



De-carbonisation of Swedish industries

The Industrial Leap programme

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A significant leap forward is needed to reach the Swedish energy and climate targets

Sweden shall be the world's first fossil-free welfare state

2030

50 % more
efficient
energy use

2040

100 % renewable
electricity
production

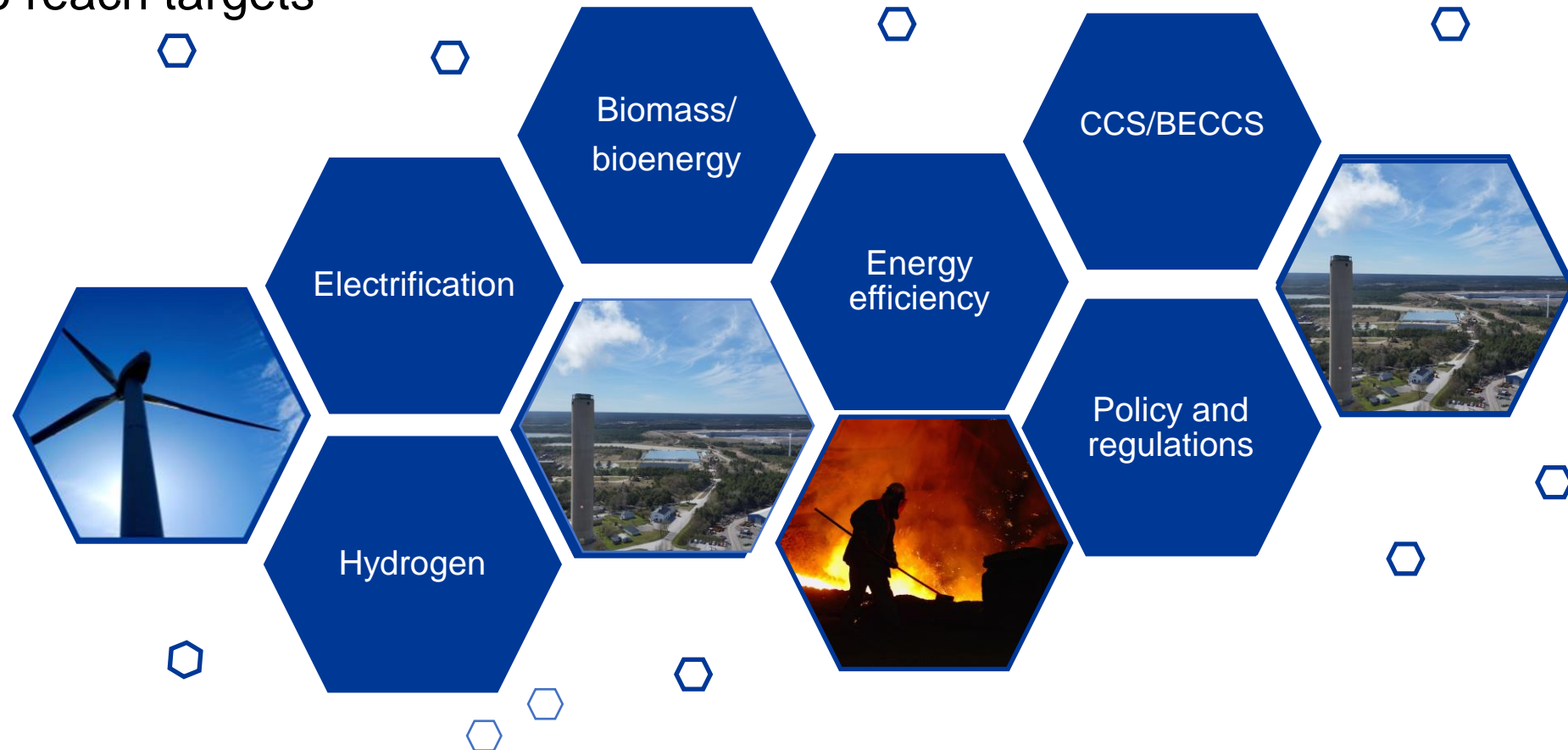
2045

No net emissions
of greenhouse
gases

Swedish industry accounts for one third
of the Swedish GHG-emissions

Several solutions necessary to decarbonise the industry

New and/or radically changed processes are needed - incremental steps will not be sufficient to reach targets



The Industrial leap programme

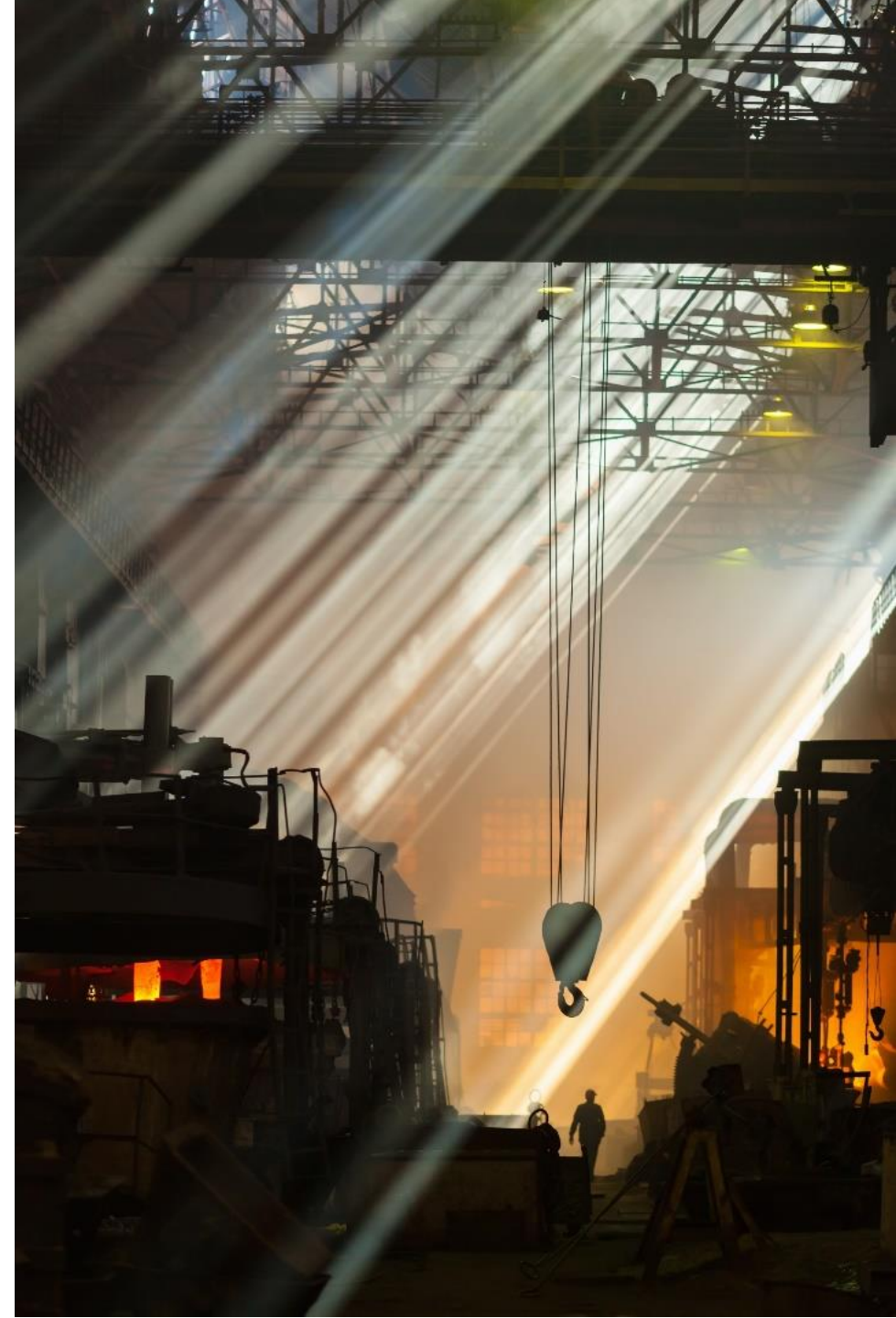
- Long term 2018-2040
- Budget 2022: MSEK 909
- Support the transition to reach no net emissions of greenhouse gases 2045



- Part of the Recovery and Resilience Facility, RRF

Support could be given to all development phases

- Research and innovation, including pilot- and demonstration project
- Prefeasibility studies and environmental studies
- Investments



HYBRIT: towards fossil-free steel

- Initiative between LKAB, SSAB and Vattenfall established in 2016 with financial support from the Swedish Energy Agency.
- Aiming to replace coking coal, traditionally needed for ore-based steelmaking, with hydrogen
- The technology has the potential to reduce Sweden's total GHG-emissions by approx. 10 per cent.
- EU Innovation Fund: pre-selected for grant agreement preparations to demonstrate a
- complete industrial value chain for hydrogen-based iron and steelmaking



Photos: HYBRIT

Ovako: Investment in fossil-free hydrogen to heat steel

- Investment in electrolyzer in 2022.
- Investigates how facility could be integrated in the energy system
- Reduce GHG-emissions for steel production in Hofors by 50 percent (20 000 tons per year)
- Ovako in collaboration with the Volvo Group, Hitachi ABB Power Grids Sweden, H2 Green Steel and Nel
- Financial support from the Swedish Energy Agency



Photo: Peter Phillips / Ovako

Stockholm Exergi: test facility BECCS

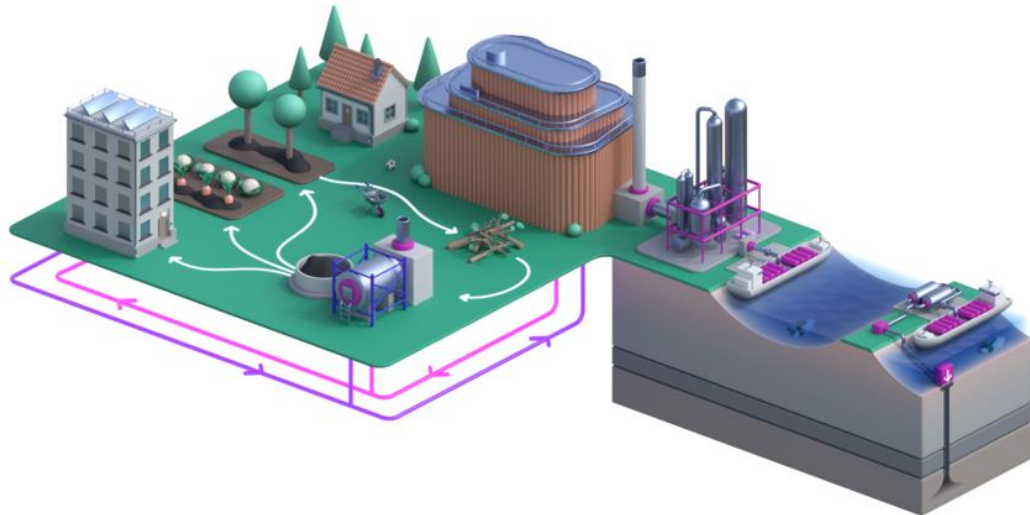


Illustration: Stockholm Exergi

- Stockholm Exergi has received support to install a pilot facility at the heat and power biomass plant in Stockholm
- Started autumn 2019
- EU Innovation Fund: pre-selected for grant agreement preparations to create a full-scale Bio-Energy Carbon Capture and Storage facility.

Thank you for your attention!

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