Working in the green industry in Norway

Note: this fact sheet provides some information about the need for professionals and competence/skills in several sectors of the green industry in Norway, and a *non-exhaustive* list of relevant websites for each sector. The fact sheet aims solely at helping job seekers in Europe in their job search in Norway, within the frame of <u>EURES</u>.

Please keep in mind that the green transition is ongoing and that the green industry is evolving at a fast pace, in Norway and globally, and that political and economical fluctuations can result in changes on the job market and in the demand for workers and skills.

The fact sheet is based on:

 the Norwegian Government's <u>Roadmap 2.0 The Green Industrial Initiative</u> Regjeringens <u>Veikart 2.0 – Grønt industriløft</u>

"The Norwegian labour market is skill-intensive, has a high ICT intensity and there are relatively few routine jobs in industry and the service industries. Norwegian industry has a work culture that is flat and trust-based, with short lines of communication between the management, engineer and skilled worker."

"To realise the Green Industrial Initiative in Norway, we need skilled labour from all levels of education, from skilled workers to technologists. We also need access to labour that can develop and deploy enabling and industrial technologies such as artificial intelligence, big data analysis, robotics and the Internet of Things. Knowledge of digitalisation in general, data security and data analysis is increasingly important. Industry also needs employees with insight into innovation, entrepreneurship and sustainability and with cooperation and change competence."

- Oslo Economics<u>Kompetanse-og-kunnskapsbehov-for-det-gronne-skiftet.pdf</u> (osloeconomics.no) an assessment of the need for competence and knowledge in the green transition in Norway
- Temarapport om fremtidige kompetansebehov / report on future skills needs <u>KBU-</u> <u>temarapport-2023.pdf</u> by <u>Kompetansebehovsutvalget</u> the Norwegian Committee on Skill Needs.

«[...] increased demand for professionals like engineers, ICT specialists and skilled workers in technology and crafts, and teachers within these areas of studies[...]»

Need for skills and knowledge in central value chains for the green transition

OFFSHORE WIND POWER

Skills needs

Experience with offshore projects; project management; electric power; automation and electronics; mechanics; construction; wind technique; maritime.

Knowledge needs

Process automation; standardisation; cost reduction; concrete and material extraction and adaptation; maritime operations for installation and maintenance of wind turbines; optimisation of monitoring.

Relevant websites and companies

<u>Home – Norwegian Offshore Wind</u> the Norwegian Offshore wind industry network (check Members for companies); <u>Offshore wind from Norway</u> Business Norway; <u>Offshore wind in Norway - Equinor; Energy</u> DNV and <u>About DNV Energy Systems; Offshore wind</u> farm vessels and support - Kongsberg Maritime; Fred. Olsen Windcarrier; Vårgrønn; Aibel; <u>Offshore Wind | Aker Solutions; New Energy - TechnipFMC plc; OceanInstaller – Flawless</u> <u>Offshore Project Execution; Utsira Nord – Utsira</u>

BATTERY

Needs for workers

Skilled operators and technicians within process and electro chemistry. Engineers (Bachelor and Master) within chemistry and energy

Skills needs

Process automation; energy systems; electric power technology; material technology (especially nanotechnology); battery cells, chemistry and power; circular economy and recycling

Relevant websites and companies

BATTERY NORWAY (Norwegian Battery Platform) <u>https://batterynorway.no/</u> EYDE cluster the **Norwegian Centre of Expertise (NCE) for Sustainable Process Industry** <u>https://www.eydecluster.com/en</u>

Nordic Batteries, MORROW BATTERIES; BEYONDER; ELINOR BATTERIES; VIANODE; CENATE; Alcoa -- Norway; Elkem | Elkem.com; Kyoto Group AS - The Norwegian Thermal Battery Company

HYDROGEN

Need for workers

In hydrogen factories: operators and engineers within process technology; Maintenance operators; operations operators.

Skills needs

Technical engineering; automation; electrical power; mechanics; building and civil works; material technology and process technology; chemistry; IT and digitalisation; energy efficiency; carbon capture and storage; process integration efficiency; reuse of infrastructure; cost reduction

Relevant websites and companies

<u>H2Cluster</u> The Norwegian Hydrogen cluster <u>https://hydrogen24.no/</u> Online news from the Norwegian and the international hydrogen sector <u>Hydrogen as a future energy source: SINTEF Hydrogen research</u> Aker Horizons <u>https://akerhorizons.com/what-we-do/rjukan/; Hydrogen & Derivatives | Aker</u> Solutions; Green hydrogen | Statkraft; Home - ZEG Power; Norwegian Hydrogen; Yara | renewable hydrogen plant; Gen2 Energy[™] - Clean Green Hydrogen ; Hydrogen will be a key contributor to the energy transition - Equinor; Hydrogen Mem-Tech We're enabling the green transition by realising the potential of hydrogen; Notodden Energy Hub –; Minox Technology; Nel Hydrogen

CCS – CARBON CAPTURE AND STORAGE

Need for workers

Engineers; project managers; digitalisation and automation specialists; process operators in energy and chemistry.

Skills needs

Project management; construction; chemistry and process; process automation; energy; material technology; chemical competence on liquefaction; ship building; digitalisation; logistics; lorry drivers

Knowledge needs

Integration in industrial processes; energy efficiency; transport safety and efficiency; new transport solutions (pipeline and ships); heat and energy integration; monitoring; measurement; cost efficiency for CO2 transport

Relevant websites and companies

Information from the Norwegian Government on <u>Carbon capture and storage - CCS -</u> NCCS – Norwegian CCS Research Centre

Gassnova - Norwegian state enterprise for CCS industrial; Northern Lights; World's first CO₂capture facility in the cement industry | Brevik CSS; Energy | Kongsberg Digital; Sustainability — ABB Group; Sustainability – Sval; CCS: Carbon capture, utilisation and storage - Equinor; Generoc

MARITIME SECTOR

The maritime sector is well established in Norway and much of the competence needed already exists. Norwegian operators have large existing fleets, and some of the ferries have already been converted to low and zero emissions. Focus on: develop, build and deploy zero-emission solutions and autonomous vessels; re-use of components, safe handling of sustainable/alternative fuel.

Skills needs

Technical maritime competence; mechanics; electrical; process; IT; building technology; chemistry; automation; material technology; digitalization

Relevant websites and companies

 Hjem - Blue Maritime Cluster
 Home – Maritime CleanTech

Kongsberg Maritime; DNV Maritime; Grieg Maritime Group; Corvus Energy - Powering a clean future; Brodrene Aa - energy efficient fast ferries in carbon fibre; Moen Marin; WINDPORT | Your gateway to offshore wind; Generoc; ASKO MARITIME AS |; Ren energi og maritim fremtid – Utsira

More companies to be found here Maritime - Norwayexports

FORESTRY

No significant changes in the employment in the forestry sector are expected. But the ambitions and focus are on new sustainable products from wood processing, as well as wood-based building stocks.

Skills needs

Forest and wood technology; wood processing; fiber chemistry; biorefining; mechanics; automation; process; construction and civil works; wood building; electrical power technology; circular economy; waste management and recycling; transport workers; energy systems

Forestry - regjeringen.noNWC Norwegian Wood ClusterWoodWorks! ClusterThe woodcluster in Central NorwayStatskog; Norskog

POWER SYSTEM AND SMART CHARGING OF ELECTRICAL VEHICLES

The power system = power production, sales, distribution and use. Smart charging (for road transport) includes the development of charging stations, optimization of stations and various types of facilities, and system infrastructure through, among other things, fleet management, charging platforms and payment solutions. Needs: expand the network and increase the power production.

<u>Need for workers</u> within electrical power technology and energy management, at all levels – from skilled workers to engineers.

Skills needs

Electrical power and energy management; IT and digitalization; machine learning; statistics and analysis; energy planning for marketing; finance and market economics; legal expertise.

Relevant websites and companies

<u>Electrification for a new era | Statnett</u> Nexans; <u>Elvia; DEFA; Elaway; Zaptec Powers Adventure; Recharge; Eviny.no</u>

SUSTAINABLE BUILDINGS

Need for engineers within building technology and architecture, with competence on new materials, reuse and efficient building renovation. Need also for environmental advisers and BIM – Building Information Modeling specialists.

Skills needs

Building technology; architecture; landscape architecture and urban planning; geologists; ecologists; material technique and new materials; wood technology and construction; reuse and efficient restauration of buildings; environmental advice; BIM (Building Information Modelling); energy systems; electrical power; digitalization and optimization; skilled workers such as carpenters, masons, electricians and plumbers; circular economy, waste management and reuse.

Relevant websites and companies

NORWEGIAN GREEN BUILDING COUNCIL GRØNN BYGGALLIANSEGreenbuilt ; Norsk Byggebransje|Norske byggeprosjekter-nyheter-produkter;EcoCube; COWI ; GreenCap Solutions AS; Vow Green Metals; LavKarbonBygg AS | biobasertbyggeriCobuilder

SOLAR ENERGY

Need for workers

power line technicians / electrical power installers; electricians; carpenters; roofers; sheet metal workers; glass and facade installers; installers; engineers; project managers; architects; case handlers (admin.)

Skills needs

Electrical power; building technology

Relevant websites and companies

<u>Renewable Development - National Solar Energy Cluster</u> The Research Center for Sustainable Solar Cell Technology <u>SuSolTec</u>

<u>Solenergi | Skreddersydde solcelleanlegg fra BlueTec; Solcellespesialisten ;</u> <u>https://solenerginorge.no/ ; Otovo Solceller på taket ; Solenergi FUSen: Solcellepanel til</u> <u>næringsbygg i Norge</u>

More companies in the directory of The Norwegian Solar Energy Society Finnsolenergi.no

Other relevant articles and websites

<u>The History of Norwegian **Hydropower** in 5 Minutes - regjeringen.no</u> "Hydropower is [still] the backbone of the Norwegian power system, and will remain so in the foreseeable future."

Energy Valley <u>Energy Valley - World-class energy technology cluster</u>

www.fornybarnorge.no Renewables Norway

Research on <u>Renewable energy - SINTEF</u>; <u>Sustainable production - SINTEF</u>; <u>Climate and</u> <u>environment - SINTEF</u>

About green jobs in the Nordic countries Grønne jobber — Arbeidsliv i Norden

Companies and hubs

Statnett; Statkraft ; KONGSBERG ; Kongsberg Teknologipark_and jobs vacancies <u>Rekruttering – Kongsberg Teknologipark</u> <u>Teknologitriangelet</u> the technology industry in the region of Horten - Kongsberg – Porsgrunn Mo Industripark is one of Norway's largest industrial parks Southwest Norway - explore your future life in Norway! Siemens Energy <u>Home</u>; About Norsk Energi; <u>Home - ZEG Power</u>; <u>Robotics & Automation -Intek</u> AKKODIS Norway <u>https://www.akkodis.com/</u> career <u>https://karriere.akkodis.no/</u>

Find more companies at <u>https://norwayexports.no/</u> the overview of Norwegian export companies and sector related news

<u>Jobs</u>

- > Current job vacancies in power and energy Kraft og energi i Norge | FINN Jobb
- Current job vacancies in maritime and offshore <u>Maritim og offshore i Norge | FINN Jobb</u>

Keen to understand better what the Green economy is about and what Green jobs are? Read the publication by ILO, The International Labour Organization, <u>How to work in the Green Economy -</u> guide for job seekers and those who support them - ILO sept 2022.pdf

Welcome to the <u>Nav EURES Norway page</u> for more information on how to look for jobs and working life in Norway

Nav, EURES services 2025