



SCHOLTenergy
POWERFUL PARTNERSHIP

Sander Drissen - Director Innovation

- At Scholt Energy for 19 years
- Operational responsibility for 12 years
- Responsible for the energy transition for the last 7 years
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SCHOLTenergy

POWERFUL PARTNERSHIP

 Energy supplier and partner

 Active since 2005
(Originally a family business)

 200+ professionals and >10,000 customers

 Customer Satisfaction Score
(NPS +20)

 Revenue € 1 billion

 International



Renewable Sources in the Netherlands



26% of electricity generated from renewable sources

2020



75% of electricity generated from renewable sources

2030



100% of electricity generated from renewable sources

2050

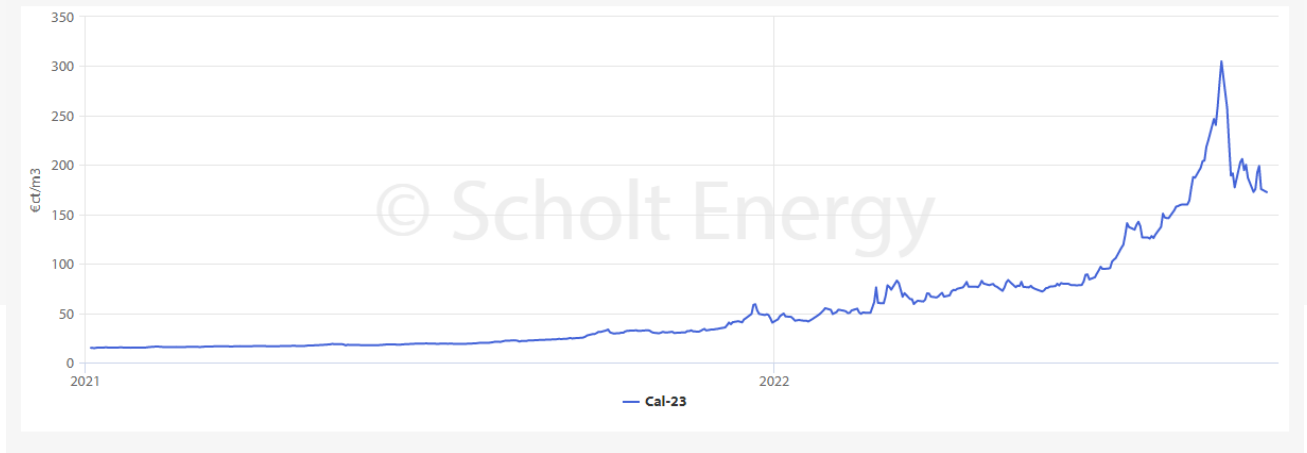




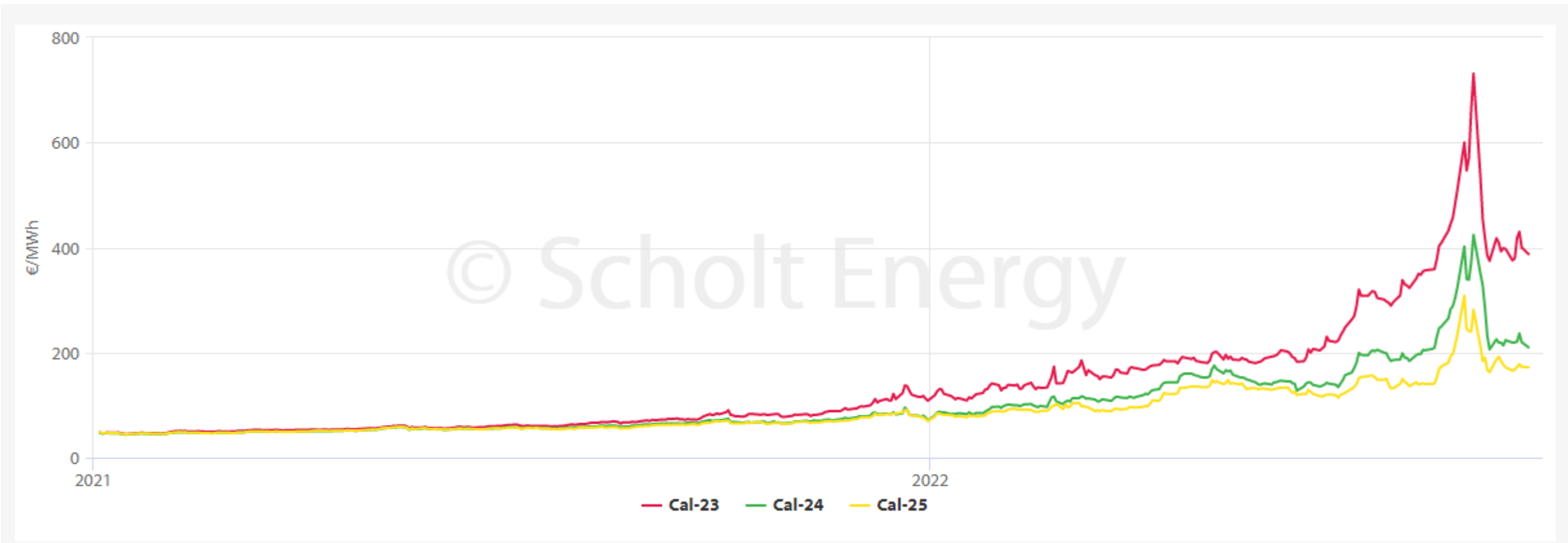
Challenges of the Energy Transition



EEX price in 2021 and 2022



Average EEX price per year from 2021 (€ / MWh)



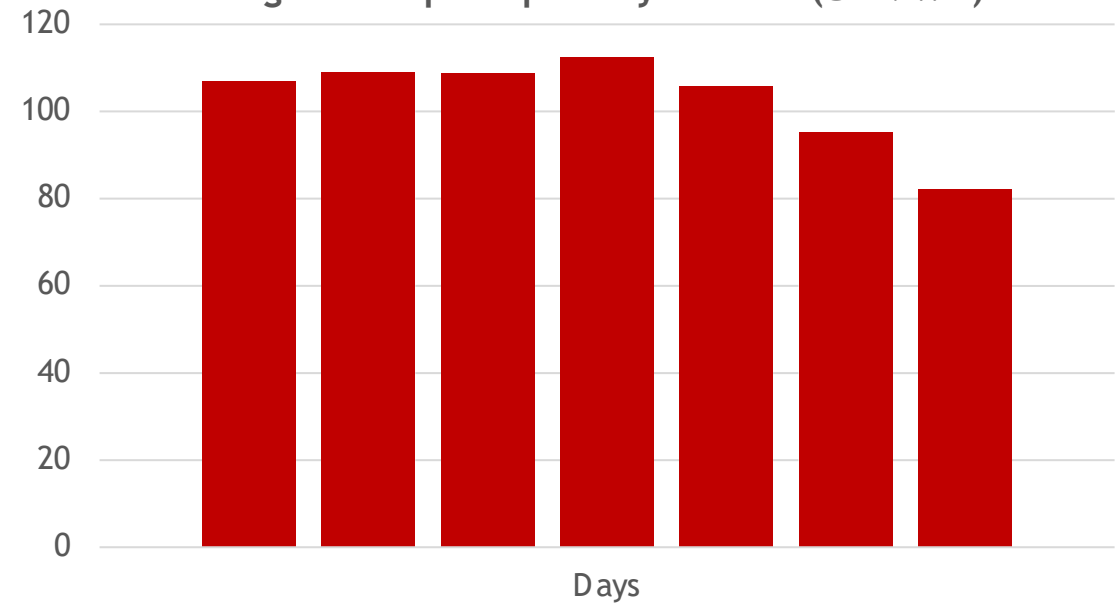
Power demand vs. EPEX price

Irrespective of power production, the demand for electricity remains equal week-on-week.

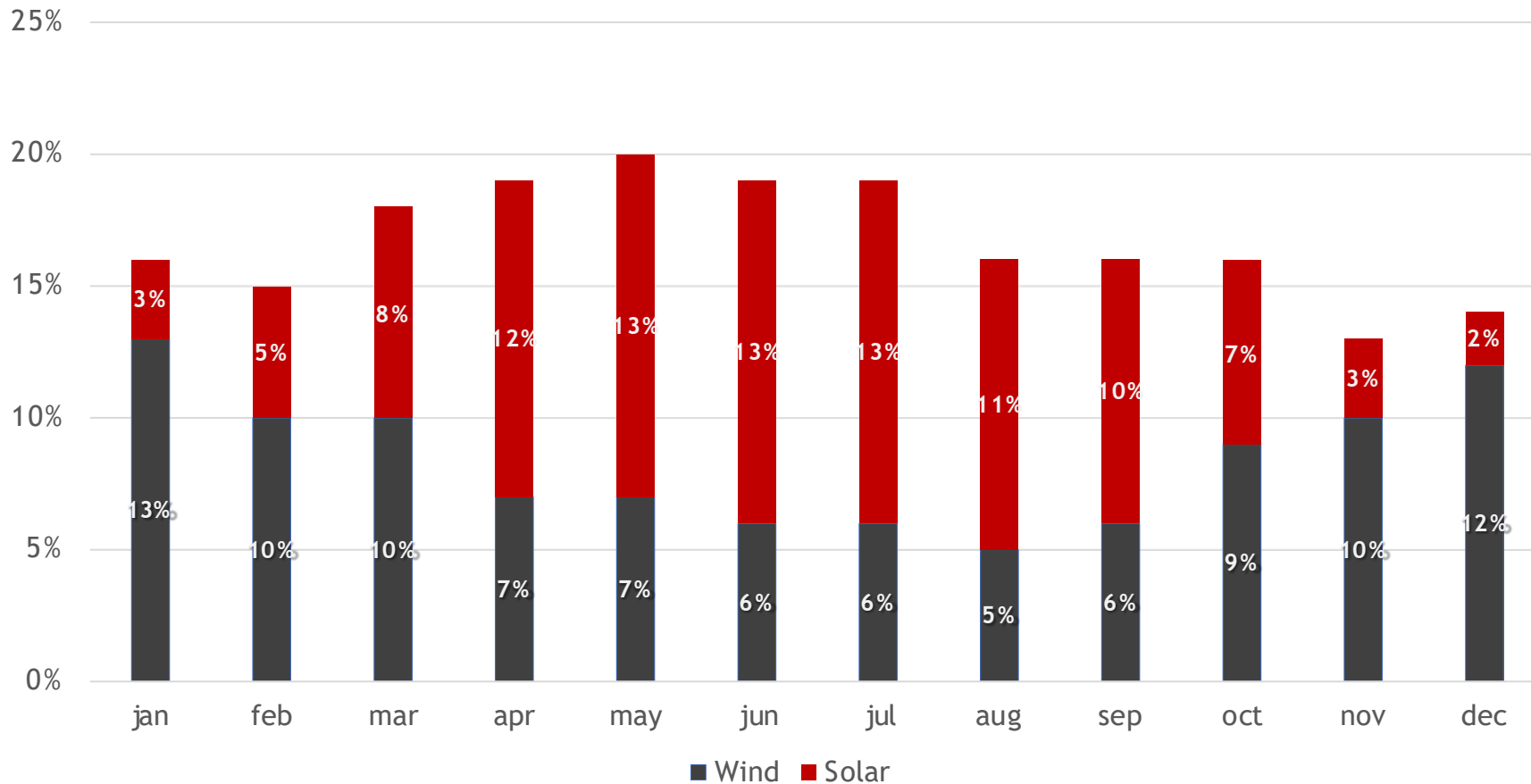
Week Consumption Profile:



Average EPEX price per day in 2021 (€/ MWh)



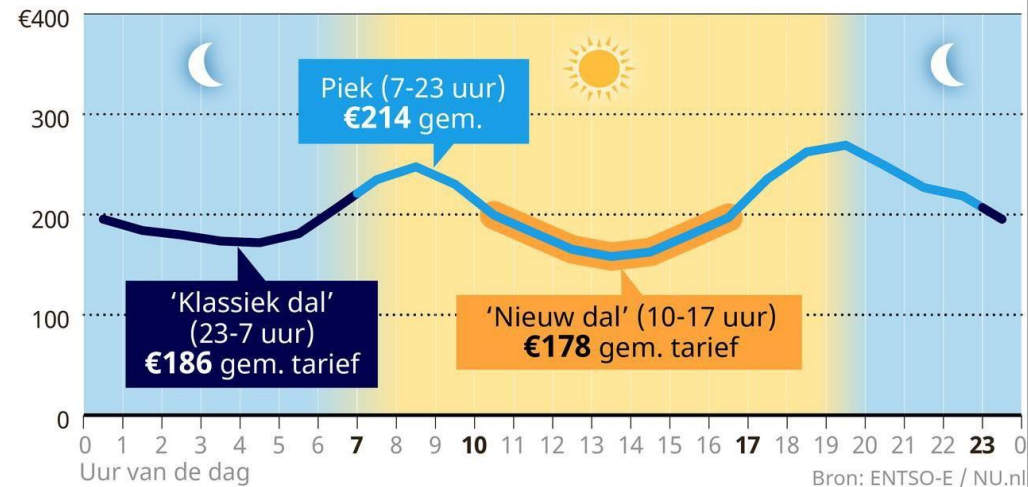
Solar and wind production curve



Changing peak and off-peak hours

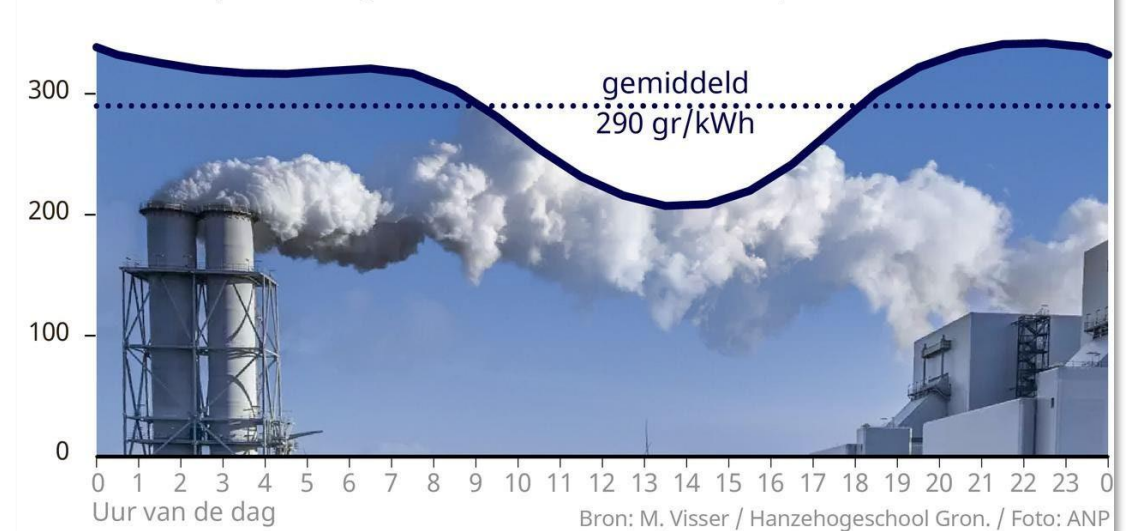
Groothandelstarieven voor stroom

Gem. tarief per uur in euro/megawattuur, januari - april 2022



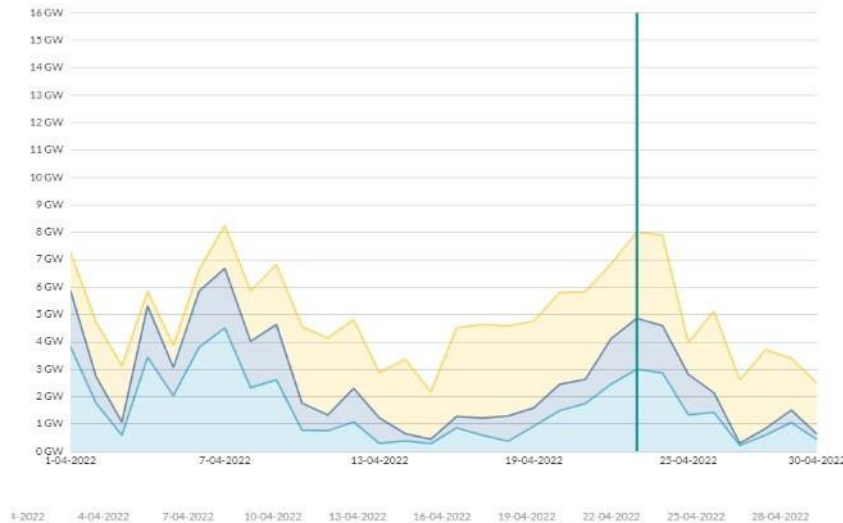
CO₂-uitstoot Nederlandse stroomproductie

Gem. uitstoot per uur in gram/kilowattuur mei 2021 - april 2022

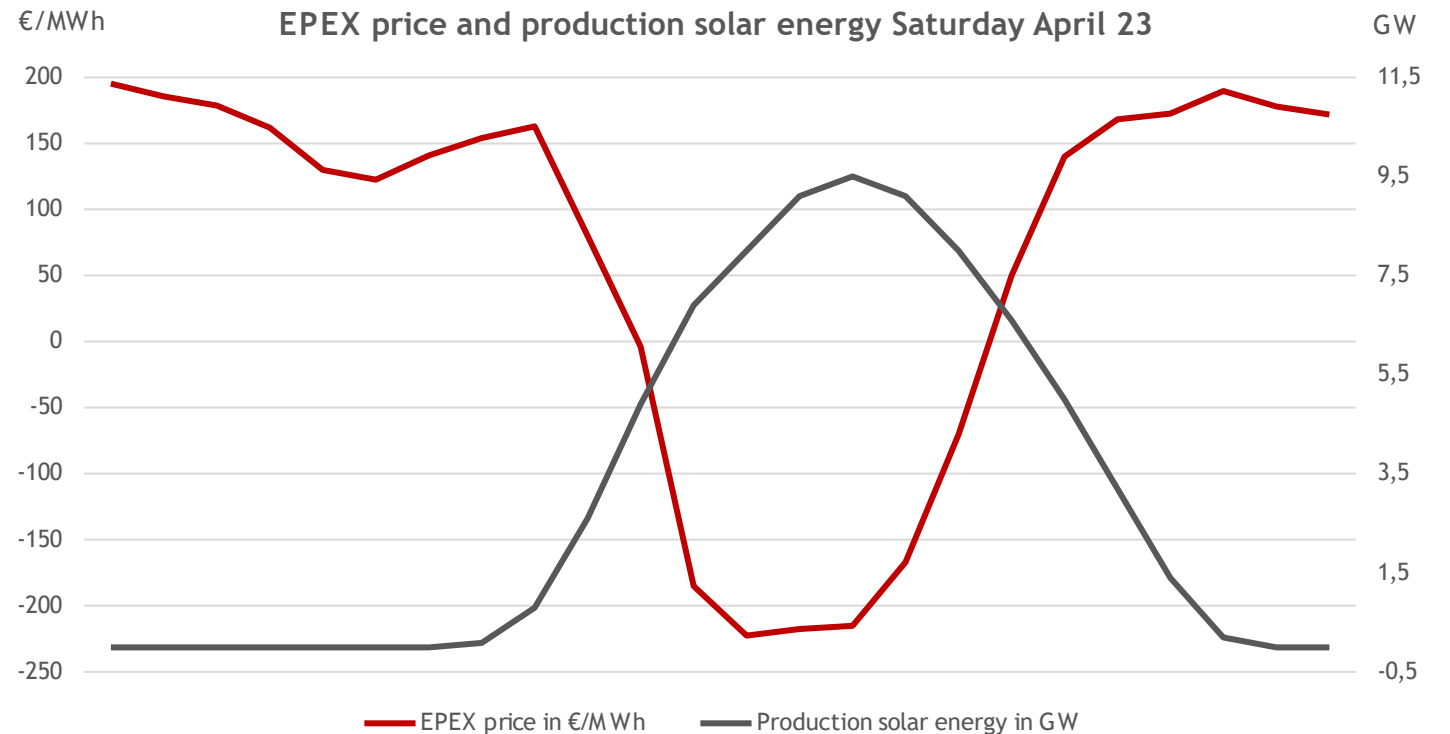


Impact of wind and solar on pricing

April 23 and 24 showed historically low prices in the Netherlands due to high average production of solar and wind energy (8 GW daily average combined). Mid-day peak on both days stood at >16 GW of renewable energy.

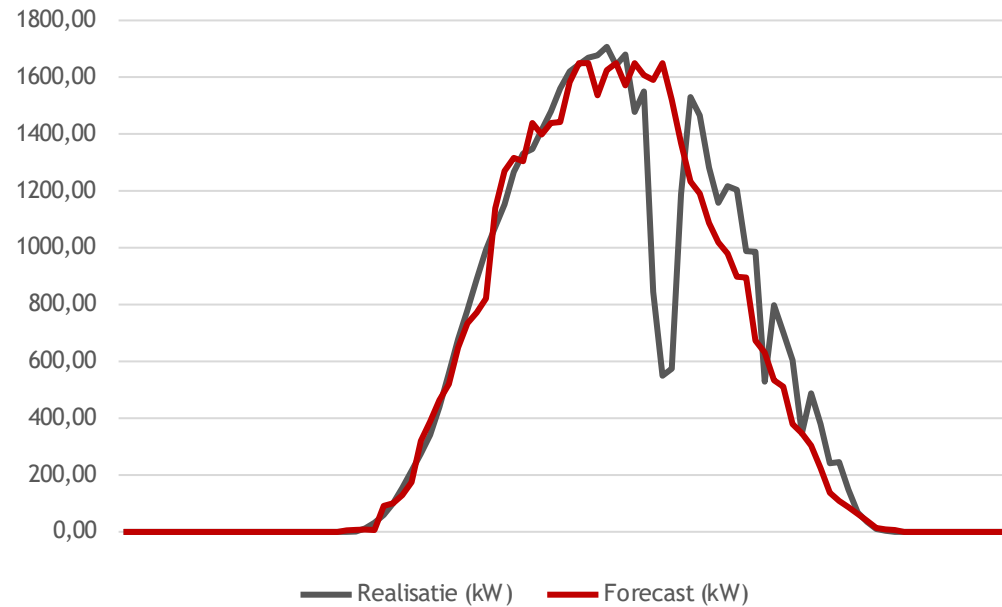


Overall production of renewable energy - April 2022

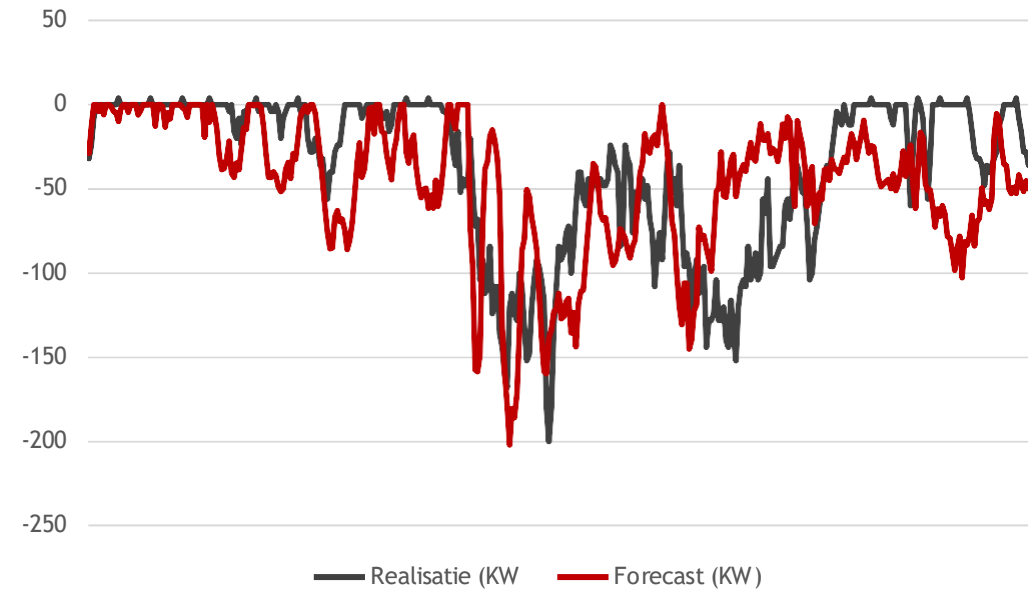


Forecasting solar and wind production

Solar forecast example



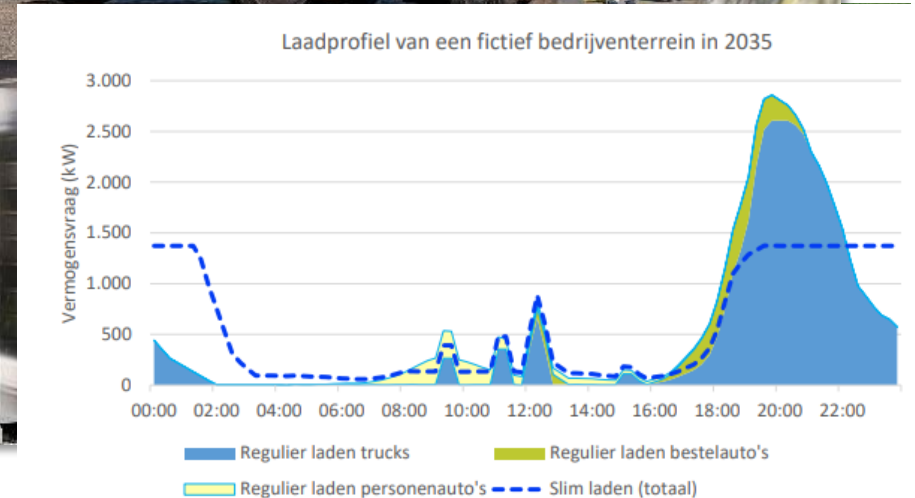
3-day wind forecast example



Growing electrification of heat and transportation

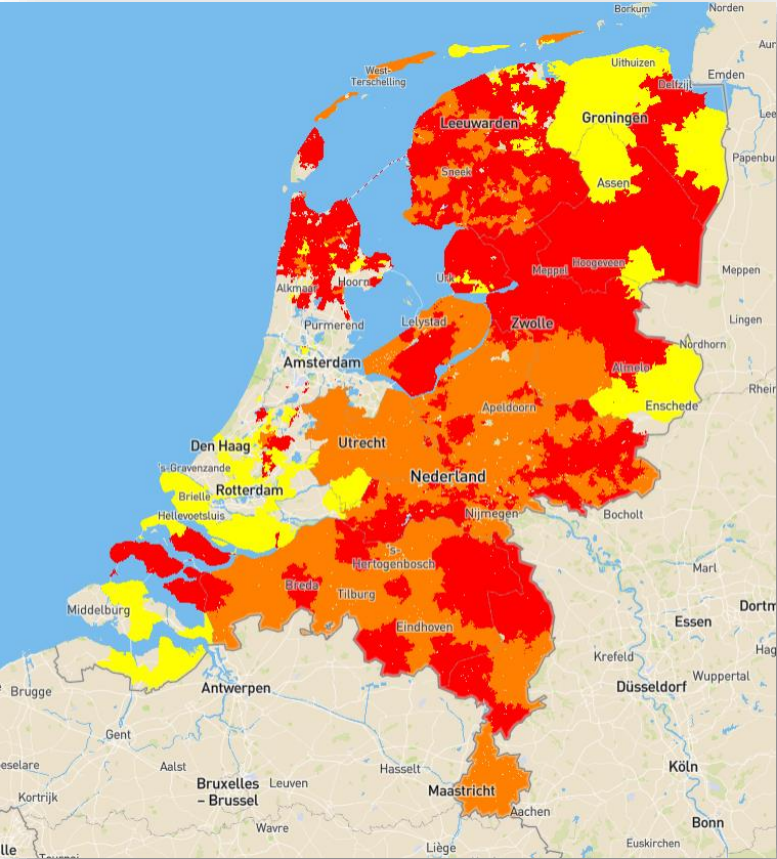
Challenges

- Increasing use of heat pumps
- Electrification of the industry
- Electrification of transport

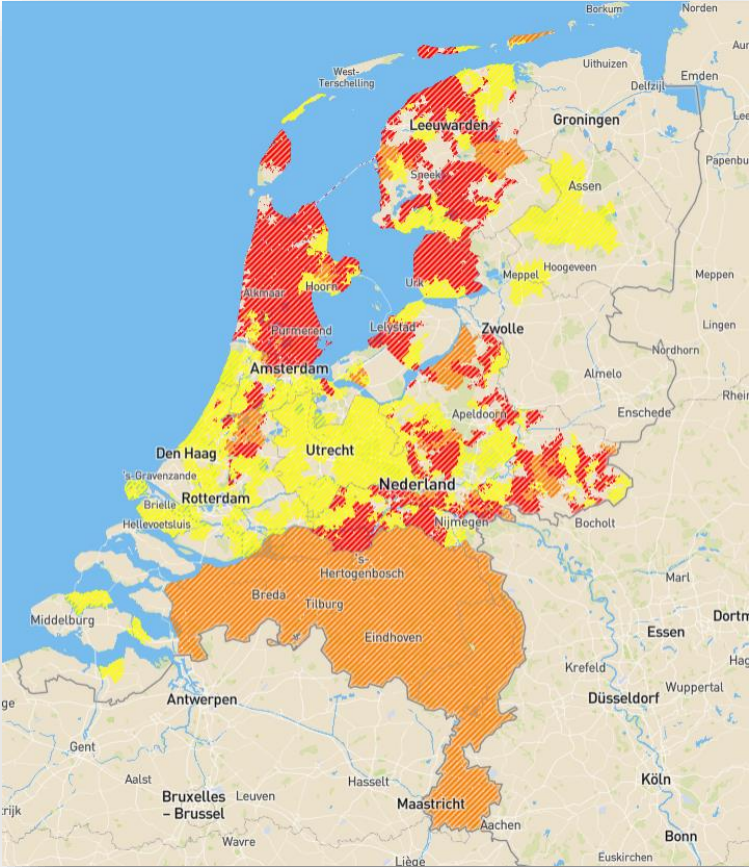


Impact on the power grid with production and growing demand

Production



Demand



Call for flexibility

Facing big challenges with increasing weather-dependant production and growing electrification in coming years.

This calls for more flexibility in the market for balancing the energy system.





**Solutions
Scholt Energy**



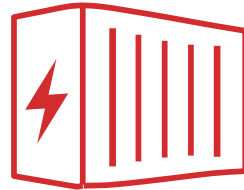
Flexibility: balancing the energy system

Flexibility, or balancing services, can be applied by using different systems and processes, such as a battery, wind turbine or freezer. At Scholt Energy, we distinguish three different types of applicable balancing services.



Curtailment

Reducing or temporarily stopping wind and solar energy production in the event of an electricity surplus.



Energy Storage

Storage of surplus power and feed-in at more favourable market prices.



Demand Response

Deployment of controllable electrical processes in case of electricity shortage or surplus.





Curtailment



Long-term collaboration between REF and Scholt Energy to control wind farms, solar installations and batteries



Pilot proves that decentralised energy sources can provide regulating power





Energy Storage



[FCR trading at ADO Den Haag](#)



[Energy storage at solar park Weert Energie](#)





Demand Response



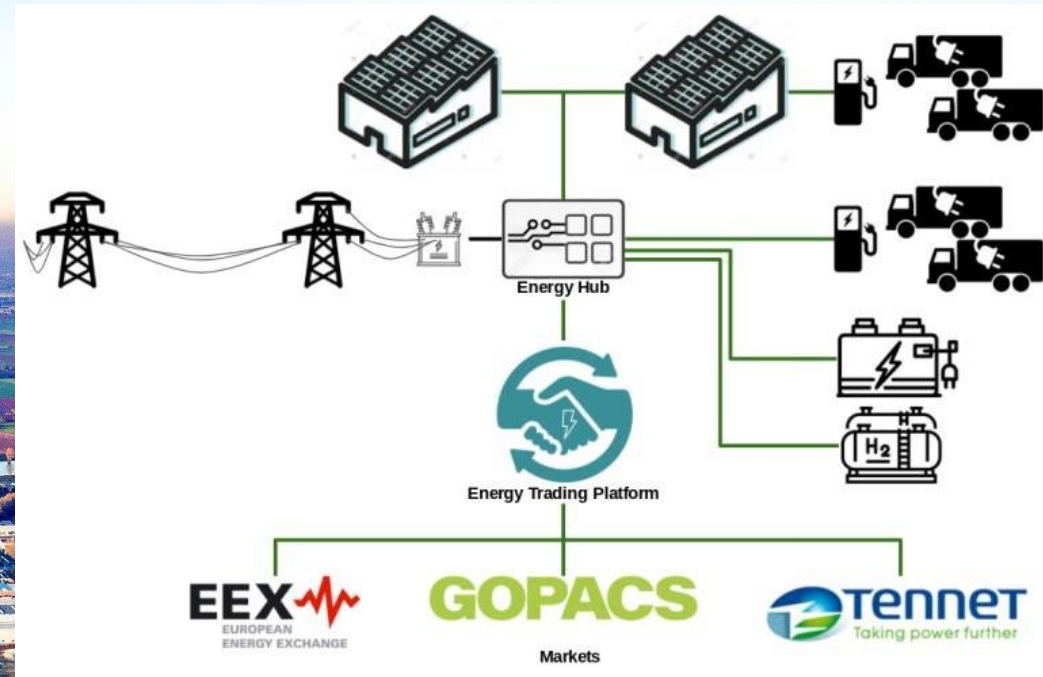
[Demand response at Lineage Logistics](#)



[Adjustable production process at VDL Weweler](#)




Local Energy Hubs, Waalwijk (NL)



In conclusion

- Use locally produced energy, locally
- Manage and control Wind and Solar production, instead of uncontrolled production (Stop using Fossil fuel powerplants for balancing power)
- Add Energy storage and energy conversion to the energy system
- Implement smart charging and V2G, for electric vehicles
- Create energy hubs in industrial zones, to manage production and demand and reduce peaks





Not only design the energy system differently, change the way we use it.

