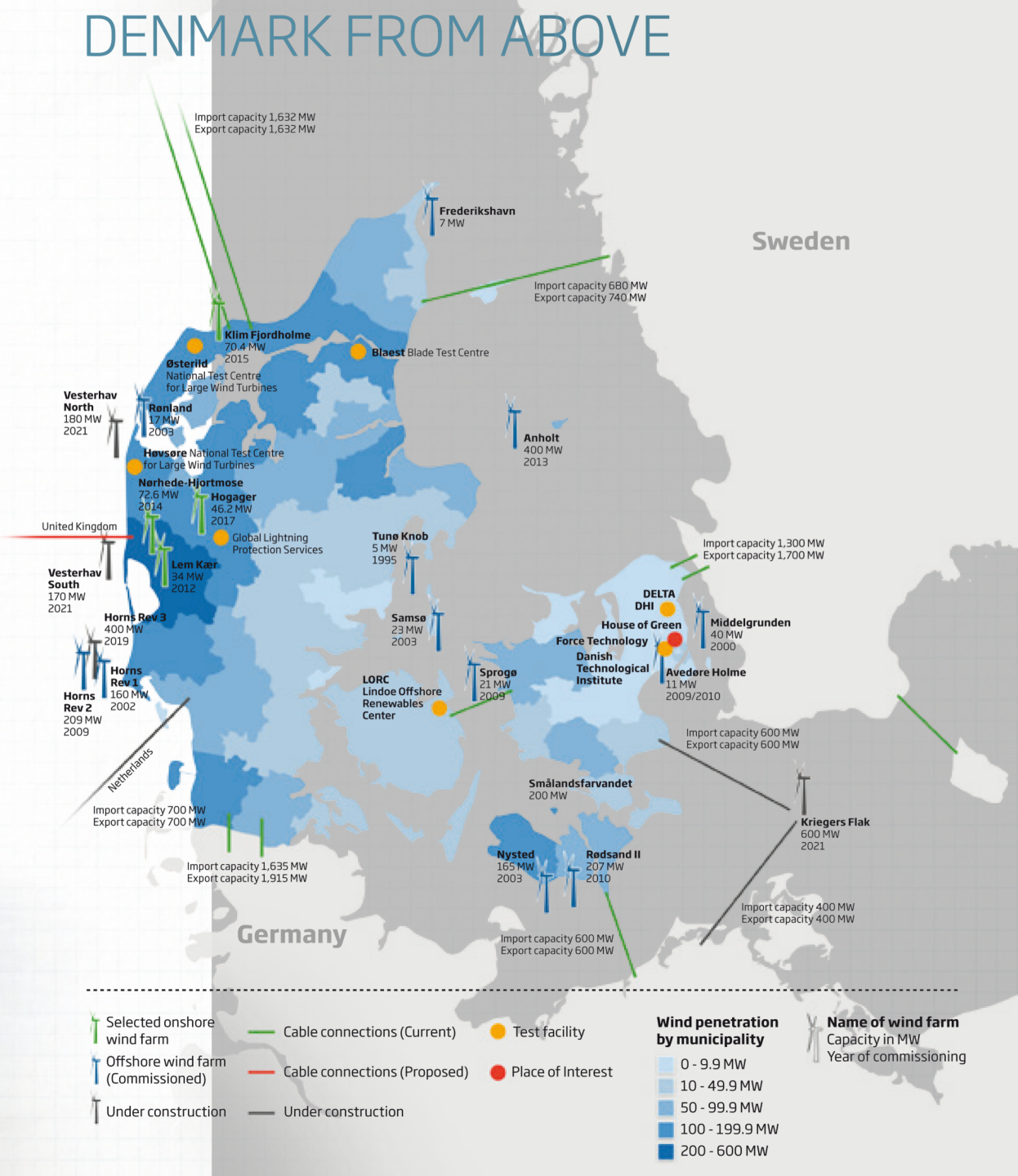


Wind energy in Denmark

Peter Alexandersen
Head of Press and Communications

DENMARK FROM ABOVE



Where we are now

Almost 33,000 employees in the wind industry = 2,3% of the total private workforce (85,000 jobs incl. indirect jobs)

19,4 billion Euro turnover

Export of 7,1 billion Euro, up 38% since 2006.
The wind industry accounts for 3,9% of all Danish exports

Denmark has 1,3 GW offshore wind capacity going up to approx. 2,6 GW by the end of 2021 and minimum 5 GW by 2030.

4 large offshore wind farms are under construction.

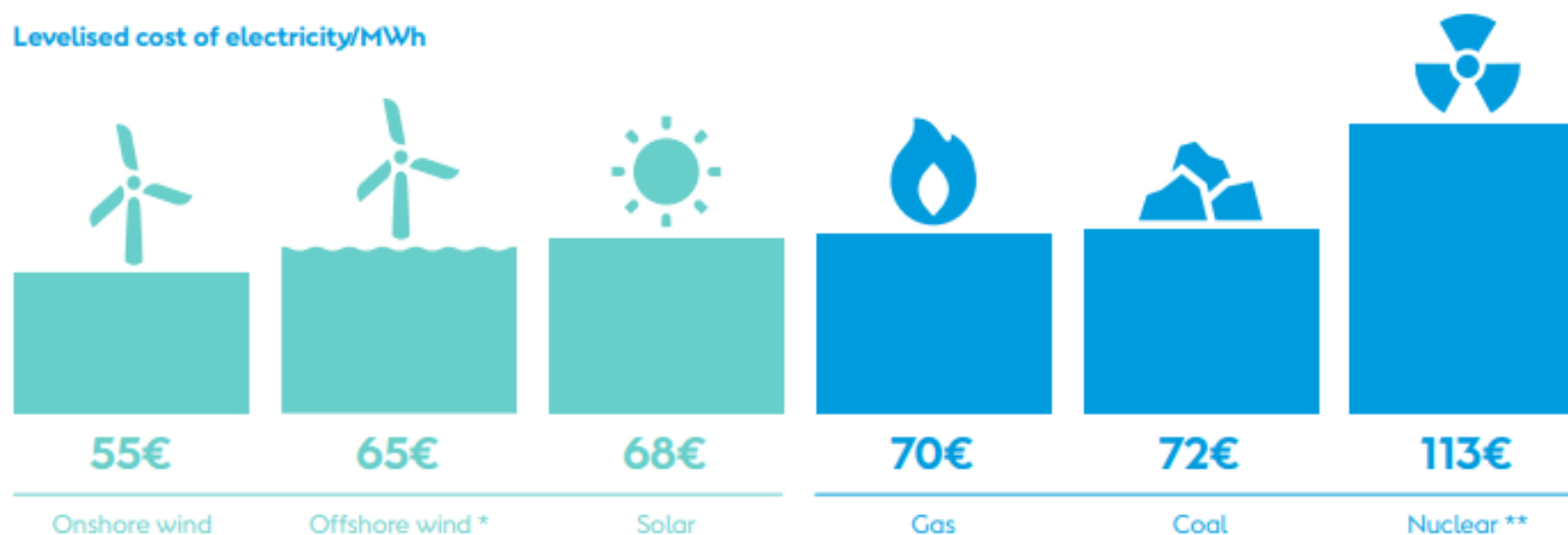
Onshore capacity of roughly 4,400 MW. This capacity will increase while no. of turbines will go down.

Strong interconnections to neighboring countries.

Renewables are cheaper

Cost of newly built power generation technologies

Levelised cost of electricity/MWh



Source: Bloomberg New Finance (2016-prices), Year of FID.

Prices reflect North Western European market conditions, which express a global trend. Specific prices may vary across regions.

* Offshore: Hornsea 2, UK (cost including transmission) ** Nuclear: Hinkley Point, UK

- FiD-year is set to 2017. COD depends on the respective technologies
- Source: Ørsted

ARGUMENTS AGAINST-

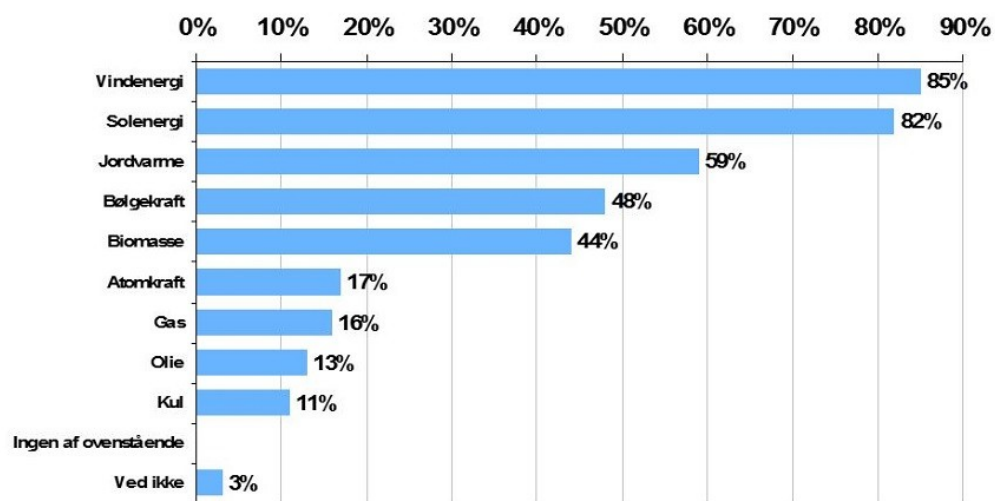


JOEY R. O'NEILL ARTIST

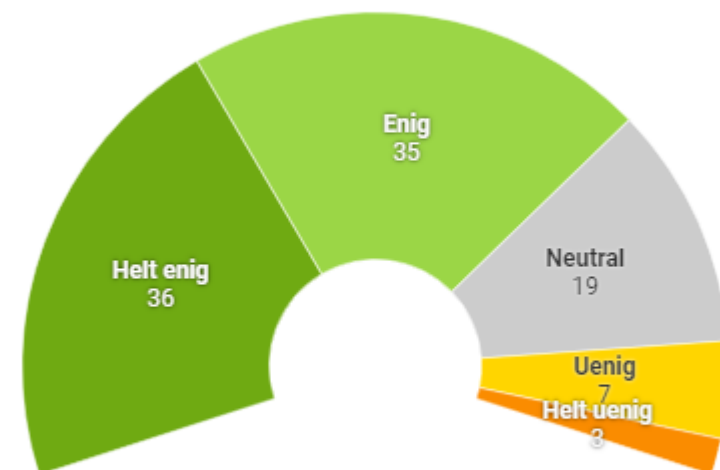
Strong commitment in the public

01. Hvilke af følgende energiformer mener du Danmark bør satse på at udbygge frem til 2030? Du bedes prioritere de forskellige energiformer efter, hvor vigtige du synes de er at udbygge?

4243 besvarelser



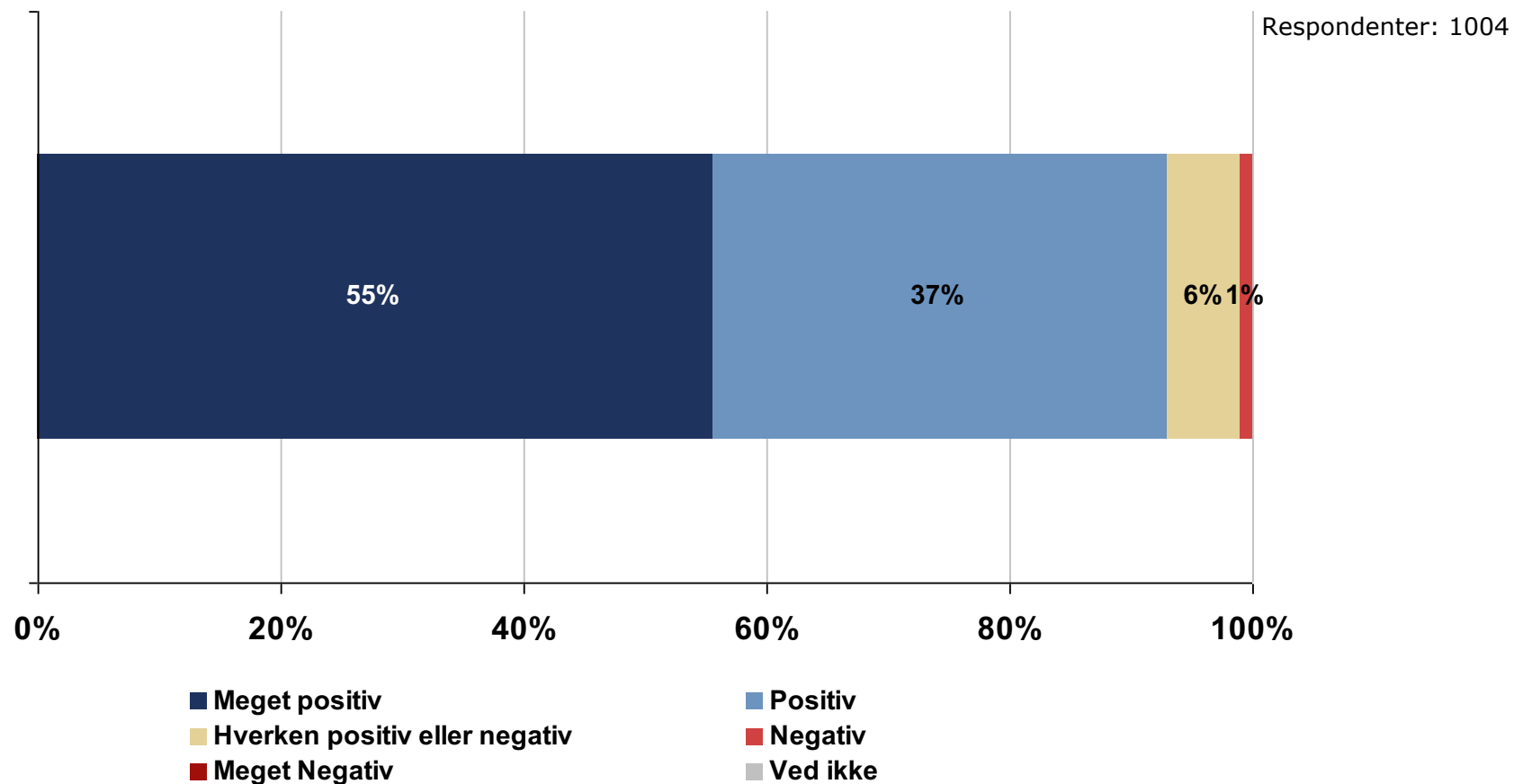
Det er vigtigt, at der opstilles vindmøller på land i Danmark både nu og i fremtiden?



Meningsmåling, juni 2018, gennemført af Wilke for Vindmølleindustrien. 1.016 repræsentative respondenter

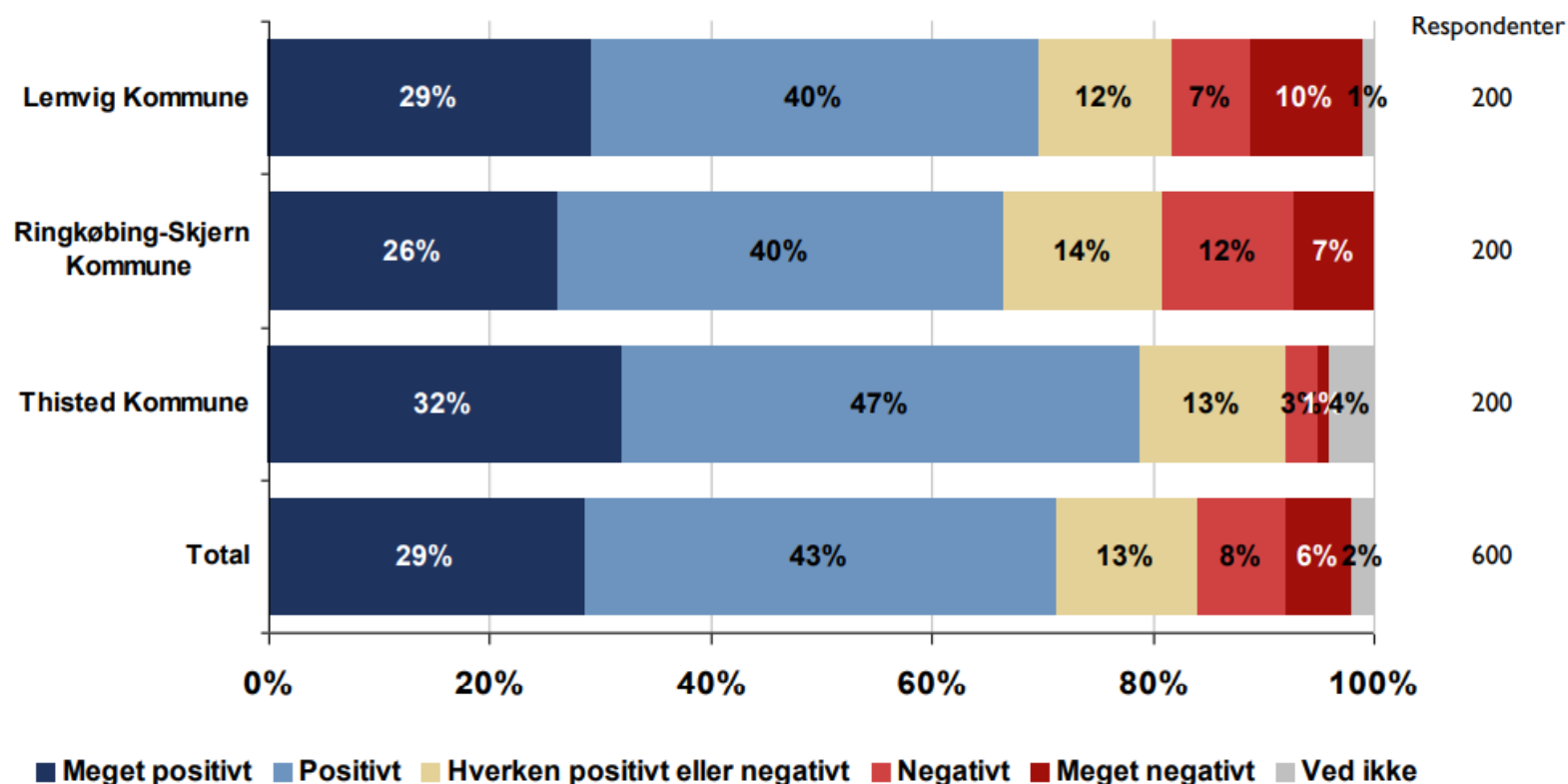
[Get the data](#) • Created with Datawrapper

In general, are you positive or negative regards the green transition?

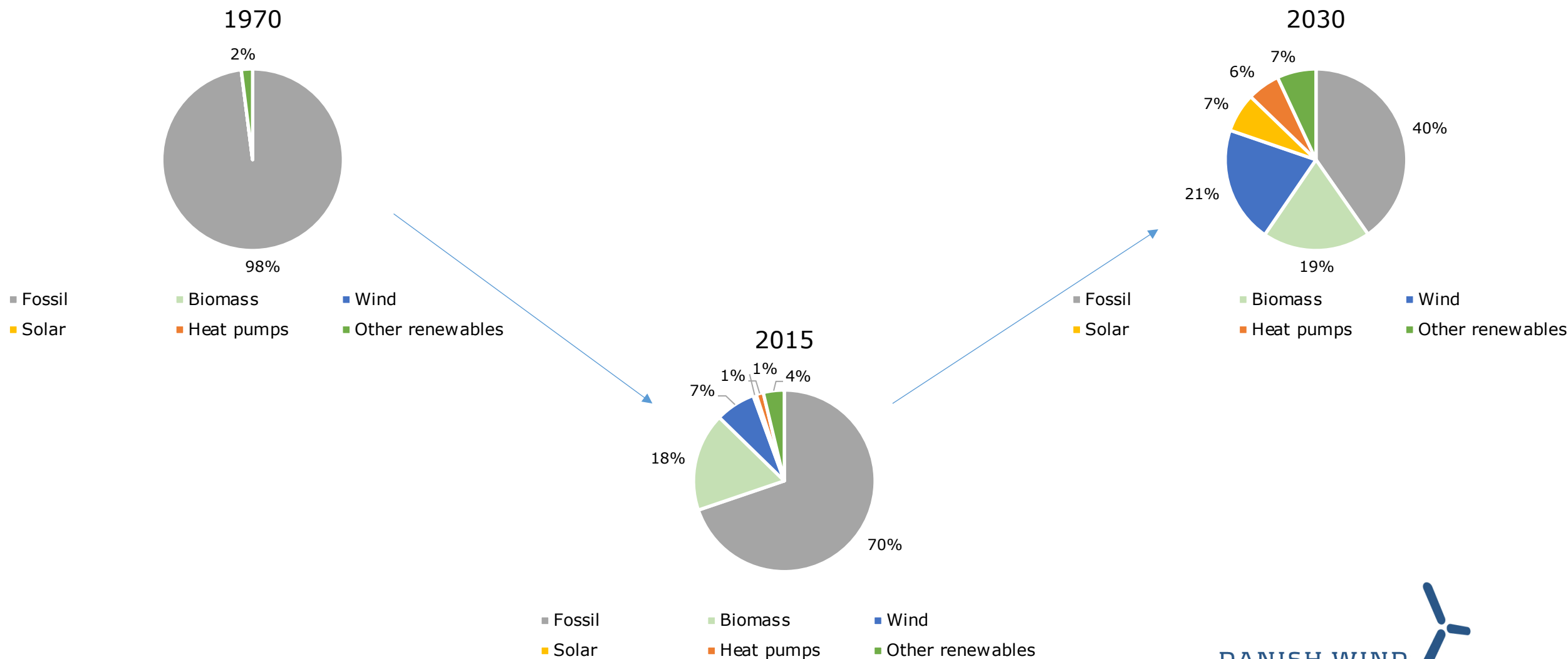


In general, are you positive or negative regards the establishment of Vesterhav Syd and Nord?

Samlet set synes 72%, at opførelsen af havvindmølleparkerne er positiv (43%) eller meget positiv (29%). 13% svarer hverken/eller, mens 14% synes det er negativt (8%) eller meget negativt (6%).



Zooming in on the Danish energy system



Danish way of doing onshore planning

- › Municipalities are responsible for planning
- › Main planning rule $4 \times \text{tip height}$ to nearest neighbour
 - › E.g. $4 \times 150 \text{ meters} = 600 \text{ meters}$
- › The option to purchase scheme – 20%
- › Previously: The green scheme – approx. 12.000 euro per MW to social and recreational initiatives
 - › In the future a new model will be implemented
- › Loss of value to property owners
- › Strict noise requirements
- Neighbours are well protected but the planning and benefits can be enhanced further
- Still some way from NIMBY to PIMPY



My personal 'kæpheste' / 'hobby horses'

Verbal

- › ~~Wind power~~ → wind energy
- › ~~Alternative energy~~ → primary choice today

Strategic

- › Wind energy is expensive → yes, but no.
- › Since offshore wind is subsidy free, onshore wind is obsolete → no, and no
- › Wind is the preferred technology → yes, but no
- › Wind turbines are ugly, harmful and dangerous → yes, but no

Reverse burden of proof

- › Wind must proof that it is safe before it can be installed → no

Thank you

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