



EXPERT SESSION

Mega-scale industrial energy transition: The Novo Nordisk Story

**By Kristina Lee, Corporate Vice President
– Service operations, Sustainability & Facilities, Novo Nordisk**

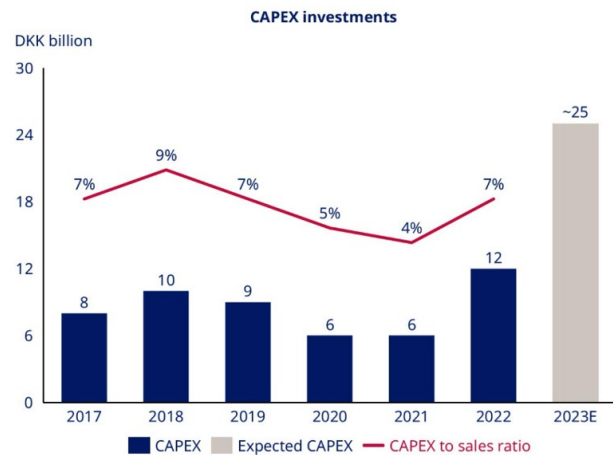
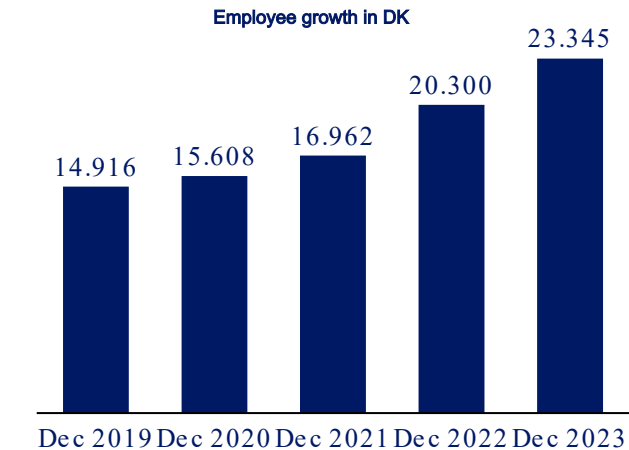
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Kristina Lee, PhD

Corporate Vice President, Corporate Facilities

Novo Nordisk

Novo Nordisk is growing rapidly - we are currently Europe's most valuable company and in the global top -15



CAPEX: Capital expenditure; TA: Therapy Area

- Globally we are serving more than 40 million patients, and we are supplying nearly 50% of the world's insulin.
- Historical growth in number of employees in Denmark – 56 % since 2019. Currently we have 4 times the number of employees compared to Denmark's National Railways ,“DSB”.
- We are constructing new factories, offices and storage facilities worth around DKK 25bn in 2023. That is more than half the current price of building “The Storebælt Bridge” (Europe's second longest suspension bridge).

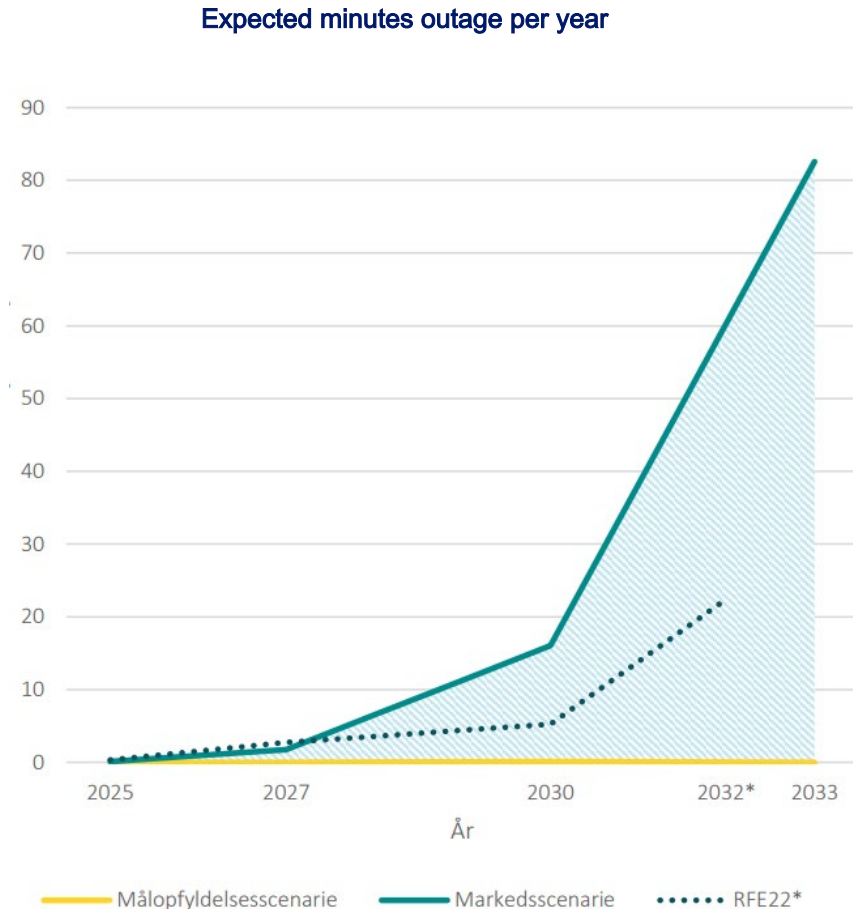
Novo Nordisk expects to multiply electricity demand

NN production sites in Denmark



- Dual pressure to increase electricity demand:
 1. Increasing production capacity
 2. Green transition
- Lead time for needed power supply from Energinet and the distribution system operators: previously 4-6 years, now 2-3 years.
- Novo Nordisk production mainly located in DK2 (Zealand). Most of the electricity in Denmark is produced in DK1 (Jutland and Funen).

Security of electricity supply is severely challenged by green transition



Pharmaceutical production dependent on stable electricity supply

- All Novo Nordisk pharmaceuticals pass through facilities in Denmark during 24/7/365 manufacturing.
- The increase in solar and wind increases risk of brown-out and black-outs. A brown-out of 2 hours would have serious consequences:



Many patients will lose access to Novo Nordisk's medicines



Months of lost production time across sites



Lost turnover and taxes

- A long-term masterplan should ensure the necessary expansion of electricity grids and power adequacy - even when solar/wind is not present. E.g., based on green thermal solutions.



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