

A large, cylindrical industrial storage tank with a spiral staircase on its exterior, set against a sunset sky. The sun is low on the horizon to the right, creating a lens flare effect. In the background, there are some trees and a yellow tractor. The foreground is slightly blurred, showing some greenery and a paved area.

Investment opportunities in Energy & Battery



Linköping

Norrköping

ÖSTERGÖTLAND

Östergötland is a strong and forward-looking region within energy technology, where research, industry, and the public sector collaborate to drive development forward. Linköping University plays a key role with cutting-edge expertise in energy systems, semiconductors, biogas, batteries, and sustainable materials — for example, through the Biogas Solutions Research Center and the Energy Conversion and Energy Storage Laboratory.

The region hosts an ecosystem of companies such as Siemens Energy, Tekniska Verken, Swegan, Ligna Energy, and Epishine, which provide important contributions across several different value chains. The biogas sector and the industrial symbiosis at Händelö demonstrate how resource-efficient technology creates new energy products. In organic electronics, flexible, bio-based energy solutions are being developed. A well-developed innovation support system strengthens entrepreneurship and growth.

Content

Values that Östergötland can offer companies in Energy & Battery	4
Regional strengths	5
Industrial structure	7
The regional innovation support system	8
Research at Linköping University	9
Centers, major initiatives and testbeds	10
Skills supply	11
Financing	12
Contact	13

Disclaimer: This information is not exhaustive but provides examples of research, companies, and innovation-promoting actors in Östergötland.

A man with glasses and a light blue shirt is pointing at a laptop screen while a woman in a yellow sweater looks on. They appear to be in a professional setting, possibly a meeting or a collaborative work environment.

Values that Östergötland can offer companies in Energy & Battery

Region Östergötland, together with the regional innovation support system, has developed a value proposition for companies considering establishing operations in the region.

This offer is designed to provide meaningful support through access to key support functions, research environments, strategic partnerships, and other resources that help businesses establish themselves in Östergötland. This value proposition includes, among other things, the following benefits:

- **Relationship-building activities** and networking opportunities with existing industry and potential partners.
- **Support in innovation development**, commercialization, internationalization, production, and process improvement through the region's innovation and business development system.
- **Knowledge transfer from Linköping University**, as well as facilitation of contacts with relevant researchers and students for various types of projects (e.g. theses and student assignments).
- **Support in identifying relevant residual** and by-product flows — in terms of quantity and quality — that can be used as input materials in new production, such as waste heat, carbon dioxide, and other resource streams.



Regional strengths

Biogas

Research at Linköping University and the broad initiative within the Biogas Solutions Research Center contribute to knowledge development on optimizing biogas quantity and quality, as well as the development of new purification and energy content technologies and their practical implementation. The municipal company Tekniska Verken AB is a pioneer in biogas production and operates Sweden's largest biogas plant. They are also building infrastructure for collecting and processing biogenic carbon dioxide, opening new opportunities within the circular economy.

Industrial and urban symbiosis

At Händelö outside Norrköping, an industrial symbiosis has been established where steam from E.ON is used in an efficient process at Lantmännen Biorefineries' biorefinery complex. Agricultural raw materials are converted into several products, primarily bioethanol (an ethanol-based fuel) and other bio-based products. For example, carbon dioxide is extracted and converted into carbonic acid for use in the food industry.

Linköping University contributes research and education in industrial ecology, material flow analysis, and systems perspectives on urban symbiosis. The university is also active at the national level, for example through the Swedish Network for Industrial Symbiosis (SNIUS), where it plays an active role in research, networking, and knowledge development.

Organic electronics

The region has strong expertise in printed and organic electronics, where researchers, startups, and companies develop flexible and sustainable solutions. Linköping University is a key actor in the field, enabling companies to use advanced laboratories and test environments for prototyping and trials. Printed Electronics Arena (PEA) and the Laboratory of Organic Electronics (LOE) offer unique opportunities to explore new materials and production technologies.

For startups emerging from research, Home of Organic and Printed Electronics (HOPE) provides support to grow before scaling up. Companies within organic solar

cells and lignin-based energy solutions have received support here.

Advanced energy technology

Siemens Energy's facility in Finspång is a key player in advanced energy technology, focusing on gas turbines that are a key component for enabling a into flexible energy systems and can be operated with hydrogen, biogas and other green fuels for fossil-free electricity production. Siemens Energy has entered a strategic partnership with Linköping University to jointly invest in research, education, and innovation in areas such as energy technology, digitalization, and sustainable development.

Linköping University is strong in energy systems research, with interdisciplinary expertise across the entire energy chain – from production to use. Östergötland also hosts a rapidly developing semiconductor ecosystem with solutions that are essential for high-efficiency power electronics in modern energy systems. The region hosts several companies working with energy and power optimization, building technology, and combined heat and power generation.


Gas turbine production at Siemens Energy's facility in Finspång.

PHOTO: SIEMENS ENERGY

Industrial structure

Östergötland has a well-established and dynamic ecosystem where both public and private actors play central roles. Companies such as Siemens Energy, E.ON, Swedish Biogas, Energifabriken, Tekniska Verken, Swegan, Gränges, Ligna Energy, and Epishine contribute complementary capabilities and expertise across the value chain, from energy production and storage to the development of new battery technologies and sustainable energy solutions.

The established industry, including global players like Siemens Energy, provides a stable foundation and drives investments in advanced energy technology and infrastructure. Small and medium-sized enterprises, in collaboration with these large actors, develop new, energy-efficient, and sustainable solutions to meet future demands for electrification and climate transition. This collaboration enhances the region's attractiveness to international companies seeking partnerships, technical expertise, and a value chain of energy and battery sector actors.



The regional innovation support system

Östergötland's innovation support system is well developed and built on a long tradition of collaboration between academia, industry, the public sector, and entrepreneurs.

The support network includes a wide range of actors offering assistance throughout the innovation journey – from early ideas to internationally established companies.

- **LiU Innovation** provides advice and support to students, researchers, and employees on idea development, business creation, and financing.
- **LEAD Business Incubator** offers programs and resources for entrepreneurs seeking faster and more secure growth, whether through research-based spin-offs or new startups.

Key actors strengthening Energy & Battery development in the region include:

Norrköping Science Park, promoting innovation and growth by supporting startups and established companies with networking, advisory services, and business development. They offer incubation, financing support, skills development, and collaboration platforms for advancing sustainable energy solutions.

Energikontoret Östergötland, offering free advisory services and on-site analyses to identify energy efficiency measures and renewable energy solutions, as well as mapping funding opportunities for green investments.

Cleantech Östergötland, a politically independent network where businesses, academia, and the public sector collaborate to drive the green transition, offering advice, knowledge-sharing, and networking on circular business models and environmental technology.

Vreta Kluster, an innovation and development center for green industries, supporting companies in their transition toward fossil-free energy, energy efficiency, and local energy production through networking, business development, and technology partnerships.

Examples of support areas include:

- Identifying resource flows for production
- Finding industrial collaboration partners
- Production and process analysis
- Business model analysis
- Identification of public funding opportunities
- Establishing contacts with researchers and public actors relevant to planned establishments



Research at Linköping University

Linköping University excels in energy, battery technology, energy systems, and environmental technology, with strong expertise in energy storage, power optimization, and sustainable materials such as lignin-based electrodes.

The research is interdisciplinary, connecting technology, systems analysis, and environmental impact. Collaborations with industry – such as Siemens Energy – strengthen applied outcomes.

Education

Linköping University has about 45,000 students across four campuses, including ca 20 000 distance and off-site learners. The university offers 135 degree programs – 32 of which are international – and about 700 standalone courses. With exchange agreements with 400 universities in 50 countries, LiU hosts around 1,700 international students annually and awards about 2,600 bachelor's and 3,100 master's degrees each year. Linköping University is the only university in Sweden to offer an English taught

civil engineering programme with an international profile and inbuilt studies abroad. Since many years Linköping University ranks number one in Sweden on both having the highest percentage of students successfully entering the job market upon graduation and doing it quickly.

Research and doctoral training

The university has 364 professors and 1,300 doctoral students. On average, 28 licentiates and 161 PhDs graduate each year, reflecting the strong research environment and active doctoral training.

Relevant departments

Several departments conduct research and education directly relevant to the energy sector, contributing expertise in environmental technology, circular economy, and energy systems:

- **Department of Management and Engineering (IEI)** includes Energy systems, industrial economics, industrial and urban symbiosis, and environmental technology

- **Department of Physics, Chemistry and Biology (IFM)** conducts research on materials and components for electronics and photonics, such as LEDs, solar cells, and spintronics
- **Department of Electrical Engineering (ISY)** is active within power supply systems, sensor readout electronics, analog/digital systems, and low-power wireless sensors
- **Department of Science and Technology (ITN)** Includes the **Laboratory of Organic Electronics (LOE)**, a world-leading research hub on materials and techniques combining electronics with organic, often bio-based, materials – applicable in energy and battery technology
- **Tema Environmental Change (Tema M)** conducts interdisciplinary research on energy and environment in society, focusing on the social, political, and cultural dimensions of the energy transition



Centers, major initiatives and testbeds

Östergötland hosts a number of research centers, major initiatives, and testbed environments that support collaboration between academia, industry, and the public sector.

Examples of such initiatives and environments in Östergötland include:

Biogas Solutions Research Center (BSRC) is a national competence center uniting academia, industry, and the public sector to develop and disseminate knowledge on biogas in sustainable energy systems. It conducts interdisciplinary research across the entire value chain – from raw material to use – focusing on technology, system analysis, and policy.

Energy Conversion and Energy Storage Laboratory is a research and testing environment for developing and evaluating energy storage systems, primarily batteries and battery packs, studying energy conversion, charging strategies, and integration into electrified vehicles and power grids.

Printed Electronics Arena is operated by RISE Research Institutes of Sweden, this test and demonstration facility focuses on printed organic electronics, offering companies and researchers advanced resources to develop, test, and demonstrate innovative technologies.

EbbePark Testbed is managed by municipal property companies in Linköping, this site explores and tests future urban development, focusing on energy, water, and building materials. It brings together industry and academia to develop sustainable solutions for future urban environments.

LiU Sustainability Transformations (LiUST) consolidate research and collaboration on sustainable societal transition across all research fields at Linköping University.



Skills supply

Linköping University ranks among the top 2% of universities worldwide in several international rankings. The university has a strong focus on engineering education.

Programs relevant to Energy & Battery include, among others:

- Energy – Environment – Management
- Sustainability Engineering and Management
- Technical Biology
- Environmental Science
- Mechanical Engineering
- Industrial Engineering and Management

Linköping University also offers customized professional education tailored to organizational needs.



Financing

National level

Sweden's innovation and support system for research, development, and investment operates at both national and regional levels, complemented by dedicated investment and transition programs for industry.

At the national level, the government and public agencies create frameworks, funding, and guidelines for innovation and commercialization, including:

- Research funding
- National innovation programs and collaboration platforms
- Special investment grants for transition, commercialization, or pilot-scale projects

Examples of national programs:

- **Klimatklivet** – Investment support for companies, municipalities, regions, and organizations implementing measures that reduce greenhouse gas emissions (e.g. charging infrastructure, biogas production, circular flows).
- **Industriklivet** – Support program targeting industrial transformation to fossil-free or carbon-negative solutions, financing feasibility studies, pilot and demonstration projects, and investments in transition technologies.

Regional level

Regions manage their own regional development funds and play an important role in implementing the European Regional Development Fund (ERDF), which promotes innovation and business-related development. Support may be granted to companies for R&D activities or to innovation support actors working to develop businesses, industries, and value chains.

Additionally, Almi Företagspartner offers both business development services and financing in the form of loans and venture capital.

As eligibility criteria and conditions for innovation and investment support may change, interested actors are encouraged to consult the latest information on the respective authorities' websites.

Contact

Marianne Lind

Investment and business development

Region Östergötland

+46 724 62 73 79

marianne.lind@regionostergotland.se

Erik Gotborn

Investment and business development

Region Östergötland

+46 700 90 04 47

erik.gotborn@regionostergotland.se

