

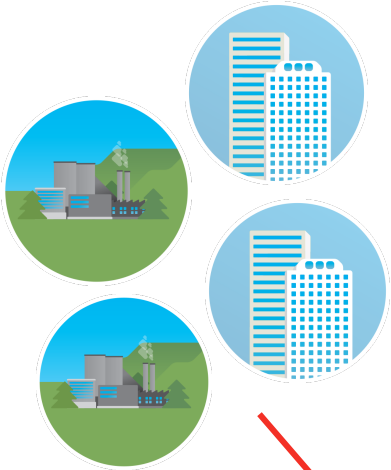


Non-wires alternatives

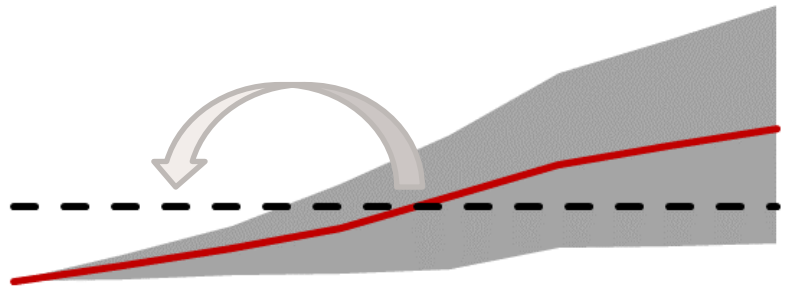
Demand side management can decrease the costs in the Norwegian power grid

Bergen, April 16th 2018
Ola Øyan, Senior analyst

Statnett



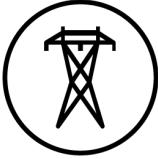
Maximum load



Capacity

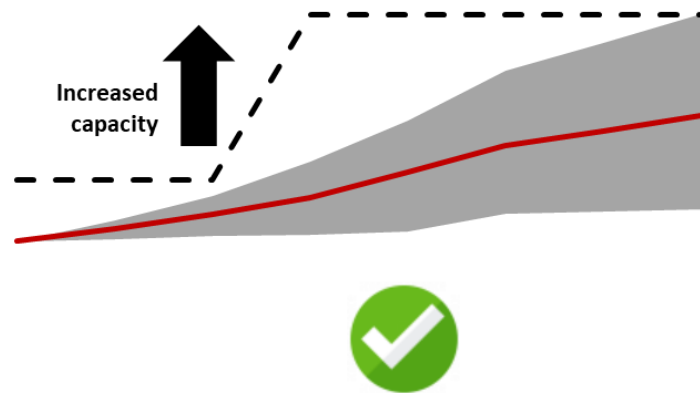
2015 2020 2025 2030 2035 2040 2045 2050

Fremtiden er elektrisk



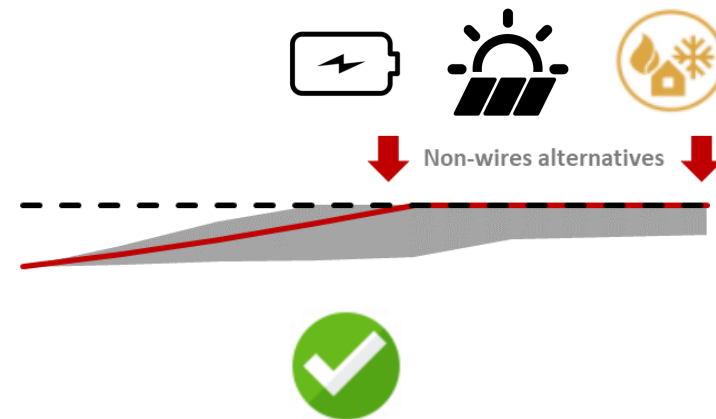
Several measures could solve the problem

New power lines and transformers



VS.

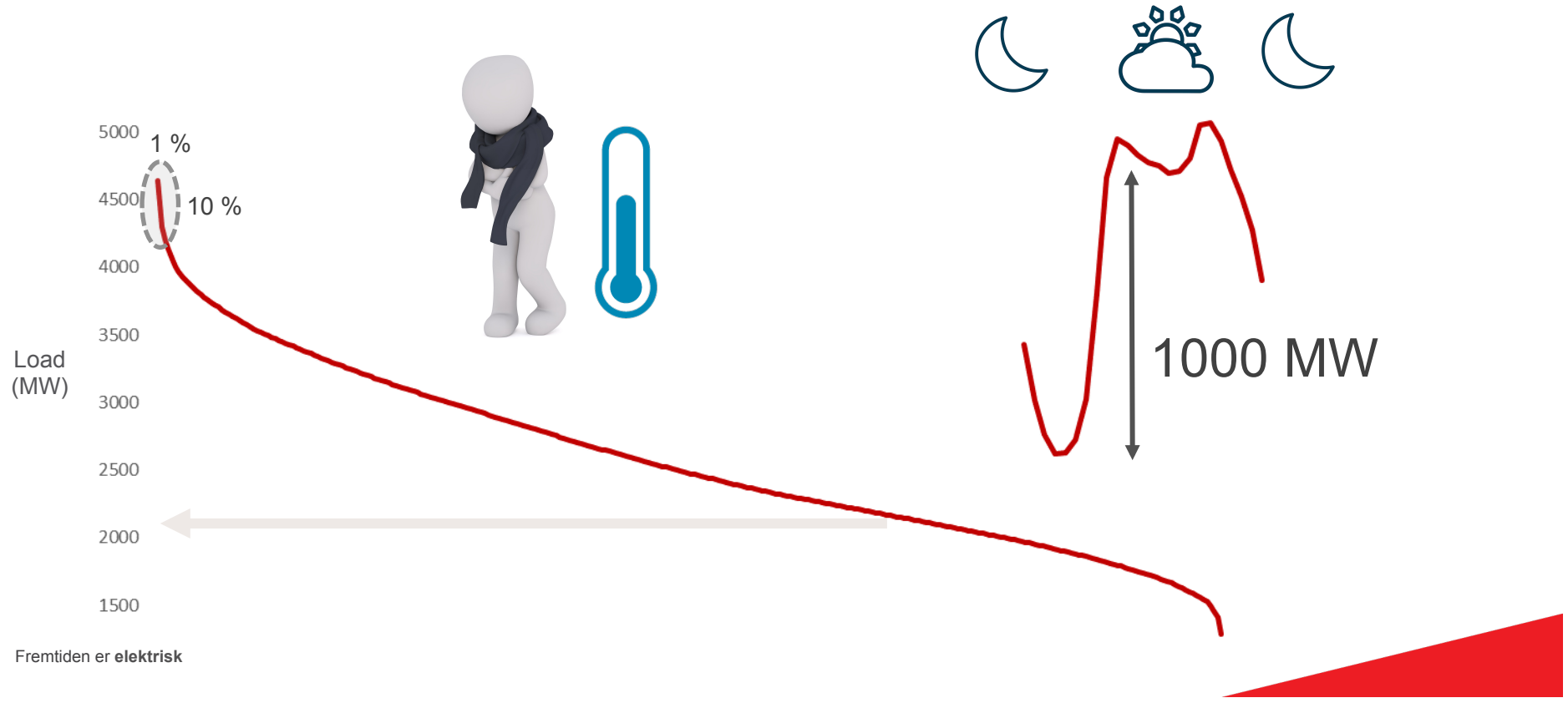
Non-wires alternatives



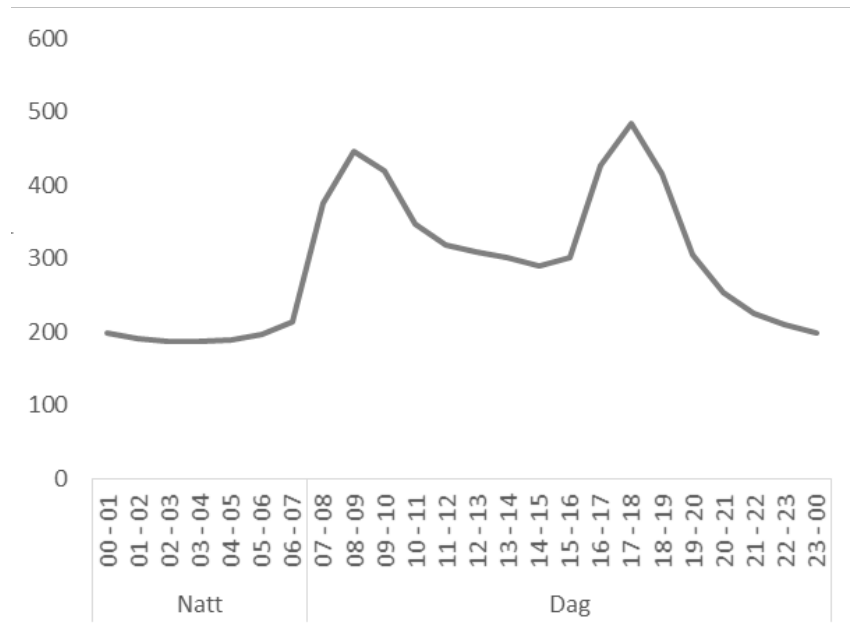
We should find in the best solution for the energy system as a whole.



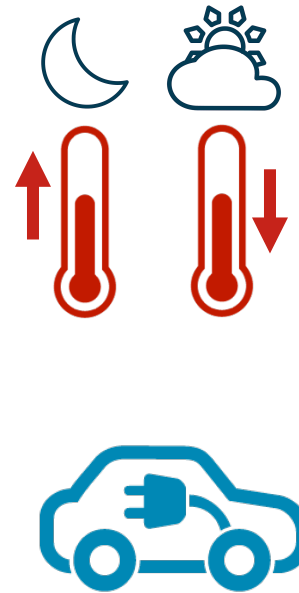
We need to understand the peak load periods



Moving consumption from day to night

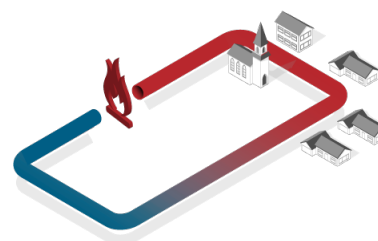
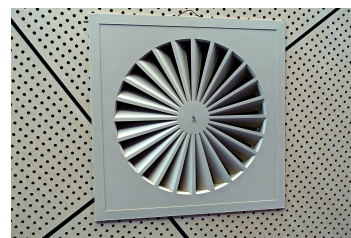
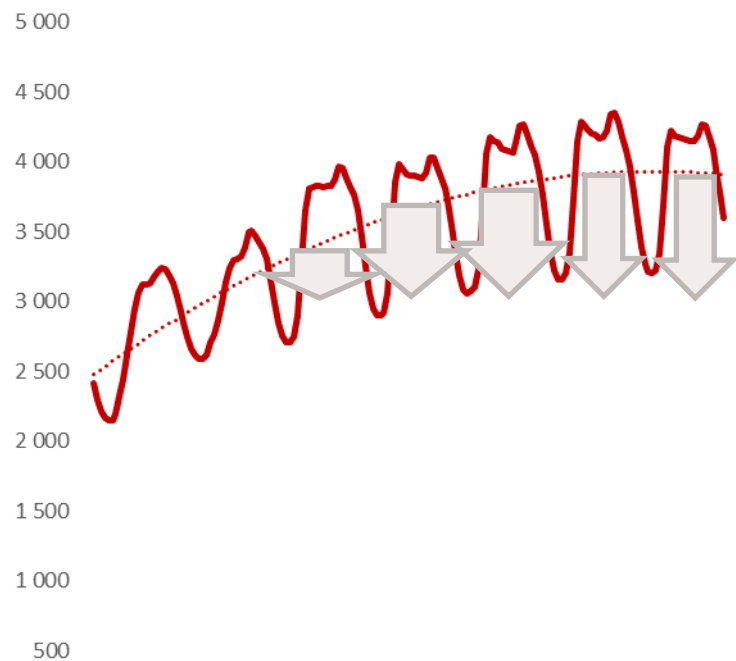


Average power prices in Oslo January 2016 (NOK/MWh)



Price signals from power markets and grid tariffs provides important incentives.

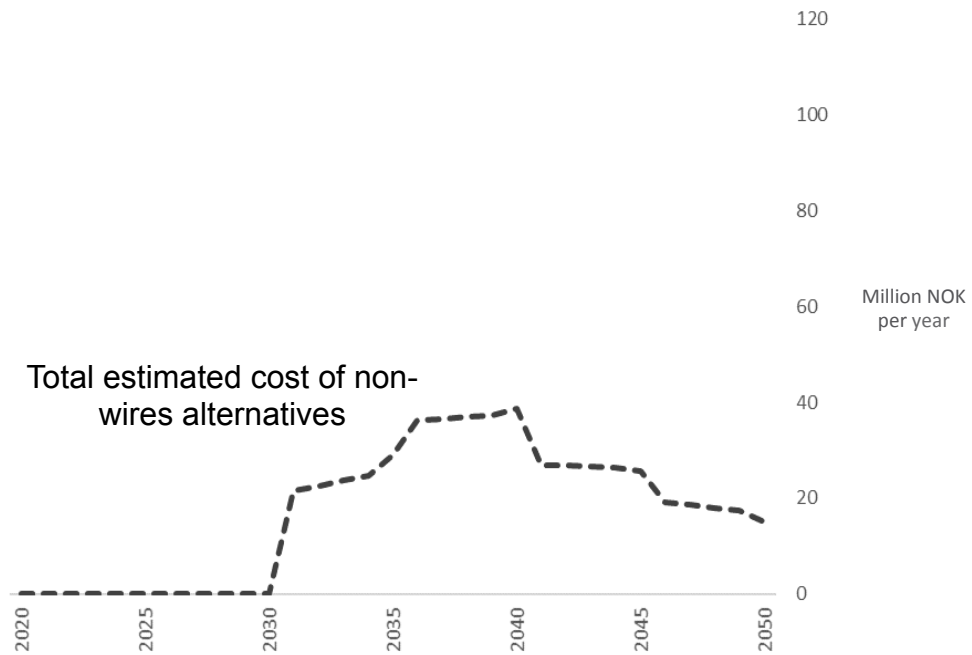
Decrease electricity demand for longer periods



Price signals from power markets and grid tariffs + special incentives and/or agreements.



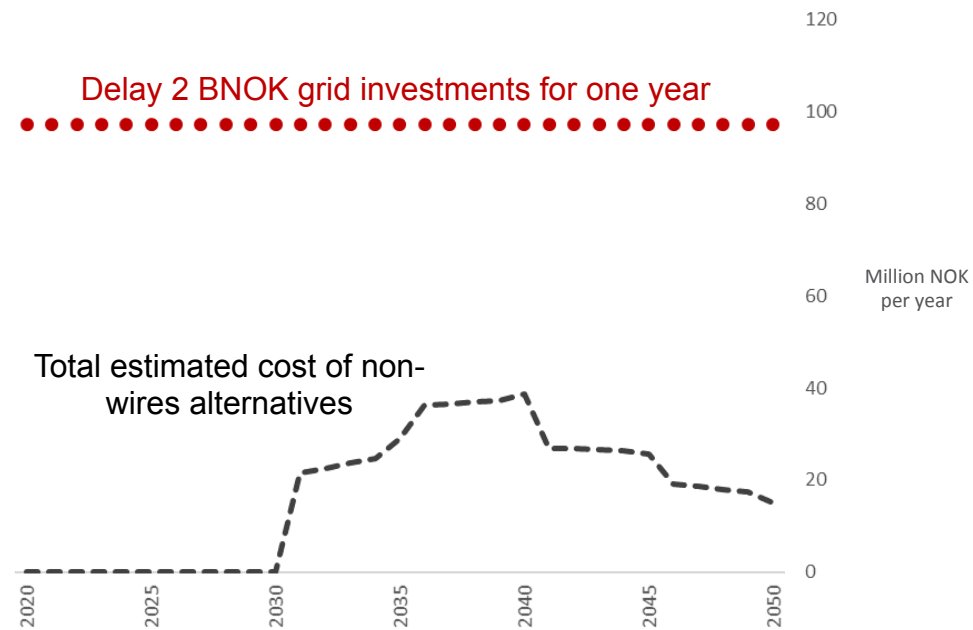
The non-wires alternatives seem economically attractive



Fremtiden er elektrisk



The non-wires alternatives seem economically attractive



The optimal solution include a large number of users and affects several grid companies.



Non-wires alternatives could be further used in Norway

- Many opportunities to reduce the peak load.
- Could reduce costs at all grid levels.
- We have to find practical solutions to utilize NWA at all grid levels.

The reports are available (in Norwegian) on Statnett.no

[Samfunnsøkonomisk analyse av alternativer til nett: Hvordan finne den beste pakken av tiltak?](#)

[Alternativer til nettinvestering: Eksempler fra Oslo og Akershus](#)

[Bidrag til en strategi for alternativer til nett](#)

statnett.no/Samfunnsoppdrag/Forskning-og-utvikling/Resultater/Prosjektrapporter/Prosjektrapporter-2018/

Statnett seeks to utilize the demand side further in our planning and operations.

