

Swedish National Hydrogen Strategy; fossil free hydrogen, electrofuels and ammonia

H2B webinar, 16th December

Content of the strategy

- Goals for 2030 & 2045
- Purpose of strategy
- Guiding principles
- Hydrogens role in the transition of the energy system over time
- Measures

Goals for 2030 and 2045

Until 2030;

- Create conditions for at least 5 GW electrolyze capacity. This could reduce CO₂ emissions with 1,5–3 million tonnes/year (3–6 percent of Sweden's emissions of greenhouse gases/year).

Until 2045;

- Additional capacity corresponding to 10 GWel electrolyze capacity. This could reduce CO₂ emissions with 7–15 million tonnes/year (15–30 percent of Sweden's emissions of greenhouse gases/year).

Electricity usage

Goals GW_{el}

2030 5

2045 15

Electrolyzer capacity factor

95%

70%

50%

Operating hours per year 8 400

6 189

4 421

TWh 2030 (5 GW)

42

31

22

TWh 2050 (15 GW)

126

93

66

Current production and use of hydrogen

During 2019 global hydrogen production reached 120 million tonnes/year. Less than 0,1 percent (2019) were fossilfree hydrogen

Within EU27 10 million tonnes of hydrogen is used (6 million tonnes from hydrogen production facilities)

In Sweden approximately 180 000 tonnes hydrogen is used/year (corresponding to 6 TWh).

Guiding principles

- Usage of fossil free hydrogen should contribute to the transition to zero emissions of CO₂ (2045)
- Fossil free hydrogen should be used in "hard to abate sectors"
- Sweden should strive to export climate friendly products and services that contributes to reduced CO₂ emissions abroad

Measures

- Development of rules, regulations, standards and guidelines
- Support to research, innovation and supply of skills and knowhow

- Cooperation for a developed value chain
- Financial incentives

The background of the slide features several wind turbines in silhouette against a soft, hazy sky transitioning from light purple at the top to a warm orange-pink at the bottom, suggesting a sunset or sunrise. The turbines are positioned at various heights and angles, with some blades blurred to indicate motion.

Thank you and merry christmas!

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