28 SEPTEMBER

ÖRESUNDS KRAFT

THE ELECTRICITY GRID OF THE FUTURE

AI, Flexibility and Resilience in an Electrified Society.

JENNY GUSTAVSSON
CIO AND SECURITY DIRECTOR



Top 10

One of Sweden's largest energy company.



100%

Fully owned by City of Helsingborg.



450 & 97 000

Empolyees and customers.



3,6 Mdkr

Turnover/year.



1 420

Distribution stations.



#tillsammansför17

Our partnerships for sustainable development.

Energy Market Insights

More complex energy system require predictive and automated operations.

Shift towards a more active and data-driven operations DNO > DSO.

Generation must grow by an average of roughly 2–7.5 TWh per year between 2025 and 2045.

Electricity consumption reaching approximately 204–347 TWh in 2045, compared with about 136 TWh including losses in 2024.

Access to flexible energy in Sweden will increase enormously.

AI, machine learning and the ability to utilise real-time measurement data will be crucial for the future.

Increased demands for resource efficiency in industry lead to a greater supply of residual heat for heating purposes.

The electrification of society, combined with solar and wind power being the most cost-effective energy sources, leads to extremely volatile pricing.

Access to flexible energy in Sweden will increase enormously.

Volatility and digitalization are leading to new types of business relationships.

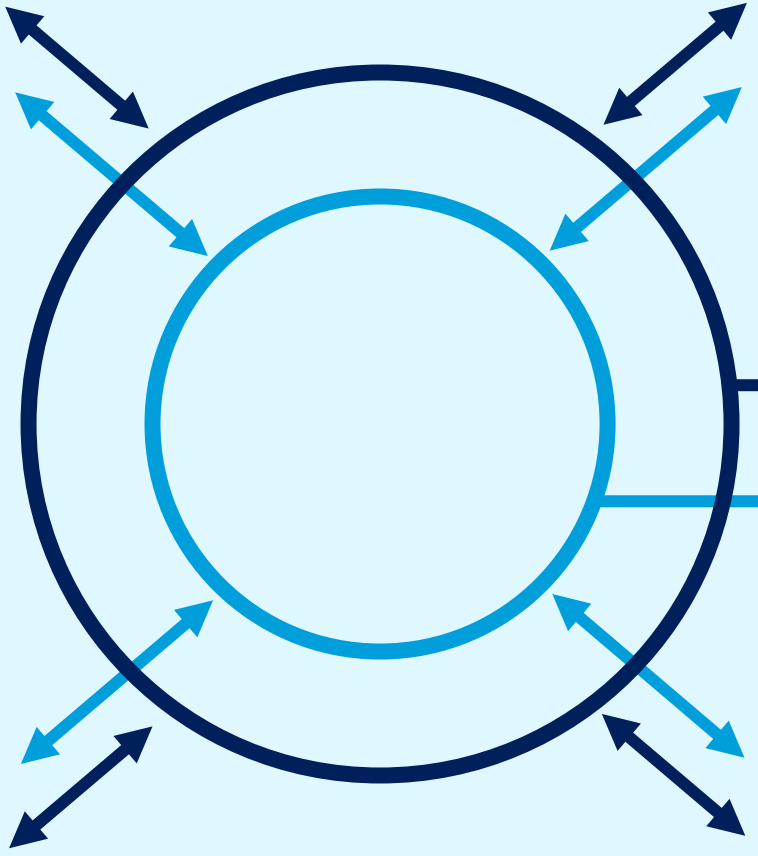
Active customers create need for a digital electricity grid. Q2 2026

Distributed electricity generation and storage

- Solar cells – 115 MW, 5.500 installations.
- Battery storage – 30.2 MW, 1,278 installations/sites.
- Wind power – 39.9 MW, 18 plants.

Active customers with connected and flexible resources

- Real-time data with dongle.
- Electric car charger.
- Heat pumps.
- Spot price optimization.



Major requests

- 125 MW battery storage.
- 312 MW solar.
- 136 MW industry.
- 37 MW fast charging.

Electrified transport

- >10,000 electrified passenger cars.
- > 300 electric trucks.
- Temporary charges/construction.
- Electric buses.
- Electric ferries to Denmark.
- Shore connection to ships in planning.

Where artificial intelligence can create value.

POTENTIAL VALUE

- Improve renewable forecasts and reduce balancing errors.
- Forecast demand by grid area and customer segment.
- Test scenarios for charging, solar, storage and new connections.
- Detect equipment degradation early.
- Locate faults and restore supply faster.
- Calculate safe capacity from weather and conductor data.
- Coordinate EVs, heat pumps, batteries and industrial loads.
- Prioritise alarms and guide operators.
- Detect anomalous activity in IT/OT environments.

1  **Physical network**

2  **Online**

3  **Data-driven**

4  **Automated**

5  **Flexible**

Transition on several fronts

AI
Digitalization
Automation
Digital Assets

+

Resilience
Civil preparedness
Energy 24/7
Cybersecurity



AI demands security by design.

Across everything we develop or procure.

HOW WE WORK

1. **Information classification**
2. **Supplier evaluation**
3. **Integrated IT/OT security**
4. **Employee security training**



SECURITY OUTCOMES

Robust operations, trusted AI and reduced cyber risk.

1

The grid can enable—or constrain—electrification.

Capacity must keep pace with the transition.

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2

Capacity is more than annual energy.

Power, place, time and stability matter as much as TWh.

3

A distributed system needs flexibility.

Storage, system services and better information become essential.

4

AI should be treated as safety-critical.

Use it to improve observability and efficiency—not as ordinary office IT.

5

Resilience must be designed in from the start.

Secure architecture, local fallback and manual recovery prevent fragility.

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