Mapping of the Energy Technology Community in Trøndelag

Version 1.0 | January 2023

TRONDHEIM
TECH PORT

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1 Summary and overview

Background

This report gives an overview of players in the energy technology ecosystem in Trøndelag. Energy technology is a broad term and is in this report defined as "technology for efficient, safe, and economical extraction, production, conversion, transportation, storage, and use of energy[1]".

In addition to the energy technology companies, the report does also summarize the major energy producing companies in the region, such as Equinor, Trønderenergi etc. Companies aiming to produce renewable energy using novel technologies, such as Aneo, are included in the energy technology overviews.

The mapping includes five stakeholder groups; companies providing energy technology (startups, scaleups and established companies), R&D actors and test infrastructure, clusters, networks and forums, public actors, as well as investors. The report will be updated on a regular basis.

Companies developing and selling energy technology

We have identified 139 energy technology companies in Trøndelag. 75 companies deliver oil and gas technology, whereas 64 deliver renewable energy technology.

The 139 companies had a total revenue of 10 143 mn NOK in 2021, and employ 3 867 employees as of October 2022. 116 of the identified energy technology companies are located in Trondheim, the remaining 23 in municipalities close to Trondheim (Indre Fosen, Levanger, Stjørdal, Verdal, Orkland, Malvik, Steinkjer, Snåsa and Rindal).

In addition to the 139 energy technology companies, we have identified 96 energy producing companies in Trøndelag. Three are oil and gas producers (OKEA, Aker BP and Equinor Stjørdal) , 83 are hydropower producers and 10 are wind power producers.

R&D actors and test infrastructure

In addition to the research and development conducted in the identified 139 companies, we have identified two main performers of R&D related to energy technology in Trøndelag; NTNU and SINTEF.

NTNU and SINTEF are hosting in total 8 FMEs, 4 SFIs and 2 other large reserach centres. Furthermore, we have identified 39 special lab environments at NTNU and SINTEF. There is a vast amount of special lab environments at NTNU and SINTEF. We have included the most relevant ones in this mapping.

This R&D infrastructure is available for all types of users throughout the region and offers services and equipment beyond basic needs. In addition to the R&D performed by NTNU and SINTEF, the identified energy technology companies also conduct own R&D projects. Of the 139 identified companies, 23 companies have as of autumn 2022 202 million NOK of RCN funded R&D projects ongoing.

Clusters, networks and forums

We have identified 9 entities working with issues related to energy technology in Trøndelag, including 3 clusters, 2 networks, 2 innovation companies and 2 interest organizations. Examples of entities include the Renewable Energy Cluster – RENERGY, which has energy technology as their main focus area.

The other listed entities have energy technology as focus area, either fully or partly. In addition to the listed actors, there are several industry agnostic incubators, clusters and networks working with business development in the region.

Public actors

We have identified 5 public actors in this mapping; 4 public actors that provide public funding for research and innovation activities in energy technology companies, as well as 2 public actors involved in concrete energy technology research and innovation projects, as users or policy makers.

Investors

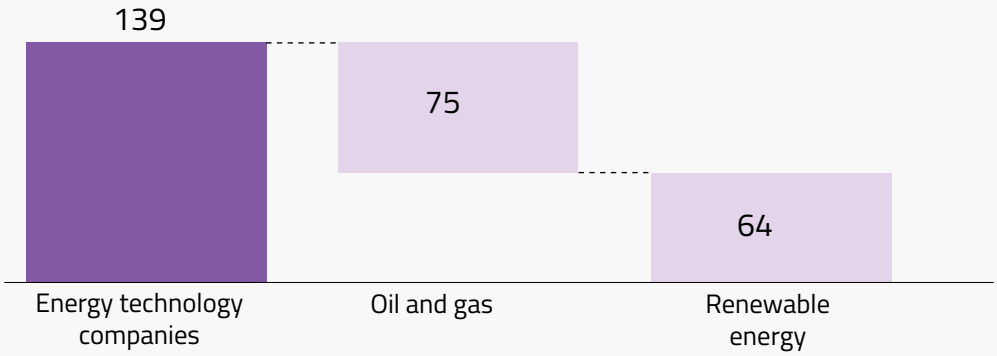
We have identified 19 existing investors in Mid-Norway, and 2 planned investment activities/funds. Of these 19 investors, 5 investors have invested in some of the 139 identified energy technology companies.

The remaining 14 investors have not yet invested in energy technology companies. 5 of them have a stated sector focus that is somewhat related to energy, and 7 of them are industry agnostic.

1. Defintition by Wärtsila (https://www.wartsila.com/encyclopedia/term/energy-technology)

Key figures of the energy technology ecosystem in Trøndelag

139 energy technology companies in Trøndelag (2022)



10,1 **bn NOK in revenue in energy technology companies** (2021)

3 867 **Employees in energy technology companies** (October 2022)

32 **of 139 companies have origin from NTNU or SINTEF**

202 **m NOK of funded RCN projects on-going for the identified companies**

2 main performers of R&D related to energy technology in Trøndelag
(in addition to the 139 companies)

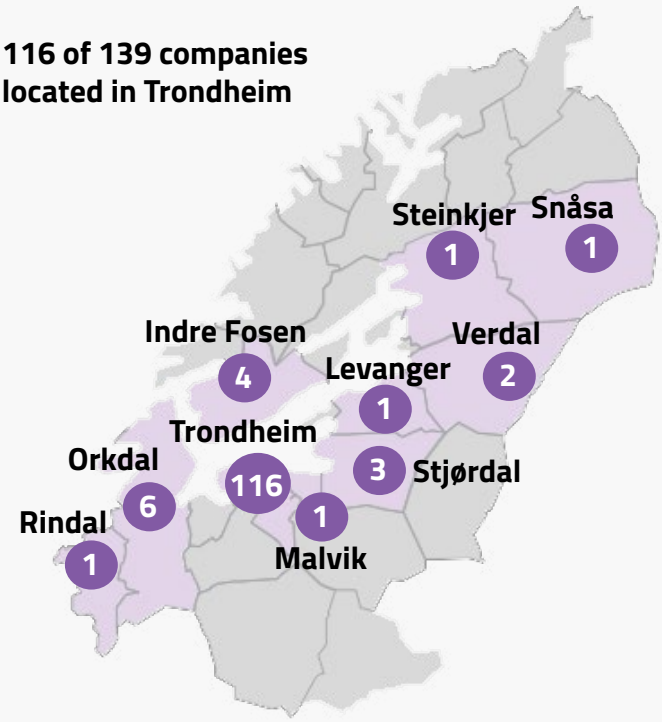
SINTEF

NTNU
Norwegian University of Science and Technology

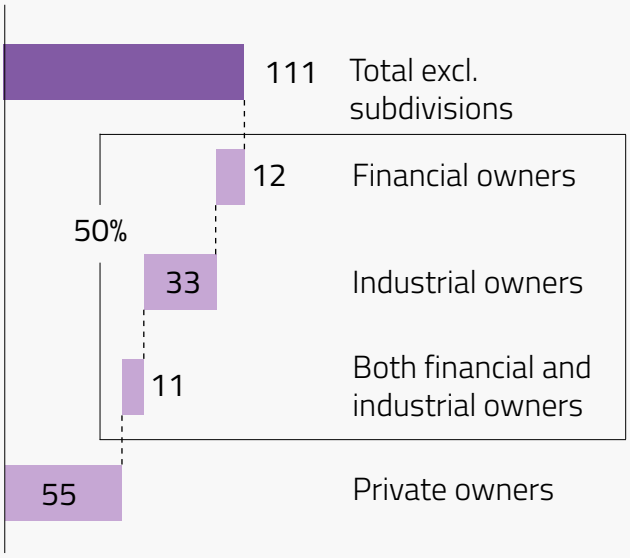
53 energy technology related R&D infrastructure entities in Mid Norway

- 8 Environmental-friendly Energy Research Centres
- 4 Centres for Research-based Innovation
- 2 other Research Centres
- 16 special lab environments at NTNU and 23 at SINTEF

116 of 139 companies located in Trondheim



50% of identified companies[1] are owned by professional investors



1. Only includes companies with headquarter in Trøndelag, and not subdivisions

Investors in Trøndelag invested in some of the 139 companies

Investinor

NTNU Technology Transfer as

SINTEF
SINTEF VENTURE

CoFounder

ProVenture

SpareBank 1 SMN

2 Background, purpose and deliminations

Background and purpose

Trondheim Tech Port's goal is to increase Norway's innovation power through closer cooperation between actors in Trøndelag. Trondheim Tech Port is a member-based interest associaton for technology and innovation. Trondheim Tech Port is a driving force and facilitator for innovation and technology, through projects, events and communication. Trondheim Tech Port works systematically with the strategic areas:

- **Innovation:** Create arenas and networks that connect innovation actors.
- **Identity:** Make an attractive region visible for new opportunities.
- **Infrastructure:** Strengthen infrastructure that realizes innovation.

The association focuses on the areas oceans, health, energy and digitization as enabling technology. To be able to work systematically with facilitating innovation within the energy technology industry, there is a need for in-depth knowledge about the ecosystem. Today, there is limited overview of players, networks and clusters, test environments and labs and not least what cutting-edge expertise/comparative advantages the players have. This mapping will provide a good basis for proposing measures that will contribute to achieving the goal of increasing Norway's innovative power in energy technology through closer cooperation between the actors in Trøndelag.

Methodology

This report gives an overview of the players in the ecosystem for energy technology in Trøndelag. In this context, energy technology is defined as "technology for efficient, safe, and economical extraction, production, conversion, transportation, storage, and use of energy[1]". The overview is structured along three dimensions:

- Type of energy source Includes oil and gas (O&G) and renewable energy technology.
- Sub-sectors within O&G and renewable energy technology. See p. 11 and 12 for all sub-sectors and definitions.

- Stakeholder groups active within these sub-sectors. Includes companies (startups and established companies), R&D actors, clusters, public actors, networks and forums, as well as investors.

Three information sources are used creating this report:

- Structuring existing knowledge about the ecosystem by interviewing key stakeholders in the ecosystem. Six interviews have been conducted (see page 15 for details).
- Using Karabin Impellos existing database of technology companies in Trøndelag (Impelloanalysen).
- Desk research by use of publicly available information sources such as information from company web sites, Proff Forvalt, The Research Council of Norway etc.

Deliminations and reservations

The information in this report is quality assured to an extent that has been practically feasible within a very limited time frame. Karabin Impello makes no guarantee that the content of this report is free from factual errors and/or incomplete information. The report will be updated on a regular basis.

1. Defintition by Wärtsila (https://www.wartsila.com/encyclopedia/term/energy-technology)

Title: Mapping of the energy technology ecosystem in Trøndelag
Client: Trondheim Tech Port AS
Supplier: This report is written by Julie Dahl Benum and Tormod Svorkdal in Karabin Impello AS.
Project period: October-December 2022
About Impello: Impello is a leading company in M&A, strategy and financial advisory with offices in Trondheim and Oslo.

Since we started in 2005, we have been involved in more than 100 M&A transactions and 700 consulting assignments for more than 300 customers. Impello has employees with high formal competence and wide experience from consulting in technology and industry with a focus on IT/software, energy, oil and gas, the maritime sector and seafood/aquaculture. The customer portfolio includes listed companies, group companies, growth companies and start-ups.

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impello

Energy technology – definitions used in this report

This report shows an overview of the players in the ecosystem for energy technology in Trøndelag. In this report, energy technology is defined as "equipment, software, services and application of knowledge for efficient, safe, and economical extraction, production, conversion, transportation, storage, and use of energy"[1].

The overview is structured along three main dimensions:

- **Type of energy source**
  Energy technology is segmented into oil and gas (O&G) energy technology and renewable energy technology.

- **Sub-sectors within O&G and renewable energy technology**
  Both O&G and renewable energy technology are divided into sub-sectors that represent different parts of their respective value chains. See page 11 and 12 for definitions of the different sub-sectors

- **Stakeholder groups active within these sub-sectors**
  Includes companies (startups, scaleups and established companies), R&D actors, public actors, clusters, networks and forums, as well as investors.

Companies addressing markets within both oil & gas and renewable energy

The companies identified in this report are placed into sub-sectors in either O&G or renewable energy technology. This segmentation is based on what is communicated as the company's current main markets, which is available either through their website or other public sources.

1. Defintition by Wärtsila (https://www.wartsila.com/encyclopedia/term/energy-technology)

Overview of value chains for oil & gas and renewable energy technology

Oil and gas technology

	Research	Upstream	Midstream	Downstream
Type of players	▪ Universities and colleges ▪ Research institutes ▪ Corporate R&D units ▪ Other public entities performing R&D	▪ Companies delivering products and/or services related to exploration and production of oil and gas	▪ Companies delivering products and/or services related to transportation, processing and wholesale marketing of oil and gas	▪ Companies delivering products and/or services related to refining and sales/marketing of petroleum products.

Almost all players within O&G technology in Trøndelag are active within the research and upstream steps of the value chain

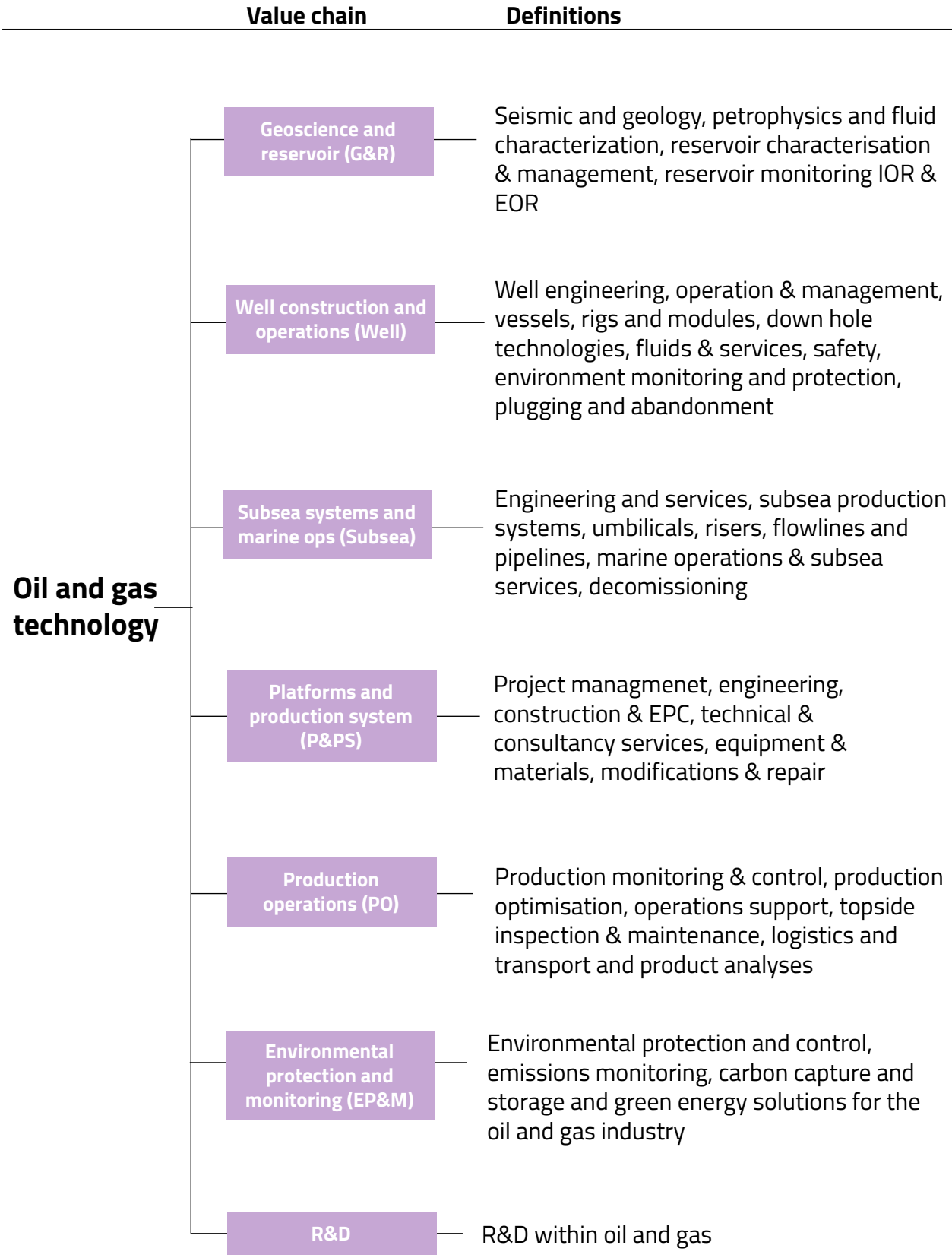
Renewable energy technology

	Research	Production	Infrastructure and system	Energy utilization
Type of players	▪ Universities and colleges ▪ Research institutes ▪ Corporate R&D units ▪ Other public entities performing R&D	▪ Companies delivering products and/or services related to conversion of renewable energy through wind, solar, hydrogen, waste-to-energy and hydropower	▪ Companies delivering products and/or services related to grids, energy storage, development of flexible energy systems, trading and supply of electricity	▪ Companies delivering products and/or services related to the utilization of renewable energy through: ▪ Vehicles and mobility ▪ Industry and buildings

The players within renewable energy technology in Trøndelag are active within all steps of the value chain

Sources: NHO - Green Electrical Value Chains, Norwegian Energy Partners

Oil and gas technology broken down in sub-sectors with definitions



Sources: Cathegorization based on Norwegian energy partners (NORWEP): https://www.norwep.com/technologies-solutions/oil-gas

Renewable energy technology broken down in sub-sectors with definitions

Level 1	Level 2	Definition
R&D		
Production	Solar power	Software, technical equipment and services related to planning, building and operating solar power plants and production
	Wind power	Technical equipment such as turbines and other installations. Software and services related to planning, building and operations for both the onshore and offshore wind power industry
Energy conversion from renewable sources. Includes production of electricity and biofuel	Hydropower	Software, technical equipment and services within hydropower
	Water to energy	Technical equipment and installations for systems generating energy from waste, such as biogas and other biofuels, as well as related technical services
Infrastructure and system	Hydrogen	Technical equipment and services within production of hydrogen, use of hydrogen as an energy carrier and for energy storage
	Batteries	Technology related to development and production of batteries
Systems for storage, distribution and management of electrical energy and hydrogen, as well as hydrogen production	Grids	Technology within grids and microgrids, including system development, analysis, measurements and controls
	Power supply, mgmt and trading	Software and services within power supply to consumers, power management, distribution and trading
Energy utilization	Industry and buildings	Equipment and services within energy efficiency and managmenet in buildings and industry. Includes heating and ventilation, cooling and other system components and services contributing to efficient energy use in buildings and industry
Different types of energy utilization	Vehicles and mobility	Technical equipment related to electric and hydrogen driven vehicles such as chargers, engines, tanks generators and other electric equipment used in vehicles.

Sources: Cathegorization based on NHO - Green Electrical Value Chains

Five stakeholder groups are included in the mapping

Companies	▪ Companies (startups, scaleups and established companies) that operate within one or more of the described sectors on page 11 and 12, with head quarter or sub divisions in Trøndelag[1]. ▪ Pure, major energy producers within renewables and oil and gas are not included in this mapping.
R&D Community	▪ Public and private performers of R&D within one or more of the described sectors on page 11 and 12, with head quarter in Trøndelag. ▪ R&D infrastructure located in Trøndelag. Infrastructure is defined as equipment, resources and related services that the research, development and innovation community use to conduct research and innovation. ▪ R&D projects performed by the identified companies, financed by the Research Council of Norway[2].
Clusters, networks and forums	▪ Clusters, networks and forums working with issues related to energy technology in Trøndelag. ▪ Must be formal clusters, networks and forums, as it is difficult to identify all informal meeting arenas.
Public actors	▪ Public actors that provide public funding for research and innovation activities in energy technology companies. ▪ Public actors involved in concrete energy technology research and innovation projects, as users, context makers etc.
Investors	▪ Professional financial investors with a stated sectorial focus on energy, located in Trøndelag. ▪ Professional investors (financial or industrial) invested in the identified energy technology companies. The investors can be located in Trøndelag, Norway or abroad.

1. Must be registered in Brønnøysundregistrene.
2. In addition, the companies perform R&D projects that are not known for the public.

We have used three information sources when conducting the mapping

- **Interviews with selected stakeholders**

Structuring existing knowledge about the ecosystem by interviewing key stakeholders in the ecosystem. Six interviews have been conducted in the period 31.10-07.11.2022.

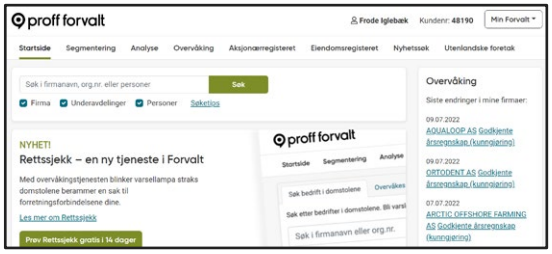
Name	Role/Company	Date
Ellen Loxley	Business Developer Bryte Batteries	31.10.22
Thomas Bjørdal	Cluster Manager Renergy Cluster	01.11.22
Johan Einar Hustad	Director NTNU Energi	01.11.22
Petter Støa	Research director SINTEF Energi	02.11.22
Silja Rønningsen	Project manager +CityxChange	07.11.22
Marte Aurstad Aspnes	Investment Manager Equinor Ventures	07.11.22

- **Impelloanalysen database**

Using Karabin Impellos existing database of technology companies in Trøndelag (Impelloanalysen) to identify energy technology companies relevant for this mapping. 138 companies were identified, of which 31 are subdivisions with headquarters elsewhere in Norway, and 107 companies are based with headquarters in Trøndelag.

- **Desk research**

Desk research by use of publicly available information sources such as information from company web sites, Proff Forvalt, the Research Council of Norway etc.



3 Companies

Overview of oil and gas technology companies in Trøndelag (75)

Geoscience and reservoir (11)

- Exploro AS
- Geosubsea AS
- Migris AS
- Multiseis Norway AS
- Multiseis Norways AS avd. Rissa
- Pilaris Subsea AS
- Quad Geometrics Norway AS
- RagnaRock Geo AS
- Resman AS
- Satlog AS
- Seabed Geosolutions AS avd. Trondheim

Well construction and operations (16)

- Axess AS avd. Trondheim
- Axess AS avd. Orkanger
- Baker Hughes GE Trondheim VGS AS
- Cameron Systems AS
- Computerwell AS
- Exprosoft AS
- Fluidsep AS
- Heavelock Solutions AS
- Innovation Energy AS
- Interwell Norway AS avd. Trondheim
- Jagtech AS
- Lyng Drilling AS
- Petricore Norway AS
- Wellcem AS
- Wellstarter AS
- Widril AS

Subsea systems (17)

- Aker Solutions AS avd. Havnegata Trondheim
- Aker Solutions AS avd. Ranheimsvegen Trondheim
- Alcatel Submarine Networks Norway AS
- AO Development AS
- Eelume AS
- Ferrx AS
- Ikm Ocean Design AS avd. Trondheim
- Norbit Subsea AS
- Ocean Access AS
- Reinertsen New Energy AS
- Sensorlink Subsea AS
- Shawcor Norway AS
- Siemens Energy AS avd. SUS Trondheim
- Siemens Energy AS avd. Trondheim
- Subsea Chokes International AS
- Technip Norge AS avd. Orkanger Spolebase
- Skarv Technologies AS

Platforms and production systems (6)

- Aibel AS avd. Stjørdal
- Aibel AS avd. Trondheim
- Jk Offshore AS
- Sensorlink Swarm AS
- Topi AS
- VGS Technology AS

Environmental protection and monitoring (7)

- Blueimpact AS
- Ecoxy AS
- Kongsberg Digital AS avd. Trondheim
- Siemens Energy AS avd. OMC Trondheim
- Trollhetta AS
- Ocean Geoloop AS
- Nautilus Carbon Services AS

Production operations (17)

- Atla Lasers AS
- Cybernetica AS
- Empig AS
- Fueltech Solutions AS
- Innsep AS
- Integrated Pptoelectronics AS
- Lyngaas TMC AS
- Maintech AS
- Nicoustic AS
- Oceantech Innovation AS
- Petrell AS
- Prores AS
- Quorum Software AS avd. Trondheim
- Roxar AS avd. Trondheim
- Whitson AS
- Wireless Instrumentation Systems AS
- ScoutDI AS

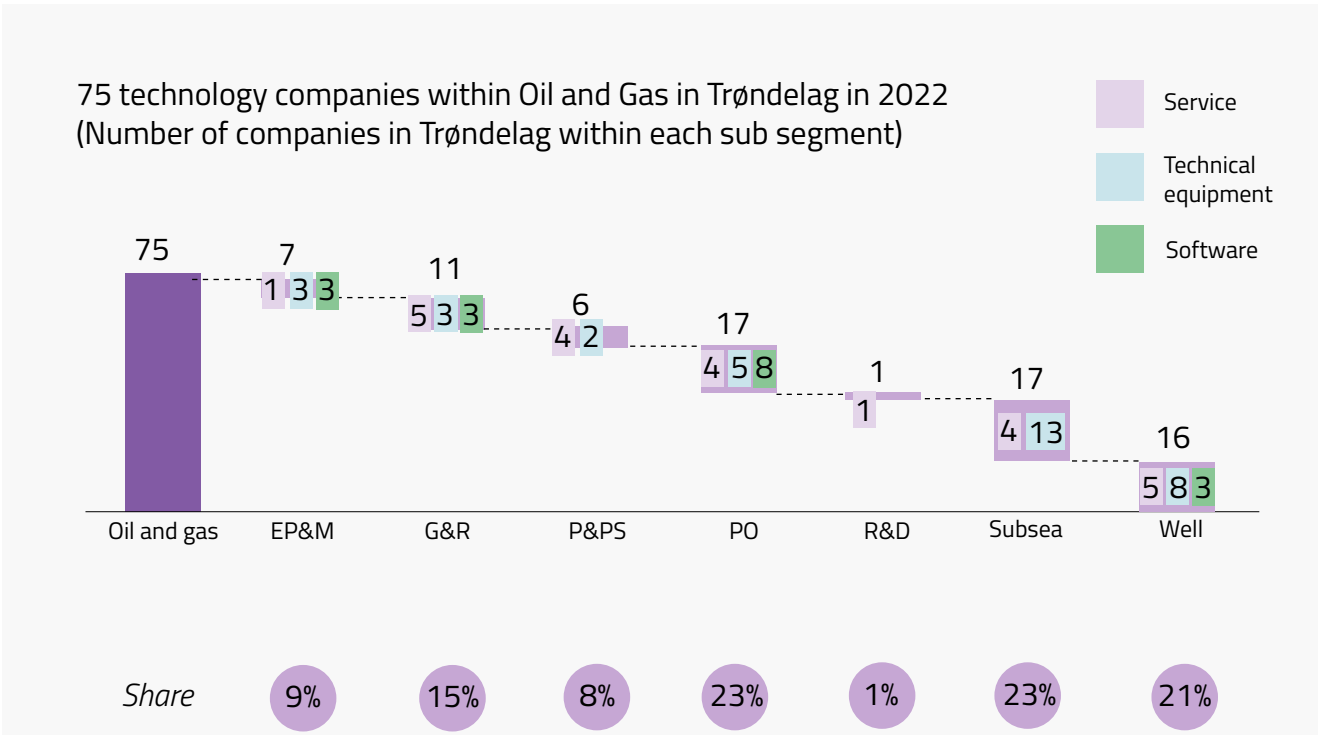
R&D (1)

- Equinor ASA avd. Research Centre Ranheim

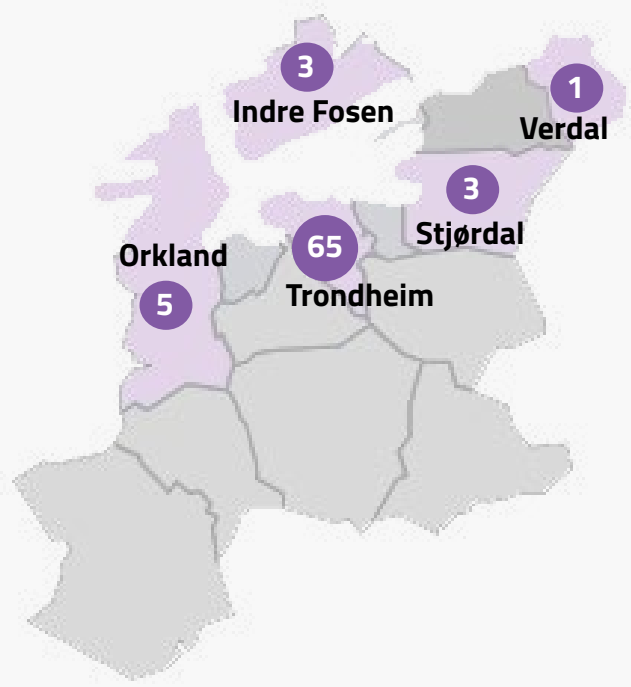
Source: Impelloanalysen 2021, Innovation Norway, Proff Forvalt

Note: Overview includes companies with registered head quarter or subdivision in Trøndelag (Brønnøysundregistrene)

75 oil and gas technology companies in Trøndelag in 2022



~70% of companies are located in Trondheim



53

Companies with head offices in Trøndelag

22

Companies with subdivisions in Trøndelag

Source: Impelloanalysen 2021, Innovation Norway, Proff Forvalt
Note: Overview includes companies with registered head quarter or subdivision in Trøndelag (Brønnøysundregistrene)

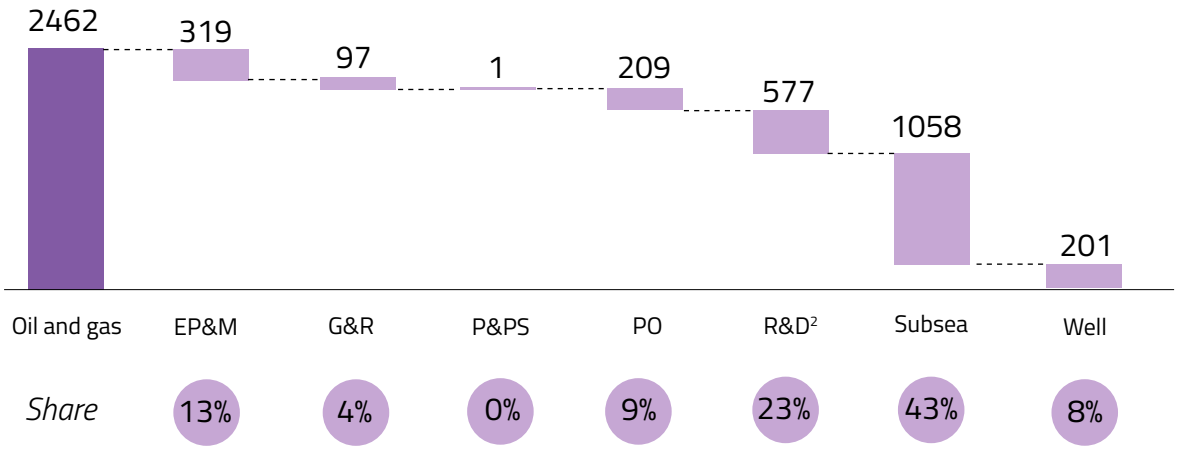
2 462 employees[1] in the identified oil and gas technology companies in Trøndelag

Top 20 employers

Company	Sector	Number of employees
Equinor ASA avd. Reasearch Centre Ranheim	R&D	577
Aker Solutions AS avd. Ranheimsvegen Trondheim	Subsea systems and marine ops	509
Siemens Energy AS avd. OMC Trondheim	Environmental protection and monitoring	271
Shawcor Norway AS	Subsea systems and marine ops	174
Alcatel Submarine Networks Norway AS	Subsea systems and marine ops	72
Siemens Energy AS avd. Trondheim	Subsea systems and marine ops	64
Interwell Norway AS avd. Trondheim	Well construction and operations	59
Resman AS	Geoscience and reservoir	56
Maintech AS	Production operations	54
Siemens Energy AS avd. SUS Trondheim	Subsea systems and marine ops	53
Norbit Subsea AS	Subsea systems and marine ops	46
Axess AS avd. Orkanger	Well construction and operations	35
Aker Solutions AS avd. Havnegata Trondheim	Subsea systems and marine ops	34
Quorum Software AS av Trondheim	Production operations	34
Lyng Drilling AS	Well construction and operations	30
Reinertsen New Energy AS	Subsea systems and marine ops	28
ScoutDI AS	Production operations	22
Oceantech Innovation AS	Production operations	21
Cameron Systems AS	Well construction and operations	19
Kongsberg Digital AS avd. Trondheim	Environmental protection and monitoring	17
Rest		**287**
Total		**2 462**

Number of employees is obtained from Proff Forvalt. Proff Forvalt obtain numbers from SSB, and the numbers represent a snap shot of the workforce for the actual month.Number of employees in R&D is based on the total employee numbers from Equinor Ranheim, and include non-R&D employees as well.
Source: Impelloanalysen 2021, Proff Forvalt
Note: The overview includes companies with registered head quarter or subdivision in Trøndelag (as registred in Brønnøysundregistrene).

Providers of susbea systems and marine operations employs 43% of total number of employees (Number of employees in October 2022[1])



Total revenue of 4 867 mNOK for the 75 identified companies

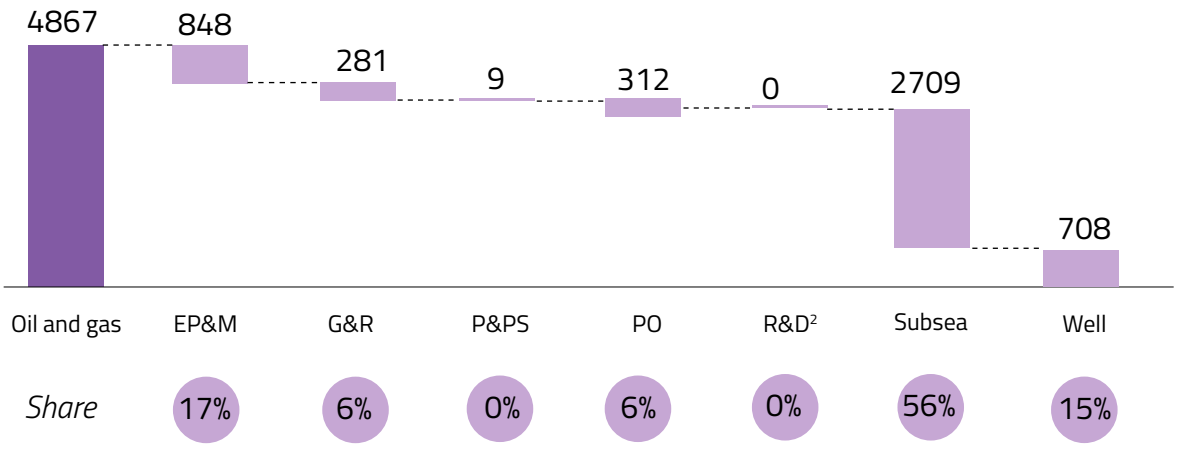
Top 20 earners[1]

Company	Sector	Revenue 2021 (mNOK)
Aker Solutions AS avd. Ranheimsvegen Trondheim	Subsea systems and marine ops	E 1 038
Siemens Energy AS avd. OMC Trondheim	Environmental protection, monitoring and waste handling	E 801
Shawcor Norway AS	Subsea systems and marine ops	543
Norbit Subsea AS	Subsea systems and marine ops	318
Interwell Norway AS avd. Trondheim	Well construction and operations	E 269
Resman AS	Geoscience and reservoir	214
Siemens Energy AS avd. Trondheim	Subsea systems and marine ops	E 189
Siemens Energy AS avd. SUS Trondheim	Subsea systems and marine ops	E 157
Technip Norge AS avd. orkanger spolebase	Subsea systems and marine ops	E 151
Alcatel Submarine Networks Norway AS	Subsea systems and marine ops	106
Axess AS avd. Orkanger	Well construction and operations	E 102
Oceantech Innovation AS	Production operations	101
Maintech AS	Production operations	87
Lyng Drilling AS	Well construction and operations	82
Baker Hughes GE Trondheim VGS AS	Well construction and operations	74
Cameron Systems AS	Well construction and operations	70
Aker Solutions AS avd. Havnegata Trondheim	Subsea systems and marine ops	E 69
Reinertsen New Energy AS	Subsea systems and marine ops	51
Sensorlink Subsea AS	Subsea systems and marine ops	48
Exprosoft AS	Well construction and operations	39
Rest		**357**
Total		**4 867**

E: Estimated revenue for subdivisions based on group revenue and employee-ratio between group and subdivision.
1) For some companies, for instance Equinor ASA avd. Forskningssenter Ranheim, this method givesscewed and incorrect numbers, and therefore Equinor is taken out of the «Top 20 earners»-list.
Source: Impelloanalysen 2021, Proff Forvalt.

Providers of subsea systems and marine operations constitute 56% of total revenue

Total revenue 2021 [m NOK]



Overview of oil and gas technology companies

Environmental protection and monitoring and R&D

EP&M Company	Location	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Blueimpact AS	Indre Fosen	2016	Develops an operational solution for mechanical dispersion of oil spills at sea.	5	484
Ecoxy AS	Trondheim	2002	Consultant services for developing greener energy solutions.	10	13 098
Kongsberg Digital AS avd. Trondheim	Trondheim	2016	Different types of software for O&G e.g. emssions performance and safety analyses.	17	E 24 749
Ocean Geoloop AS	Verdal	2020	Point source carbon capture. Can be used in all industrial processes releasing CO2 from combustion.	10	300
Siemens Energy AS avd. OMC Trondheim	Trondheim	1995	Delivers battery energy storage solutions and mobile offshore wind units which are certified as Lower Emissions Oil and Gas Solutions (LEOG).	271	E 801 219
Trollhetta AS	Trondheim	2001	Automatic safety- and environment surveillance systems for O&G.	2	2 002
Nautilus Carbon Services AS	Trondheim	2021	Services and software within carbon storage	4	5 908
R&D Company	**Location**	**Est.**	**Product/service/solution**	**Number of employees**	**Revenue (2021 kNOK)**
Equinor ASA avd. Research Centre Ranheim	Trondheim	1995	R&D within oil and gas.	577	N/A

Geoscience and reservoir

Company	Location	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Exploro AS	Trondheim	2013	Exploration and geological and geophysical consulting for the petroleum industry	16	27 786
Geosubsea AS	Trondheim	2002	Services withins seabed surveys	2	3 349
Migris AS	Trondheim	2005	Describes and reduces geological and economical exploration risk by simulating and visualizing geological processes.	3	4 524
Multiseis Norway AS	Trondheim	2008	Develops software for the seismical industry	3	3 403
Multiseis Norway AS avd. Rissa	Indre Fosen	2019	Software for offshore O&G. Much has to do with seismic data.	1	1 134
Pilaris Subsea AS	Trondheim	2007	Geological surveys	1	572
Quad Geometrics Norway AS	Trondheim	2013	Specialising in measuring, processing and analysing high-precision surface gravity data onshore and offshore. We also measure seafloor height	3	1 153
Ragnarock geo AS	Trondheim	2018	RagnaRock Geo develops an AI software that interprets seismic data. The software enhances the understanding and accelerates the workflow of the geophysicist	8	4 935
Resman AS	Trondheim	2005	Wireless reservoir monitoring	56	214 278
Satlog AS	Trondheim	2014	Interpretation of seismical data	4	20 053
Seabed Geo-Solutions AS avd. Trondheim	Trondheim	2014	Seisimc systems for oil and gas sector, with a focus on exploration.	N/A	N/A

E: Estimated revenue for subdivisions based on group revenue and employee-ratio between group and subdivision. For some companies, for instance Equinor ASA avd. Forskningssenter Ranheim, this method givesscewed and incorrect numbers, and therefore «N/A» is placed in the Revenue-cell.

Source: Impelloanalysen 2021, Proff Forvalt, Company websites.
Note: The overview includes companies with registered head quarter or subdivision in Trøndelag (as registred in Brønnøysundregistrene).

Platform and production systems

Company	Location	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Aibel AS avd. Stjørdal	Stjørdal	1990	Oil service company that delivers services within MMO (maintenance, modifications and operations)	N/A	N/A
Aibel AS avd. Trondheim	Trondheim	2013	Aibels Trondheim office focus on field development studies and will serve existing and new companies in the region with insights and enableing use of new technology.	N/A	N/A
JK Offshore AS	Trondheim	2013	Consultant services withtin O&G.	1	454
Sensorlink Swarm AS	Trondheim	2020	Real-time topside/landbased erosion and corrosion monitoring for pipelines	N/A	8 158
Topi AS	Trondheim	2020	Plan, develop and deliver operations services and technology to the O&G industry.	N/A	N/A
VGS Technology AS	Orkland	2017	Development and sales of products and services to the oil industry. Owned by Orkla Engineering, and cathegorized based on their activity.	N/A	14

Production operations

Company	Location	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Atla Lasers AS	Trondheim	2012	Develops laser for real-time spectroscopy for fast sensitive hydrocarbon sensing and molecular fingerprints.	2	180
Cybernetica AS	Trondheim	2000	Cybernetica's products include Advanced Process Control (APC), with a particular focus on model based control solutions to the polymer, metallurgical and petroleum industries.	14	19 820
Empig AS	Trondheim	2011	EMPIG AS owns three complementary Flow Assurance technologies which removes deposits and boosts flow in production pipes	3	8 738
Fueltech Solutions AS	Trondheim	2008	Fueltech solutions is the market leader in instruments for ignition and combustion analysis of fuel	4	21 227

Production operations (continued)

Company	Location	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Innsep AS	Trondheim	2011	Develops a scalable and flexible gas/liquid separator fro removal of drops in an gas stream	1	962
Integrated Optoelectronics AS	Trondheim	2003	Development and production of lasers for the O&G industry	3	2 510
Lyngaas TMC AS	Trondheim	2013	Main service is expert software simulations for O&G.	2	4 736
Maintech AS	Trondheim	1986	Operations and maintenance services for O&G.	54	86 917
Nicoustic AS	Trondheim	2022	Have developed an accurate non-intrusive technology for separator level measurement based on guided ultrasonic waves. Detects liquids and solids level	2	N/A
Oceantech innovation AS	Trondheim	2017	Service provider of robotic solutions for splash zone operations	21	101 145
Petrell a/s	Trondheim	1988	Different types of analyses such as smoke and ventilation, near-wellbore, fire integrity of structures, flange analysis and fire integrity of vessels.	6	4 343
Prores AS	Trondheim	2005	Delivers different software tools for production management, data visualization and P&A planning	14	24 064
Quorum Software AS av Trondheim	Trondheim	2021	A complete software provider for O&G industry. Most of the functionality is related to production operations	34	N/A
Roxar AS avd. Trondheim	Trondheim	2010	Provide different types of metering and monitoring equipment that guide customers to make more informed decisions about production and integrity in O&G.	N/A	N/A
Whitson AS	Trondheim	1988	Development and sales of software within production of O&G.	15	16 345
Wireless Instrumentation Systems AS	Trondheim	2009	WINS focus to provide live data from all upstream assets to optimize production and recovery.	12	19 362
ScoutDI AS	Trondheim	2018	Drone services for infrastructure and equipment inspection. Target markets within bot renewables and O&G.	22	1 382

E: Estimated revenue for subdivisions based on group revenue and employee-ratio between group and subdivision.
Source: Impelloanalysen 2021, Proff Forvalt, Company websites.
Note: The overview includes companies with registered head quarter or subdivision in Trøndelag (as registred in Brønnøysundregistrene).

Subsea systems and marine operations

Company	Location	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Aker Solutions AS avd. Havnegata Trondheim	Trondheim	2004	Provides various equipment and services for many O&G value chain steps, but most within subsea systems.	34	E 69 339
Aker Solutions AS avd. Ranheimsvegen Trondheim	Trondheim	2006	Provides various equipment and services for many O&G value chain steps, but most within subsea systems.	509	E1 038 046
Alcatel Submarine Networks Norway AS	Trondheim	1984	Design, production and support of equipment for hydrocarbon exploration in different environments	72	106 371
AO Development AS	Trondheim	2011	Development of pipeline systems for use in oil and gas	0	0
Eelume AS	Trondheim	2015	ROV-snake for subsea inspection, maintainance and repair.	14	0
Ferrx AS	Trondheim	2005	Ferromagnetic steel examination, non-destructive method for determination of stress and fatigue in steel structures.	3	418
Ikm Ocean Design AS avd. Trondheim	Trondheim	2008	IKM Ocean Design AS is an independent, leading and innovative subsea engineering provider.	15	E 27 429
Norbit Subsea AS	Trondheim	2009	Instrumentation and communication solutions for subsea O&G.	46	317 854
Ocean Access AS	Trondheim	2020	Develops a ocean data buoy for monitoring the ocean. Used in offshore O&G.	6	1 149
Reinertsen New Energy AS	Trondheim	2017	REINERTSEN New Energy provides engineering services within Subsea / SURF / Pipelines which includes all parts from well systems, subsea production facilities, subsea infrastructure / transport to the processing plant	28	50 922
Sensorlink Subsea AS	Trondheim	1996	Innovative solutions for pipeline integrity managment, with special focus on problems related to erosion and corrosion	15	48 365

Company	Location	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Shawcor Norway AS	Orkland	1992	Solutions for termical insulation and anti corrosion on pipelines.	174	543 494
Siemens Energy AS avd. SUS Trondheim	Trondheim	2017	Offer a wide assortment of proven and tested instruments and support services for monitoring the conditions of subsea operations	53	E 156 695
Siemens Energy AS avd. Trondheim	Trondheim	2002	Topsides, Flowater and Onshore plants - Topsides engineering	64	E 189 217
Subsea Chokes international AS	Trondheim	2009	Development, production and sales of subsea chokes	5	4 758
Technip Norge AS avd. Orkanger Spolebase	Orkland	1991	Spoolbase for O&G pipelines. Does the welding of the pipelines.	15	E 150 815
Skarv Technologies AS	Trondheim	2019	Software- and hardware solutions for autonomous robotic systems operating in the marine environment	5	1 569

Well construction and operations

Company	Location	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Axess AS avd Trondheim	Trondheim	2021	Provides numerous equipment and services for many O&G value chain steps, but most within well construction and operations	N/A	N/A
Axess AS avd. Orkanger	Orkland	1995	Provides numerous equipment and services for many O&G value chain steps, but most within well c onstruction and operations	35	E 101 697
Baker Hughes GE Trondheim VGS AS	Trondheim	2007	Supplier of O&G sevices and solutions for numerous value chain steps, but most within well construction and operations	14	E 73 948

Well construction and operations (continued)

Company	Location	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Cameron Systems AS	Trondheim	1999	Providing state-of-the-art wellhead, surface, and flow control products, systems, and services to oil, gas.	19	69 657
Computerwell AS	Trondheim	2020	Offers a software for fast and accurate calculations of drill string dynamics.	2	1 096
Exprosoft AS	Trondheim	2000	Software and analysis products for upstrwam oil and gas. Enables risk and reliability analyses.	6	38 910
Fluidsep AS	Trondheim	2016	Delivers a in-line horizontal downhole separator system	1	2 319
Heavelock Solutions AS	Trondheim	2019	Software for drilling	1	2 619
Innovation Energy AS	Trondheim	2016	Startup company focused on developing a novel commercial solution to open windows in casing for Plug and Abandonment operations of oil & gas wells	1	5 980
Interwell Norway AS avd. Trondheim	Trondheim	1995	Well technology and equipment for increased degree of recovery.	59	E 269 323
Jagtech AS	Orkland	2018	Produces a magnetic active separator (MAPS) that removes magnetic iron particles from drilling fluid.	2	3 312
Lyng Drilling AS	Indre Fosen	1984	Delivers drilling technology. Owned by schlumberger.	30	82 038
Petricore norway AS	Trondheim	2017	Delivers analysis services and well site survices such as mud logging	6	6 108
Wellcem AS	Trondheim	2002	Plugging and repairing of wells	12	38 354
Wellstarter AS	Trondheim	2015	Wellstarter AS has developed a patented downhole flow monitoring solution based on heat pulses released into the well stream.	9	488
Widril AS	Trondheim	2013	Wireless instrumentation for well testing.	4	12 335

E: Estimated revenue for subdivisions based on group revenue and employee-ratio between group and subdivision.
Source: Impelloanalysen 2021, Proff Forvalt, Company websites.
Note: The overview includes companies with registered head quarter or subdivision in Trøndelag (as registred in Brønnøysundregistrene).

Overview of renewable energy technology companies in Trøndelag (64)

PRODUCTION (30)

Solar (7)

- BNW Energy AS
- Enernite AS
- Getek AS
- Niras Norge AS Avd. Trondheim
- Solarseek AS
- Sunlit Sea AS
- Aneo Real Estate AS

Hydropower (7)

- DHI AS
- Dynavec AS
- Hydroinformatikk AS
- Rainpower Holding AS avd. Trondheim
- Sedicon AS
- Volue Technology AS
- Voith Hydro AS

Wind (8)

- Gfms AS
- The Switch Marine Drives AS avd. Trondheim
- TMAC AS
- Ægir harvest AS
- Aneo AS
- Simis AS
- Vingrip Energy AS
- Vestas Norway AS

Waste-to-energy (4)

- Aitos Gasification Technology AS
- Biokraft AS
- Global Green Energy AS
- Inrigo AS

Wave (2)

- Ocean Power Parks AS
- Ocean Energy AS

INFRASTRUCTURE AND SYSTEM (13)

Batteries (3)

- Bryte AS
- Freyr Battery Norway AS avd Trondheim
- HAF Power Sol. AS

Grids (3)

- Metertech AS
- Ohmia Energy AS
- Safebase AS

Supply , mgmt. and trading (7)

- Hark Technologies AS
- Versiro AS
- Hansen Technologies Norway AS avd. Trondheim
- Skynordic AS avd. Trondheim
- Elekt AS
- Luxsave AS
- Motkraft Gruppen AS

Hydrogen (2)

- Hydrogen Mem-Tech AS
- IC Technology AS

ENERGY UTILIZATION (21)

Industry and buildings (16)

- Cadio AS
- Enoco AS
- Enoco itb AS
- GreenfoxSsolutions AS
- Ohmia Retail AS
- Aneo Build AS
- Aneo Industry AS
- El-Watch AS
- Kiona AS
- Piscada AS
- Romy Clima AS
- Winns AS
- ISI-Tech AS
- Sikom AS
- Glen Dimplex Nordic AS
- CTM Lyng AS

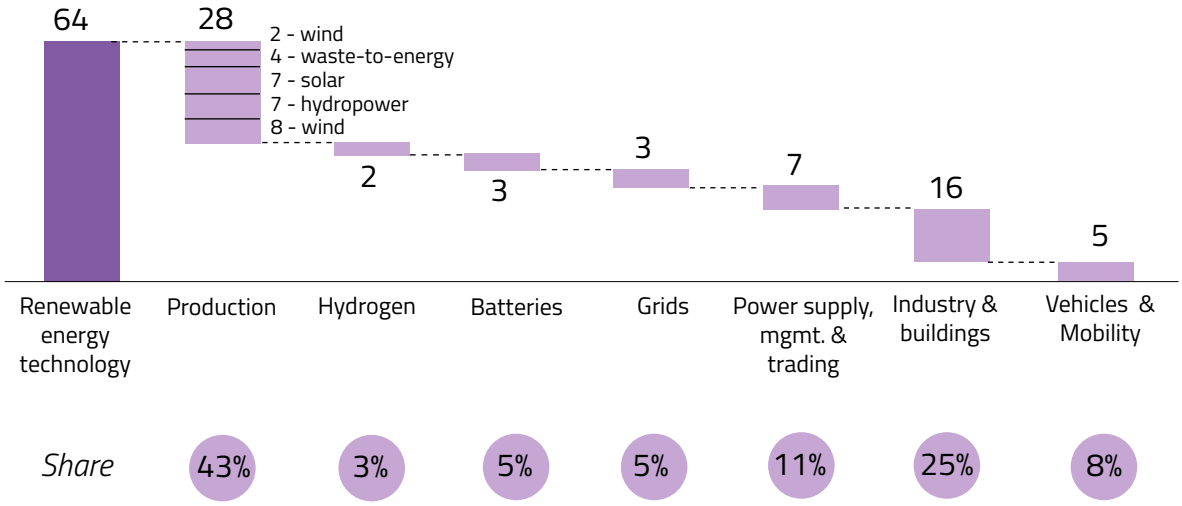
Vehicles and mobility (5)

- Defa AS avd. Trondheim
- ENUA AS
- Ohmia Charging AS
- Rolls-Royce Electrical Norway AS
- Alva Industries AS

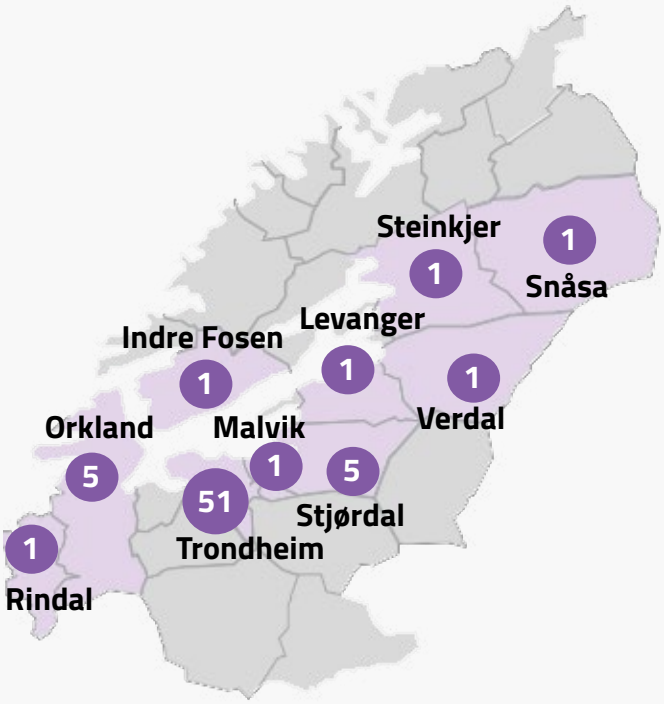
Source: Impelloanalysen 2021, Innovation Norway, Proff Forvalt
Note: Overview includes companies with registered head quarter or subdivision in Trøndelag (Brønnøysundregistrene)

64 renewable energy technology companies in Trøndelag in 2022

64 technology companies within renewable energy in Trøndelag in 2022
(Number of companies in Trøndelag within each value chain step)



~85% of companies are located in Trondheim



54

Companies with head offices in Trøndelag

10

Companies with subdivisions in Trøndelag

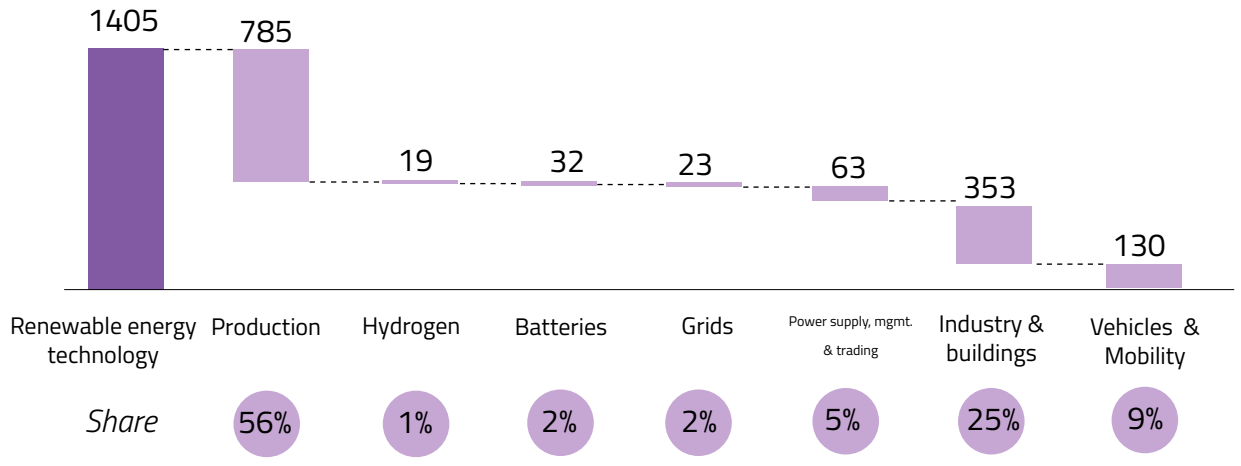
Source: Impelloanalysen 2021, Innovation Norway, Proff Forvalt
Note: Overview includes companies with registered head quarter or subdivision in Trøndelag (Brønnøysundregistrene)

1 405 employees in the identified renewable energy techology companies

Top 20 employers

Company	Sector	Number of employees
Volue Technology AS	Hydropower	289
Aneo AS	Wind	193
Vestas Norway AS	Wind	142
Kiona AS	Industry and buildings	89
CTM Lyng AS	Industry and buildings	87
Alva Industries AS	Vehicles and mobility	51
Rolls-Royce Electrical Norway AS	Vehicles and mobility	47
Aneo Retail AS	Industry and buildings	40
Voith Hydro AS Avd. Trondheim	Hydropower	33
Inrigo AS	Waste-to-energy	30
Piscada AS	Industry and buildings	30
Motkraft Gruppen AS	Power supply, mgmt and trading	27
Biokraft AS	Waste-to-energy	22
Aneo Mobility AS	Vehicles and mobility	20
EI - Watch AS	Industry and buildings	20
Winns AS	Industry and buildings	17
Bryte As	Batteries	16
Safebase AS	Grids	15
Elekt AS	Power supply, mgmt and trading	14
Enoco AS	Industry and buildings	14
Rest		**209**
Total		**1 405**

Providers of technology within renewable energy production employs > 50% of total number of employees (Number of employees in October 2022[1])



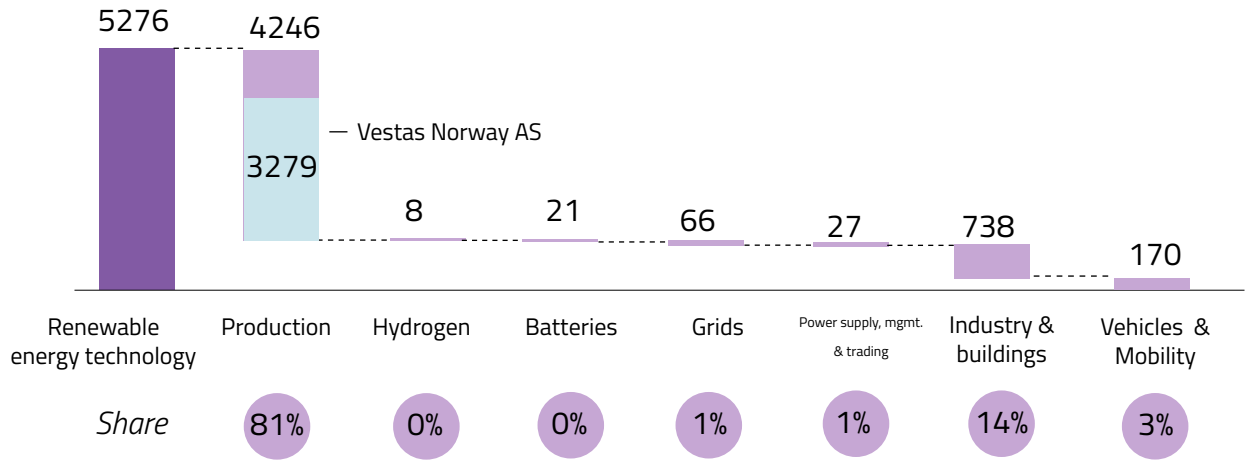
Source: Impelloanalysen 2021, Proff Forvalt
1. Number of employees is obtained from Proff Forvalt. Proff Forvalt obtain numbers from SSB, and the numbers represent a snap shot of the workforce for the actual month.
Note: The overview includes companies with registered head quarter or subdivision in Trøndelag (as registred in Brønnøysundregistrene).

Total revenue of 5 276 mNOK for the 63 identified companies

Top 20 earners

Company	Sector	Revenue 2021 (mNOK)
Vestas Norway AS	Wind	3 279
Volue Technology AS	Hydropower	577
CTM Lyng AS	Industry and buildings	180
Glen Dimplex Nordic AS	Industry and buildings	169
Aneo Retail AS	Industry and buildings	147
Rolls-Royce Electrical Norway AS	Vehicles and mobility	119
Biokraft AS	Waste-to-energy	109
Kiona AS	Industry and buildings	108
Voith Hydro AS Avd. Trondheim	Hydropower	E 100
Inrigo AS	Waste-to-energy	71
Safebase AS	Grids	46
Winns AS	Industry and buildings	29
Piscada AS	Industry and buildings	28
Sikom AS	Industry and buildings	22
Aneo Mobility AS	Vehicles and mobility	21
Alva Industries AS	Vehicles and mobility	20
Haf Power Solutions AS	Batteries	19
Rainpower Holding AS avd. Trondheim	Hydropower	E 18
The Switch Marine Drives Norway AS avd. Trondheim	Wind	17
DHI AS	Hydropower	17
Rest		**181**
Total		**5 276**

Providers of technology within renewable energy production constitute > 80% of total revenue, and Vestas stands for the majority



E: Estimated revenue for subdivisions based on group revenue and employee-ratio between group and subdivision.
Source: Impelloanalysen 2021, Proff Forvalt.
Note: The overview includes companies with registered head quarter or subdivision in Trøndelag (as registred in Brønnøysundregistrene).

Overview of renewable energy technology companies

Production

Company	Location	Energy source	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Aitos Gasification Technology AS	Trondheim	Waste-to-energy	2016	Delivers technology for energy utilizations and recycling of waste	11	400
Biokraft AS	Trondheim	Waste-to-energy	2009	Production of bio-fuel	22	108 612
BNW-Energy AS	Trondheim	Solar	2014	Assists in assessing techno-economic and environmental viability of new opportunities in the energy markets. Projects within photovoltaic systems (Solar energy)	1	1 723
DHI AS	Trondheim	Hydro-power	2002	Development, facilitation and sales of services and products within the areas of water resources, water and drainage technology	7	17 061
Dynavec AS	Trondheim	Hydro-power	2007	Development and production of turbines that handles erosion efficiently without large energy losses	3	519
Enernite AS	Trondheim	Solar	2021	Software that delivers data based insights in early-phase screening of solar- and wind power projects	9	448
Getek AS	Malvik	Solar	2013	Development and production of small scale solar power plants	5	9 380

Production (continued)

Company	Location	Energy source	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
GFMS AS	Trondheim	Wind	2020	Develops an offshore wind turbine structure	N/A	657
Global Green Energy AS	Trondheim	Waste-to-energy	2010	Production of CO2-neutral and EU-permitted bio-fuel from waste	N/A	9 973
Hydroinfor-matikk AS	Trondheim	Hydropower	2000	Consultant services within hydrology, buildings and construction	0	346
Inrigo AS	Trondheim	Waste-to-energy	2008	Delivers services and solutions within Biogas and energy, such as biogas production, purifying, conversion technologies etc.	30	70 630
Niras Norge AS Avd. Trondheim	Trondheim	Solar	2022	Expert consultancy in projects involving solar power, wind, bio energy, excess heat and more. Mainly advertising for solar	5	E 14 698
Ocean Power Parks AS	Trondheim	Wave	2021	Ocean Power Parks is a grid of multipurpose platforms that exploit the potential and kinetic energy of ocean waves and so-lar to power a generator, produ-cing renewable energy that can be provided to utility companies for further distribution	N/A	7
Rainpower Holding AS avd. Trondheim	Trondheim	Hydro-power	2007	Services and products for hydro power industry. Has a turbine lab in Trondheim	9	E 17 956
Sedicon AS	Trondheim	Hydro-Wpower	2001	Sediment treatment and removal of erosion material that wears on hydro power turbines	3	13 909
Solarseek AS	Trondheim	Solar	2021	Develops solar blinds	6	N/A
Sunlit Sea AS	Trondheim	Solar	2019	Technology supplier to the floating solar energy industry	6	174

E: Estimated revenue based on group revenue and employee-ratio between group and subdivision
Source: Impelloanalysen 2021, Proff Forvalt.
Note: The overview includes companies with registered head quarter or subdivision in Trøndelag (as registred in Brønnøysundregistrene).

Production (continued)

Company	Location	Energy source	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
The Switch Marine Drives Norway AS avd. Trondheim	Trondheim	Wind	2017	Electrical drive train technology for renewable and industrial applications. Main focus on wind and marine	6	17 067
TMAC AS	Orkland	Wind	2020	Develop and sell products for the wind power industry	N/A	70
Voith Hydro AS Avd. Trondheim	Trondheim	Hydro-power	2005	Delivers electromagnetic products and systems for hydropower plants	33	E 99 789
Volue Technology AS	Trondheim	Hydro-power	1996	Software that optimizes energy production, trading, distribution and consumption as well as infrastructure and construction projects.	289	577 105
Ægir Harvest AS	Trondheim	Wind	2018	Develops installation for offshore wind parks	3	162
Aneo Real Estate AS	Trondheim	Solar	2022	Solar power solutions as a service for buildings	N/A	N/A
Ocean Energy AS	Trondheim	Wave	2007	Has developed and patended a solution that solves the major challenges within wave power	N/A	4 995
SIMIS AS	Steinkjer	Wind	2013	Design and analysis software for offshore and onshore wind turbines	3	638
Vingrip Energy AS	Snåsa	Wind	2018	Scalable windmills for small and medium sized actors	2	55
Aneo AS	Trondheim	Wind	2022	Aneo develops, implements and operates renewable energy projects. Primarily wind, but also has ambitions within solar power	193	N/A
Vestas Norway AS	Trondheim	Wind	2010	Vestas design, manufacture and service wind turbines across the globe and have installed turbines with a total capacity of +160 GW in 88 countries	142	3 279

Infrastructure and systems

Company	Location	Sector	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Bryte AS	Trondheim	Batteries	2020	Develops, produce, operate and sell batteries for small and big scale energy storage	16	1 422
Elekt AS	Trondheim	Power supply, mgmt and trading	2018	Supplier of electrical energy for consumers with an innovative app	14	3 772
Freyr Battery Norway AS avd Trondheim	Trondheim	Batteries	2022	Production of batteries	9	E 1 063
Hansen Technologies Norway AS avd. Trondheim	Trondheim	Power supply, mgmt and trading	2014	Software for management of solar power projects, distribution systems and energy sales sys-tems	3	E 6 595
Hark Technologies AS	Trondheim	Power supply, mgmt and trading	2016	Develops smart solutions for the electricity sector that informs consumers about power consumption and helps distributors with efficiency	10	6 325
Metertech AS	Trondheim	Grids	2014	Misc. Services within electricity and power measurement and system control	8	14 851
Aneo Energy AS	Trondheim	Grids	2017	Analysis and development of microgrids	N/A	4 646
Skynordic AS avd. Trondheim	Trondheim	Power supply, mgmt and trading	2018	Delivers tailored solutions for power supply, data collecting and reporting through self developed products	1	1 961
Versiro AS	Trondheim	Power supply, mgmt and trading	2022	Provide software that quantifies and analyzes uncertainty in electricity markets, with a specific focus on traders within intraday markets	3	N/A

Infrastructure and systems (continued)

Company	Location	Energy source	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Haf Power Solutions AS	Trondheim	Batteries	2019	Energy storage systems, hybrid propulsion systems and energy flexibility systems for various industrial applications	7	18 787
Luxsave AS	Trondheim	Power supply, mgmt and trading	2010	Complete solutions for management, control and operation services for street lights and sports arenas	5	5 125
Motkraft Gruppen AS	Trondheim	Power supply, mgmt and trading	2021	Non profit elecricity supplier with smart mobile app	27	3 085
Safebase AS	Trondheim	Grids	2013	Real time operational intelligence for optimized grid management	15	46 089
IC Technology AS	Trondheim	Hydrogen	2009	Develops advanced fuel- and storage tanks for liquid hydrogen for both large- and small scale cryogenic use	6	840
Hydrogen Mem-Tech AS	Trondheim	Hydrogen	2016	Uses a unique and patented technology where a palladium membrane separates Hydrogen from CO_2 prior to combustion, in a specially designed separator	13	7 369

Energy utilization

Company	Location	Sector	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Alva Industries AS	Trondheim	Vehicles and mobility	2017	Develops a new production method for electric motors and generators that gives lower weight, higher efficiency and lower porduction costs	51	20 448
Cadio AS	Trondheim	Industry and buildings	2011	Develops and produces energy plants based on natural and climate neutral refrigerants	0	3

Energy utilization (continued)

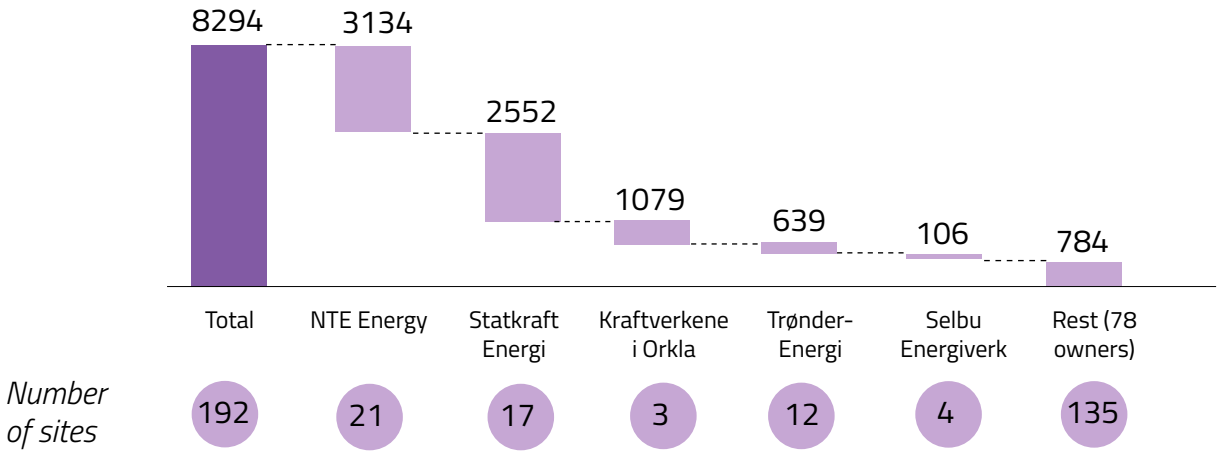
Company	Location	Energy source	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
CTM Lyng AS	Indre Fosen	Industry and buildings	1995	Produces light- and heat management systems for all types of buildings	87	180 336
Defa AS avd. Trondheim	Trondheim	Vehicles and mobility	1999	Electrical equipment for cars such as heating and charging systems	3	E 8 429
Enoco AS	Stjørdal	Industry and buildings	1999	Automation contractor and integrator of technical solutions with focus on energy managment and efficiency improvements in buildings	14	12 541
Enoco ITB AS	Stjørdal	Industry and buildings	2015	Energy saving in buildings. The product portfolio focuses on management and control of operating processes, primarily within building automation	6	3 847
ENUA AS	Trondheim	Vehicles and mobility	2021	Development and sales of electric vehicle charger.	9	358
Glen Dimplex Nordic AS	Stjørdal	Industry and buildings	1995	Development and production of products and systems for energy efficient heating.	10	168 519
Aneo Build AS	Trondheim	Industry and buildings	2019	Services and solutions for electrification of construction sites	7	2 113
Aneo Industry AS	Trondheim	Industry and buildings	2022	Industrial steam-producing heat pumps aimed at reducing electricity usage and green-house gases	N/A	N/A
EI - Watch AS	Rindal	Industry and buildings	2002	Sensors that can be used for predictive maintenance of industrial equipment such as fans, pumps and motors and for monitoring of storage refrige-ration and humidity in the food industry, and other applications	20	14 451

Energy utilization (continued)

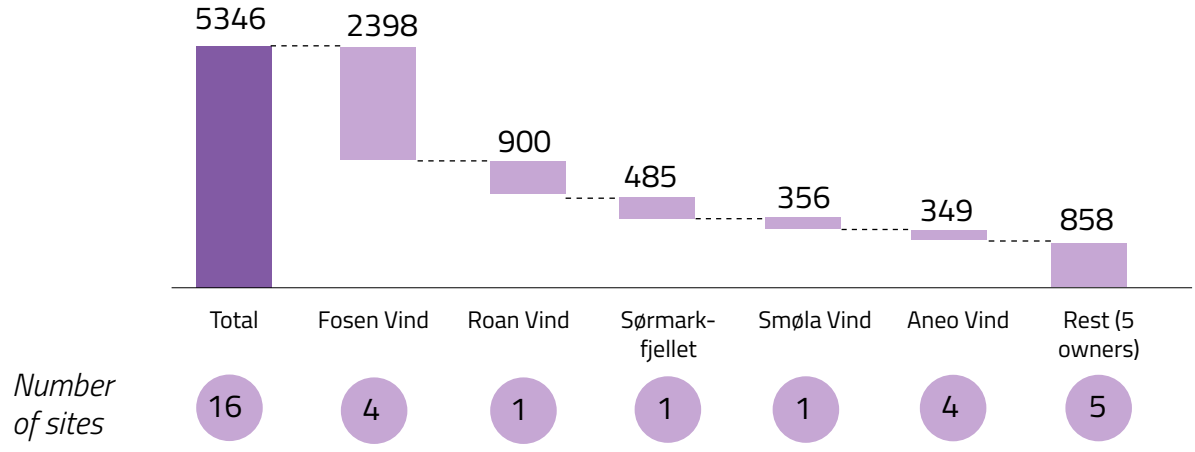
Company	Location	Energy source	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
ISI-Tech AS	Levanger	Industry and buildings	2004	Energy saving- and management system for buildings	8	8 045
Kiona AS	Trondheim	Industry and buildings	2002	Software and services for technical property management, AI energy optimization, refridgerating and freezing and energy surveillance	89	61 153
Piscada AS	Trondheim	Industry and buildings	2009	Software for building automation and energy management	30	27 611
Greenfox Solutions AS	Stjørdal	Industry and buildings	2021	Development, production and sales of electrical control systems for energy distribution	12	11 420
Aneo Mobility AS	Trondheim	Vehicles and mobility	2019	Delivers electric vehicle charging equipment and services to housing associations	20	21 308
Aneo Retail AS	Trondheim	Industry and buildings	2008	Helps grocery stores handle their energy infrastructure through upgrading to more sustainable solutions, optimizing the interaction between system components and surveillance	40	146 652
Rolls-Royce Electrical Norway AS	Trondheim	Vehicles and mobility	2018	Develops own electric solutions that transform power from jet engines to electrical power	47	119 010
Romy Clima AS	Stjørdal	Industry and buildings	2015	New technology for heat pumps and ventilation used in the construction sector	3	2 556
Sikom AS	Verdal	Industry and buildings	1997	Equipment and software for energy and heating managment in smart homes	10	22 384
Winns AS	Trondheim	Industry and buildings	2010	Supplies clean and natural heating and cooling systems for buildings and the offshore industry	17	29 004

In addition to the 139 energy technology companies, we have identified 96 energy producers (83 hydro, 10 wind and 3 O&G)

Top five producers of hydropower in Trøndelag – in total 83 producers
Average yearly production (reference years 1981-2010) [GWh]



Top five producers of wind power in Trøndelag – in total 10 producers
Expected yearly production [GWh]



3 O&G operators with head quarters or sub divisions in Trøndelag

Overview of top five hydropower producers in Trøndelag

Company	Location	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
NTE Energi AS	Steinkjer	2005	NTE Energi AS is the energy producing subsidiary of NTE, and has hydropower plants located in several municipalities in Trøndelag. NTE Energi supplies an amount of renewable energy equivalent to the energy demand of 500 000 Norwegians	105	1 160 632
Statkraft Energi AS	Oslo	2019	Statkraft Energi AS is Europe's largest hydropower producer, with 347 hydropower plants across Norway, and 17 in Trøndelag	1040	35 063 000
Kraftverkene i Orkla DA	Trondheim	1974	Kraftverkene I Orkla is owned by Statkraft, Trønderenergi, Hafslund and Nord-Østerdal Kraftlag. Trønderenergi is the operator of the plants on behalf of the owners	N/A	125 204
Trønderenergi Kraft AS	Trondheim	1997	Trønderenergi Kraft is today full or partial owner of 18 hydropower plants. Their services span from operations and maintenance of plants to production planning and portfolio optimization	29	835 672
Selbu Energi-verk AS	Selbu	1998	Selbu Energiverk has 4 hydropower plants in Selbu, and is 100% owned by Selbu commune	8	50 318

Overview of top five wind power producers in Trøndelag

Company	Location	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Fosen Vind DA	Oslo	2015	Fosen Vind DA is the company behind the construction of Europe's largest land-based wind power plant with six wind power parks in Fosen in mid-Norway. Today, Fosen Vind consists of five wind parks with a total of 206 turbines and an installed effect of 801 MW. The owners are Aneo, Nordic Wind Power and Statkraft, and Statkraft is the operator on behalf of the owners	N/A	647 912
Roan Vind DA	Trondheim	2020	Roan Vind DA is the owner of the second lar-gest wind park in Fosen. The wind park consist of 71 turbines, and has a installed effect of 257 MW. Roan Vind is owned by Aneo and Nordic Wind Power, and Aneo is the operator	N/A	231 514

Sørmark-fjellet AS	Trondheim	2018	Sørmarkfjellet AS is the owner company of Sørmarkfjellet wind park located in the municipalities of Osen and Flatanger. The wind park consists of 32 turbines and has a total installed effect of 130 MW. Sørmarkfjel-let AS is owned by Stadtwerke München and Aneo, and Aneo is the operator	4	66 331
Smøla Vind AS	Trondheim	2003	Smøla Vind AS is the company behind Smøla wind park, which is located in Smøla municipality. The company is fully owned by Statkraft. The wind park has 68 turbines and a total installed effect of 150 MW	N/A	96 287
Aneo Vind AS	Trondheim	2018	Aneo is the owner and operator of several other wind parks in Trøndelag	20	107 594

Overview of oil and gas producers in Trøndelag

Company	Location	Est.	Product/service/solution	Number of employees	Revenue (2021 kNOK)
Equinor ASA Avd. Stjørdal	Stjørdal	2018	Equinor Stjørdal is a subdivision of Equinor ASA, and their activities are mainly related to the management of the oil- and gas fields Åsgard, Kristin, Heidrun Tyrihans and Njord in the Norwegian sea. The Stjørdal office is also working on issues related to technical integrity, project development, exploration, drilling and well and much more	668	N/A
Okea ASA Avd. Trondheim	Trondheim	2020	OKEA is a mid-to-late-life operator on the Norwegian continental shelf, with headquarters in Trondheim. OKEA specializes on development and operations of reserves smaller than 100 million barrels	61	N/A
Aker BP ASA Avd. Trondheim	Trondheim	2005	Aker BP is the operator of six field centers on the Norwegian continental shelf and is one of the largest independent listed oil companies in Europe. The headquarters are in Oslo. Among other activities, the Trondheim office is the location for the onshore control room for the Ivar Aasen platform	191	N/A

4 R&D Community

Universities and institutes with R&D activity related to energy technology

NTNU

Overview

Thematically, energy is the largest research area at NTNU. 600 researchers from seven out of eight faculties at NTNU conduct energy research. Most of the research is conducted in the four faculties illustrated in the figure to the right. Energy is one of NTNU's four strategic research areas in the period 2014-2023 (NTNU Energy). The goal is to increase the interdisciplinarity, innovation, funding, and communication of NTNU's energy research. Energy research at NTNU covers a large range of activities such as stationary energy systems, energy in transport systems, energy efficiency, and energy in buildings, neighbourhood, and industry.

Groups and centers

Within NTNU Energy there are seven interdisciplinary research teams directly related to energy technology:

- Wind, hydrogen, hydropower, battery, solar, carbon capture and storage and smartgrid (see figure to the right).

NTNU is host for three and partner in seven centres for Environmental-friendly Energy Research (FMEs):

- Host: HydroCen, NTRANS and ZEN
- Partner: Northwind, NCCS, CINEL-DI, HighEFF, Bio4Fuels, MoZEES, HYDROGENi and Susoltech

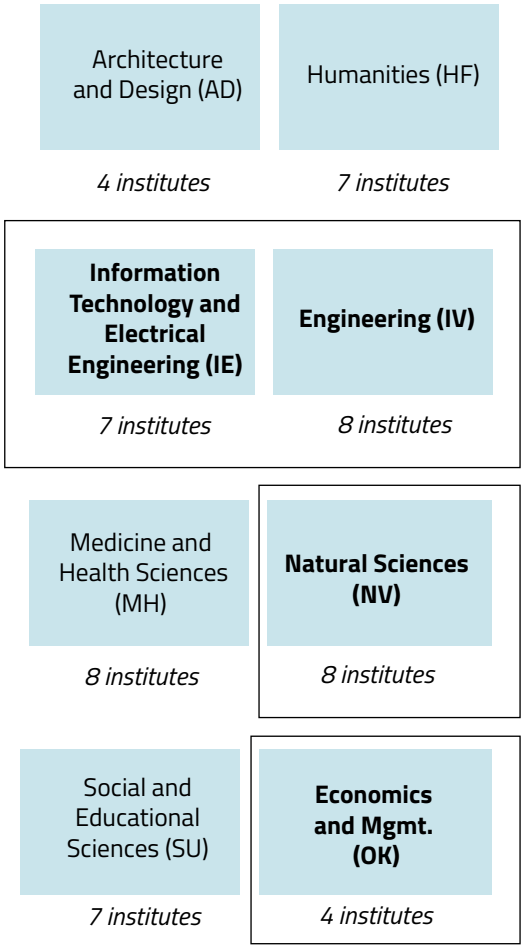
Infrastructure

NTNU has in total over 100 laboratorities and R&D infrastructure entities, where several are national resources. Most of the R&D infrastructure is used for both research and teaching. NTNU and SINTEF formally collaborate on running several of the labo-ratories. Businesses and industry can purchase laboratory/infrastructure services.

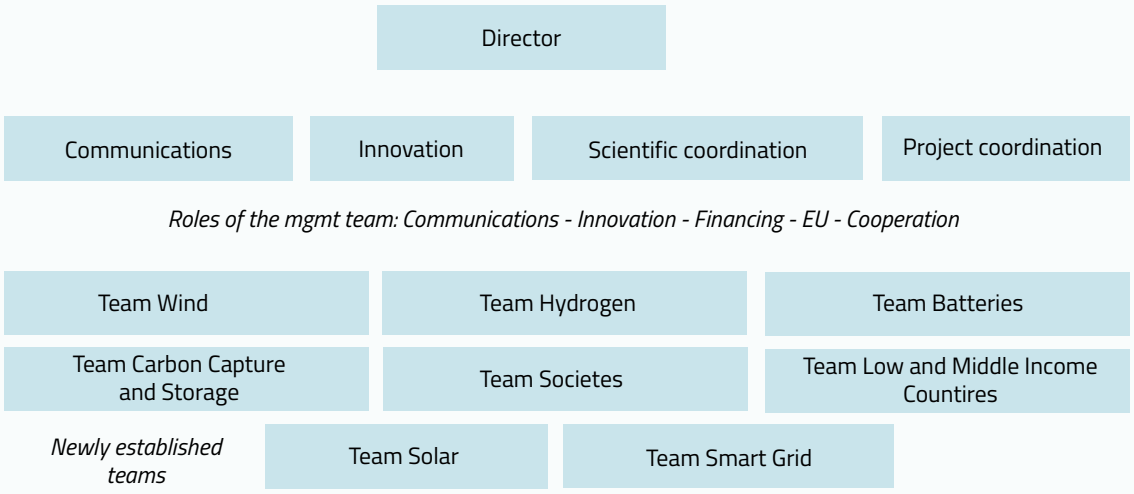
Page 46 shows 16 examples of relevant special lab environments at NTNU.

Source: Actors websites.
1. Norwegian Centres of Excellence (Senter for fremragende forskning).
2. Centres for Researched-based Innovation (SFI)

Overview of where the majority of the energy research at NTNU is conducted



Overview of the thematic focus area NTNU Energy



SINTEF

Overview

SINTEF is an independent research organization that conducts contract research and development projects through six different institutes within 400+ different expertise and research areas, of which many are relevant in an energy technology perspective.

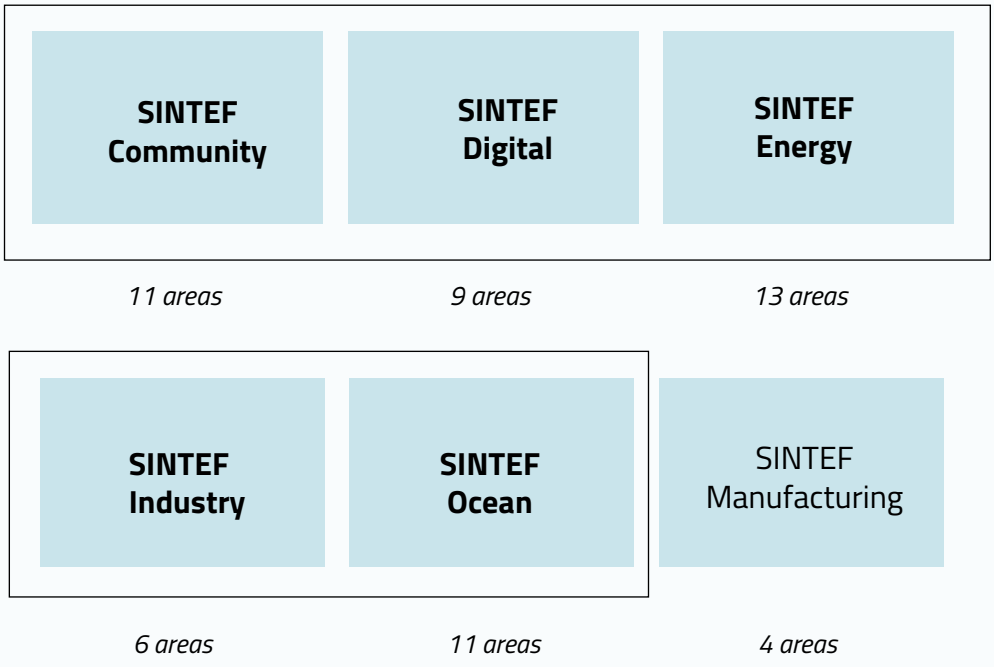
For energy technology, the institutes Energy research, Community and Industry are the most important contributors.

Groups and centers

SINTEF Energy research is segmented into 13 research areas:

- Batteries, bioenergy, CCS, electric power components, energy efficiency in the industry, energy systems, hydrogen, hydropower, integrated energy systems, offshore wind, smart grids, solar and zero-emission transport.

Overview of institutes where the majority of the energy research at SINTEF is conducted



Within SINTEF Industry, there are four relevant research areas for energy technology:

- Biotechnology, oil and gas, process technology and sustainable energy

SINTEF Community performs energy technology research through the following areas:

- Emission free buildings, areas and construction sites, mobility and smart cities

SINTEF participates in nine different FME's and is host in six of them:

- Partner: NTRANS, Bio4Fuels and Hydrocen
- Host: HighEFF, Cineldi, NCCS, ZEN, HYDROGENi, NorthWind

In addition, SINTEF is host of three energy technology related SFI's:

- SWIPA, BLUES and Smart Maritime

Infrastructure

SINTEF has in total over 100 laboratorities and R&D infrastructure entities, where several are national resources. NTNU and SINTEF formally collaborate on running several of the laboratories. Businesses and industry can purchase laboratory/ infrastructure services

.

Page 46 shows 23 examples of relevant special lab environments at SINTEF.

Source: Actors websites.
1. Norwegian Centres of Excellence (Senter for fremragende forskning).

Overview of the energy technology related research areas within the institutes

SINTEF Energy research

- Batteries
- Bioenergy
- CCS
- Electric power components
- Energy efficiency in the industry
- Energy systems
- Hydrogen
- Hydropower
- Integrated energy systems
- Offshore wind
- Smart grids
- Solar energy
- Zero-emission transport

SINTEF Digital

- Sustainable societies
- Sensors
- Internet of things
- Digital transformation

SINTEF Community

- Emission free buildings and areas
- Emission free construction sites
- Mobility
- Smart cities

SINTEF Industry

- Materials and nano-technology
- Oil and gas
- Process technology
- Sustainable energy

SINTEF Ocean

- Coastal infrastructure
- Maritime transport
- Offshore wind

Overview of most relevant energy technology related R&D infrastructure in Mid Norway

Environmental-friendly Energy Research Centres (FMEs) (8)

HYDROGENi
NTRANS
HydroCen
NORTH WIND
CINELDI
NCCS
HighEFF
ZEN

Centres for Research-based Innovation (SFIs) (4)

Swipa Subsurface Well Integrity Plugging and Abandonment
SFI BLUES
SMART MARITIME
SUBPRO

The FMEs and SFIs are national research centres which are funded 50/50 by industry and the research council of Norway. The centres usually consist of 20+ industrial partners in addition to both national and international research institutions. The norwegian research institutions compete for these centres, and the amount of energy related centres in Trøndelag (8/11 FMEs in total) showcase SINTEF and NTNUs position as leading research institutions within the field

Other R&D centres (2)

smartgrid The Norwegian Smartgrid Centre
LOWEMISSION

Examples of special lab environments NTNU Energy[1] (16)

- NTNU Battery Lab
- The Hybrid Power System Laboratory
- Manulab
- Inman
- Strømningsteknisk lab
- NTNU Hydrogen Labs
- NTNU Nanolab
- Micro and Nanoscale Design lab
- Turbulent combustion Lab
- Dagslyslaboratoriet
- Hydraulikklaboratoriet
- Vannkraftlaboratoriet
- Geologisk laboratorium
- Hydroelectric power laboratory
- High current/circuit breaker laboratory
- Relay protection laboratory

Examples of special lab environments SINTEF[1] (23)

- Nasjonalt Smart Grid Laboratorium
- SINTEF Energy Lab
- Varmeteknisk laboratorium
- Felleseuropeiske CO2-laboratorier
- SINTEF Energy Virtual Lab
- Elektrotekniske Laboratorier
- DipLab – Mobilt kortslutnings-laboratorium
- ElPowerLab
- HighEffLab
- Labfasiliteter for Batteriforskning
- Saltsmelte- og elektrolyselab
- CO2-laboratorium Tiller
- Flerfaselaboratoriet
- Labpilot for absorpsjonsstudier
- Laboratorium for degraderingsstudier av solventer
- Reservoarlaboratoriet
- Lav-temperatur hydrogen- og brenselcelle-laboratoriet
- Havbassenget
- Gasskonverterings-laboratoriet
- Solcellesilisium – karakteriserings-laboratorier
- Solcellesilisium – wafering-laboratoriet
- Solcellesilisium – krystalliserings-laboratoriet
- ZEBV laboratoriet

Criteria used to identify relevant R&D infrastructure: The infrastructure must 1. be available for all types of users throughout the region 2. have a website with information for potential users 3. offer services or equipment beyond basic needs 4. be strategically anchored in a college, university or R&D institute in the region. Ordinary laboratories and teaching areas are not included.

1. Special lab environments at NTNU and SINTEF are included as these can be used by external stakeholders. There is a vast amount of special lab environments at NTNU and SINTEF. We have included the most relevant ones in this overview.
Sources: NTNU and SINTEF

Overview of R&D centres

FMEs

Name	Host	Description
HighEFF	SINTEF	Centre for creating a competitive, energy efficient and environmental friendly industry for the future. HighEFF's partners consist of 10 research & education institutes including SINTEF and NTNU, 13 companies from the user industry, 8 vendors and technology providers and two enablers.
CINELDI	SINTEF	Cineldi is a centre that works towards digitalising and modernising the electricity distribution grid for higher efficiency, flexibility and resilence. Cineldi's partners consist of three research institutions, 12 power grid companies, two system and power market operators, seven technology providers, three member organisations and three actors from the public authorities.
HydroCen	NTNU	HydroCen goal is to contribute to a strengthening of Norway's position as a leading hydropower nation. The research is focused at enabling norwegian hydropower to meet challenges and opportunities in the renewable energy system of the future. The partners consist of six research institutes, 36 companies from the user industry and 37 associated partners.
NCCS	SINTEF	NCCS aims to fast-track CCS by working closely with the industry on research that addresses major barriers for carbon capture and storage in Norway, Europe, and the world. The partners consist of 11 research institutions, 19 industrial companies and vendors and seven associated partners.
ZEN	NTNU + SINTEF community	The Research Centre on Zero Emission Neighbourhoods (ZEN) in Smart Cities creates solutions for zero emission buildings and neigbourhoods. The centre has 16 partners from the private industry and 13 partners from public authorities and companies
North Wind	SINTEF	FME NorthWind (Norwegian Research Centre on Wind Energy) brings forward research and innovation to reduce the cost of wind energy, facilitate its sustainable development, create jobs and grow exports. The centre has five research partners, 50 industry partners and seven associated partner institutions.

FMEs (continued)

NTRANS	NTNU	The Norwegian Center for Energy Transition Strategies does research on the role of the energysystem in the transition to a zero emission society and development of evironment-frirendly energy from a social-technological perspective. The partners consist of eight research institutions, two companies within construction and industry, four within digital transformation, five energy companies, six muncipalities, three interest organizations, five transport companies and eight public agencies.
HYDROGENi	SINTEF	Focus on research and innovation within hydrogen and ammonia. The partners consist of six research institutions and 52 companies and orgaizations.

SFIs

Name	Host	Description
SUBPRO	NTNU	Centre for technology development within subsea production and processing of petroleum.
BLUES	SINTEF	SFI BLUES is a centre for research-based innovation enabling Norwegian industry to create new types of floating structures for renewable energy, aquaculture and coastal infrastructure.
SWIPA	SINTEF	The purpose of SWIPA is to front a scientific understanding of the performance of permanent well barriers. SWIPA includes more than 20 industry partners: operating companies, vendors, service companies and authorities, in addition to international academic partners.
Smart Maritime	SINTEF	Norwegian centre for improved energy efficiency and reduced harmful emissions.

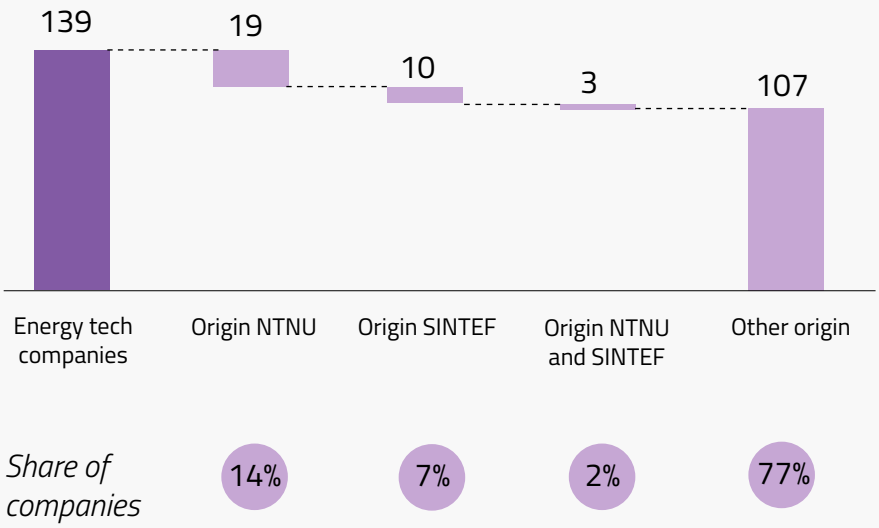
Other research centres

Name	Host	Description
LowEmission	SINTEF	LowEmission is a research centre for low emission technology for petroleum activities on the Norwegian continental shelf.
The Norwegian Smartgrid Centre	SINTEF Energi	Competence center for smartgrid run by Sintef. The members collaborate on research, innovation and knowledge sharing for a sustainable, safe and cost-efficient energy system.

23% of the identified companies have origin from the research institutions NTNU or SINTEF

14% have origin from NTNU, 7% from SINTEF and 2% from both

Number of companies in Trøndelag with origin from NTNU, Helse Midt Norge and SINTEF



Origin from NTNU or SINTEF means that the entrepreneur(s) of the company was an employee or student at NTNU or SINTEF at the company founding date, and/or that it is submitted a Disclosure of Innovation (DOFI) to NTNU Technology Transfer or SINTEF TTO

Source: Impelloanalysen 2021; Proff Forvalt

Origin from NTNU

Origin from SINTEF

23 companies have on-going RCN funded R&D projects of 202 mNOK

Company	Project title	NFR program	Period	Amount (mNOK)
Alva Industries AS	Composite Electric Motors in Aerial Thrusters	EUROSTARS	2018-2022	5.3
Biokraft AS	Digitalization in the operation, monitoring and control of large-scale biogas plants	ENERGIX		9.0
Cadio AS	Sustainable and efficient heat pump development for combined process heat and cool - SkaleUp	ENERGIX	2019-2022	2.5
Computerwell AS	DrillComputer - Monitoring real-time drilling operations with computational simulations	FORNY20	2021-2023	5.0
Cybernetica AS	PES-CHOICE: CALL HORZON-CL5-2021-D3-02-13	PES Horisont EU	2021-2022	0.2
Eelune AS	No strings, piloting a subsea resident Underwater Intervention Drone (UID) system	DEMO2000	2019-2022	7.0
Empig AS	Always Clean Cooler pilot: A subsea cooler that enables long distance cost effective transport of oil and gas	DEMO2000	2020-2023	12.3
Fluidsep AS	Pilottest of downhole water separator-system for improved recovery and reduced CO2 emission	DEMO2000	2020-2023	4.2
Hydrogen Mem-Tech AS	High purity hydrogen recovery from ammonia with palladium-membrane technology	ENERGIX	2022-2025	6.3
	Enhanced lifetime of Pd-based membranes	CLIMIT	2018-2022	4.9
Jagtech AS	Optimized Shear Gun for Drilling Fluids	PETROMAKS2	2021-2023	6.3
Oceantech Innovation AS	ANDWIS - Automated Non Destructive Weld Inspection in Splash/Subsea zone	PETROMAKS2	2020-2023	16.5

Whitson AS	End-to-end fluid model development for the energy industry and carbon capture utilization and storage	Nærings-phd	2021-2024	1.8
	Cloud-based, Fluid and PVT Management and Equation of State Model Utilization Tool	DEMO2000	2020-2022	7.6
Petricore Norway AS	SmartRocks - Artificial Intelligence improving Digital Rock Technology	PETROMAKS2	2019-2023	8.2
Prores AS	Demonstration of a New Mud Loss Control Methodology and Tool Converting the Drilling Mud to a Downhole Pill	DEMO2000	2020-2022	10.8
RagnaRock Geo AS	Enhancing Reservoir Characterization by Applying Machine Learning	PETROMAKS2	2020-2023	9.0
Resman AS	Longevity: Providing enhanced release and analytical method to enable continuous monitoring over 10 years in producing wells	PETROMAKS2	2020-2024	10.0
	Understanding Polymerizable Tracers for Quantifiation of Variable Flows	Nærings-phd	2021-2024	2.4
Shawcor Norway AS	IHWI - Intelligent Heated Wet Insulation for pipelines	PETROMAKS2	2020-2023	9.7
Sunlit Sea AS	Marine Solar Power	ENERGIX	2020-2024	14.6
Wellcern AS	Heatwave Inflow Performance Source Characterization (HIPsource)	PETROMAKS2	2020-2022	6.7
Winns AS	Throttling-free, ejector-based CO2 heat pump	ENERGIX	2020-2023	5.3
Volue Technology AS	Intelligent decision support tool for better utilization of hydropower flexibility	ENERGIX	2018-2022	10.8
ScoutDI AS	Autonomous Drone system for Inspection of Industrial Assets by Non-experts	BIA	2020-2023	10.6
Kiona AS	Data-driven intelligent control of buildings	ENERGIX	2020-2023	15.0
Total				**202.0**

Note: The overview includes only projects where the identified energy technology companies are main owners of the project
Source: Impelloanalysen 2021; NFRs «Prosjektbanken»

5 Clusters, networks and forums

Overview of energy technology clusters in Trøndelag

Name	Location	Description
Renewable Energy Cluster (RENERGY)	Trondheim	The RENERGY cluster aims to initiate and develop innovation projects and new energy business models that bring members closer to markets, customers and peers to accelerate the transition to renewable energy and clean technology. It has over 100 members and project partners which represent the full value chain within renewable energy, from energy producers to end-users. The cluster has activities within the whole renewable energy sector, and actively develops large cooperation-based innovation projects such as Zero Emission Vessels for Aquaculture, MAREN and ZeroKyst. It has a strategic focus on sustainable energy systems, green transport, finance and EU advisory
Windcluster Norway	Verdal	Broad member organization consisting of companies connected to onshore and offshore wind power production. Aims to strengthen the competitiveness of the members and enable large cooperative projects

Overview of other relevant clusters, networks, interest organizations and innovation companies working with issues related to energy technology in Trøndelag

Name	Type	Description
HyWay Alliance Trøndelag	Network	Alliance for heavy-duty transport companies and goods owners in central Norway, run by Meråker Hydrogen. Working to decarbonize the sector and realize hydrogen as the preferred alternative for transport
BEACON – Battery Ecosystem Accelerator of Norway	Network	Initiative to support the battery ecosystem in Norway. Aims to bring together leaders from research, small and medium enterprises, and industry, investors and public authorities, and serve as a gathering place to exchange R&I advances, funding opportunities, and interdisciplinary networking
Blått Kompe-tansesenter	Innovation company	Innovation company with aim of contributing to growth and sustainable development of existing and new businesses in the offshore space
Fremtidens Industri	Innovation company w/incuba-tor	Innovation company with aim of contributing to growth and sustainable development of existing and new businesses based on industry expertise. Operates newly established incubator (Ocean Space Incubator) that will work with growth companies within ocean space and maritime industry
Fagråd Energi Næringsfore-ningen	Interest organiza-tion	Initative to make visible what is available in the region, contribute to operators remaining in the region, contribute to adequate recruitment of the industry
Trondheim Tech Port	Interest organiza-tion	Member-based interest association for technology and innovation. Energy technology as one of three sector focus areas
NCE Aquatech	Cluster	Cluster operating within the aquaculture sector, with energy and natural resources as one of eight focus areas. Main objective is to strengthen the cluster partners' competitiveness and sustainability

The listed clusters, networks, innovation companies and interest organizations have energy technology as a focus area, either fully or partly. In addition to the listed actors, there are several industry agnostic incubators and business gardens working with business development in the region, for instance Proneo, T:lab and 6:AM.

Public actors

Overview of most relevant public actors involved in issues related to energy technology in Trøndelag

Name	Location	Description
Enova	Funder	Funds projects related to reduction of greenhouse gas emissions and development of energy and climate technology. Each year, Enova invests more than NOK 3 billion of public resources in solutions. Owned by the Ministry of Climate and Environment
Innovation Norway	Funder	One of the Norwegian Government's instruments for innovation and development of Norwegian enterprises and industry
The Research Council of Norway	Funder	Invest NOK 10 billion in research and innovation annually on behalf of the Norwegian government
Siva	Funder	Governmental enterprise facilitating a national infrastructure for innovation consisting of incubators, business gardens, catapult centres, innovation enterprises, innovation centres and industrial realestate
Trondheim kommune	User/ policy maker	Central policy maker, user and partner in several energy technlogy projects and settings. An example of an important ongoing project is +CityExchange, a smart city project that has been granted funding from the European Unions Horizon 2020 research and innovation program
Trøndelag Fylkeskommune	User/ policy maker	Central policy maker, user and partner in several energy technlogy projects and settings

6 Investors

Overview of all investors in Mid-Norway 2022 (not only energy technology investors)

Project based funding
- NTNU Discovery
- Helse Midt Norge Innovasjonsmidler
- SINTEF Discovery (new)

Pre seed/seed
- NTNU TTO
- 6AM Acceleator
- ÅKP
- CoFounder
- T:Lab
- Tidligfasefondet
- Romsdal Innovasjon
- WeSeed (under establishment)

Nationwide seed funds (Investinor)
- Converto (Midvest)
- ProVenture Seed

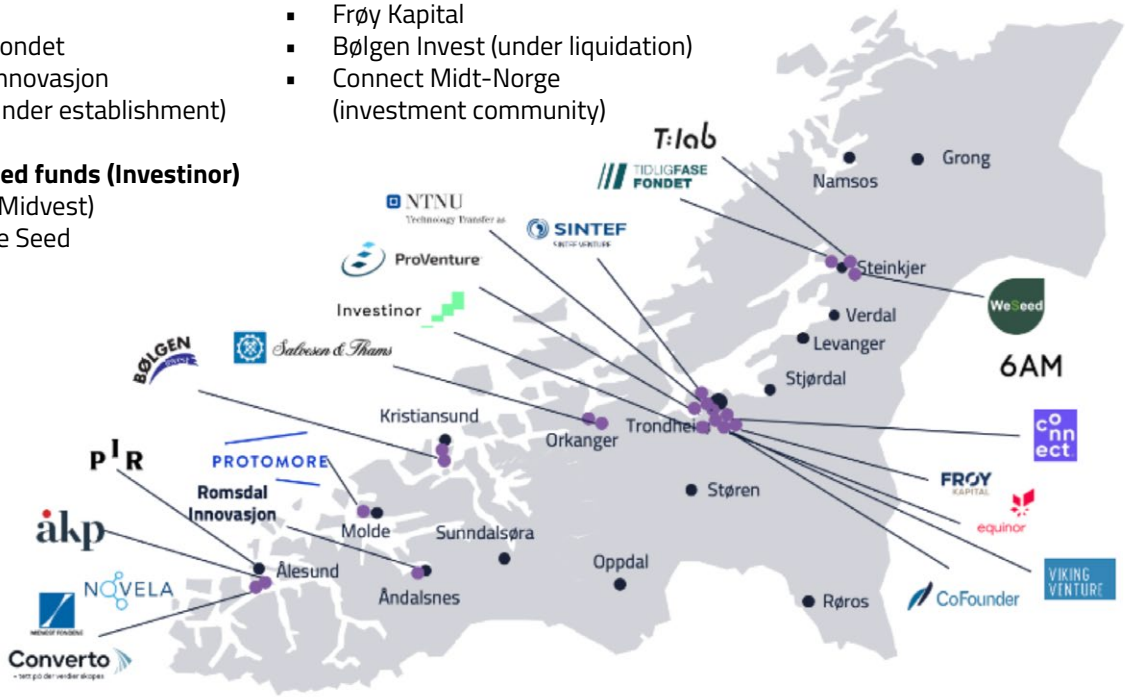
Venture funds
- Investinor
- SINTEF Venture

Investment companies- and communities
- Viking Venture
- Salvesen & Thams
- PIR Invest
- Novela
- Reitan Kapital
- Frøy Kapital
- Bølgen Invest (under liquidation)
- Connect Midt-Norge (investment community)

Investment companies with sub-divisions in Trøndelag
- Equinor Ventures

Plans/ambitions for investment activity/funds
- Startup Lab (expansion to Trondheim)

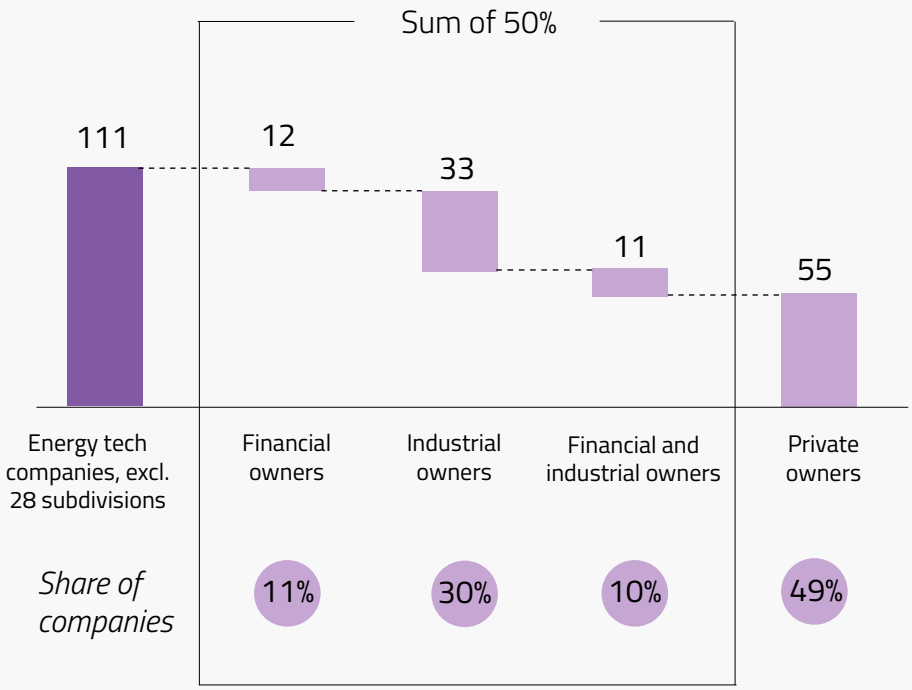
Note: Not only energy technology investors
Source: Impello analysis



50% of energy technology companies located in Trøndelag has so-called «professional owners»

50% of energy tech companies in Trøndelag has professional owners

Number of companies in Trøndelag with financial, industrial or private ownership



"Professional owners" means industrial or financial owners who invest in companies with equity and competence to develop the companies through the seed and growth phases. Business angels are excluded from the analysis due to the high number of actors, as well as the difficulty of keeping track of different actors

Source: Proff Forvalt; Impello analysis

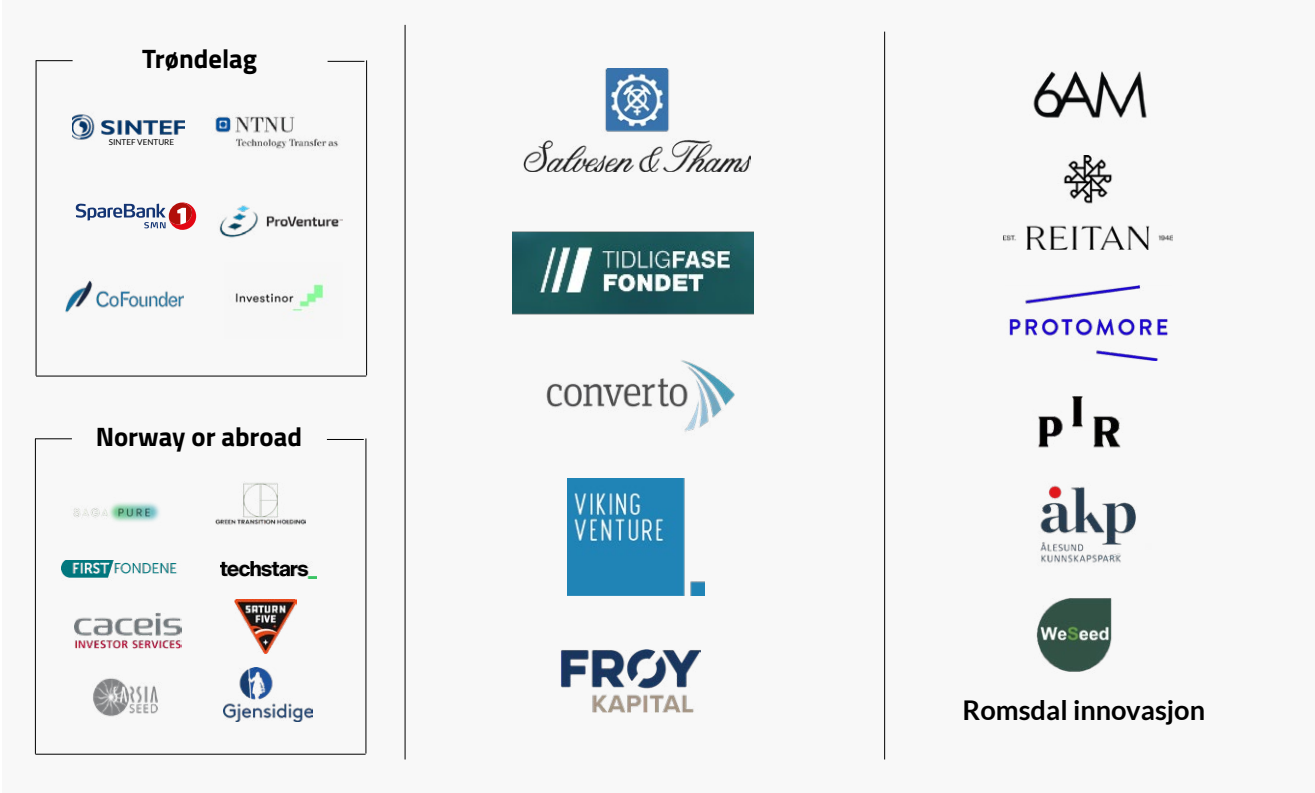
Financial owners

6AM
caceis INVESTOR SERVICES
CoFounder
SAGA PURE
SATURN FIVE
techstars_
NTNU Technology Transfer as
ProVenture
FIRST FONDENE
Gjensidige
ARSIA SEED
GREEN TRANSITION HOLDING
TIDLIGFASE FONDET
SpareBank 1 SMN
SINTEF SINTEF VENTURE
Investinor

Industrial owners

AFK
ALCATEL SUBMARINE NETWORKS
ACEL
AXESS
SHAWCOR
ADDTECH
devico
equinor
BYGGTEKNIKK
FOSEN KRAFT ENERGI
Svorka
GK
KodeWorks
DNV
MARITIME ROBOTICS
TrønderEnergi
MOTOR-TRADE
NTE
KONGSBERG
NORBIT
fejgain
NORDIC UNMANNED
Norske Skog
ORKLA ENGINEERING a/s
REINERTSEN NEW ENERGY
RenRøros
peloton well focused
petricore
Prores
Statkraft
:skala
Scandinavianbiogas
Schlumberger
UNJEBYGG ALTRAD
SEBO BOLIGER AS
FREYR Clean battery solutions

Overview of financial investors in Trøndelag – categorized by sector focus



A

Invested in identified energy technology companies

B

Investors with a stated sector focus that is some-what related to energy

C

Industry agnostic investors

Investor might be located in Trøndelag, Norway or abroad

← Investors located in Trøndelag →

Column A
Illustrates financial investors invested in the 139 identified companies on page 16 and 28. A proportion of the 139 identified companies are wholly or partly owned by employees, entrepreneurs, "friends and family". These private investors are not included in the overview above. The financial investors in column A are located in Trøndelag, Norway or abroad. Of the professional, financial investors who have invested in the companies, many are focused on early phase (pre seed and seed).

Column B
Illustrates financial investors in Trøndelag with a stated sector focus. None has solely focus on energy technology, but several of them focus on related sectors, such as oceans, IT (in different sectors), green sectors etc.

Column C
Illustrates financial investors in Trøndelag that are so-called «industry agnostic».

Source: Proff Forvalt; Impello analysis

This report will be updated on a regular basis.

If you have input or comments,
please send them to **hei@trondheimtechport.no**

Thank you!

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TECH PORT