

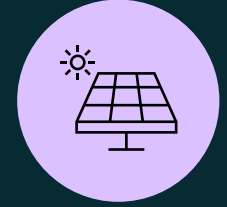
Flexibility in the Neighbourhood

Kjetil Storset, Seminar NHH 2.11.2022

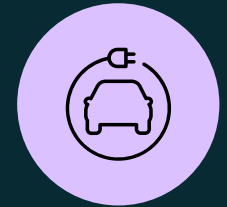
Accelerating the energy transition



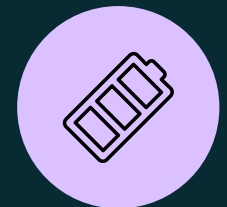
200 000 000 new distributed energy resources in Europe by 2030



Solar panels on roof tops



High penetration of electric vehicles



Need for demand-side flexibility to balance the local grid

Stortingsvedtak våren 2022

Solenergi og Nabostrøm

Stortinget ber regjeringen fjerne regulatoriske barrierer som hindrer lokal energiproduksjon, lokal energilagring og omsetning av energi mellom bygg

Stortinget ber regjeringen gjennomgå regelverket og virkemiddelapparatet for å stimulere til bruk av solenergi, blant annet for å stimulere til områdeutbygginger med solenergi og nabolagsstrøm



UK regulations

On 15 June 2022 the UK government published Part S of the Building Regulations which sets out all new build and retrofit building need to be fitted with 7.4kW EV chargers.

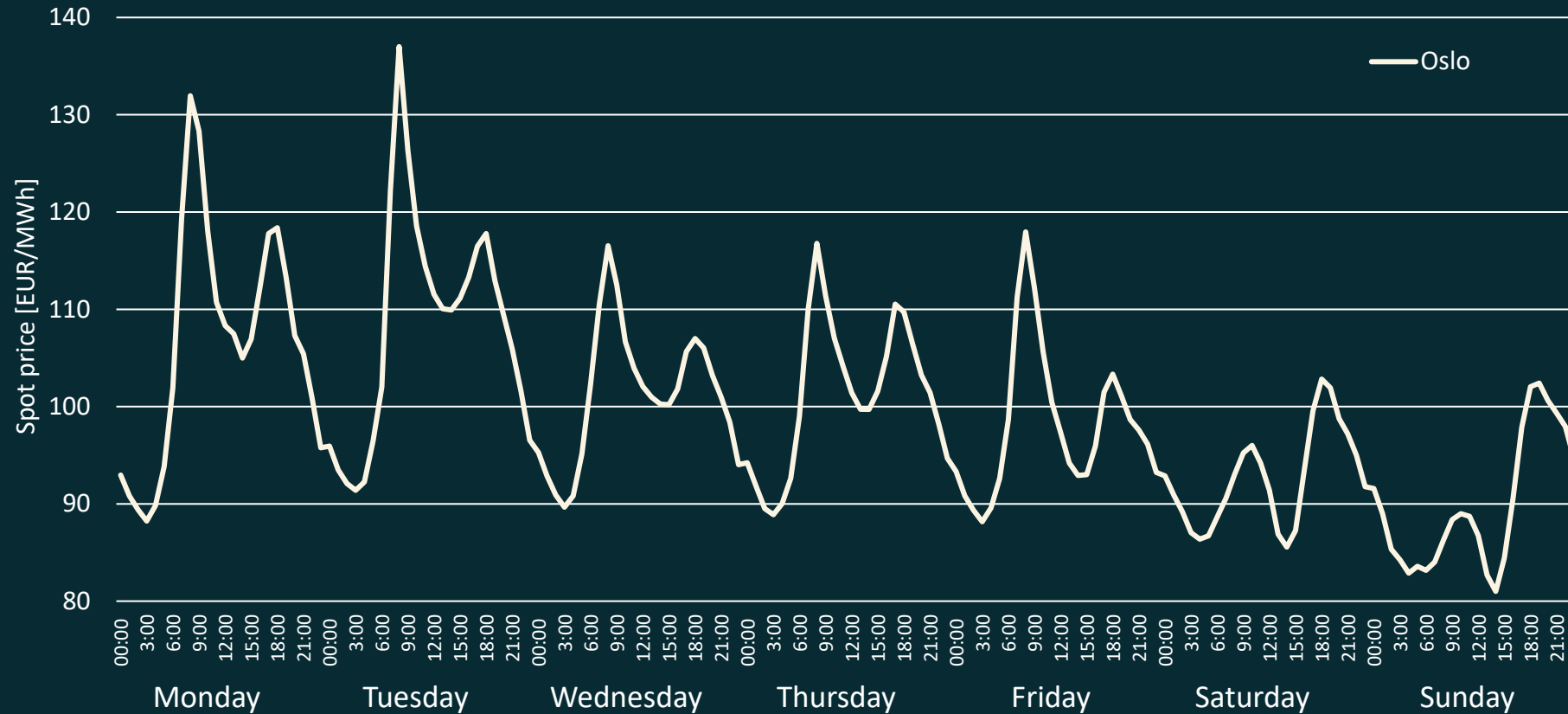
All EV charge points installed after 30 June 2022 will need to have in-built WiFi communication. This allows all charge points to be online and accessible by the local network operators.

DSOs will say 'Yes' to customers who want to install electric vehicle chargers or heat pumps *



Charge your EV on Sundays during daytime

Average spot price by hour of week 01.01.2021-31.05.2022



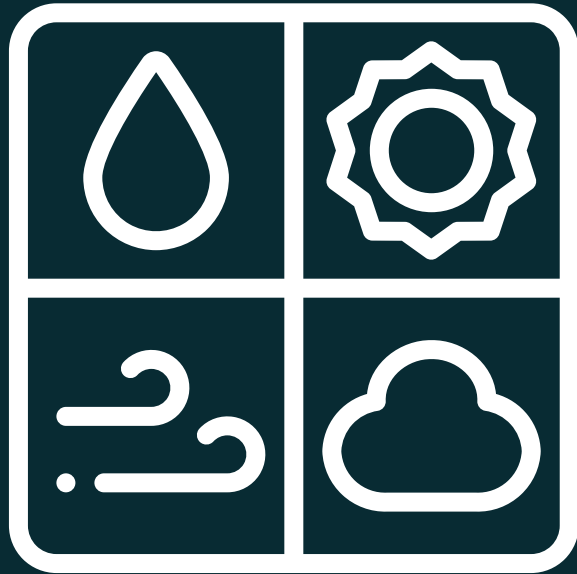
BUILDING

NEIGHBOURHOOD

REGION



System forecast

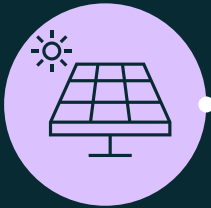


Risk reduction service

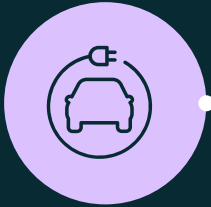


NEIGHBOURHOOD

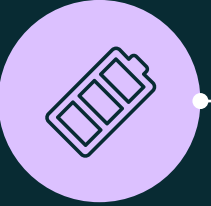
Rooftop solar



EV charging



Batteries



Local grid operators



Restoration of power
Faults and maintenance support



Day to day coordination
Voltage management

i Lading avbrutt

For lav nettspenning.
Kan ikke lade.

Koble fra og start ladingen på nytt, eller bruk en annen ladestasjon hhv. stikkontakt.

Lukk melding

– 22.5 °C AUTO

+



KLIMA
MENY

– 22




Restrictions and penalties
vs
Marked based system services



Local Reserve
Markets



Overbooking




Local Reserve
Markets



Reserve Markets
TSO



Spot Price
Optimisation



Intraday
Balancing

NEIGHBOURHOOD



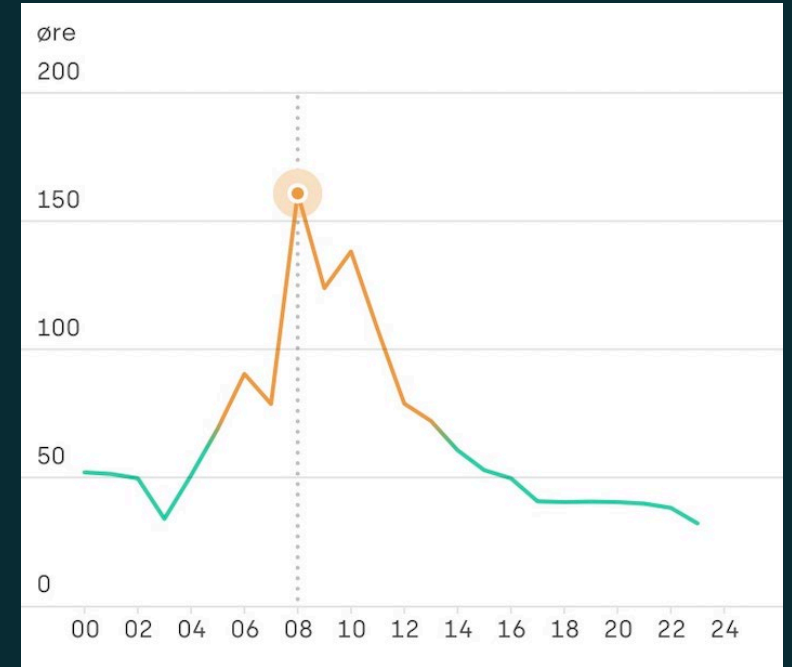
Example: Public parking

Today
No smart charging

 **Tilkoblet**
 I går 05:27

 **Startet**
 I går 05:28

 **Fulladet**
 I går 08:20



Example: Public parking



NEIGHBOURHOOD



Let's Build a
Sustainable Future Together

Join Spark

value.com/spark

value.com/careers/spark

Our vision is to accelerate the green transition on a neighbourhood level by coordinating distributed energy resources in a smarter way

