

Rethinking European measures for renewable energy towards 2030



Outline

1. Where are we now?
2. Where do we need to go?
3. How do we get there?



[MONTH WISE >>](#)
[DATE WISE](#)
[← BACK](#)

WEF released Global Energy Architecture Performance Index Report 2016 👁 209

Published On: 03/03/2016



Share

2



Del

1



Tweet

World Economic Forum (WEF) on 2 March 2016 released the fourth edition of the **Global Energy Architecture Performance Index Report 2016 (EAPI)** compiling 126 countries. India has been ranked at 90th position which is topped by Switzerland.

- The annual index provides a benchmark to help countries address energy transformation challenges and identify opportunities across their energy systems.

- It explored the energy architecture of **126 countries** based on their ability to provide energy access across three dimensions of the "energy triangle" affordability, environmental sustainability, security and access.

- WEF prepared the report in collaboration with Accenture which noted that large emerging economies are pressed both by the need to support economic growth and build resilient and sustainable energy architecture.

Highlights of the Report

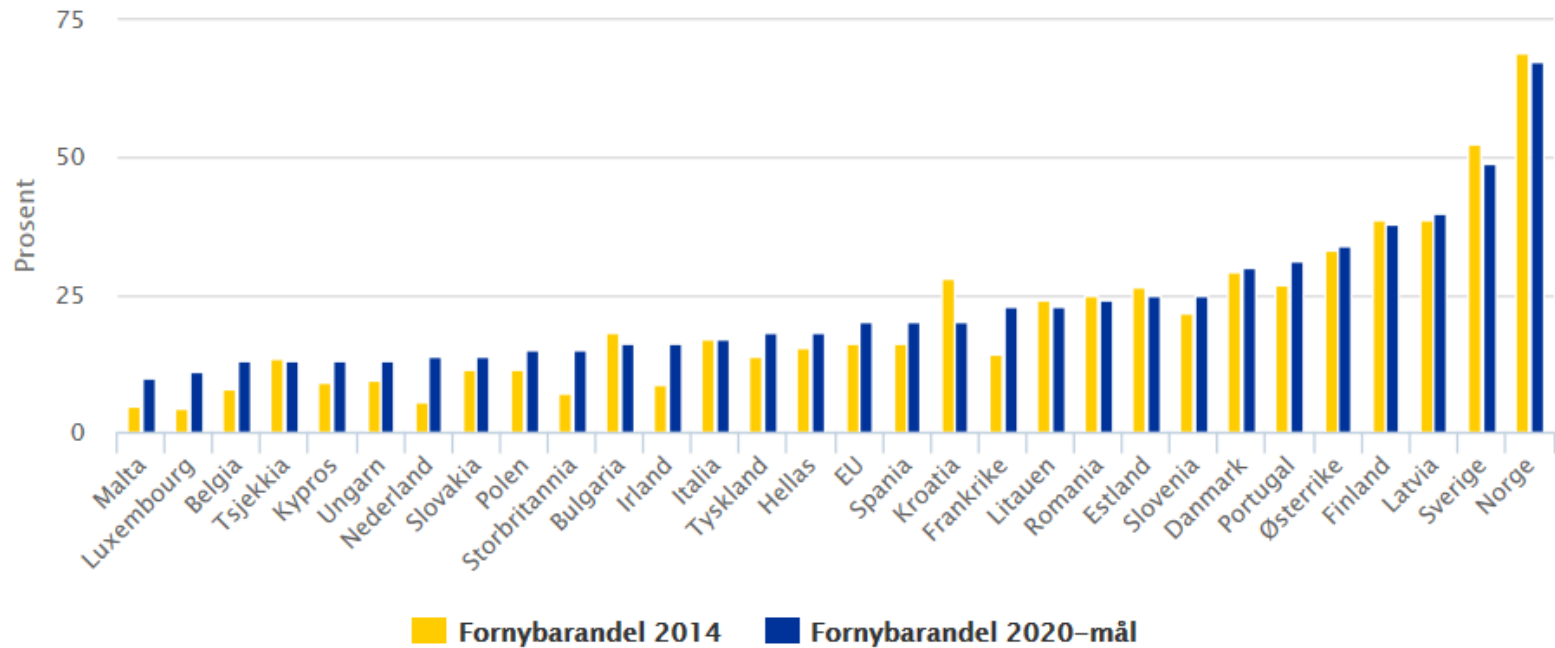
1. The list was topped by Switzerland followed by Norway and Sweden in the second and third place, respectively while, India stood at 90.
2. Others in the top 10 include France (4), Denmark (5), Austria (6), Spain (7), Colombia (8), New Zealand (9) and Uruguay (10).
3. Among the BRIC nations, Brazil was the top performer as it was ranked at the 25th place, followed by Russia (52), India (90), and China (94).
4. Among other major economies Germany was ranked at the 24th place, while the United States was at the 48 rank and Japan was at the 50 rank.
5. World energy production and imports rose by 3200 million tonnes of oil equivalent over the last decade driven by the boom in the Asian economies and



Mer fornybart Europa



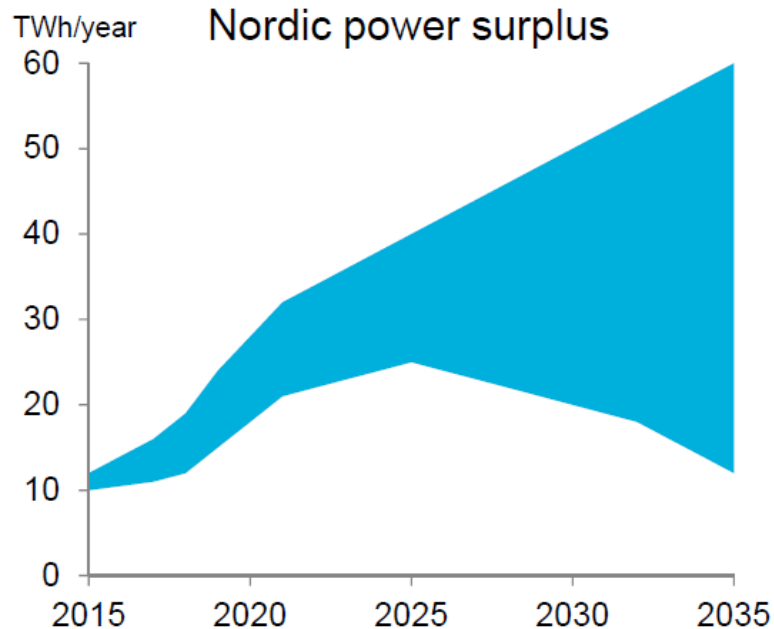
Prosentandel fornybar energi av totalt energiforbruk i 2014, 28 EU-land pluss Norge, og EU samlet, og bindende målsetting for 2020.



Kilde: Eurostat

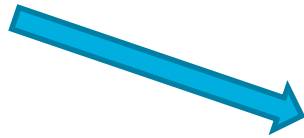
EU som helhet ligger an til å nå det samlede målet om 20 prosent fornybarandel i 2020.

Increased Nordic power surplus towards 2030

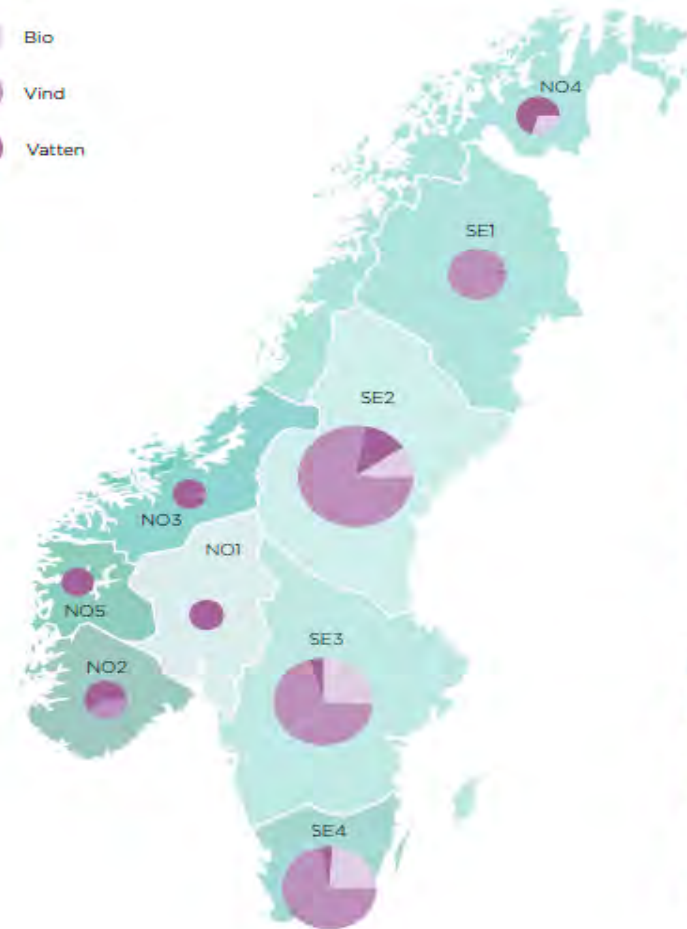


- ▶ Main drivers
 - Norwegian / Swedish elcert scheme
 - Finnish nuclear project(s)
 - Flat demand in all Nordic countries
- ▶ Swedish nuclear power is the largest uncertainty

A lot of new wind in Sweden



Figur 3: Normalårsproduksjon for kraftverk som inngår i 26,4 TWh målet fordelt på elspotområde



Normalårsproduksjon per elspotområde

Norge	GWh
NO1	286
NO2	427
NO3	276
NO4	448
NO5	251
Sum	1689

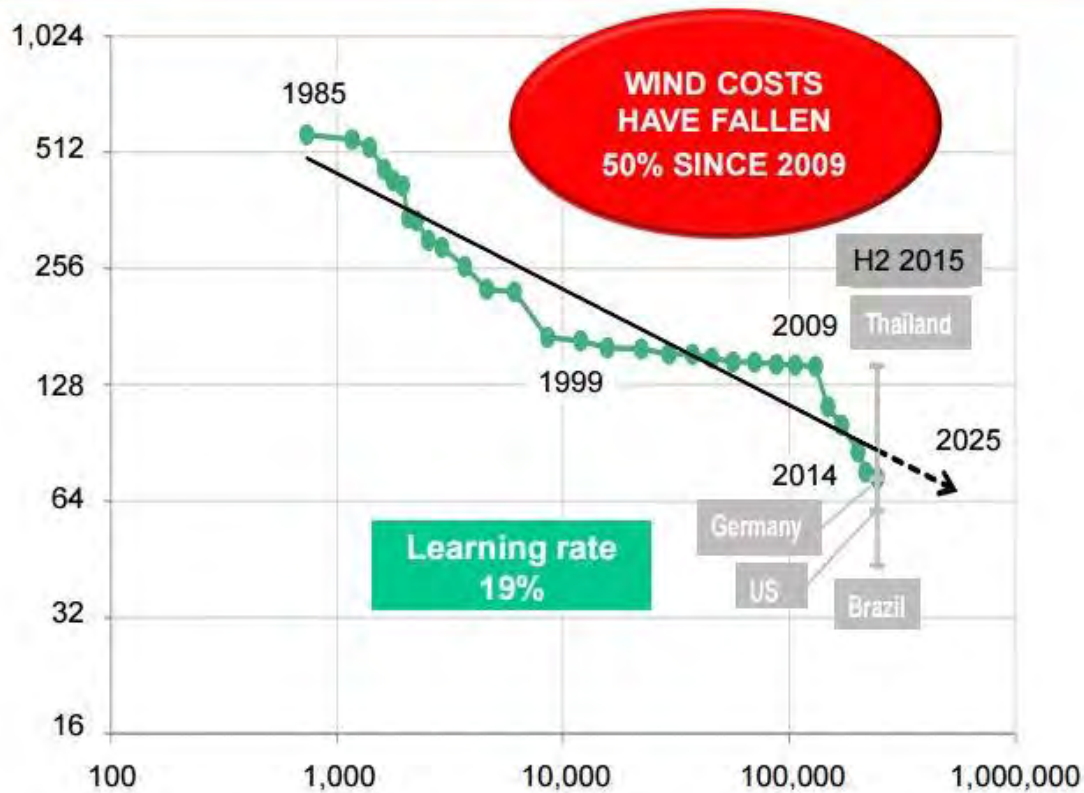
Normalårsproduksjon per elspotområde

Sverige	GWh
SE1	817
SE2	3208
SE3	2389
SE4	2156
Sum	8571

Kilde Energimyndigheten, NVE

- Level playing field?

ONSHORE WIND LEVELISED COST (\$/MWh)

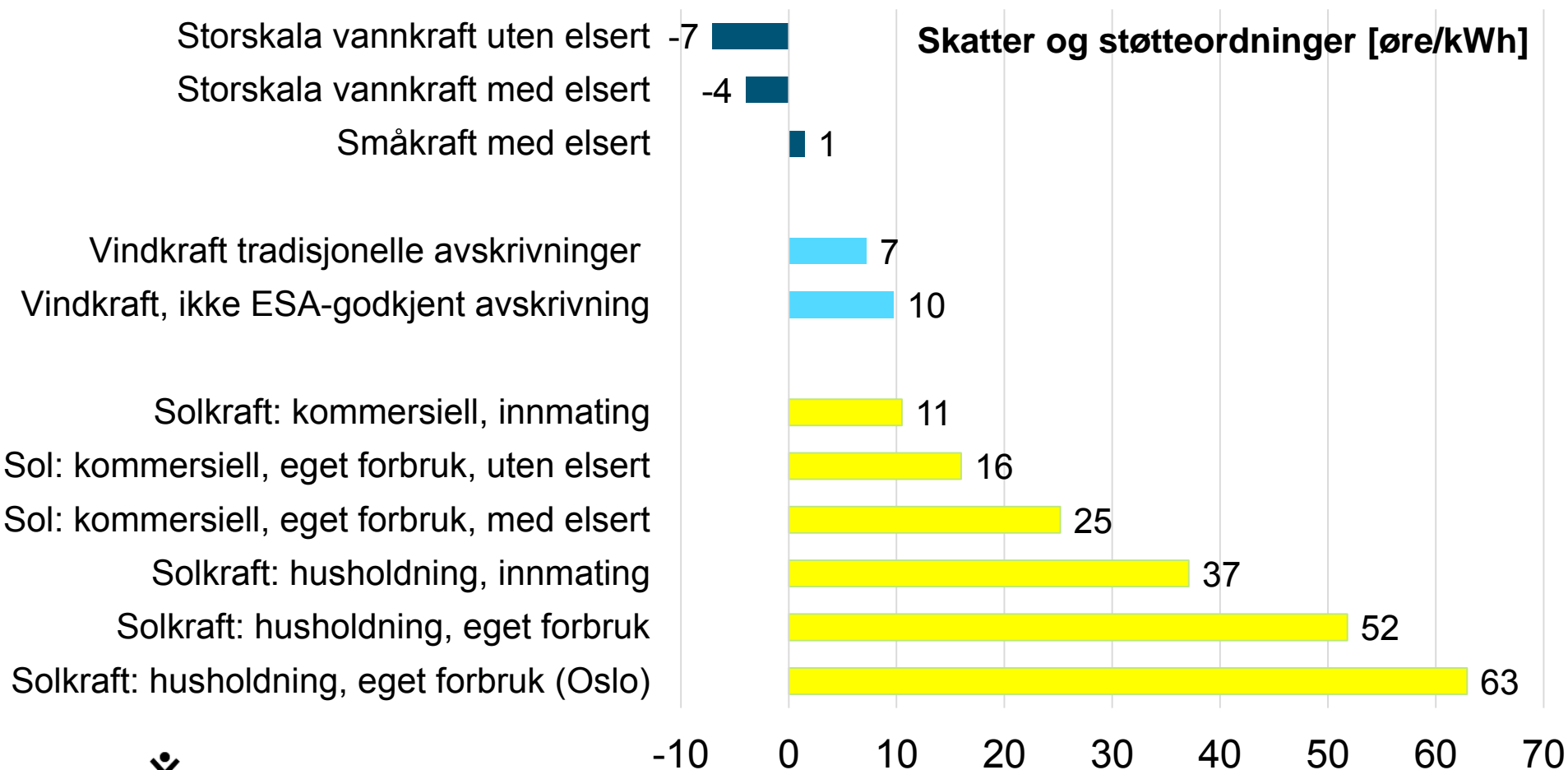


Norway 2016

40 øre - 35 øre
KWh (Source
Norwea)

Bloomberg

Taxes and state aid - netto per kWh



Outline

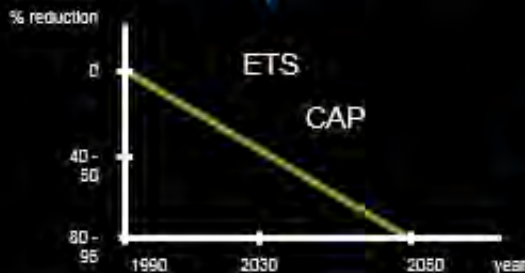
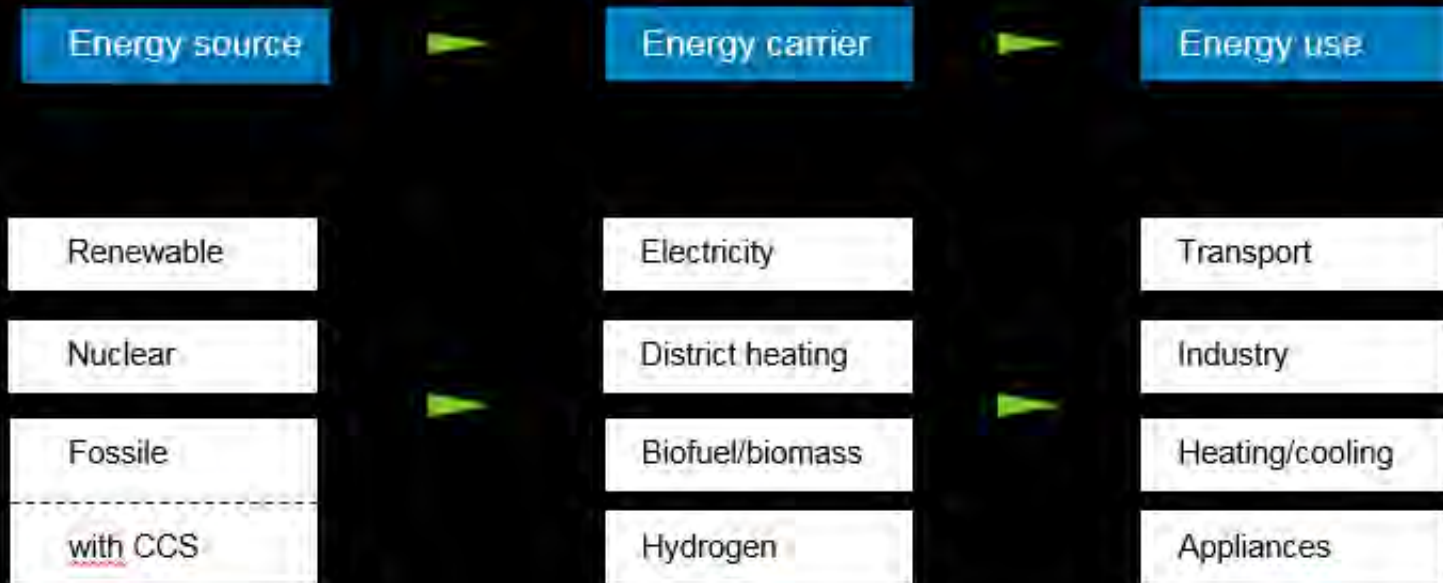
1. Where are we now?
2. Where do we need to go?
3. How do we get there?



Climate friendly energy system 2050



EnergiNorge



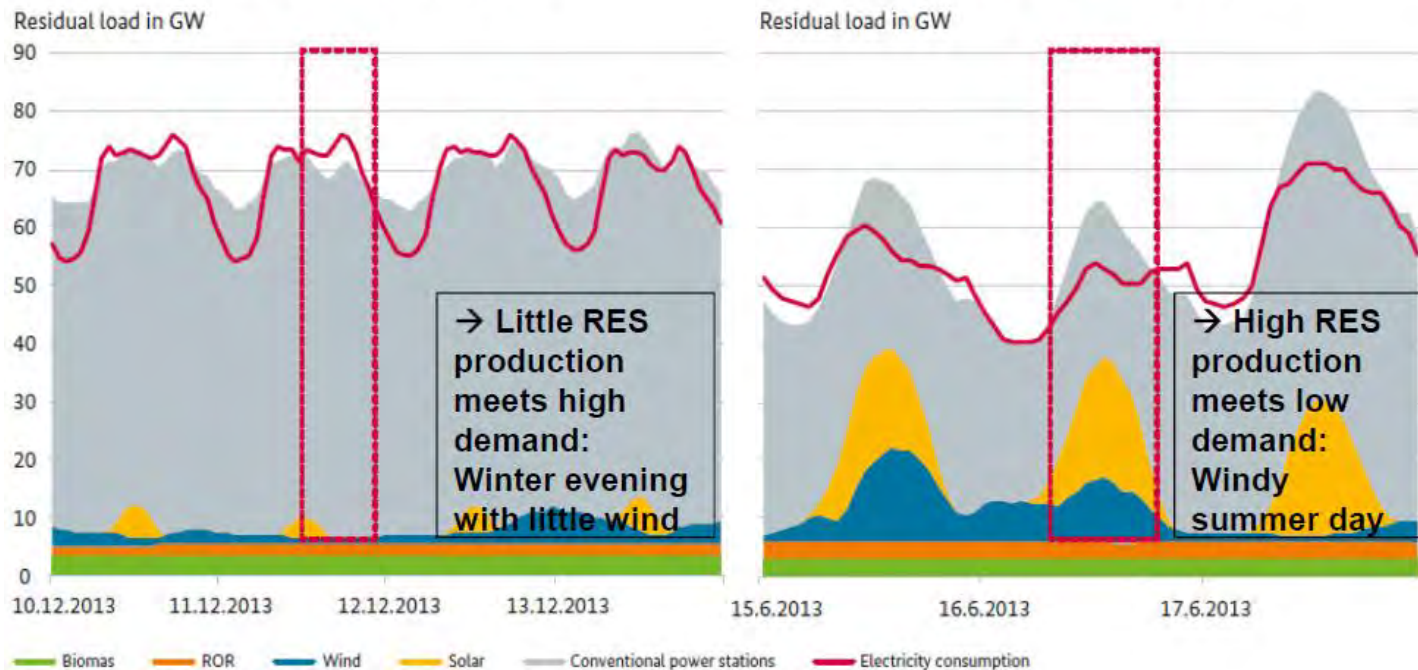
Increase in energy use no impact on CO₂ cap

Integrating variable renewables requires new thinking

Figure 2: Examples of situations with high and low residual load

High residual load:
high demand for electricity, little wind and solar power

Low residual load:
low demand for electricity, much wind and solar power

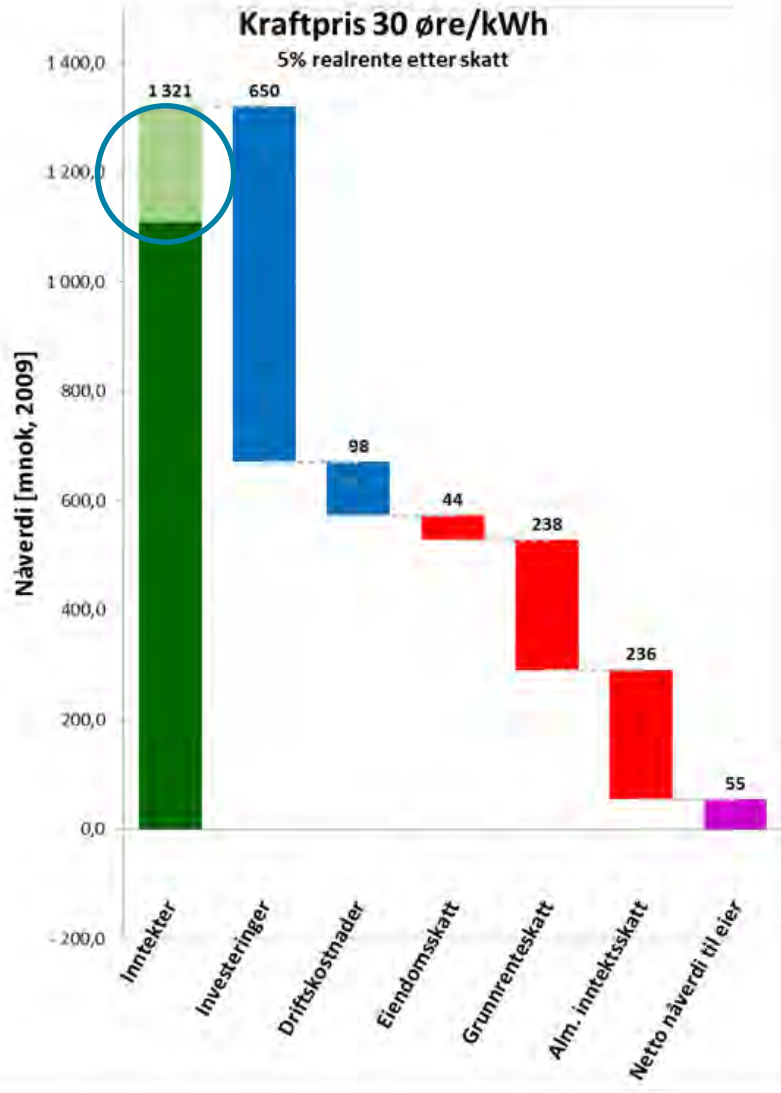


Source: Connect Energy Economics

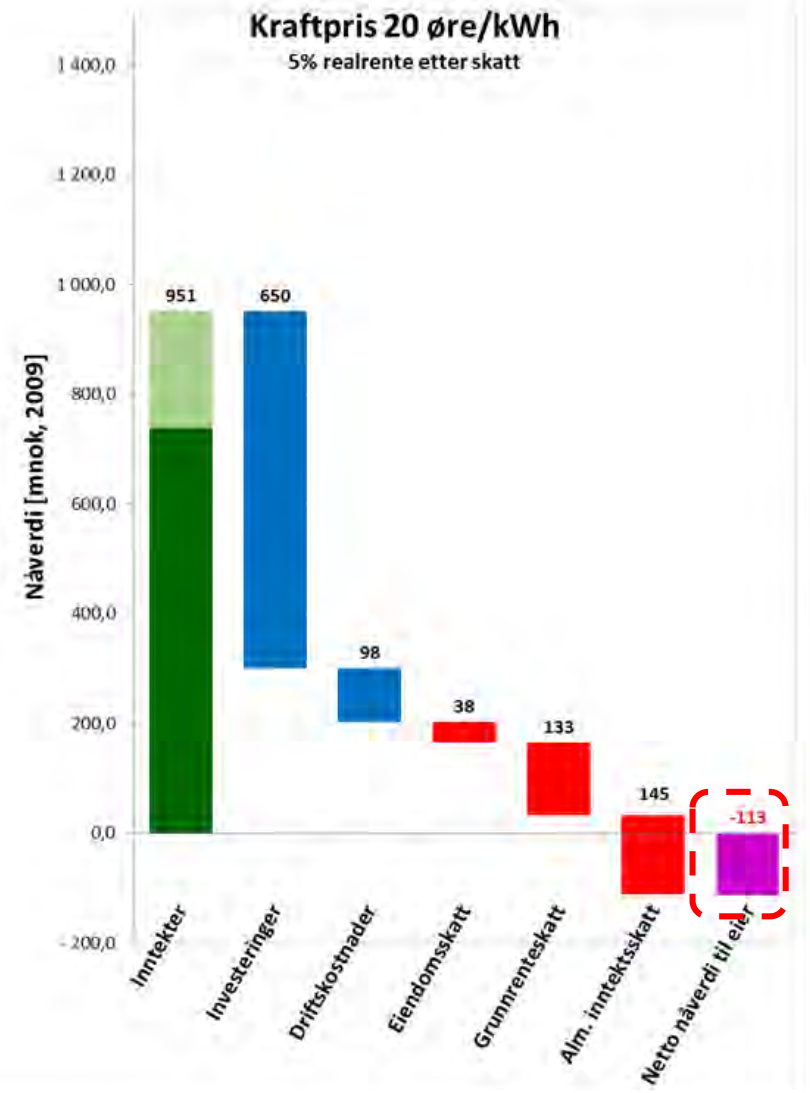
Hydro example – incentives

Utvidelse av Embretsfoss

2009



2016



Consultation on new RES directive

- *What should be the geographical scope of support schemes, if and when needed, in order to drive the achievement of the 2030 target in a cost-effective way?*
- *How could renewable electricity producers be fully or partially eligible for support in another Member State? Which elements would you include in a possible concrete framework for cross-border participation in support schemes? Any other consideration? Please explain.*

Electrification



 enova

Bli kvitt **oljefyren?**
Enovatilskuddet gir deg
penger tilbake!

[LES MER](#)

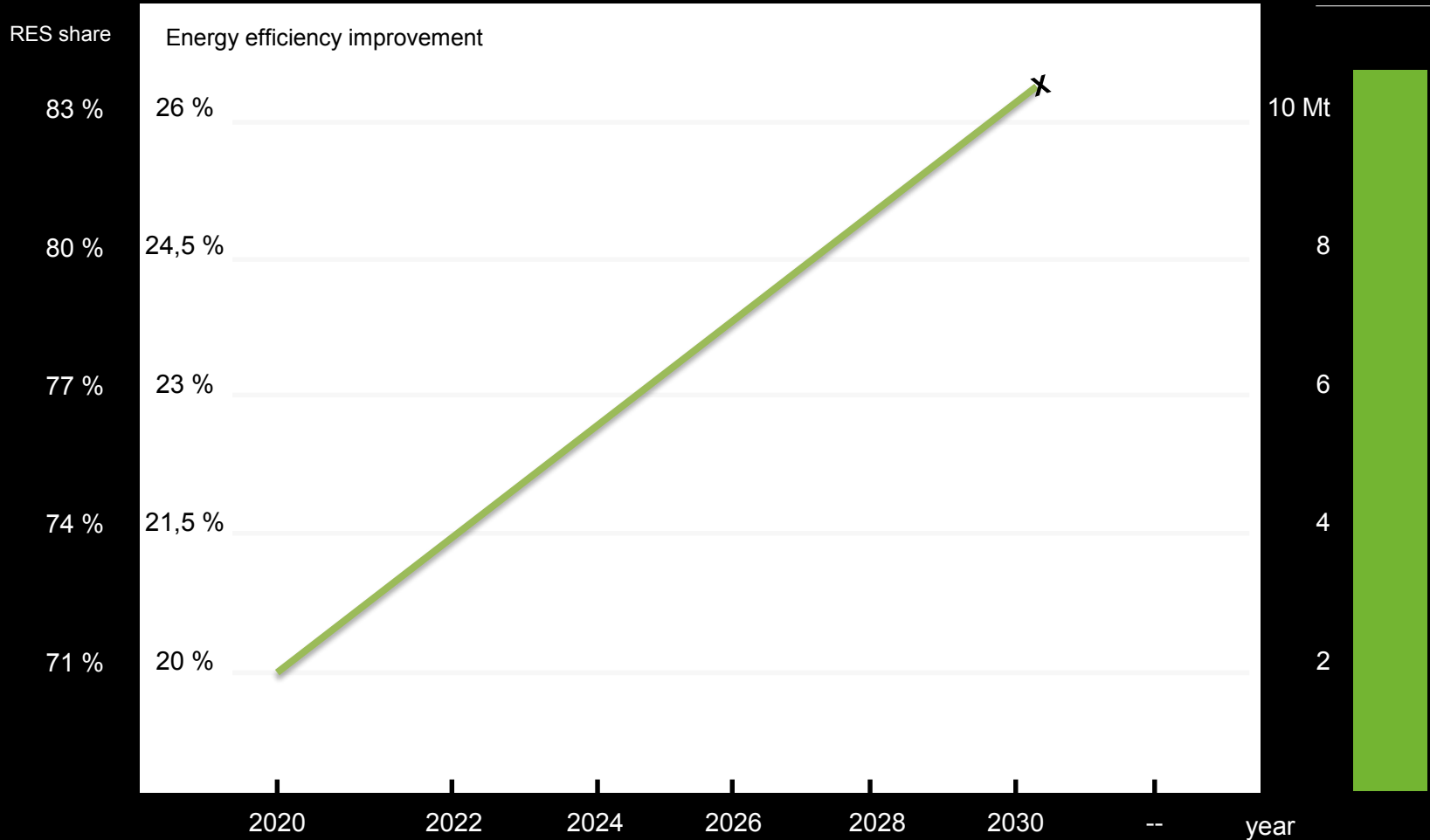


Norway - electrification of road transport – CO₂, RES and energy efficiency



EnergiNorge

Mt CO₂ reduction
via electrification
road transport



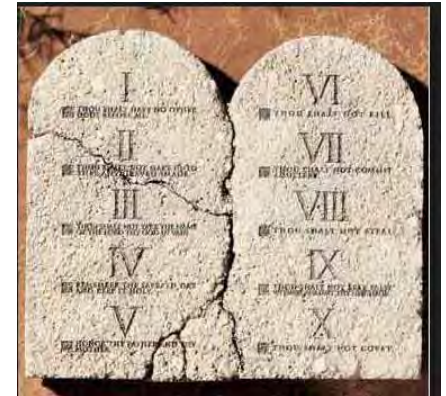
Outline

1. Where are we ?
2. Where do we need to go?
3. How do we get there?



How do we get to 2050?

1. Phase out RES subsidies
2. Continue R&D
3. Strengthen ETS
4. Improve energy-only market design
5. All RES with balancing requirements
6. Allow prices to fluctuate
7. Give consumers digital, "smart" feedback
8. Deliver on interconnectors
9. Support infrastructure for e-mobility and CO2 free heating and cooling
10. Governance of the Energy Union – policy coordination





Better climate

Security of supply

Green growth