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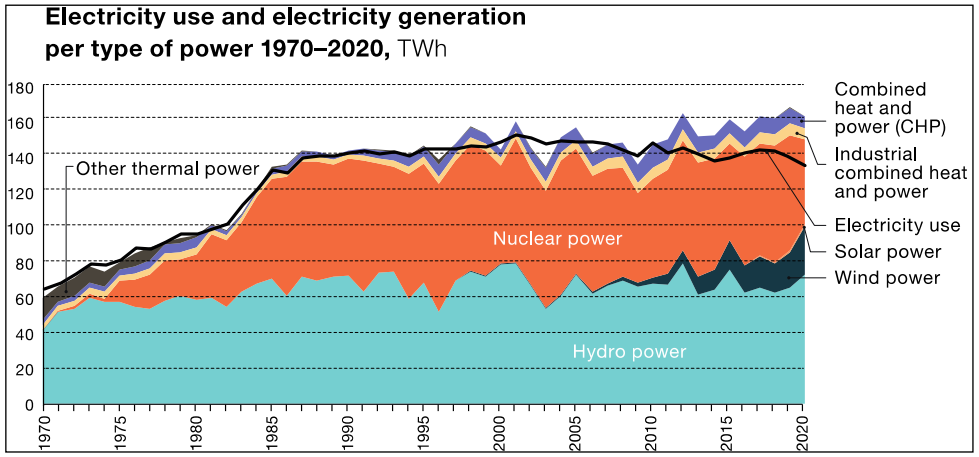
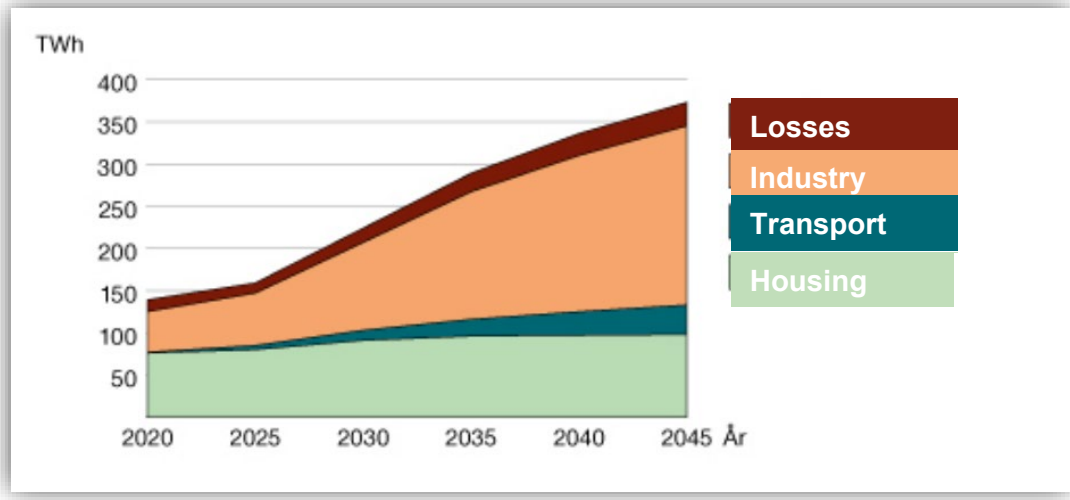
Competence supply for electrification in Sweden

An initial mapping of skills supply critical for electrification

Marie Claesson

Electricity demand is expected to double until the year 2035





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Competence supply

National Mobilisation

The Swedish Energy Agency coordinates a national mobilisation for skills and occupational supply/needs in electrification

Map, analyse and clarify the need of skills and occupations in relevant professional categories. The mapping takes a holistic outlook on electrification and the transition to a fossil free energy system

Identify barriers and propose measures for skill supply within the energy sector and associated sectors in the short and long-term

Enable close and coordinated cooperation between authorities and industry actors to strengthen joint action in questions related to skills supply for electrification

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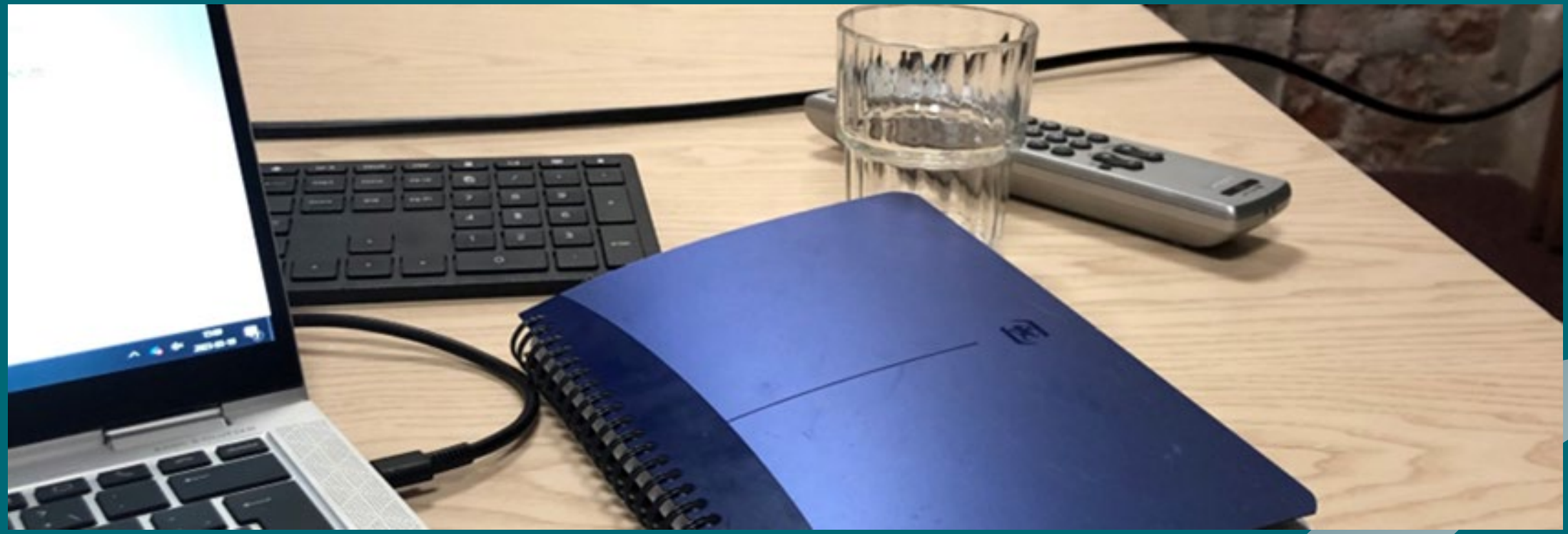
Mapping and analysis



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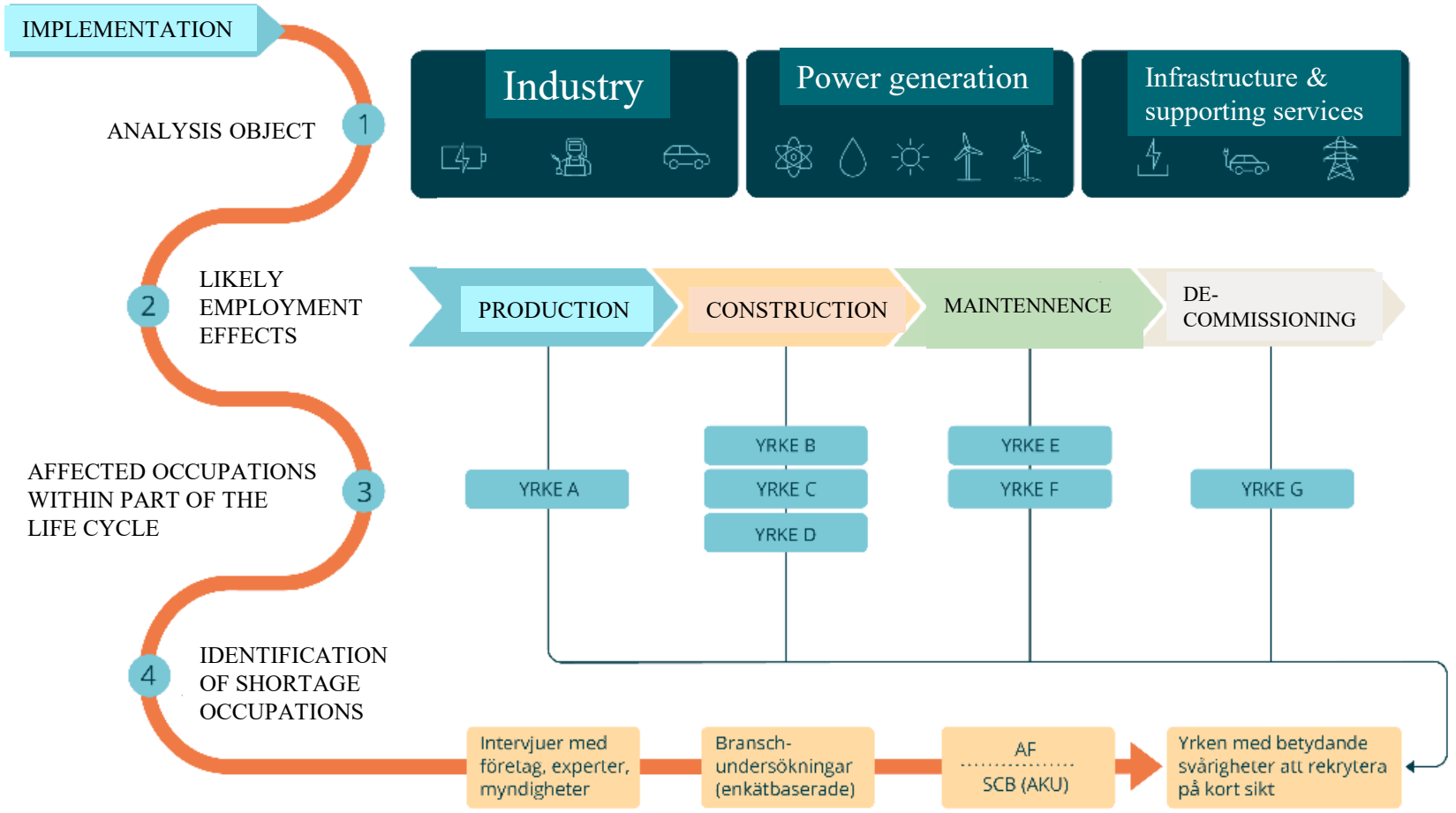
Initial mapping of skills and occupations



THE EDUCATIONAL SYSTEM

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Results

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Employment effects of electrification
Energy sources

- Wind power (expanding)– establishment, operation and maintenance phases, new competence needs for offshore wind power
- Solar power (expanding)- effects appear mainly at large parks, installation and connections
- Hydropower (stable)- subject to new regulations, effects in operation and maintenance
- Nuclear power (large potential development)- large potential effects from development to waste phases

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Employment effects of electrification
Industry sectors, infrastructure and supporting services

- Iron and steel industries- transforming and electrifying their processes, large investments and new industry sites, large need of employment to build, operate and maintain the facilities, reskilling existing workforce
- Automotive industry- specific and technical skills and effects related to batteries, energy storage,power grid and charging infrastructure etc
- Power grids at all levels in need of upgrading and development, effects related to production and establishment of new grids as well as the maintenance of the existing system
- Supporting services and licencing authorities- effects seen in new establishments

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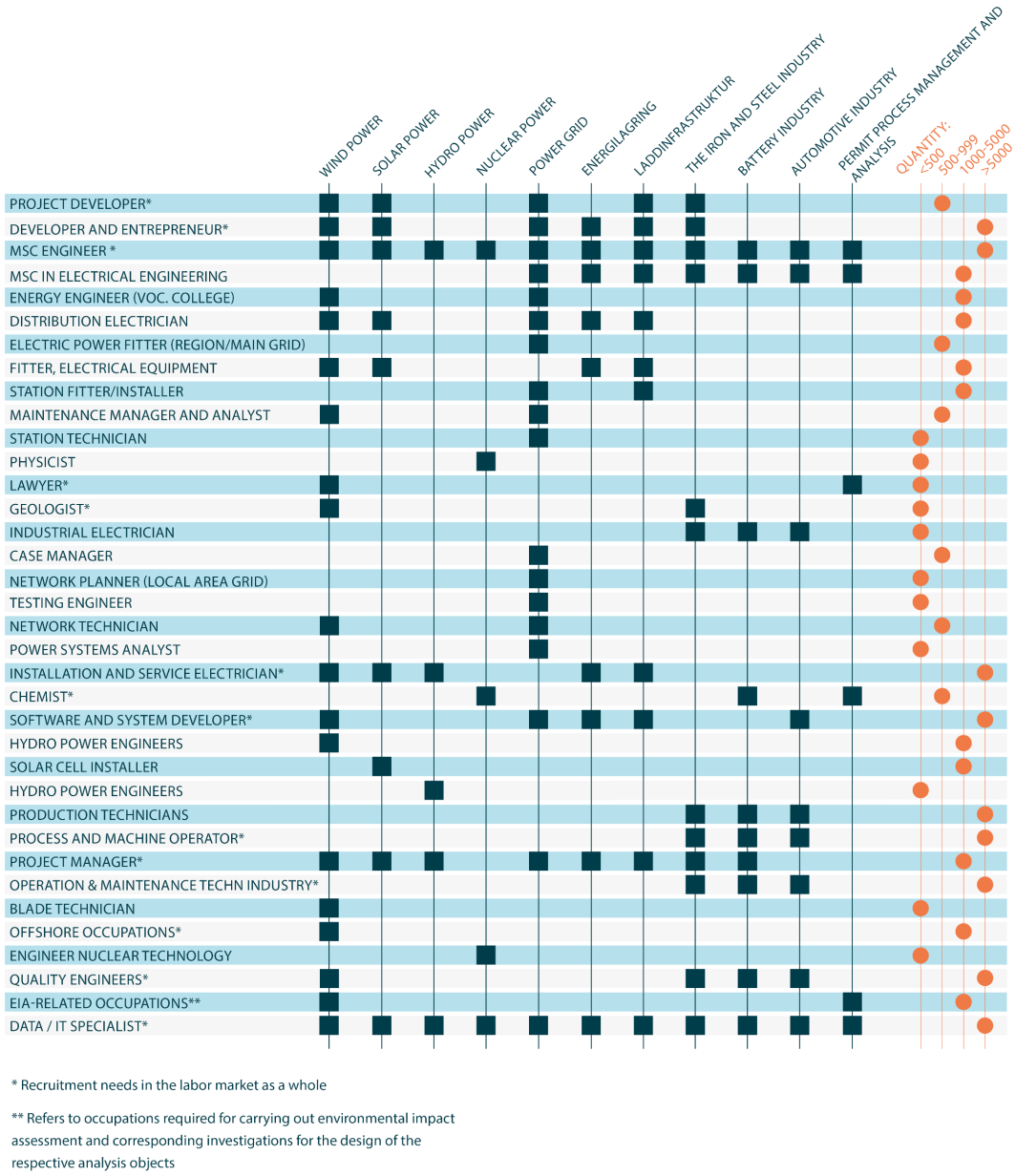

* Recruitment needs in the labor market as a whole

** Refers to occupations required for carrying out environmental impact assessment and corresponding investigations for the design of the respective analysis objects

35 shortage occupations identified

- Shortage occupations key to enable a rapid electrification and a timely energy transition
- Short-term perspective > 5 years
- Occupations characterised by a high average age
- Men dominate the majority of occupations

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Our main conclusions

- The electrification of society affects a large number of occupations and skills.
- Gender structure with few women aggravates the supply of competence
- Electrification affects sectors and industries in various ways
- Additional skills needs arise at later stages after planned investments.
- Several of the identified shortage occupations can become bottlenecks for society's electrification
- Increasing demand for both traditional and new competences
- Relevant educational pathways are unattractive and have low graduation rates
- Large employers find it easier to find, recruit and train staff than small
- Fierce competition between industries for labour

Share your thoughts with us!

You can come in contact with our project:
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