Country Report Sweden
2019

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Energy supply & deliveries of energy gases, 2017

Energy supply 2017: 566 TWh

Deliveries of energy gases 2017: 19,6 TWh

Source: Statistics from the Swedish Gas Association, 2018
Production of biogas, 2017

274 plants in total, produced 2,06 TWh in 2017

Source: Swedish Energy Agency and Swedish Gas Association
Utilization of biogas, 2017

Source: Swedish Energy Agency and Swedish Gas Association
More than 90% is biogas. Liquified biogas (LBG) is entering the market (vehicles & fuels)
Development regarding gas vehicles

- Ca 55,000 gas vehicles:
  - 44,000 pass. cars
  - 8,000 light lorries
  - 2,500 buses
  - 850 heavy lorries

- A shift in focus to electric vehicles (EV):
  - Policy best for (EV), but ok for gas
  - Fewer good gas pass. vehicle models
  - Promising regarding HDV and LBG

- A large share of second hand gas vehicles sold to Finland & the Czech republic

Sources: Statistics Sweden (SCB) & Transport Analysis
Development

• About 30% increased use of biogas 2017 and 2018, mainly due to imported gas from Denmark. Double subsidies \( \rightarrow \) prices similar to natural gas for heating/industry

• Examples regarding new plants:
  – E.ON in Högbytorp – dry digestion of food waste, ca 60 GWh/year (Hitachi Zosen Inova). Similar plant to be built in Jönköping next year
  – Rena Hav in Sotenäs – biogas in marine biorefinery context
  – Stora Enso in Nymölla – biogas at a paper mill, 75-90 GWh LBG per year (Gasum)
    – Most development on the larger level

• New gas lorries (Scania and Volvo, +400 hp, with different techniques (otto, diesel))

• About 40-50 LBG filling stations in 2020

• LBG investments (production and filling stations). Drive LBG; ca 20 million USD to LBG innovation cluster with a focus on demonstration
Policy

• Governmental Support for Local Climate Investments is important

• Examples of long term climate and energy goals:
  o Climate neutral energy sector 2045 of which at least 85 % GHG emission reduction in Sweden. From 2045 negative emissions.
  o 100 % renewable electricity production 2040
  o 63 % GHG emission reduction in non-EU ETS sector in 2030 and 75 % 2040 comp. to 1990
  o 70 % GHG emission reduction in domestic transport (excl. aviation) 2030 compared to 2010. Climate neutral 2045.

• New and coming policy:
  o Bonus-malus (cars with low CO₂ emissions get a bonus, while cars with high CO₂ emissions get a punitive tax. EV highest bonus)
  o Municipal environmental zones – gas vehicles allowed in the most restricted zones (zone 3)
  o Enquiry into market conditions for the Swedish biogas sector;
    ☐ Report by the end of 2019. Probably EU harmonization (production support, instead of tax exemption for users)
  o Swedish Energy Agency investigates national biogas registry (guarantees of origin or certificates, etc.)

• Sector visions and strategies