

Electricity from renewable energy: The cornerstone of emission reductions

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Statkraft at a glance

OWN CAPACITY

19 300 MW

62 TWh → 98% renewable

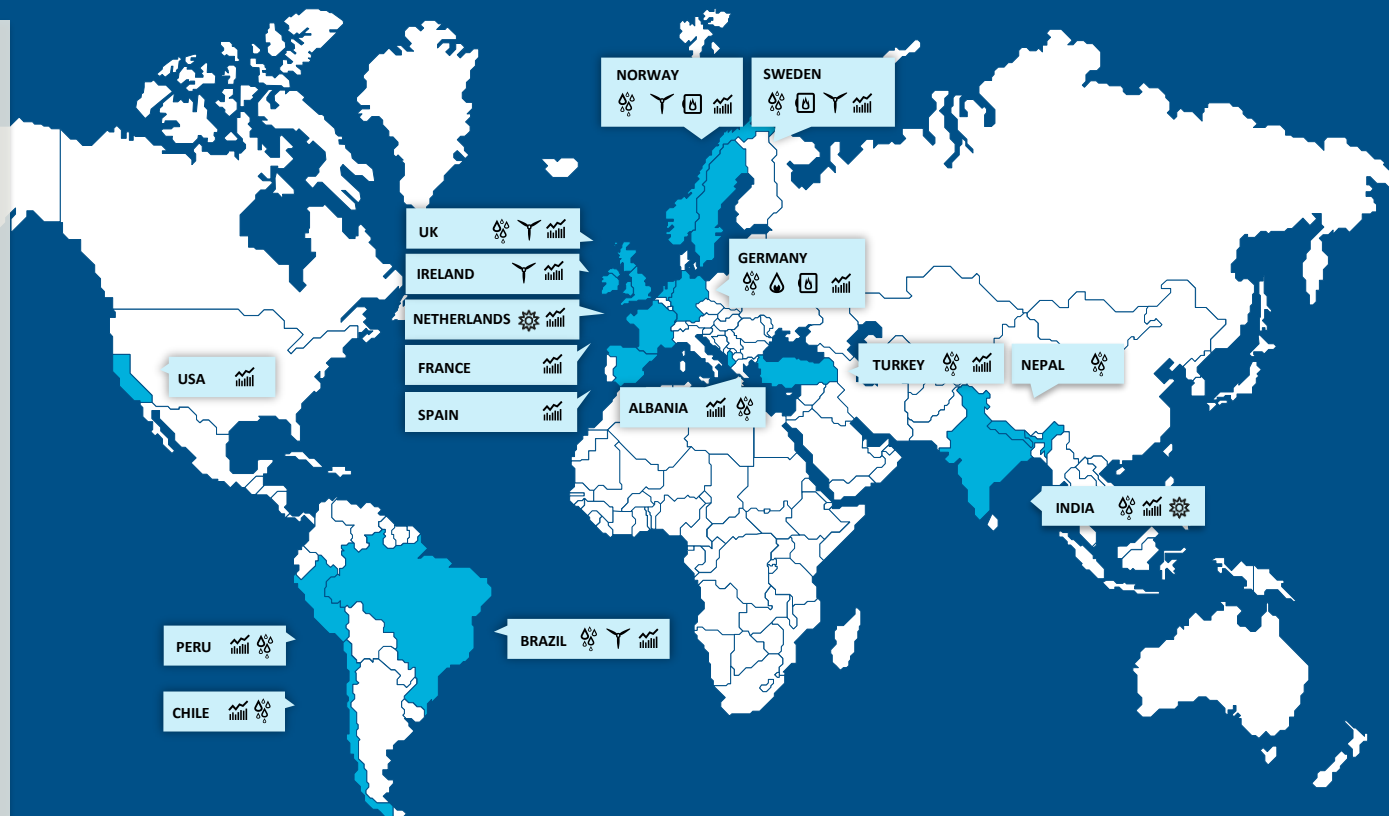
THIRD PARTY CAPACITY

22 000 MW

100% renewable

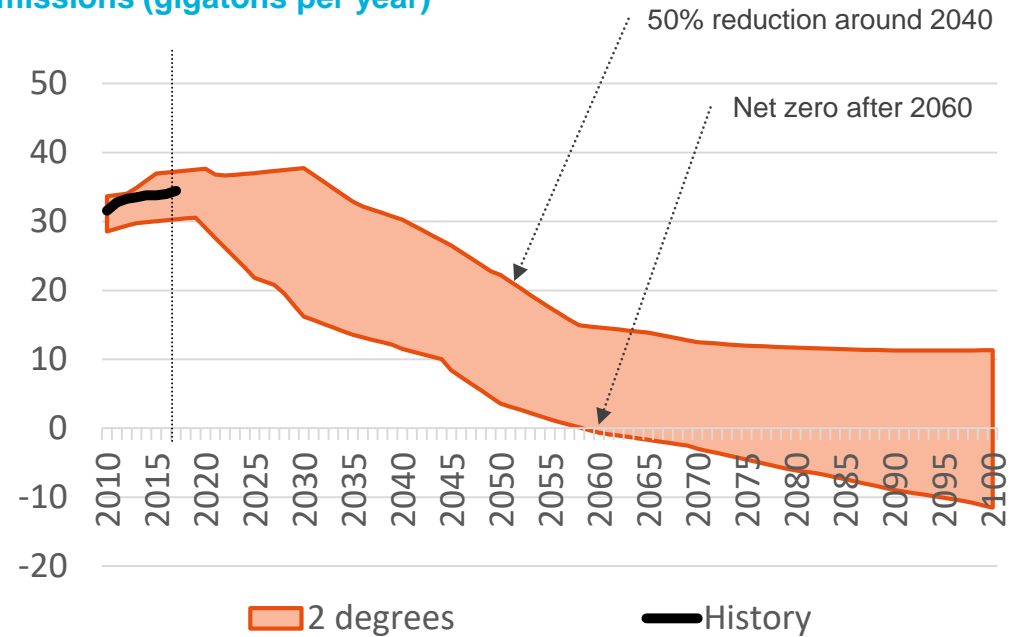
EMPLOYEES

3 600



Emissions in line with a 2 degree pathway

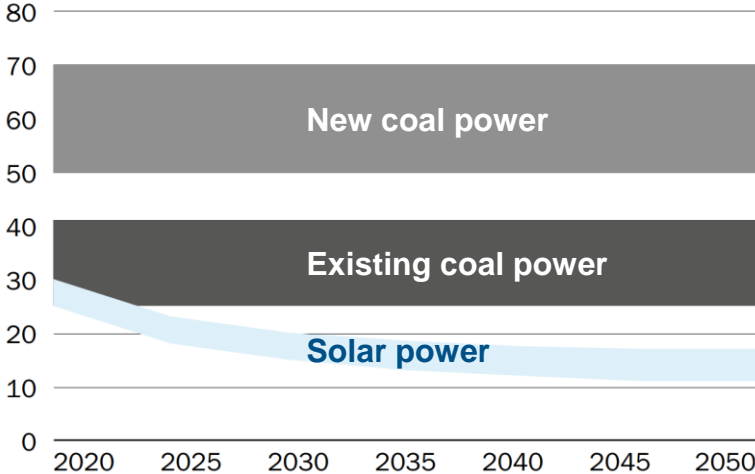
Energy related emissions (gigatons per year)



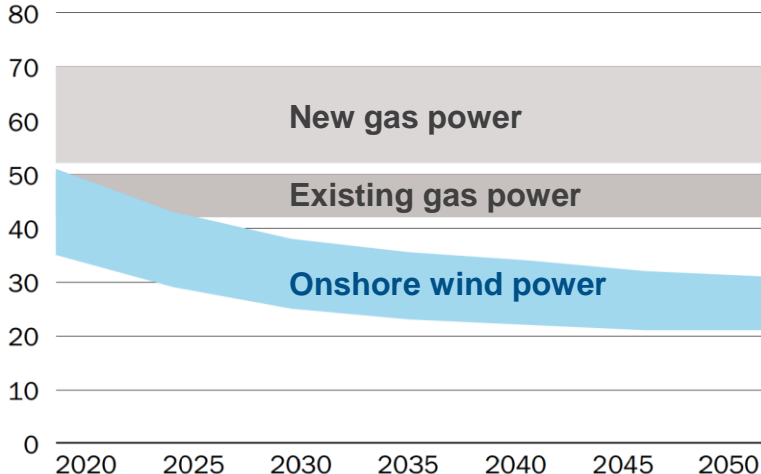
Source: Statkraft's Low Emission Scenario 2019; Scenario data from: IAMC Scenario Explorer hosted by IIASA (release 1.1)

Renewables are outcompeting gas and coal

Cost developments for solar PV and coal power
EUR/MWh



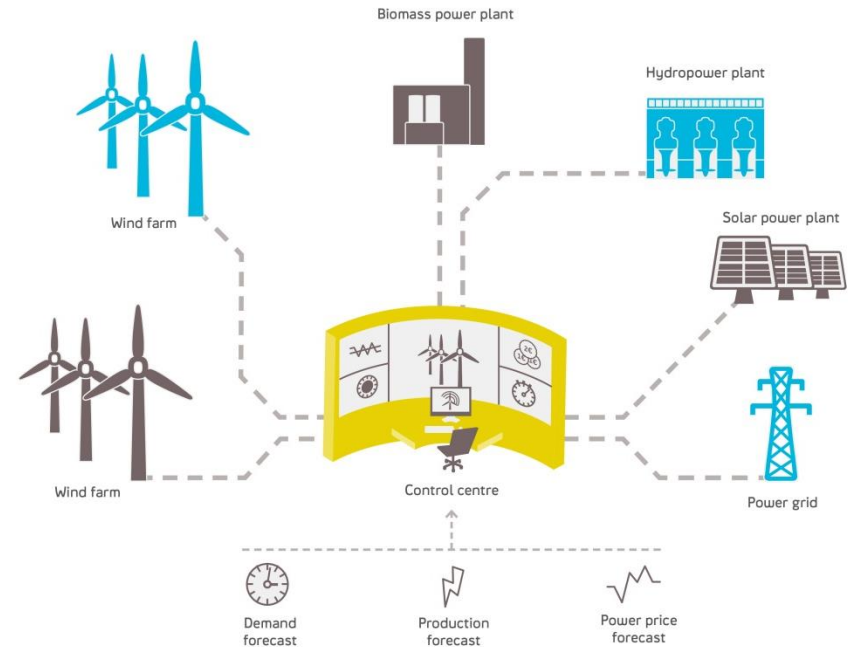
Cost developments for onshore wind and gas power
EUR/MWh





Integrating renewables: Europe's largest power plant is virtual!

- ▶ Statkraft's virtual power plant networks and controls the decentralised energy generation of a wide range of **wind, solar and biomass facilities**
- ▶ Can be extended to include batteries and flexible demand
- ▶ With a capacity of **more than 12,000 MW** it is Europe's biggest power plant



Transport goes electric

Key changes to 2050:

60%

of new heavy vehicles
will be electric

100%

of new cars
will be electric

-43%

reduction in oil demand

x20

increase in electrification
of transport



Electricity much more efficient than fossil fuels



ELECTRICITY

1x



10%
LOSS

**90%
PROPULSION**



PETROL

3x



70%
LOSS

**30%
PROPULSION**

Electricity much more efficient than fossil fuels



Oil and gas boilers



**70-90%
efficiency**



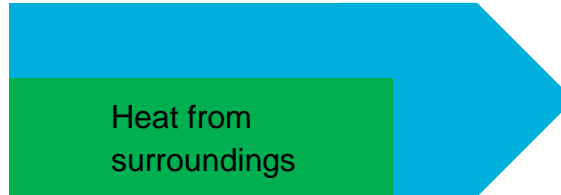
Direct electric
heating



**95%
efficiency**

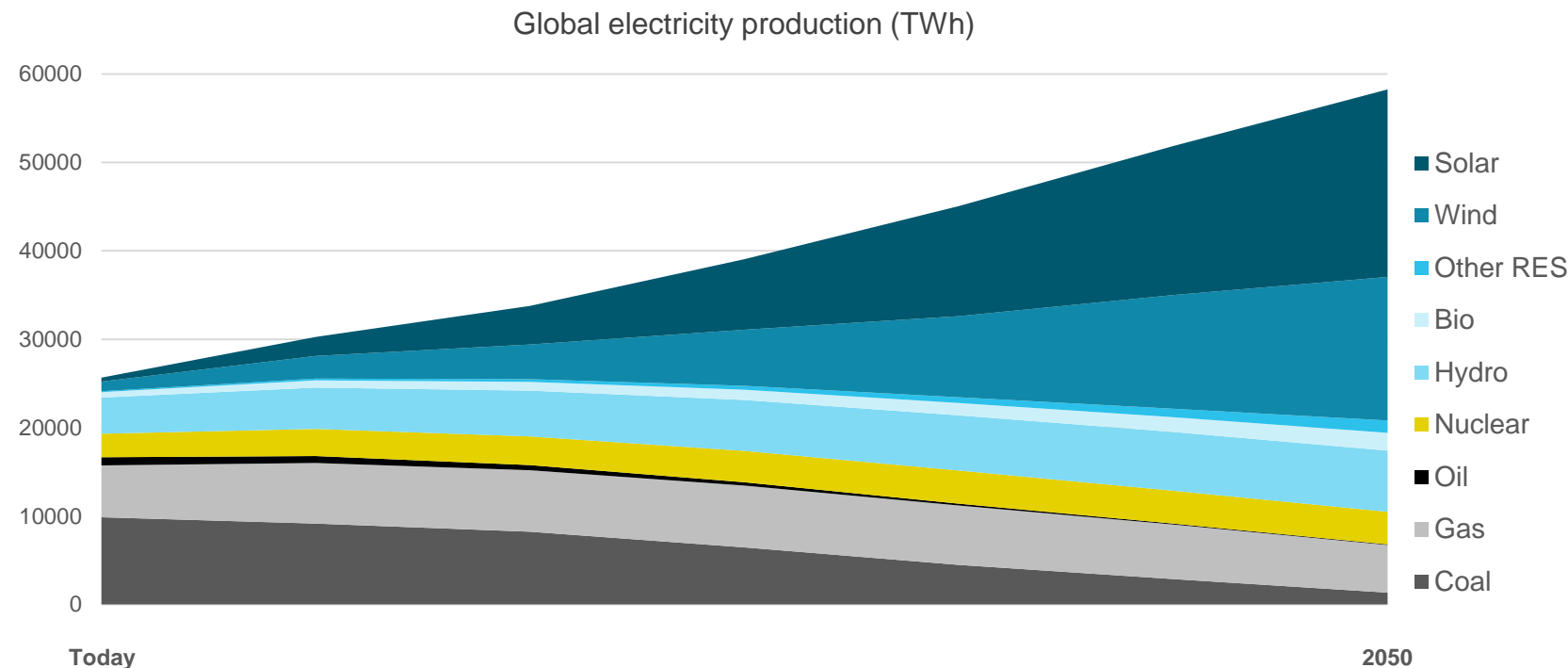


Heat pumps



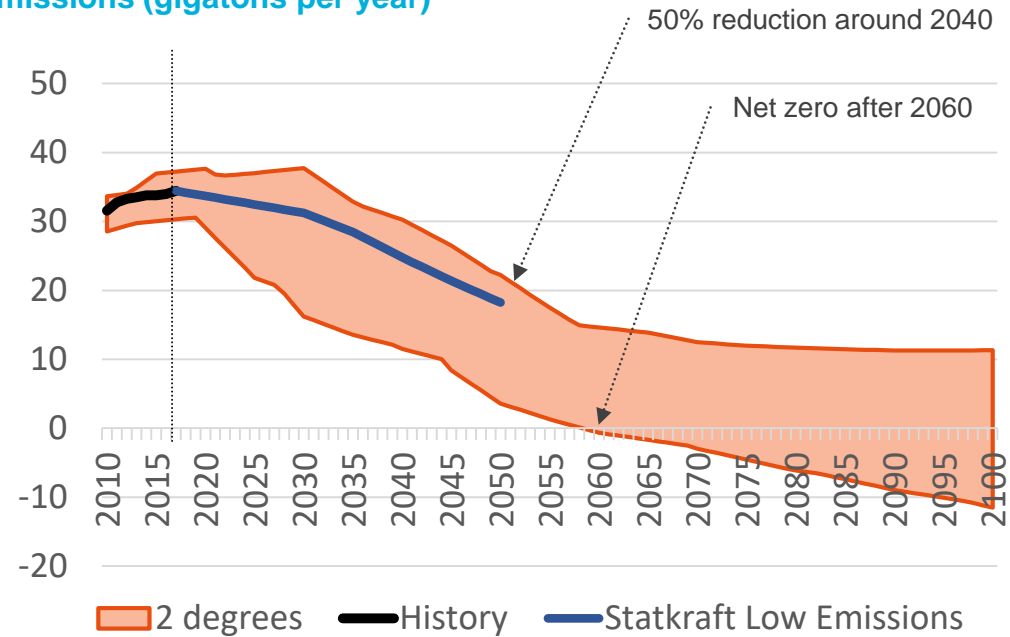
**250-400%
efficiency**

Renewables will be displacing fossil fuels



Emissions in line with a 2 degree pathway

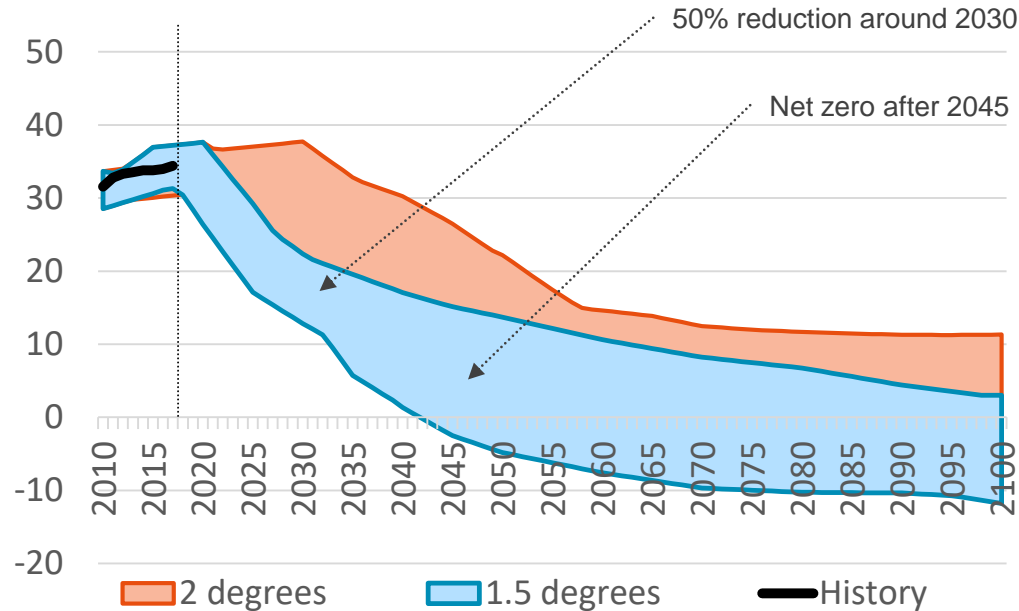
Energy related emissions (gigatons per year)



Source: Statkraft's Low Emission Scenario 2019; Scenario data from: IAMC Scenario Explorer hosted by IIASA (release 1.1)

A 1.5 degree pathway requires earlier cuts

Energy related emissions (gigatons per year)



What does it take?

Stop believing that renewables are expensive

- Renewables cost will continue to drop
- Power system integration is possible

Embrace electrification

- Most renewable sources provide electrificy
- Gas, liquid/solid fuels can be replaced by electricity

International cooperation

- Climate policy will drive markets
- Innovation is
- Power system integration



THANK YOU



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