

Energy education pathway in Vaasa

ENERGY
VAASA

2024



#EnergyVaasa
#WeAreEnergyVaasa



In Vaasa, the Nordic energy capital, pupils and students master future working life skills and energy expertise from early childhood to adult education.

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Vaasa is implementing an energy education pathway that stretches from early childhood education to higher education institutions.

One of the three main goals of the City of Vaasa 2022-2025 strategy is to make *Vaasa carbon neutral by 202X*. Our goal is to be the energy-smartest and most energy-efficient city in Finland.

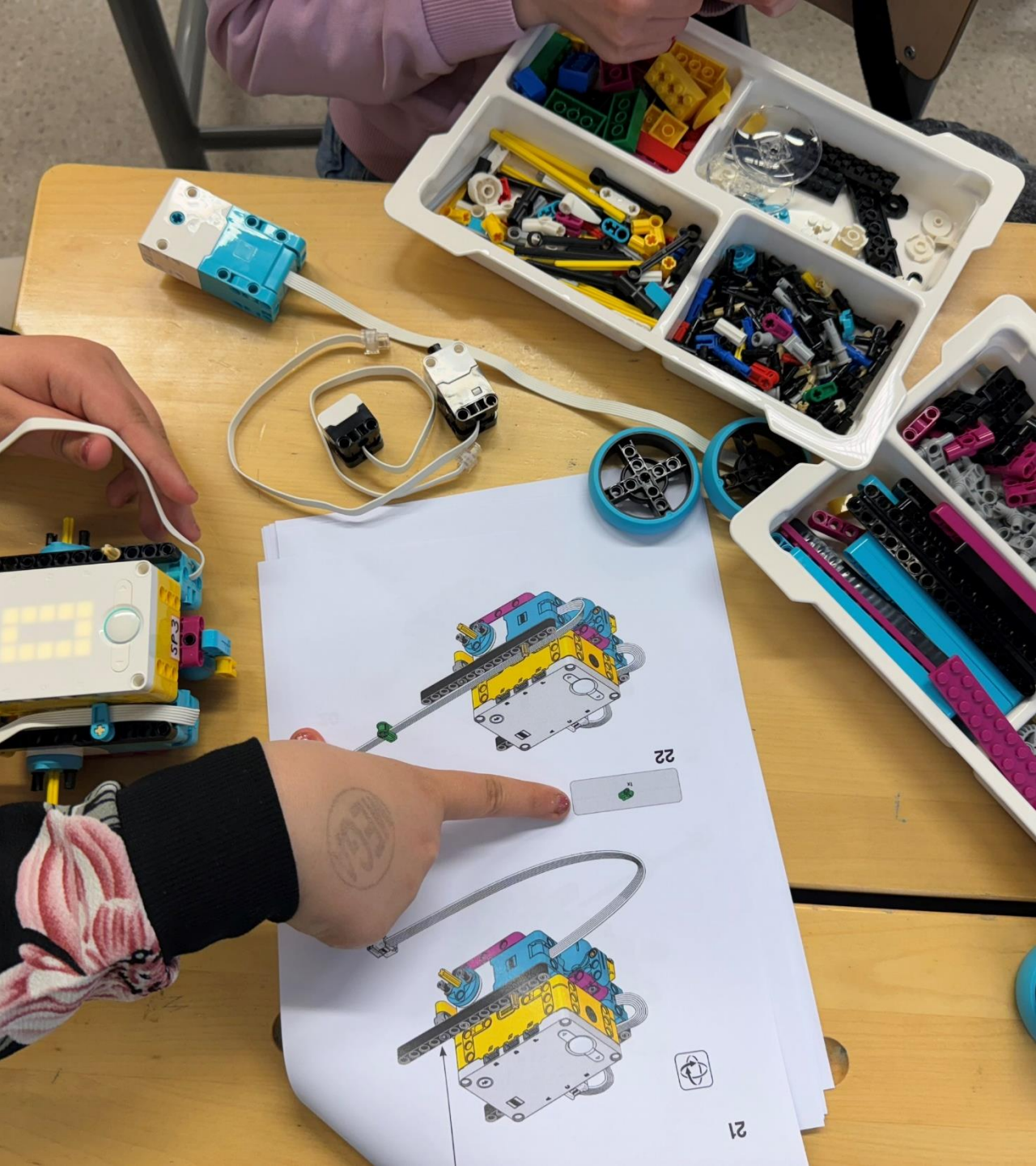
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The aim is for pupils/students to:

- be aware that their home town is an energetic city
- know about the study and career opportunities available in the region
- understand the energy sector and the related expertise
- are familiar with actions that contribute to sustainable development and know how to integrate them into their daily lives
- acquire the necessary capabilities to work in energy-related jobs
- obtain an education or vocational training in the energy sector and stay on to work in local companies

ENERGY V A A S A



To implement the Energy Education Strategy, measures have been identified for each age group (early childhood, primary, lower secondary, upper secondary, and tertiary education) to enhance energy awareness, promote knowledge of sustainable development, and cultivate future working life skills.

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Energy awareness can be promoted in early childhood education and primary schools by learning about various phenomena (water, heat, recycling, energy saving), for example.

Older pupils may visit different sites, such as Stormossen and Westenergy.

At the secondary and higher education levels, energy awareness is incorporated into the content of degrees, qualifications and courses.

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The practical coordination of the Energy Education Strategy is done through the bilingual Energy Education Working Group.

The working group has representatives from all levels of education (Finnish- and Swedish-language basic education, upper secondary schools, Vamia) including early childhood education and care, the region's higher education institutions, Technobothnia, and the LUMA Centre.

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It is essential for the Vaasa region that the energy theme is introduced from an early age. Energy experts and specialists are needed both now and in the future.

This is a highly relevant issue, particularly now that the construction of GigaVaasa and the establishment of the battery industry in the region are gaining momentum.

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The Energy Education Working Group serves as a crucial information channel, keeping various stakeholders informed about developments in the energy sector within the region.

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The 'Inspiring Energy for Schools' project in basic education

- An 'Energy Team' comprising teachers
- Workshops for each 2nd and 5th grade pupils during autumn 2024
- The content includes energy-related programming and robotics workshops as well as e-learning environments

ENERGY EDUCATION PATH IN VAASA

In Vaasa, the energy capital of the Nordic countries, students master the skills of working life and energy competence.



STUDENTS GET USEFUL SKILLS AND ABILITIES

We create models which promote learning the working skills of the future and integrating these into education

- Identifying dynamic working life skills in the future and integrating these into education
- Education across language, school and educational stage boundaries

COMPETENT TEACHERS

We support and motivate teachers

- Structure
- Network of energy teachers
- Educating teachers
- Learning environments (virtual and physical)



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EARLY CHILDHOOD EDUCATION
Raising interest and participation

- Energy documentation
- ICT ja basics of technology
- Small group, theme and project work

BASIC EDUCATION
Modern teaching resources
Multiprofessional projects

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3

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UPPER SECONDARY SCHOOL EDUCATION
Central focus

- Physics, Chemistry, Mathematics

Energy as a phenomenon

- In subjects and school activities

VOCATIONAL EDUCATION
Central focus

- Qualifications and further education in the energy branch

Proficient support group - Energy in professions

- Qualifications that support the energy branch
- All qualifications



ENERGY COMPETENCE GROWS IN THE SCHOOLS

Energy is a natural part of the educational content on all educational stages

- Energy is integrated into education
- Visits to energy companies
- Expert visits (virtual and live)
- Energy as a subject in education and degrees



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POLYTECHNIC EDUCATION
Central focus

- Intelligent electricity technology, robotics and 3D
- International trade

Proficient support group - Energy in professions

- Education and research that support the energy branch



YOUNG PEOPLE AND ADULTS ENTER INTO WORKING LIFE WITH GOOD SKILLS

The energy cluster attracts skilled people

- Work-oriented studies
- Teamwork between working life, students + teachers
- STEM subjects
- Optional subjects
- Club activities
- Educational path in FIN/SWE/ENG
- Further training

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UNIVERSITY EDUCATION
Central focus

- Degree programmes in Energy

Proficient support group - Energy in professions

- Energy-related themes and know-how in other degrees
- Energy as a minor subject



STUDENTS KNOW THE STUDY AND CAREER POSSIBILITIES WITHIN THE ENERGY CLUSTER

Interaction between schools and working life

- Training for study counsellors
- Excursion path
- Expert bank
- Business village
- Introduction to working life
- Precision days
- Summer jobs



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Energy Education Strategy

	Energy expertise and its continuous development	Sustainable development knowledge and its integration into everyday life	Working life skills and further studies in the energy sector
Common goal:	All levels of education should have a systematic and age-appropriate curriculum to enhance students' understanding of the energy sector, energy efficiency and renewable energy sources. Incorporating regular updates on the latest technologies and innovations into the curriculum.	Integrating the principles of sustainable development into the curriculum at all levels of education, thus encouraging pupils and students to make sustainable choices in both their personal lives and future careers.	Ensuring that graduates from all levels of education possess the necessary knowledge and skills to transition smoothly into employment or further studies in the energy sector, including an understanding of career opportunities within the field.
Measures:	Training teachers regularly on developments in the energy sector and providing pupils/students with opportunities to learn about the industry through events and lectures, visits to energy companies, workshops, and projects.	Developing multidisciplinary projects that allow pupils/students to explore and solve various energy challenges. Introducing energy-saving technologies and systems to schools to support teaching.	Strengthening collaboration with energy companies and secondary and higher education institutions by offering mentoring, internships, and career guidance to students. Increasing the number of courses and study modules that focus on renewable energy technologies, energy expertise, and sustainable development themes. Encouraging students to pursue energy-related studies at educational institutions in the Vaasa region.
Metrics and indicators:	Number of events and visits, along with reporting and a verbal description of their content and contribution. Number of energy sector or STEM-related projects, or project funding by level of education. Actual implementation of the multidisciplinary learning module in early childhood and primary education.	Number and description of events and activities related to sustainable development, such as litter picking, Food Waste Week, recycling initiatives, carbon footprint awareness campaigns, Car-Free Day, and other events that promote innovative thinking.	Number of actual work placements in the energy sector, and number of presentations, theses and publications produced. Active participation in Energy Week and other similar events related to the energy sector.

LUMA Centre Ostrobothnia

At the University of Vaasa since 2017

- ▶ SAGA science class visits
- ▶ Events and tours
- ▶ Equipment lending
- ▶ Further education
- ▶ Materials

