



Uddeholm AB

Uddeholm's steel production makes material gains with demand response



PARTICIPATION

13MW



MARKET

FCR-D Up



Since 2021, Sympower has worked with Uddeholm's Hagfors factory to monetise the **flexibility of their high-heat furnaces** with demand response. By adjusting their furnaces' energy consumption during peak demand, **Uddeholm helps balance the Swedish grid and generates extra gross revenue.**

Optimising flexibility in furnaces

After running several extensive and successful pilot projects with Sympower's teams to **test how demand response would affect their operations**, Uddeholm decided to use their most energy-intensive assets: their furnaces.

Uddeholm's Hagfors factory operates several electric heat treatment furnaces across different production areas. Depending on its size, each furnace can consume more than 1000 MWh annually. They also have **long-running processes**, ranging from between a few hours up to several days, **making them less sensitive to slight alterations in their energy consumption and perfect assets for demand response.**

Uddeholm allows Sympower to use a large part of these furnaces to help balance the grid, for an aggregated capacity of 13MW.

Maximising revenue with minimal disruption

Sympower's teams can activate each furnace individually via a controller to lower its consumption during peak demand. **The power is turned down in 25% increments, and Sympower sends four signals**, one before each increment, to Uddeholm's teams.

Since the furnaces operate at different stages of steel production, **Uddeholm can leverage their inherent flexibility without affecting the manufacturing process or product quality.** In 2024, **Uddeholm's furnaces were activated less than four times per month.**

By pinpointing the best times for Uddeholm to activate their furnaces on the relevant balancing markets, **Sympower helps streamline their processes, lock in maximum earnings, and minimise plant disruption.**

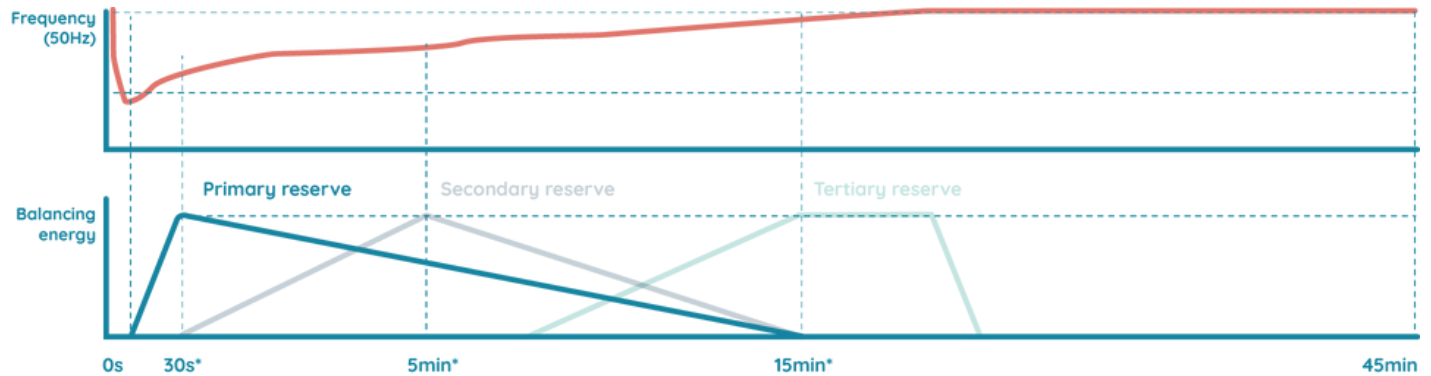
"We were impressed with how forward-thinking Uddeholm's teams were. Their expertise and deep understanding of their processes makes them willing to try new energy optimisation techniques, and they immediately saw the value demand response programmes could bring to their business."

Tomasz Dziendziel | Sympower's Technical Sales Engineer

FCR-D Up market

One of the core challenges for European grid operators is keeping electricity grids at a maintained frequency of 50Hz to avoid power outages and grid supply interruptions. Balancing markets play a key role in regulating grid frequency.

The Frequency Containment Reserves for Disturbances (FCR-D) are the Nordics' primary control reserves and the first to be activated to fix disturbances in the grid's frequency. **Companies participating in the FCR-D Up market must reduce their electricity consumption for a few minutes** to support grid frequency regulation until it is back in balance at 50 Hz. The energy assets connected to it **must be able to be reduced significantly within 2.5 seconds after receiving the activation signal**.



Future-thinking operations: the benefits of balancing markets for metallurgy companies

By leveraging flexibility, Uddeholm turned their energy-intensive equipment into a strategic advantage to unlock new revenue and help reduce their energy costs.

Encouraged by their successful first participation in demand response, Uddeholm is now **seeking ways to expand their position in the demand response market**. Uddeholm's and Sympower's teams are working together to identify where existing flexibility lies in other processes, which equipment could also be used to balance the grid, and which other balancing market they could participate in.

Flexible assets in the metallurgy industry



BESS

Can be **charged and discharged to meet grid demands**, while other equipment stays operational. It can also handle the site's peaks of energy usage.



HVAC SYSTEMS

While HVAC systems optimise temperature, they **can also be adjusted to decrease or increase energy usage** when needed to.



E-BOILERS

The speed in which **e-boilers can respond to control signals** and the ability to adjust their power usage, makes them highly flexible.



GALVANISED POTS

Air compressor operation can be optimised to align with fluctuations in grid demand, without disrupting plant processes. If needed the system's compressed-air storage is utilised.



CHP UNITS

During high demand, **CHP units can increase electricity generation while reducing heat output**, or vice versa.



FURNACES

Furnaces can see their **operations temporarily adjusted** up or down for short periods of time without impacting final output.

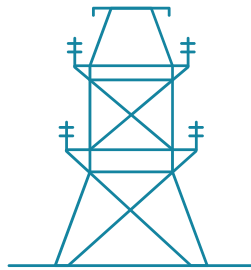
Other flexible assets: **pumps, mills, heat pumps, lights**, and more

Benefits of demand response



New Revenue Streams

Businesses can **unlock new revenue streams** by offering their energy flexibility to the grid during periods of peak hours.



Reliable Grid

The flexibility of businesses, ensures that grid frequency stays balanced. Everyone connected to the grid **benefits from this reliable energy supply.**



Sustainable solution

The energy transition needs demand response to help phase out fossil fuels, making it **essential to a sustainable energy system.**



Unlock your flexibility and Maximise Revenue!

[Book a meeting with one of our Energy Experts](#)



Powering Change Together