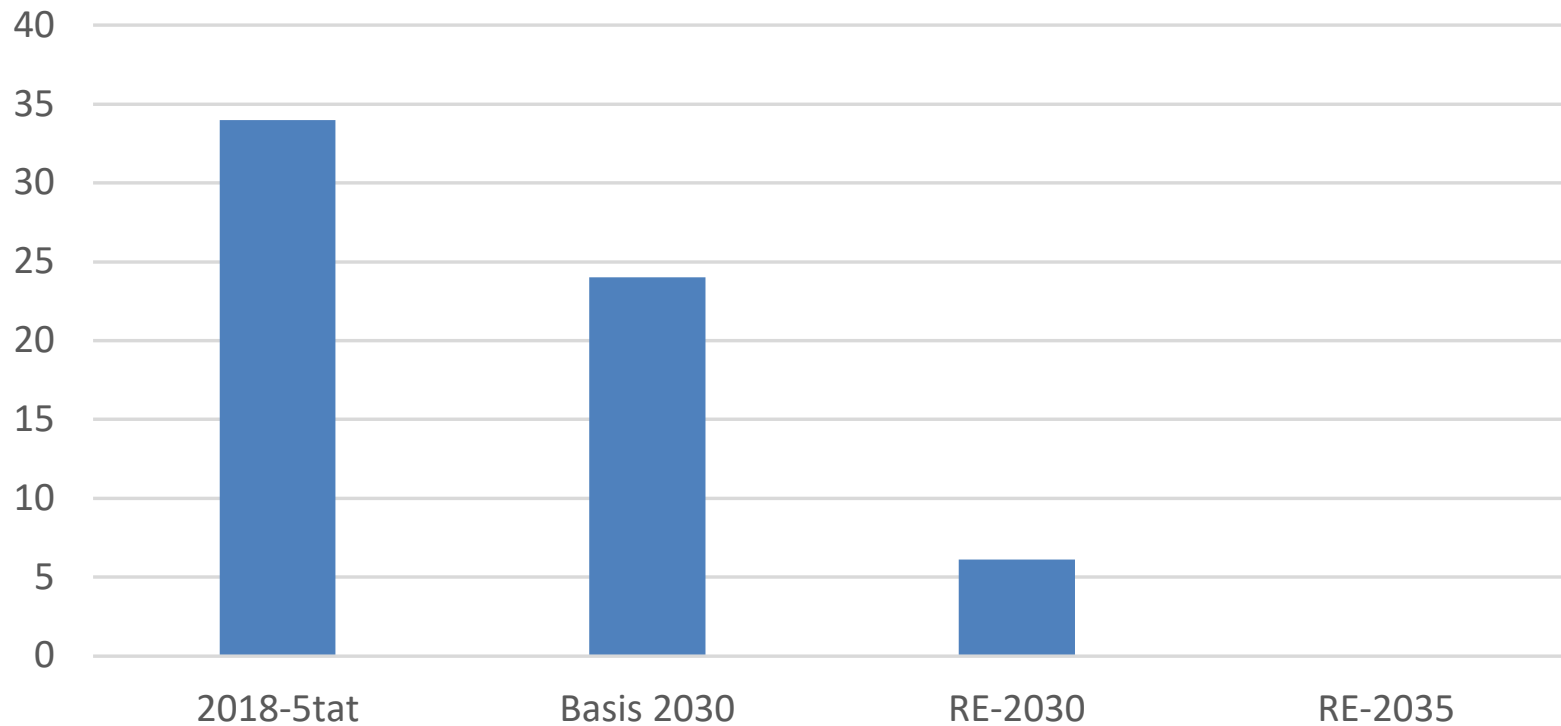


Danish Future Energy Supply



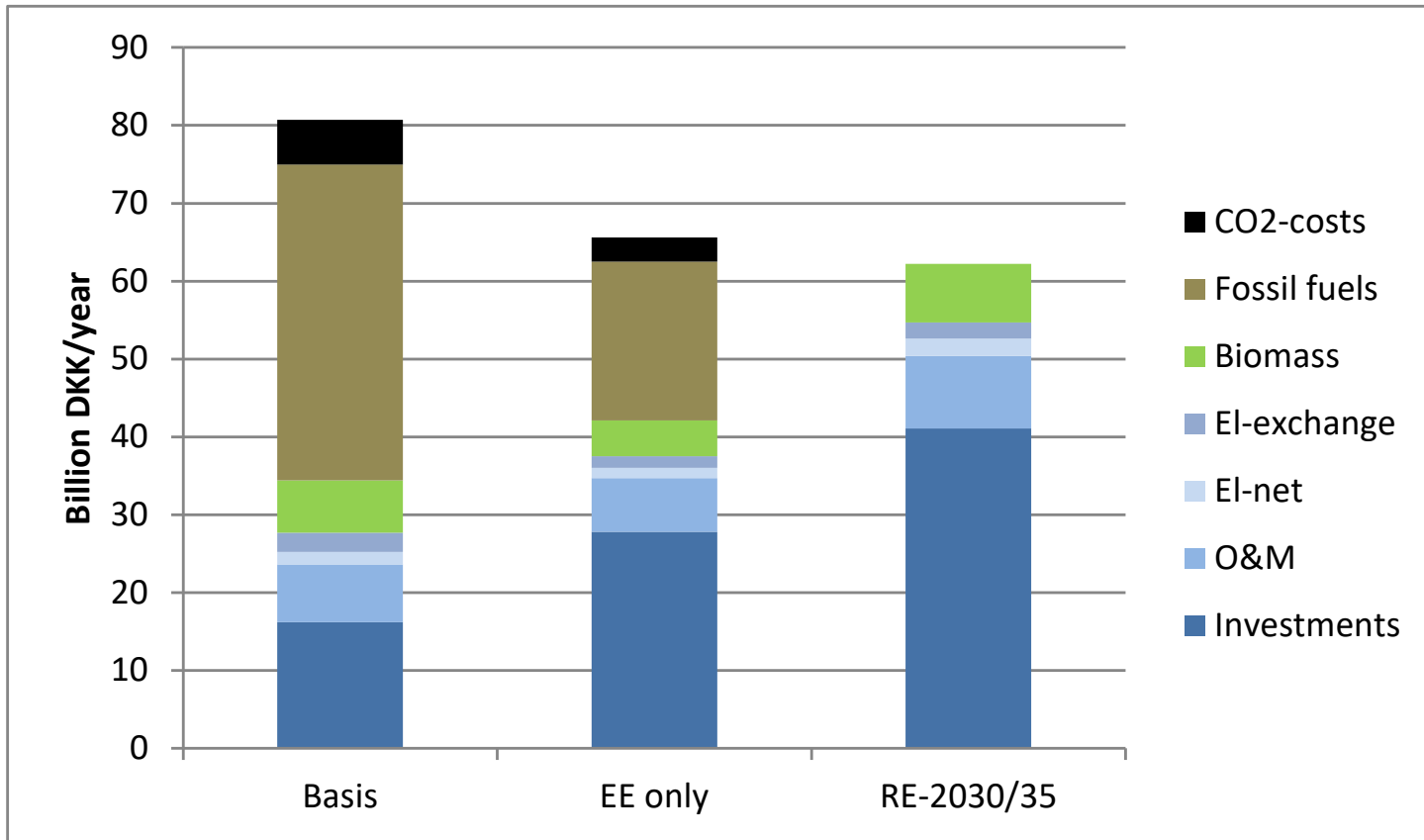
Scenario under update, values might change

Danish CO₂ Emissions from fossil fuels (mill. ton/year)



Danish CO₂ Emissions from Energy

Scenario under update, values might change



Energy System Costs DK 2030,
OBS: 2015 Scenario- under update



We have a planet

- and you are part of it

More:

<http://www.inforse.org/europe/Vision2050.htm>

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