Interreg Baltic Sea Region

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ENERGY TRANSITION
Enercracy

Inspiration Station: Driving Change through Stakeholder Cooperation for Green Futures

Online | 2025.01.14

Kirils Gončarovs, TREA

interreg-baltic.eu/project/enercracy


Picture by Kirils Gončarovs

Agenda

Intoduction

Showcase of initiatives

Lund Municipality (SE)
Podkarpackie - Live and Breathe (PL)
Karelia University of Applied Sciences (FI)

10-minute break

Laflora Ltd (LV)
Estonian Islands Energy Agency (EE)

End of the webinar

What is the Enercracy project all about?

Upscalling

Transition in municipalities

Energy communities

Climate and energy plans

Solar technologies

Prosumerism

Wind technologies

Learning by example

Energy democracy

Inspiration Station: Driving Change through Stakeholder Cooperation for Green Futures
January 14, 2026 at 9:00 - 11:00 CET. Prior registration to the webinar is required

EnergyNet: breaking barriers in local energy sharing in Brunnshög district in Lund, Sweden

Markus Paulsson, Energy Strategist and Project Manager at Lund Municipality, Sweden

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CITY OF LUND

Internetfied energy by EnergyNet

Markus Paulsson

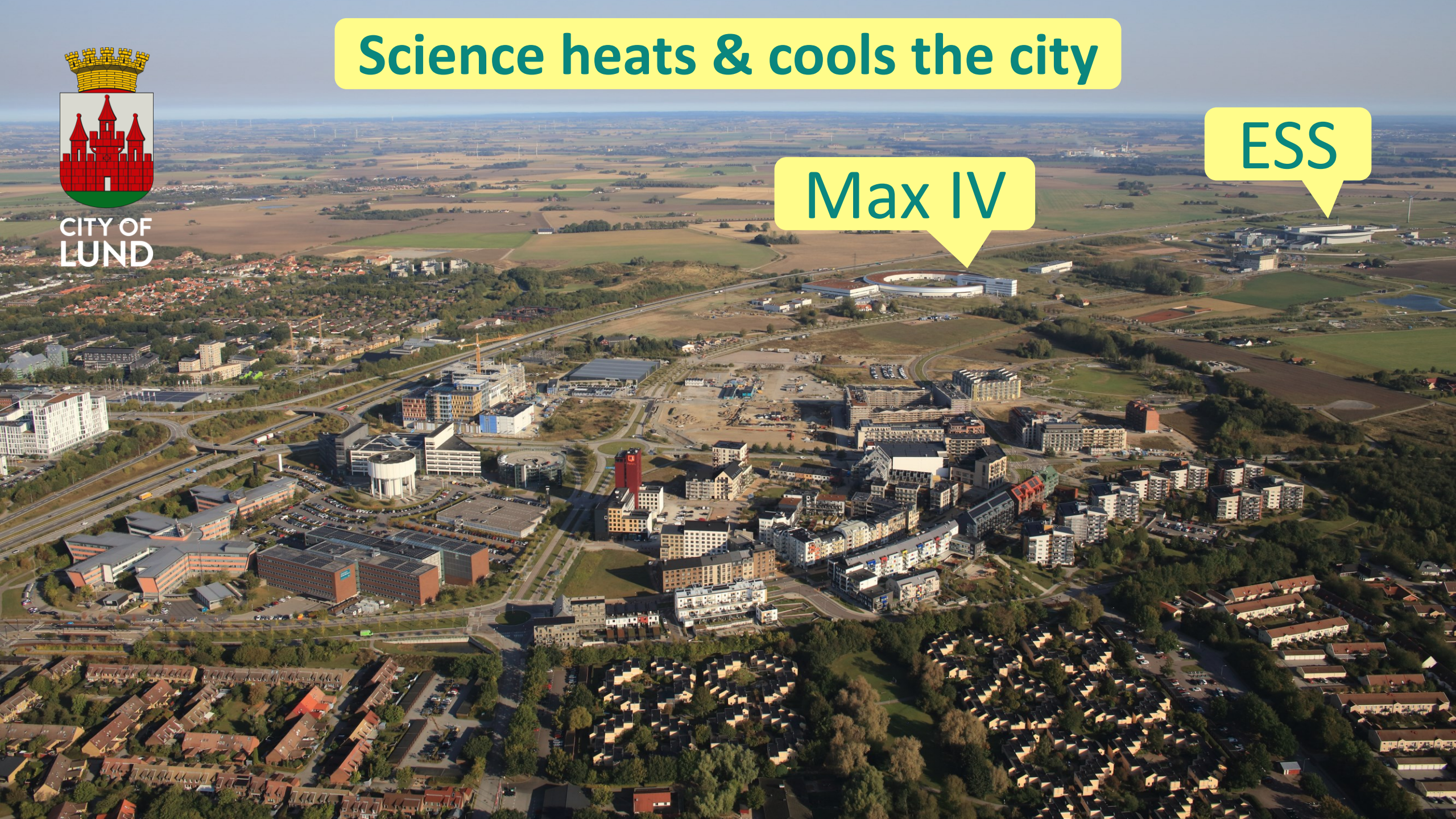
coaction lund

CITY OF LUND

Innovative Lund

Science heats & cools the city

CITY OF LUND

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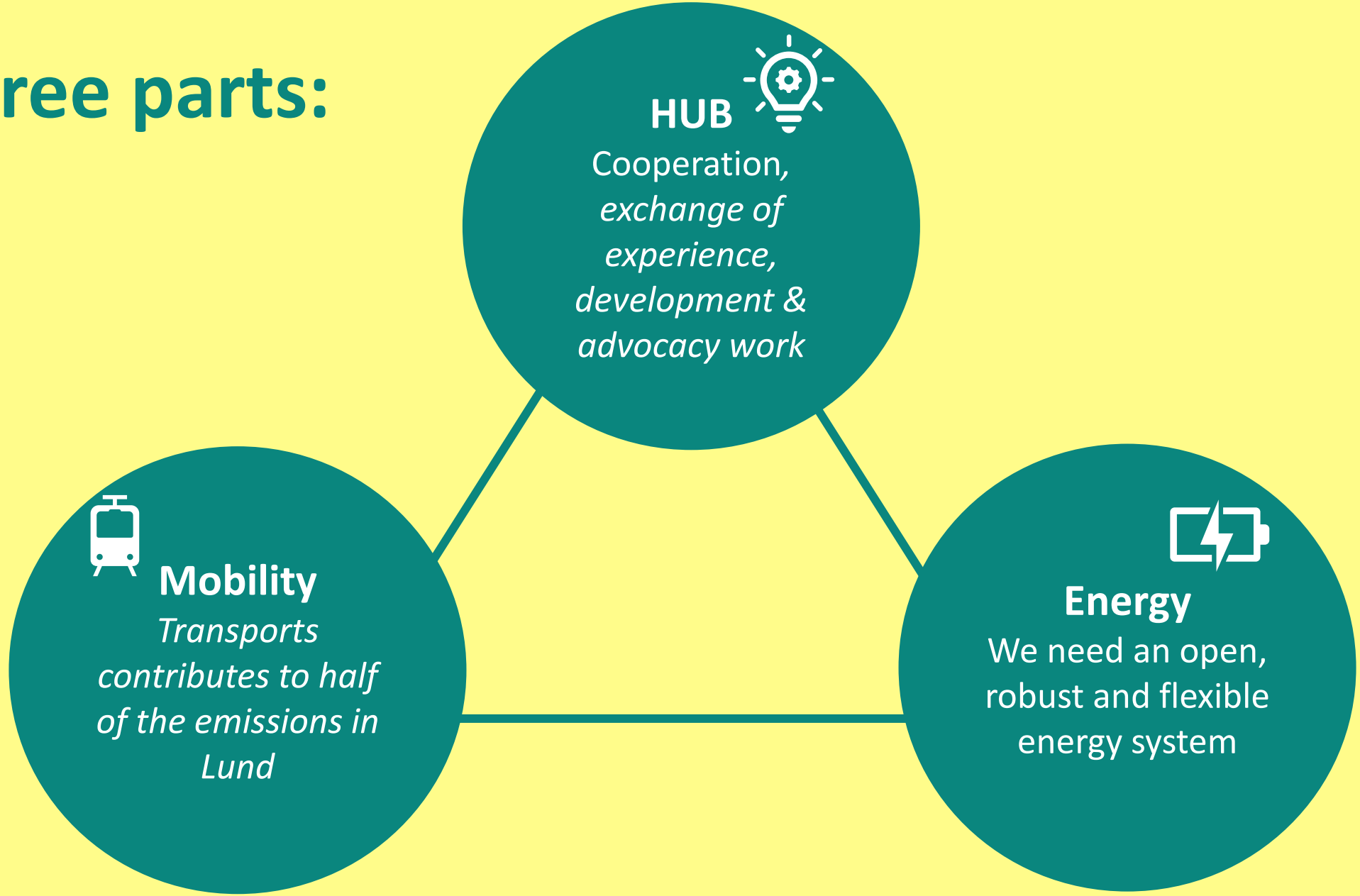
lund

Three parts:



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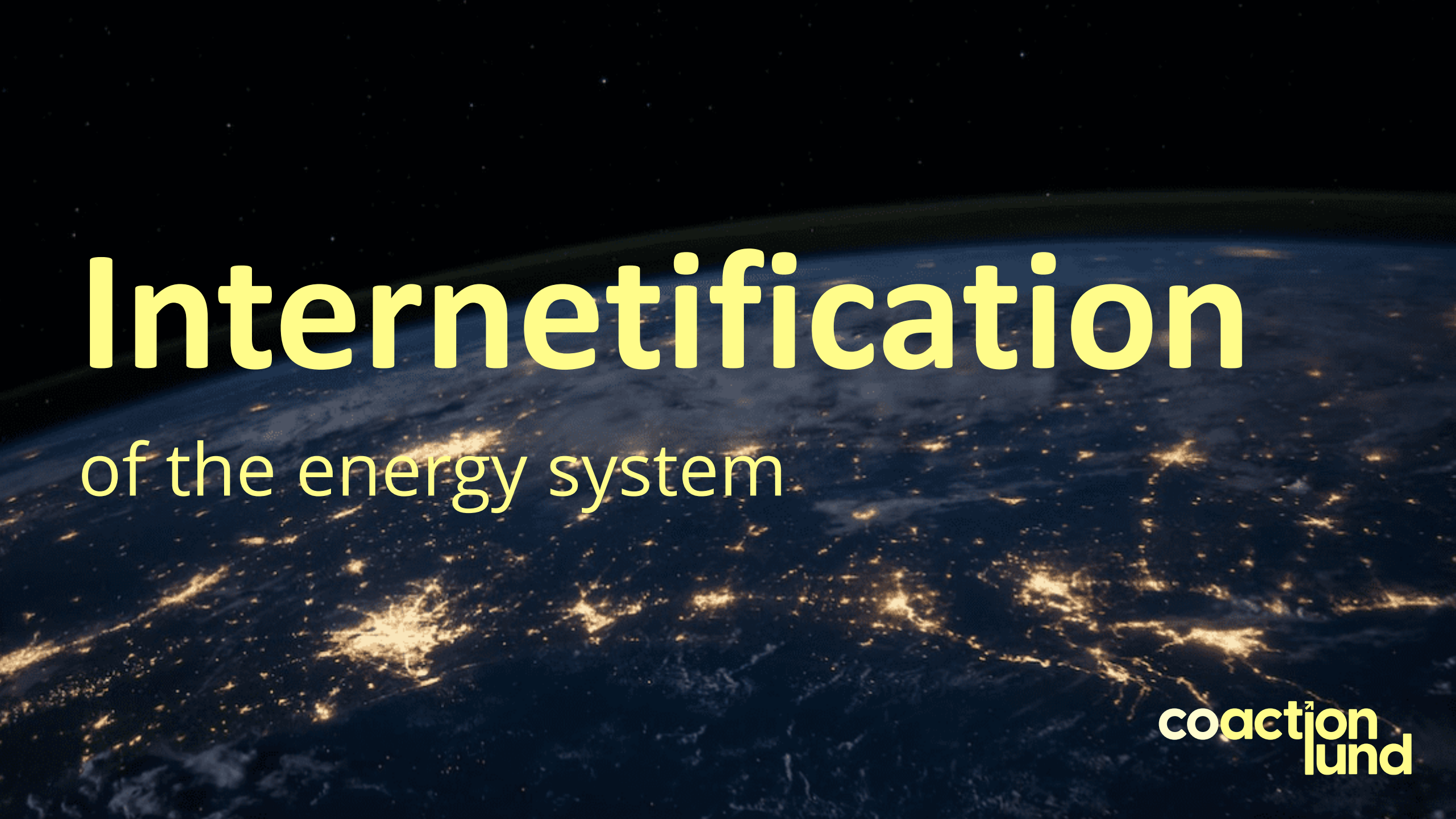
Jonas Birgersson

- Electrical grids are like telephone grids


Internetification
of the energy system
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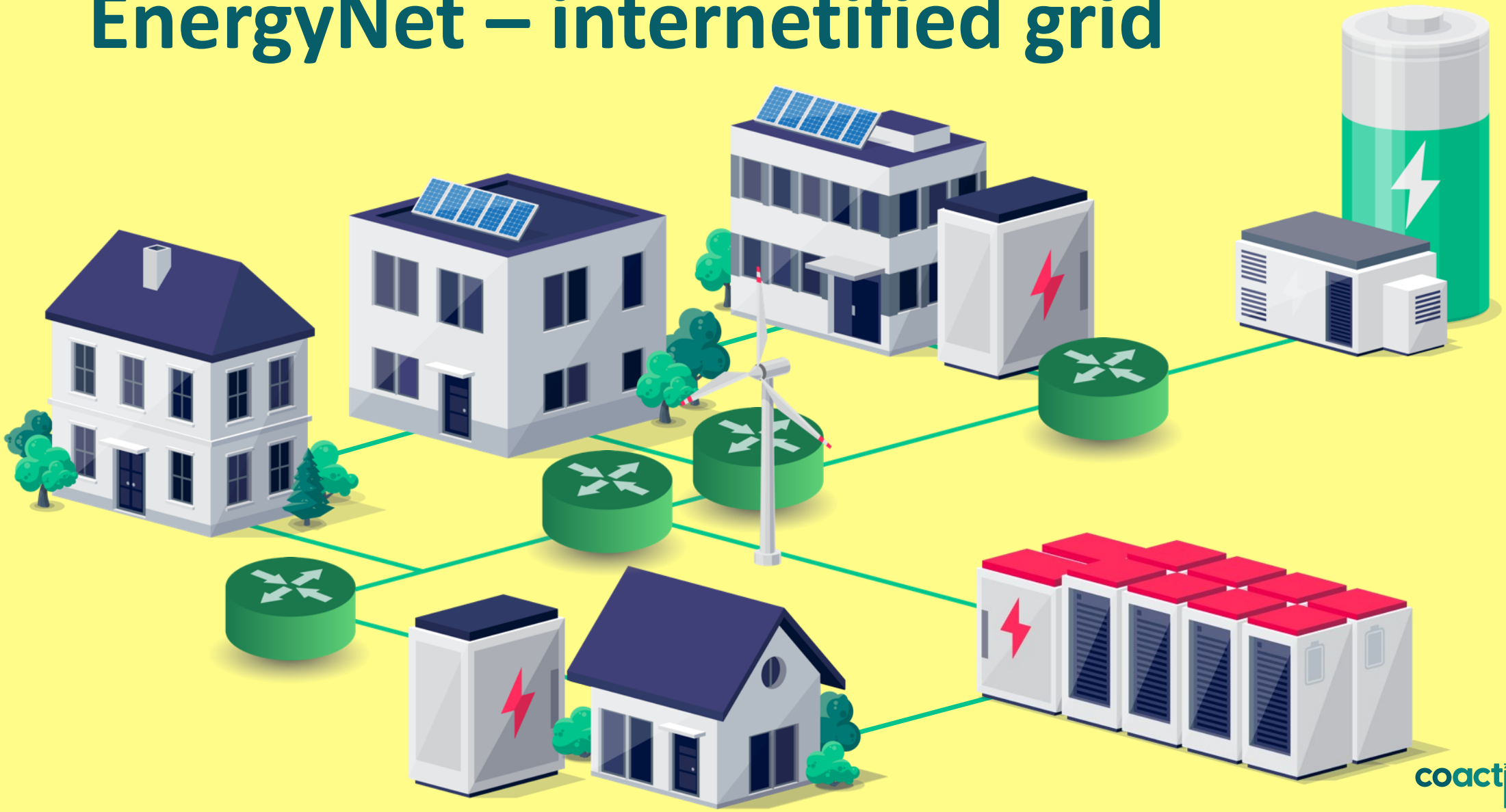
EnergyNet – internetified grid



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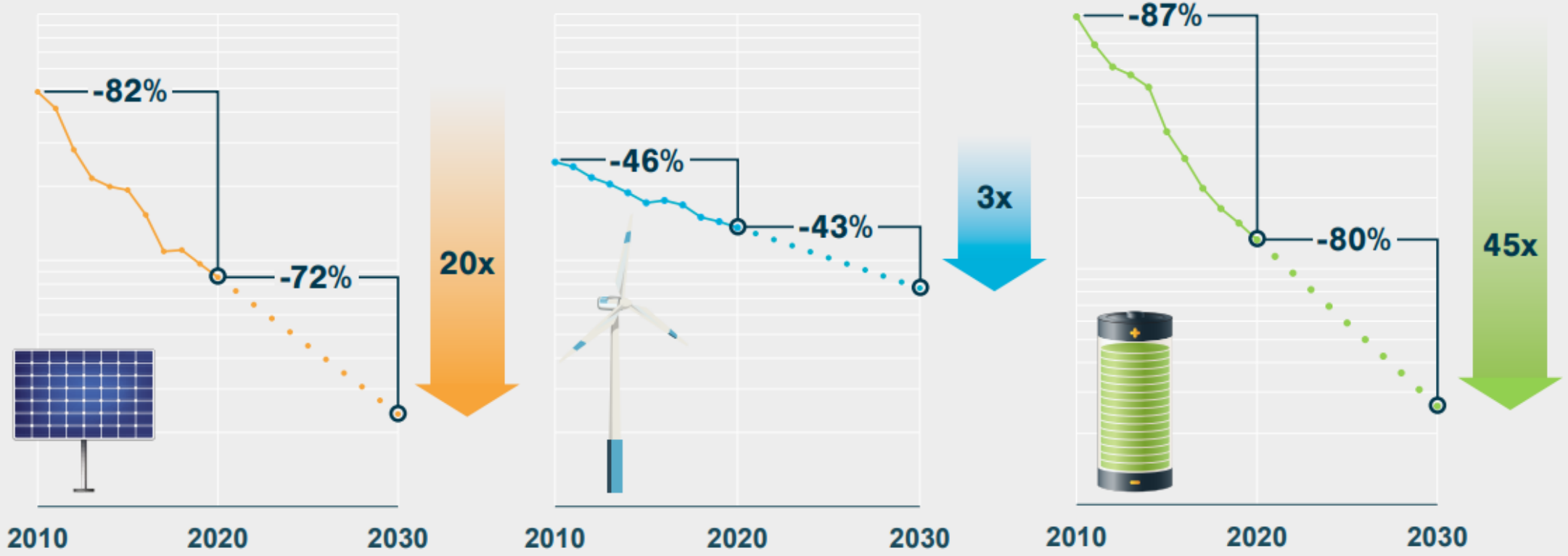
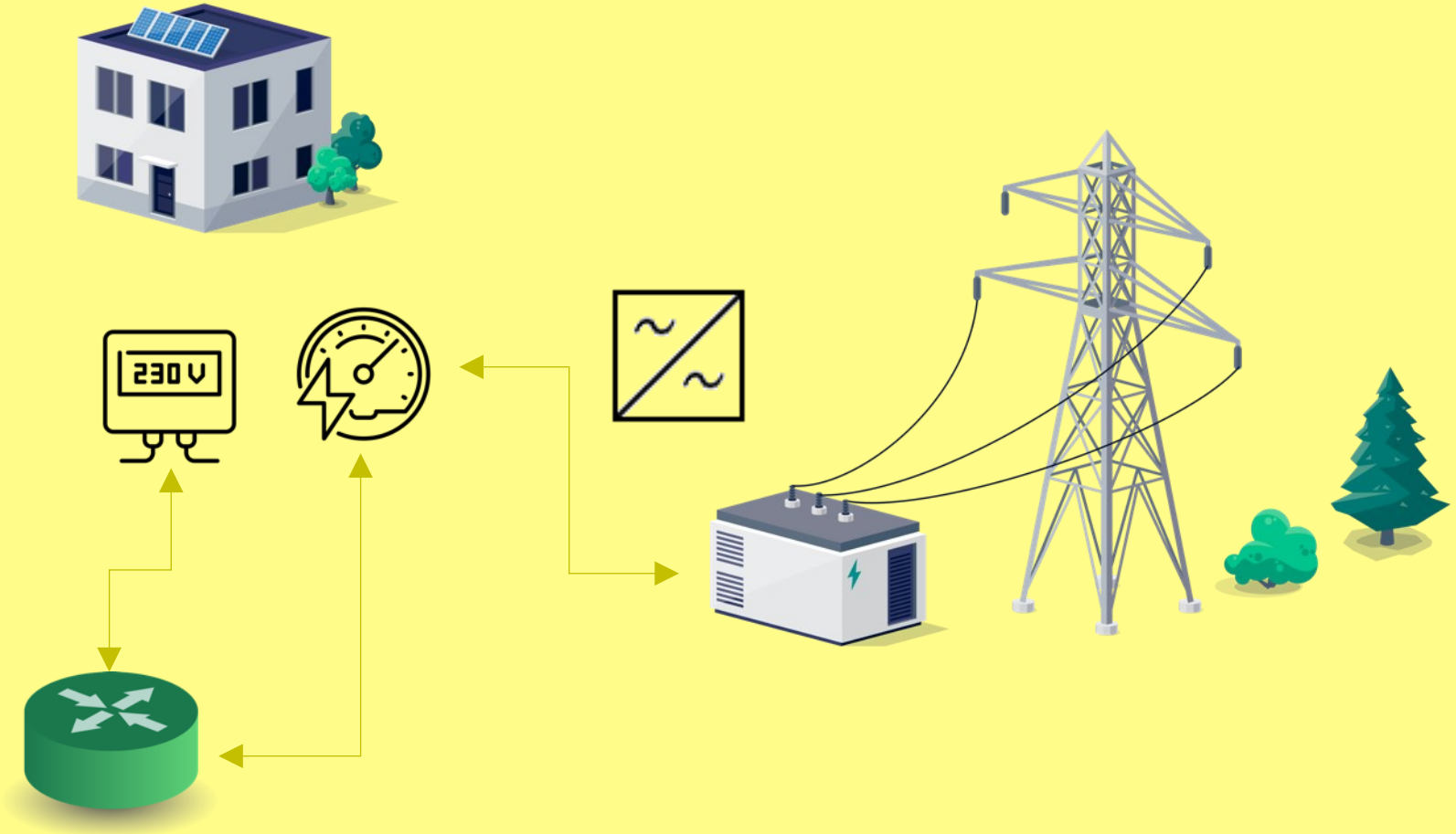
100% Solar, Wind, and Batteries is the Cheapest System by 2030

Falling costs drive technology disruptions. Solar and wind are already the cheapest new generation options, and cost less than existing coal, gas, and nuclear power plants in many areas. The cost of SWB systems will fall another 70% by 2030, making disruption inevitable.

$/kWh (logarithmic plot)



EnergyNet single building (stand-alone)



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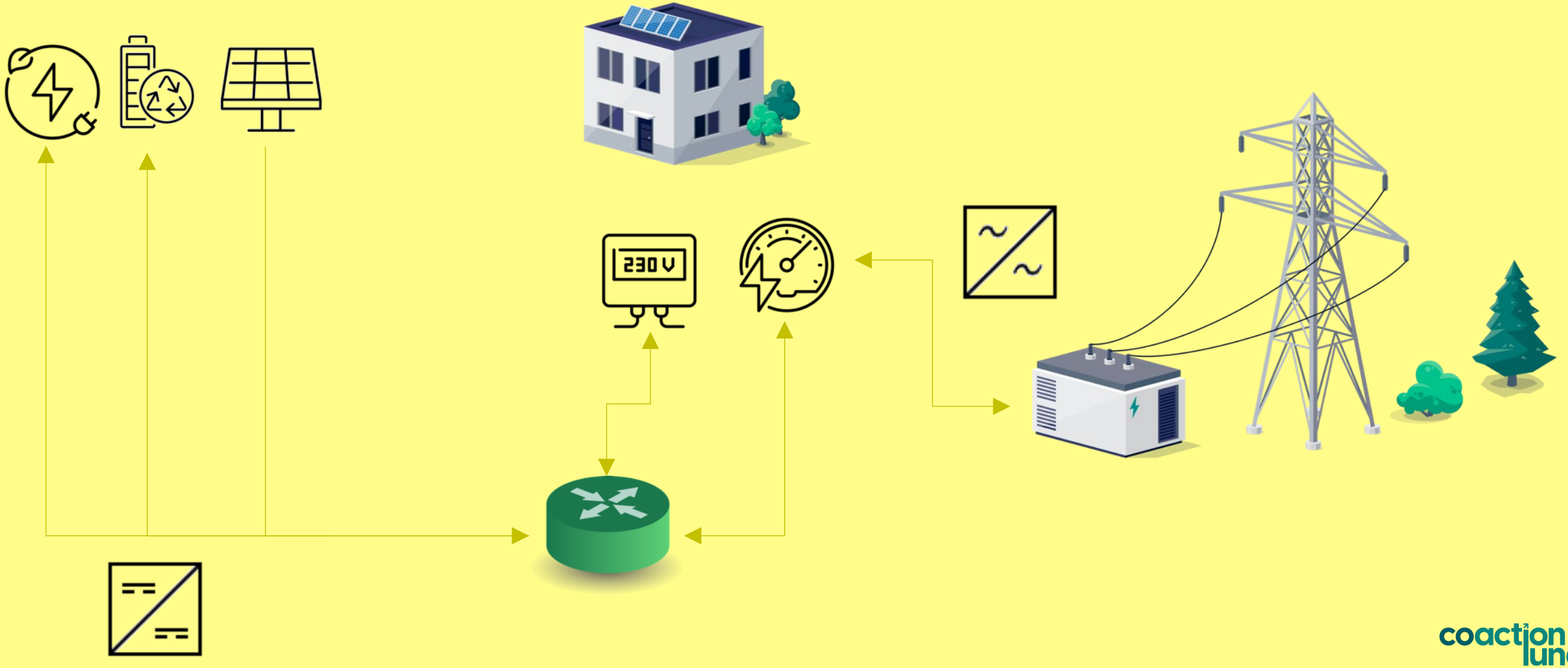
EnergyNet single building (stand-alone)



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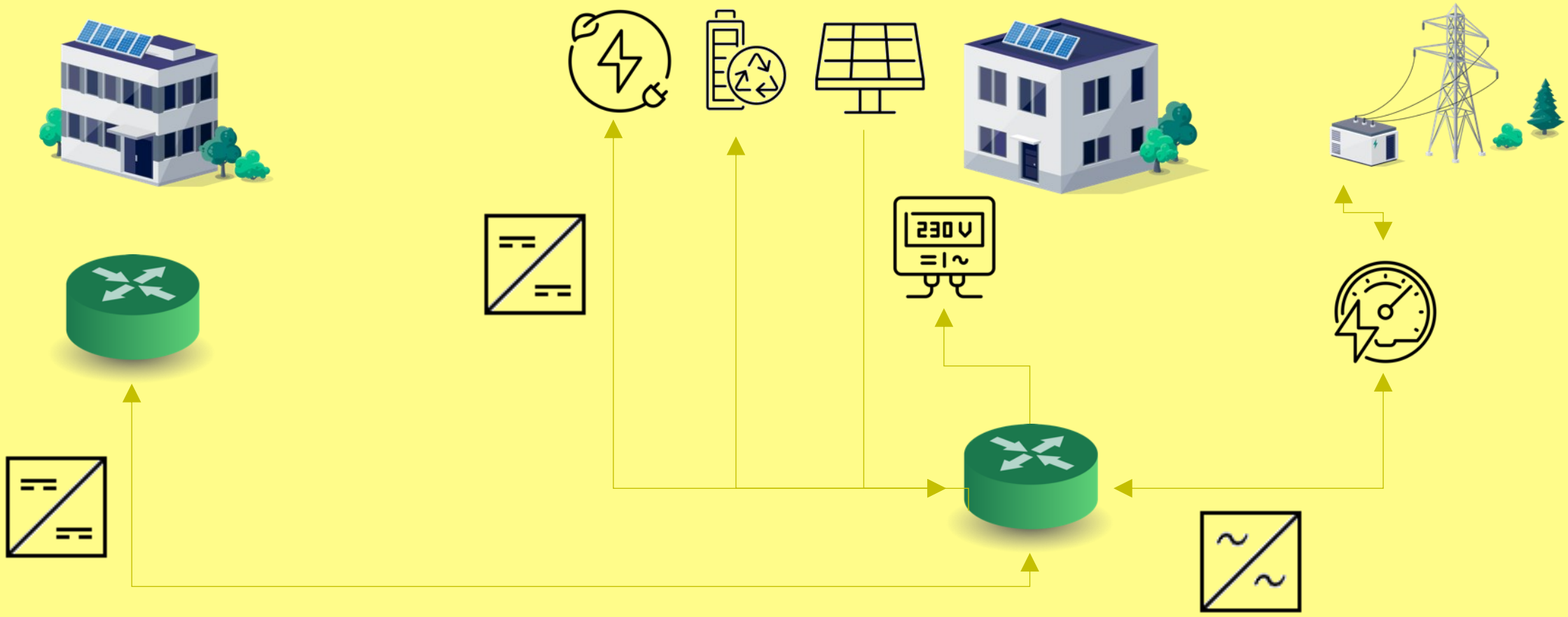
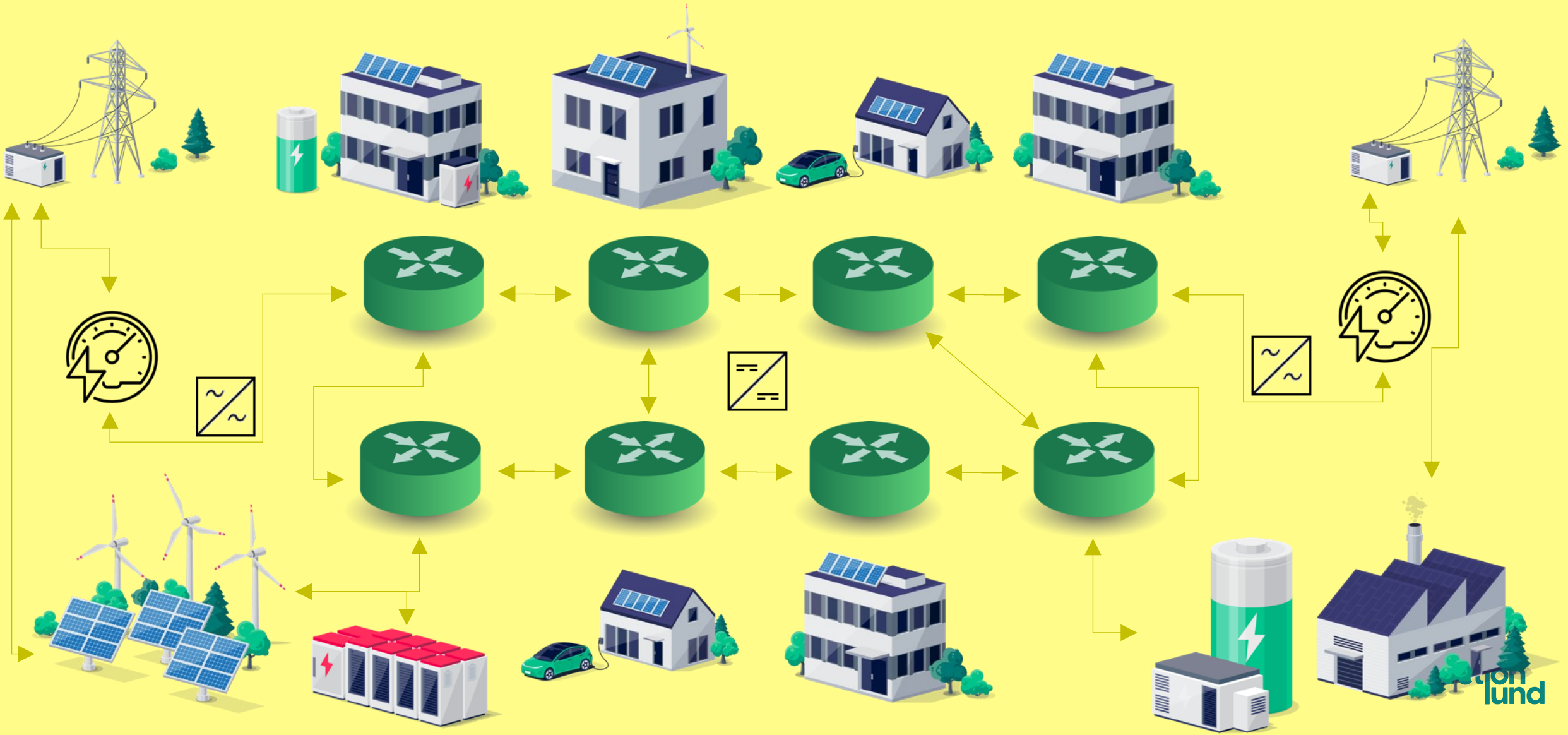
EnergyNet building (EC + Grid)



EnergyNet neighbourhood (EC + Grid)



EnergyNet core components

01 Open Energy Sharing Operator (OESO)

Operator that manage orchestration between the local energy resource owners

02 The Energy Protocol (EP)

Open standard protocol that create the langue needed to manage energy sharing

03 The Independent Energy Router (IER)

Core component the E-LAN energy network. Enable low level decentralized routing of energy

04 The Resilience Energy Storage (RES)

The MRES are standard energy storage that can be controlled by the energy protocol

05 The Energy Freedom Infrastructure (EFI)

New physical cables that create an alternative infrastructure to distribute energy

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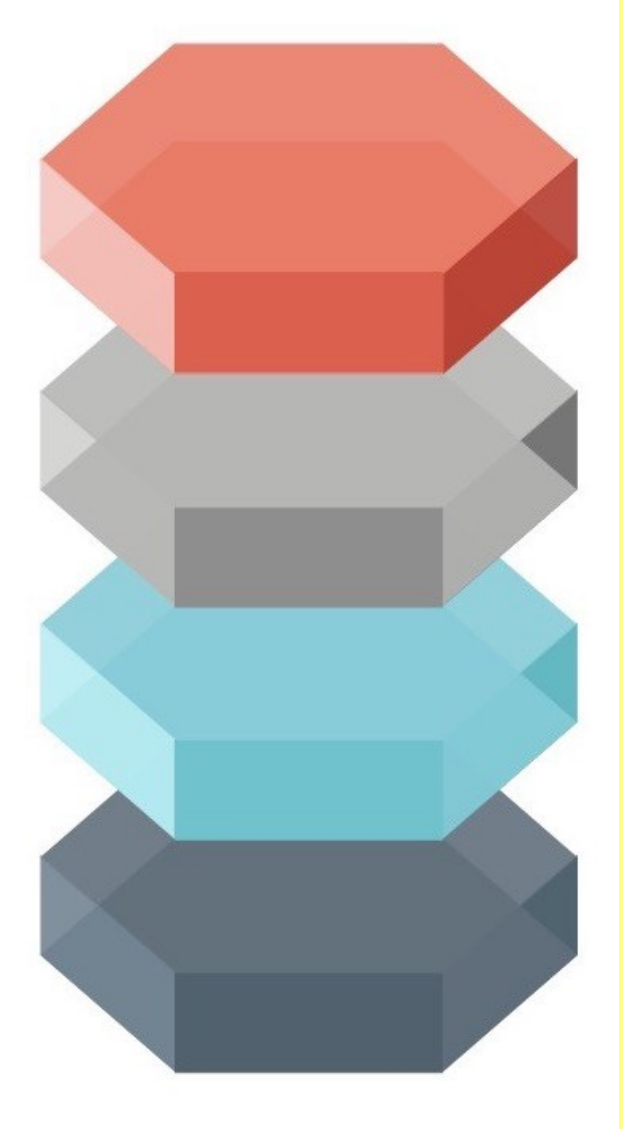
Ecosystem Open Energy Sharing Operator

01 Open Energy Sharing Operator (OESO)

Inspired by the Internet architecture distributed and independent networks that can function as standalone but will benefit greatly from being interconnected with as many compatible networks as possible. EP will include similar concept to peering & routing but for Energy Sharing. In short, the language needed to enable the "Internetification" of energy distribution.



Services
independent service providers

OESO
marketplace & operations

Network
energy recourses

Infrastructure
energy distribution cables

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First site

Technical pilot

Sharing of electricity over a property border LKF and LKP

Brunnshög, Lund

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Inauguration EnergyNet

- Publication of Energy Protocol
  - at GitHub with zero licensing
  - 21 April 2025
- Physical inauguration of first site (EN-0)
  - In Lund
  - 26 April 2025

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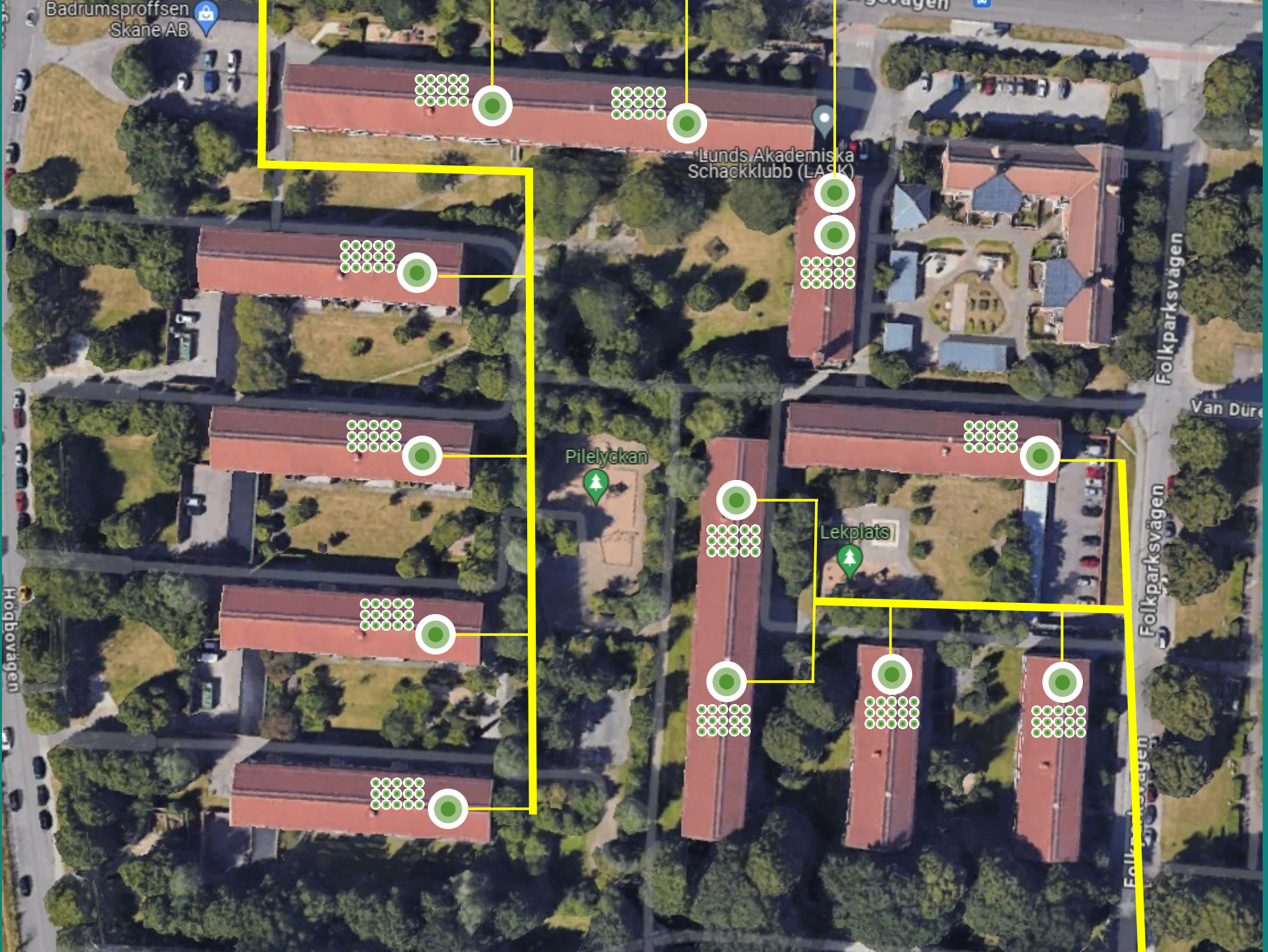

Commercial pilot

LKF

Pottugnen

10 houses

Old grid

1 000 000 kWh purchased electricity per year

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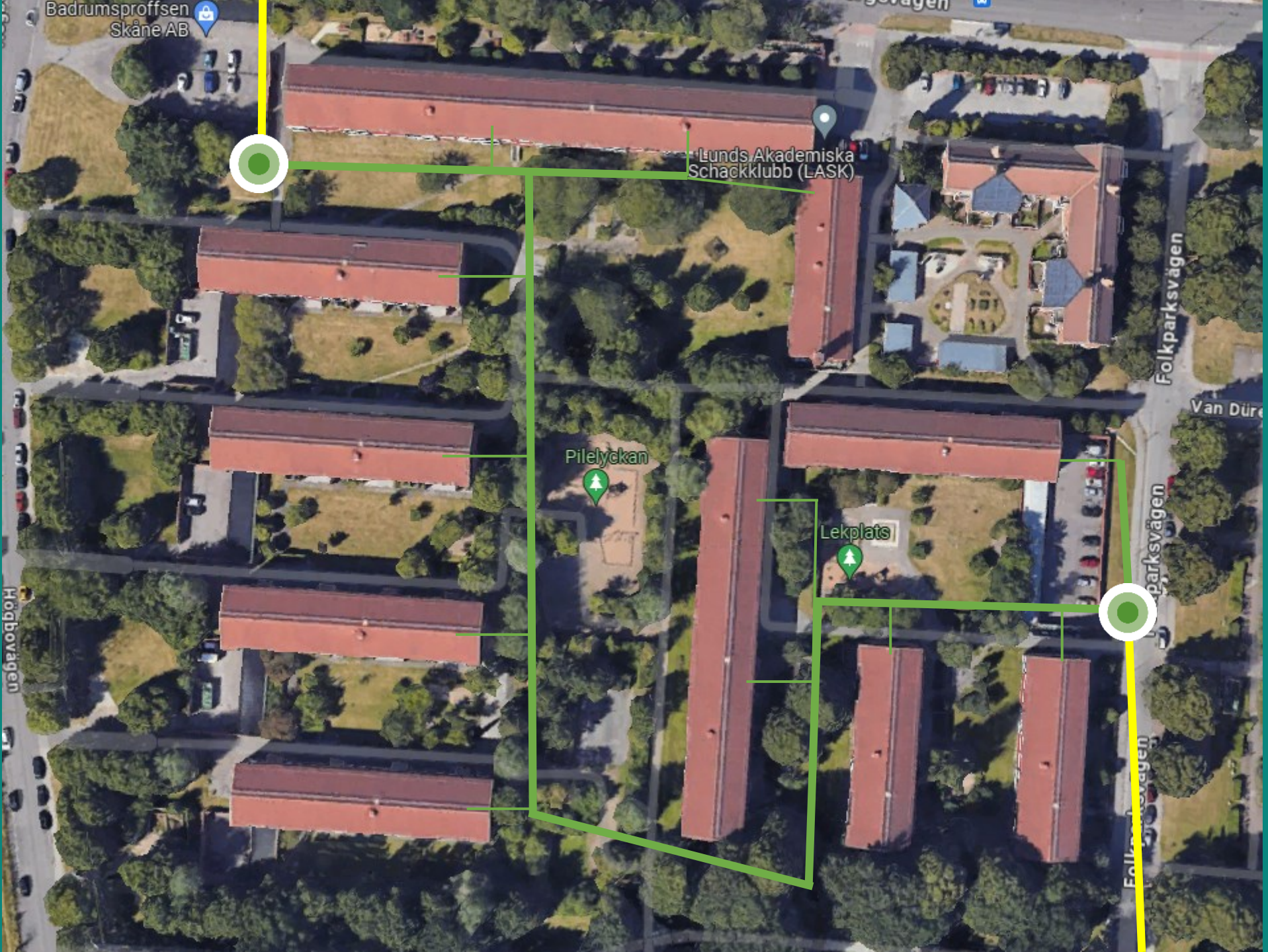
Investment



Commercial pilot

LKF

Pottugnen

10 houses

New grid

395 000 kWh purchased electricity per year

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Why Neighbourhood Energy Sharing Network?

Resilient No Single Point of Failure

Unlock Unlimited Local Power Generation

New Investment Sources (85% private)

with **zero negative impact** on trad. grid

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CoAction Lund is one of Vinnova’s system demonstrator for climate neutral cities. Lund and Stockholm are the pilots in Sweden.

Contact

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markus.paulsson@lund.se

Viable Cities

Energimyndigheten

VINNOVA
Sveriges innovationsmyndighet

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Everything is connected: air quality improvement as a starting point for rapid energy transition in the project 'Podkarpackie – Live and Breathe'

Anna Lorynowicz, EU LIFE 'Podkarpackie - Live and Breathe' Project Manager

Interreg
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NATIONAL FUND
FOR ENVIRONMENTAL PROTECTION
AND WATER MANAGEMENT

LIFE Integrated Project:

Effective implementation of the Air Quality Plan for the Podkarpackie Voivodeship, taking into account the problem of energy poverty. „Podkarpackie – live and breathe!”

Project number: 101103531

Anna Lorynowicz
Project Manager

The project: Effective implementation of the air protection program for the podkarpackie voivodeship, considering the problem of energy poverty: 'Podkarpackie – live and breathe' is being implemented with co-financing from the European Union's LIFE program and funds from the National Fund for Environmental Protection and Water Management in Warsaw. LIFE22-IPE-PL-LIFE Podkarpackie.

OBJECTIVE: **Implementation of the Air Quality Plan for the Podkarpackie Voivodeship and effective use of available EU and national funds allocated to improving air quality and energy efficiency**

Implementation period: 01.01.2024 - 31.12.2033

Project budget: 23,400,000 €

- **EU co-financing: 14,04 mln € (60%)**
- **NFEP&WM co-financing: 8,19 mln € (35%)**

PODKARPACKIE live and breathe

NATIONAL FUND FOR ENVIRONMENTAL PROTECTION AND WATER MANAGEMENT

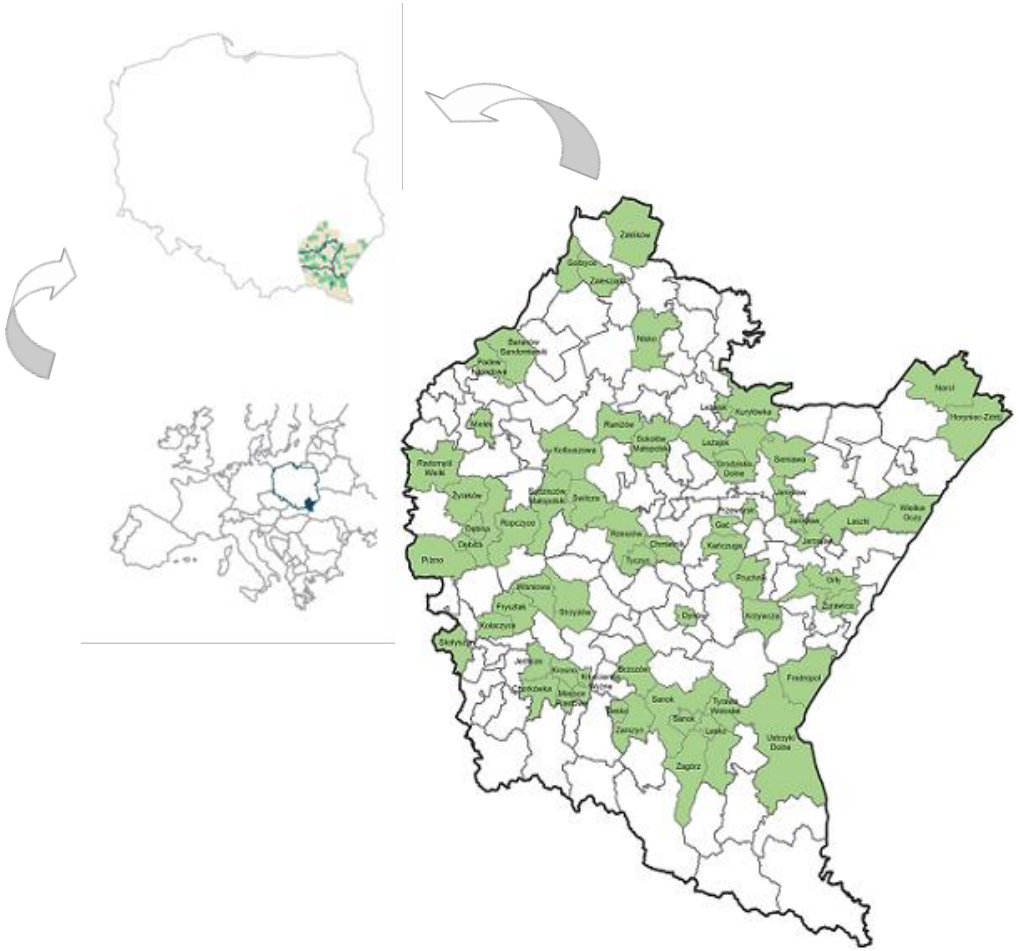
Anna Lorynowicz
Project Manager

PODKARPACKIE LIFE PROJECT PARTNERS
”Podkarpackie - live and breathe”

COORDINATING BENEFICIARY: Podkarpackie Voivodeship

61 MUNICIPALITIES
IN PODKARPACKIE VOIVODESHIP:

BARANÓW SANDOMIERSKI, BESKO, BRZOZÓW, CHMIELNIK, CHORKÓWKA, M.DEBICA, FREDROPOL, FRYSZTAK, JAROSLAW, LEŻAJSK, GAĆ, GORZYCE, GRODZISKO DOLNE, HORYNIEC ZDRÓJ, M. JAROSŁAW, JEDLICZE, KAŃCZUGA, KOLBUSZOWA, KOŁACZYCE, M. KROSNO, KROŚCIENKO WYŻNE, KRZYWCZA, KURYLÓWKA, LASZKI, LESKO, M. DYNOW, MIEJSCE PIASTOWE, M. MIELEC, NAROL, NISKO, ORŁY, PADEW NARODOWA, PILZNO, PRUCHNIK, M. PRZEWORSK, RADOMYŚL WIELKI, RANIŻOW, ROPCZYCE, M. RZESZOW, SANOK, M. SANOK, SĘDZISZÓW MAŁOPOLSKI, SIENIAWA, SKOŁYSZYN, SOKOŁÓW MAŁOPOLSKI, STRZYŻOW, ŚWILCZA, TYCZYN, TYRAWA WOŁOSKA, USTRZYKI DOLNE, WIELKIE OCZY, WIŚNIOWA, ZAGÓRZ, ZAKLIKOW, ZALESZANY, ZARSZYN, ŻURAWICA, ŻYRAKÓW



PODKARPACKIE live and breathe

NATIONAL FUND FOR ENVIRONMENTAL PROTECTION AND WATER MANAGEMENT

Anna Lorynowicz
Project Manager

PROJECT PARTNERS

Rzeszow Regional Development Agency

Institute of Energy and Fuel Processing Technology

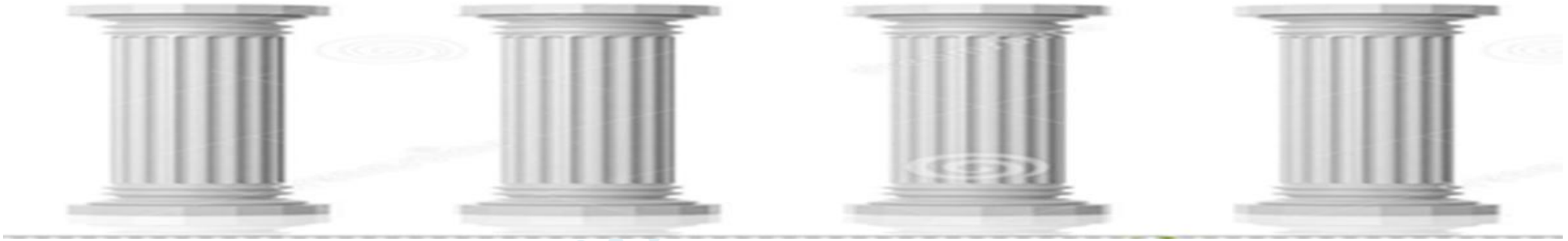
Prof. Żmijewski Association for Efficiency

Innovation Partnership Centre of Presov

Ekoskop Association

Anna Lorynowicz
Project Manager

The integrated project includes 4 pillars:



I

Reducing the impact of energy poverty among the residents of the Podkarpackie Voivodeship

II

Development and implementation a rational energy management system

III

Increasing the level of air quality and energy efficiency awareness among residents of the Podkarpackie Voivodeship

IV

More effective use of spatial planning tools/instruments to improve air quality in cities

Anna Lorynowicz
Project Manager

Pillar 1
Reducing the impact of energy poverty among the residents of the Podkarpackie Voivodeship

- Establishment of a coordinated support system for municipal self-governments (network of advisors) and strengthening of human resources responsible for the implementation of the AQP
- Increase the usefulness of the www.powietrze.podkarpackie.pl platform
- Improvement of equipment for personnel responsible for conducting controls of the implementation of the Anti-Smog Resolution
- Raising the level of knowledge in the field of energy and air quality management among local government staff

Anna Lorynowicz
Project Manager

THE MAIN TASKS OF THE AIR AND ENERGY ADVISOR

Activities for residents

- Comprehensive support for residents in the replacement of heat sources and thermo-modernization of biildings, installation of RES, energy and water saving solutions, as well as assistance in obtaining funds for the implementation of diagnosed actions (including My Electricity, My Heat, etc.).
- Conducting inspections of household furnaces and providing advice on energy efficiency and rationalization of energy consumption
- Conducting local information and education activities
- Comprehensive support for the energy-poor – by working with MSWC/CSWC to identify those affected by energy poverty and providing technical support (assistance in finding funds for deep thermo-modernization of buildings, replacement of the heating sources and/or installation of RES and impementation of energy and water saving solutions)

Activities for the municipality

- Identification of public buildings in need of thermo-modernization and replacement of heating sources, and assistance in obtaining funds for the implementation of the necessary measures
- Support of the municipal government in obtaining financial support for air quality and energy efficiency measures from national and EU funds
- Cooperation with the urban planning in the field of green and blue infrastructure and energy management in the municipality (including participation in the development of municipal strategic documents: plans and programs, preparation of projects and applications for municipal investments, etc.)

PPOP corrective action reporting

The network of subregional business and energy advisors employed at the Rzeszow Regional Development Agency

- **Rzeszow -** covering all municipalities located in the counties of: Rzeszow, Debica, Lezajsk, Lancut, Ropczyce-Sedziszow, and the city of Rzeszow;
- **Krosno -** covering all municipalities located in the counties of: Krosno City, Krosno, Jaslo, Brzozow, Sanok, Lesko, Bieszczady, and Strzyzow;
- **Przemysl -** covering all municipalities located in the counties of: Przemysl City, Przemysl, Jaroslaw, Lubaczow, and Przeworsk;
- **Tarnobrzeg -** covering all municipalities located in the counties of: Tarnobrzeg City, Tarnobrzeg, Stalowa Wola, Mielec, Nisko, and Kolbuszowa.

Anna Lorynowicz
Project Manager

The main tasks of
SUBREGIONAL BUSINESS AND ENERGY ADVISOR

- Providing **technical support to air and energy advisors,** municipalities and local entrepreneurs in a given subregion. Advisors will be equipped with thermal imaging cameras and trained in their use. Based on the needs identified by municipal advisors, the subregional business and energy advisors will use thermal imaging cameras to measure energy efficiency in individual households (in cooperation with municipal advisors)
- **Cooperation with municipalities and with MSWC/CSWC to identify people affected by energy poverty** and provide technical assistance to these households (assistance in finding funding for deep thermomodernization of buildings, replacement of heating sources and/or installation of the renewable energy ones, and implementation of energy and water-saving solutions)
- **Supporting local information and educational activities in municipalities** where there is no advisor (providing advice and information during local outdoor events, distributing materials, organizing meetings with local leaders, such as municipal or city guards, volonteer fire departments, priests, doctors, the farmer housewives' clubs – to inform about the need to change heating sources, etc.)

Anna Lorynowicz
Project Manager

- Supporting all municipalities in **identifying public buildings requiring thermomodernization and replacement of heating sources,** and **provide assistance in obtaining funds** to carry out the diagnosed activities and investments
- Supporting municipalities that do not employ air and energy advisors **in obtaining funds for the implementation of the AQP assumptions** (including the preparation of applications for the financing of investments in public buildings (FEP 2021 – 2027, FENiKS Programme, etc.) and investments for residents (e.g. FEP 2021 – 2027)
- Participating in **inspections of household heating systems** through **conducting anti-smog drone inspection campaigns**
- **Organizing meetings** for municipal advisors and staff of Environmental Protection Departments/Units to identify needs, exchange information between municipalities, initiate joint actions, etc.

Anna Lorynowicz
Project Manager

Pillar 2
Developing and implementing a system for rational energy management

- **Conducting pilot in 5 municipalities** - individual concepts for rational energy management
- Creation of the **Social Energy Incubator**
- **SEMS –** Smart Energy Management System
- **Training** in renewable energy sources and creation of local energy communities

Energy management teams

Creating a social energy incubator

Piloting a local rational energy management system

Energy independence of municipalities

Anna Lorynowicz
Project Manager

Pillar 3

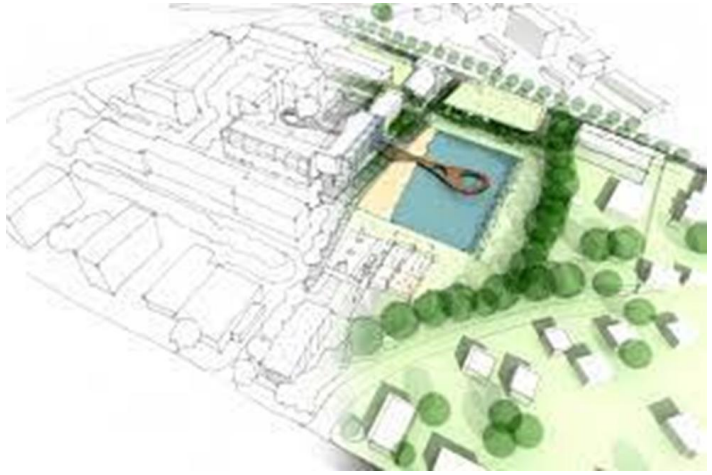
Increasing the level of awareness of air quality and energy efficiency among residents of the Podkarpackie Voivodeship

- Establishment of a local air quality information system;
- Conducting regional and local information and education campaigns;
- Strengthening the educational function of control activities under the Anti-Smog Resolution;
- Motivating local governments to implement actions to improve air quality.

Anna Lorynowicz
Project Manager

Pillar 4
More effective use of spatial planning tools/instruments to improve air quality in cities

- The use of the existing **urban greenery** and the design of new green spaces aimed at improving the air quality and the quality of life of city residents;
- Developing **municipal climate change adaptation plans**;
- **Information and education campaigns** to encourage residents to take individual action to increase green areas;
- **Organisation of a conference** to promote good practice and actions taken by municipalities to make more effective use of planning tools to improve air quality.



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Project Manager

EXPECTED IMPACTS
Key parts of plan/strategy implemented by the end of STRAT:

- At least 48% increase in primary renewable energy production by 2033
- Annual reduction of CO2 by 5852.7 tonnes eq. CO2/year
- Annual reduction of PM10 by 804.09 Mg/year
- Annual reduction of PM2.5 by 631.53 Mg/year
- Annual reduction of B(a)P by 0.2795 Mg/year
- Reduction of the area particularly vulnerable to climate change by at least 260.7 ha by 2033

Anna Lorynowicz
Project Manager

Thank You

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Developing intelligent energy communities in North Karelia, Finland: virtual energy communities, resource optimisation, and digital solutions

Kim Blomqvist, Project Manager at Karelia University of Applied Sciences, Finland

Interreg Baltic Sea Region
Co-funded by the European Union
ENERGY TRANSITION Enercracy

Smart Energy Communities
1.1.2024 – 31.12.2026
https://www.karelia.fi/projektit/alykkaat-energiayhteisot/

Pohjois-Karjala Maakuntaliitto

Euroopan unionin osarahoittama

Karelia

MIROTEX SÄHKÖASENNUS

SOLARWORKS

caruna

PKS Sähkökauppa

Elli Opiskelija-asunnot Oy Joensuun Elli

Smart energy communities - project

The project has two main objectives: to develop operating models for virtual energy communities and to increase knowledge related to energy communities.

A) Development of the operating models of the Virtual Energy Communities:

Digital twins of energy communities and peer-to-peer networks utilizing blockchain technology operating within them (housing companies, detached houses and companies as targets, scalable)

Development of the internal activities of energy communities

Development of the methodology for the trading platform for energy communities

Research and development of the possibilities of utilizing energy resources

Environmental Impact Assessment (LCA) of Energy Communities

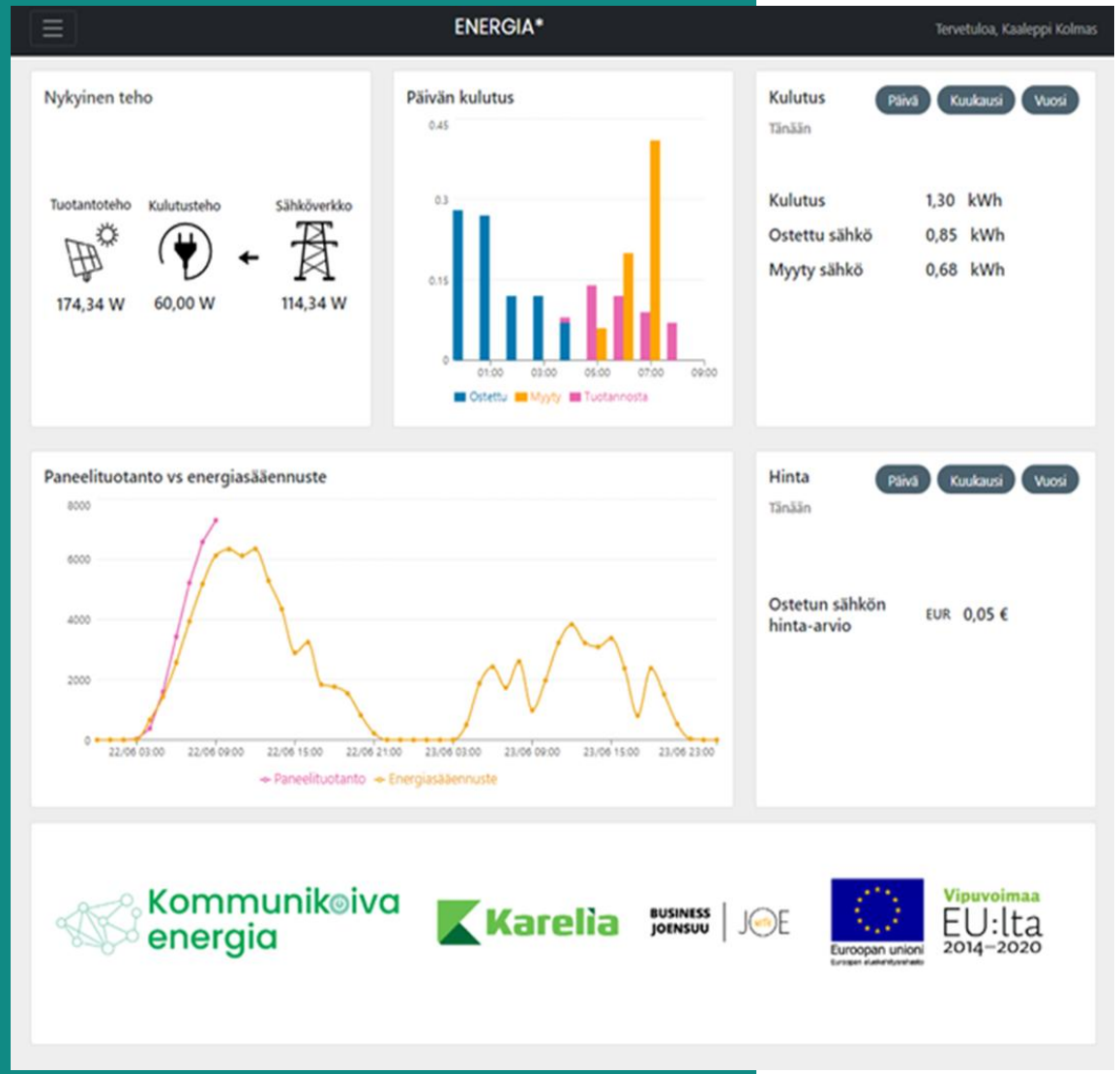
B) Increasing energy community knowledge and awareness:

The latest national and international information on energy communities and their activities will be collected.

The creation of energy communities will be promoted regionally. (equal energy transition, mitigation of energy vulnerability)

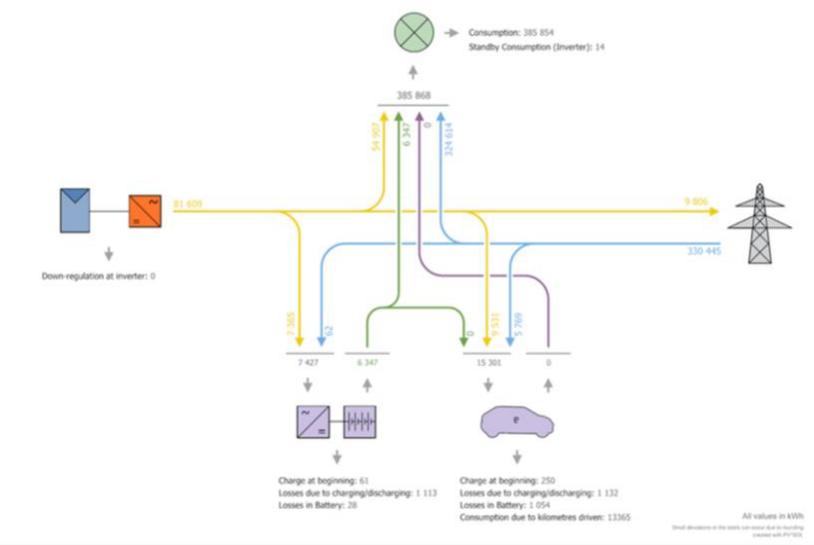
Communication of the benefits, opportunities and obstacles of energy communities between properties.

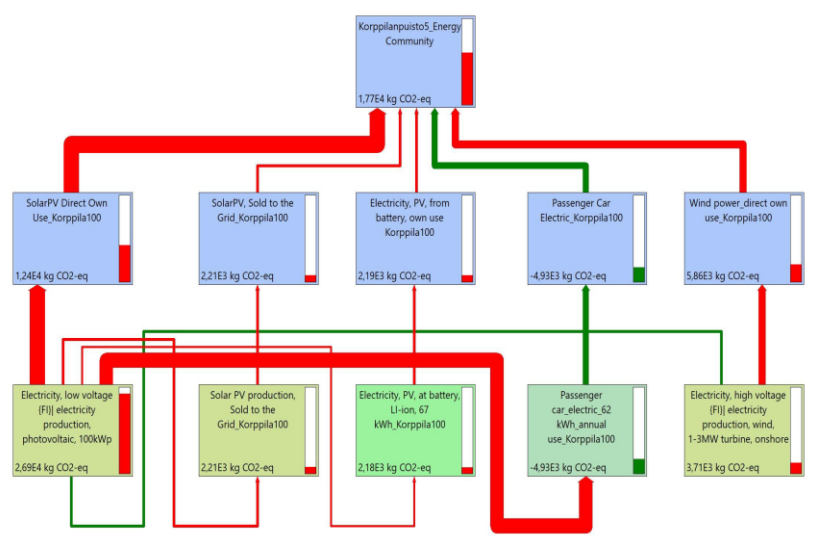
What have we done so far?



- Visualization and energy resource management for the energy community **(EC EMS)**
- Monitoring the consumption of the community and individual members
- Energy Community Production and Distribution of Production among the Community
- Energy weather forecast and electricity prices
- Connecting and controlling energy resources in 2025 and integrating a trading platform in a peer-to-peer network in 2026
- A fully open logic-based platform suitable for the management of shared and individual energy resources has been developed, which serves as a digital experimentation and development environment to promote the optimization of energy use, demand response and the utilization of solar energy.
- The digital platform enables the intelligent control of several different energy systems and resources based on e.g. hourly electricity prices, consumption forecasts and flexibility needs in energy communities.

LCA



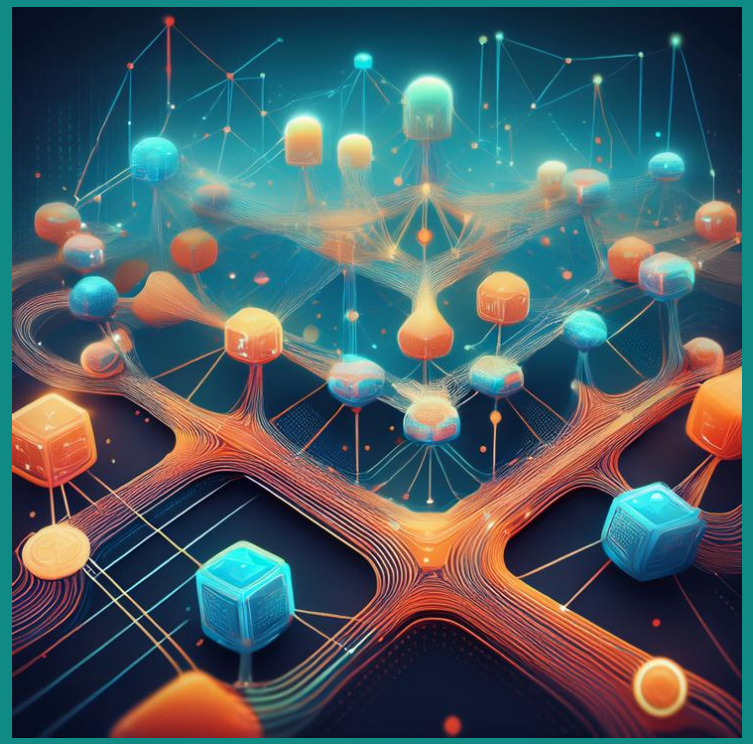


- Life cycle analysis is used to produce information on the carbon footprint and environmental impacts of different energy communities
- Life cycle analysis brings transparency to the communication of energy communities and their "greenness"
- Energy simulations (PV-SOL) and LCA (SimaPro) work well together
- The project has implemented the simulation of energy communities and the combination of LCA into a methodologically smooth entity
- LCA:s of virtual energy communities, including peer-to-peer networks (results in 2026).
- Impacts of the use of energy resources on the life-cycle analysis of energy communities (e.g. flexibility, electricity storage, etc.)(results ready in 2026).
- S-LCA (taking into account social impacts/risks) and broader sustainability reviews (S-LCA study, e.g. energy storage in the implementation phase)

Peer-to-peer networks in energy communities

- The project has developed prototypes for blockchains and a digital energy community.
- To simulate energy trading on a peer-to-peer network, a Proof-of-Work and Proof-of-Stake comparison (smart contracts vs. computational contribution to the blockchain) has been created.
- For the trading platform and its simulation, various implementation methods of smart contracts have been investigated and studied, among other things
- At the moment, a digital twin has been implemented for a virtual energy community (test bed) formed by detached houses based on real consumption profiles (8 members)
- Real-time consumption data from the next generation electricity meters
- PV-production data from the real operating environment or simulated small-scale production and energy resources
- Integration of AI forecast models, peer-to-peer network and trading platform are ready in 2026

Peer-to-peer networks in energy communities



Peer-to-peer network makes an energy community:

- active market player, not just a consumer group
- more flexible than an exchange electricity contract
- more economically efficient than a common storage alone
- The peer-to-peer network operates alongside normal DSN.
- Better price signal within the community, strengthening social justice
- Increases self-sufficiency and makes the model attractive to investors

The structural division can be implemented e.g. on market terms

- An automatic purchase quota can be offered

The price is determined by:

- according to intra-community offerings
- Protected by a price cap
- Not subsidized, but market-based and still protected P2P trading.

Electricity storage/remote energy resources facilities in energy communities

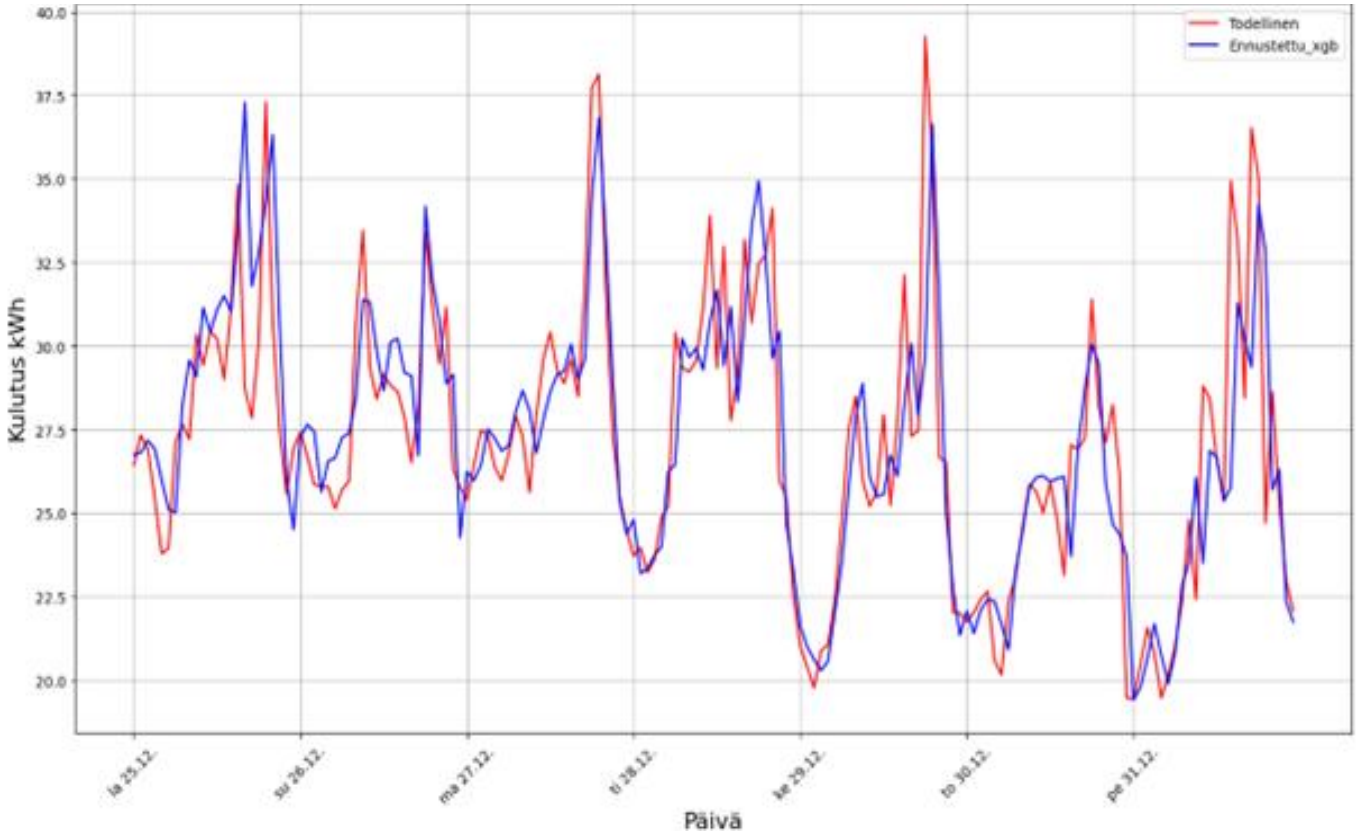
- Based on simulations, an electricity storage can be a profitable investment if it is utilized in 24/7 –for solar/wind power storage, energy arbitrage and operating in the reserve market.
- Electricity storage play an important role for the solar energy community because there is so little solar energy available in winter.
- According to the results of the simulation sites and consumption profiles, the size of the of solar PV-system in the energy community can be increased by about 2-3 times with the help of an electricity storage.

Building technical readiness	Arbitrage benefit (hours/day)	Annual hours (estimate)
Conventional system without control	0–1 h	0–365 h
Smart control, no battery	2–6 h	700–1,400 h
Battery storage + automation	4–10 h	1,500–3,650 h

The role of electricity storage in a peer-to-peer network:

- as a market maker, as a final buyer/seller, enabler of neighbourly rebates within energy communities
- If supply too much → the storage is loading and if demand too much → the storage is unloading, this will stabilize also the EC internal market

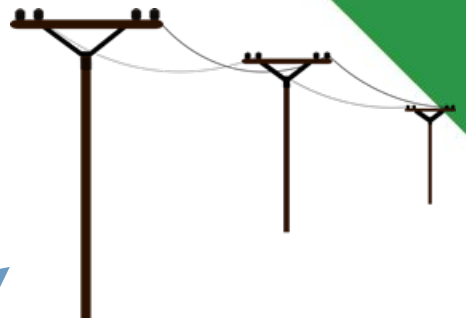
AI-based solutions



XGBoost algorithm prediction

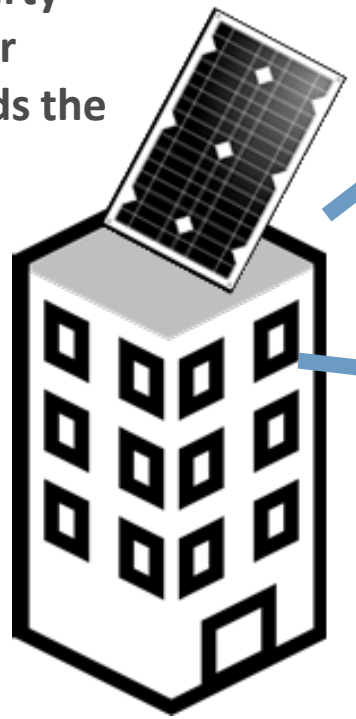
- Optimizing energy flows in energy communities requires complex data processing, The project has studied AI-based deep reinforcement learning (DRL), which combines deep learning and reinforcement learning methods, enabling intelligent control of energy use.
- The project has tested the DRL algorithm in a simulated energy community. The algorithm recommended the use of energy flows for a period of 24 hours, with the aim of minimizing energy costs. The agent received feedback on their actions, such as buying energy at a cheap time or storing it in a battery.
- The simulations showed that the DRL worked well, for example, in apartment buildings profiles
- In further development 2026, the algorithm will be fine-tuned and possibly new functions will be added (e.g. selling energy to the grid) and testing will be carried out in connection with digital twins with real data.

Virtual energy community pilot
Joensuun Elli properties



Local distribution system company

Joensuu Elli property where solar power production exceeds the need



Surplus production is transferred to the distribution network

Overproduction is compensated virtually (electricity supplier)

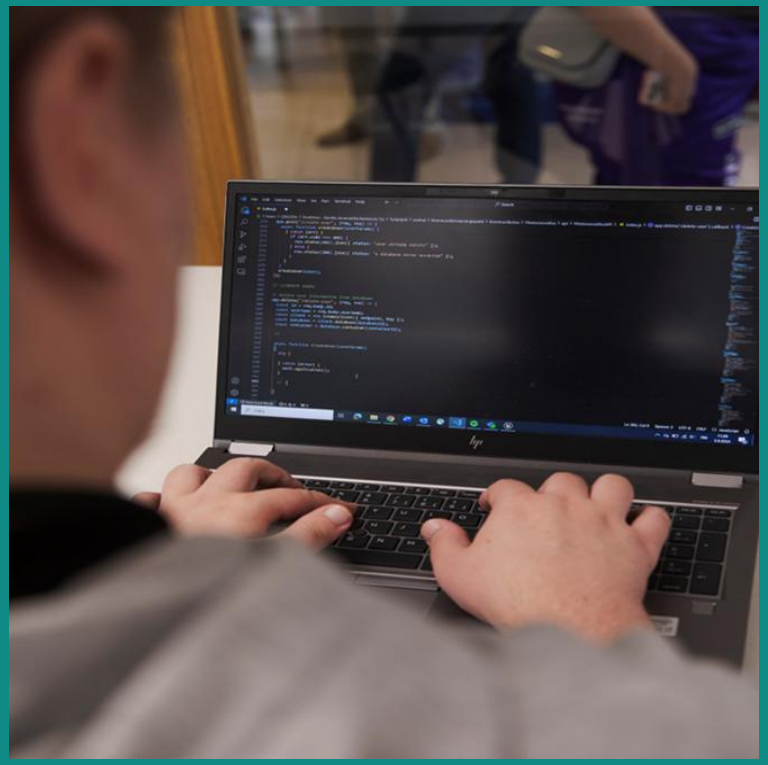
Joensuu Elli's property, where there is no own production (location 3km away from the solar PV system)

POHJOIS-KARJALA Maakuntaliitto

Euroopan unionin osarahoittama

Karelia

Virtual Energy Communities & Peer-to-Peer Networks



WHY?

"From the **point of view of energy poverty, a fairer energy transition and the increasing prevalence of energy communities, it would be very important that the entire housing sector would be fairly involved**. With regard to the current operating models of energy communities, energy communities in sparsely populated areas in particular must be developed more in the direction of virtual energy communities. ”

"A decentralized large-scale electricity market on a public blockchain is not possible at the moment. On the other hand, **using a private or permissioned blockchain can solve many of the problems of a traditional blockchain. There are no entities that want to benefit financially from the network. As a result, transaction costs are eliminated or are negligible.** In addition, network performance will improve and energy consumption will be significantly reduced.“

"**Digital tools, such as peer-to-peer value sharing platforms, are also scalable for the value streams of energy communities.** Flexibility-based digital business models can scale relatively easily when customers already have flexible loads in their homes.“

"**Value streams associated with energy communities, based on investments in non-location-based production, enable crowdfunding schemes and high volumes** of participation quickly through an energy community or platform. In addition, **production in virtual energy communities can be optimized to where it is most cost-effective.**"

Thank you!
KARELIA UAS

The project's results and materials can be found on the project's website.
https://www.karelia.fi/projektit/alykkaat-energiayhteisot/

Inspiration Station: Driving Change through Stakeholder Cooperation for Green Futures
January 14, 2026 at 9:00 - 11:00 CET. Prior registration to the webinar is required

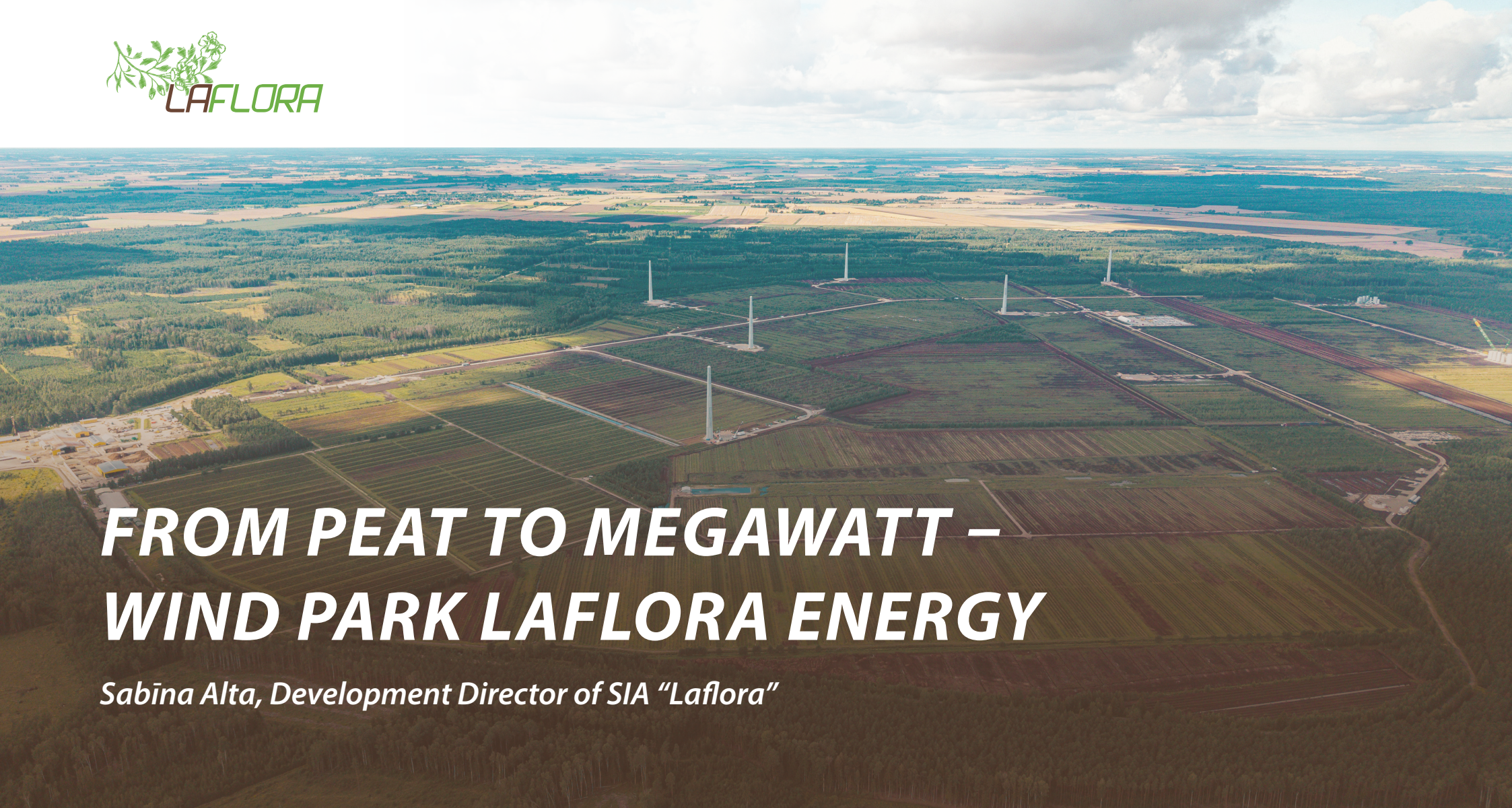
From idea to construction: the story of the development of the wind park in Kaigu swamp, Latvia

Sabīna Alta, Development Director at Laflora Ltd

Interreg
Baltic Sea Region

Co-funded by
the European Union

ENERGY TRANSITION
Enercracy

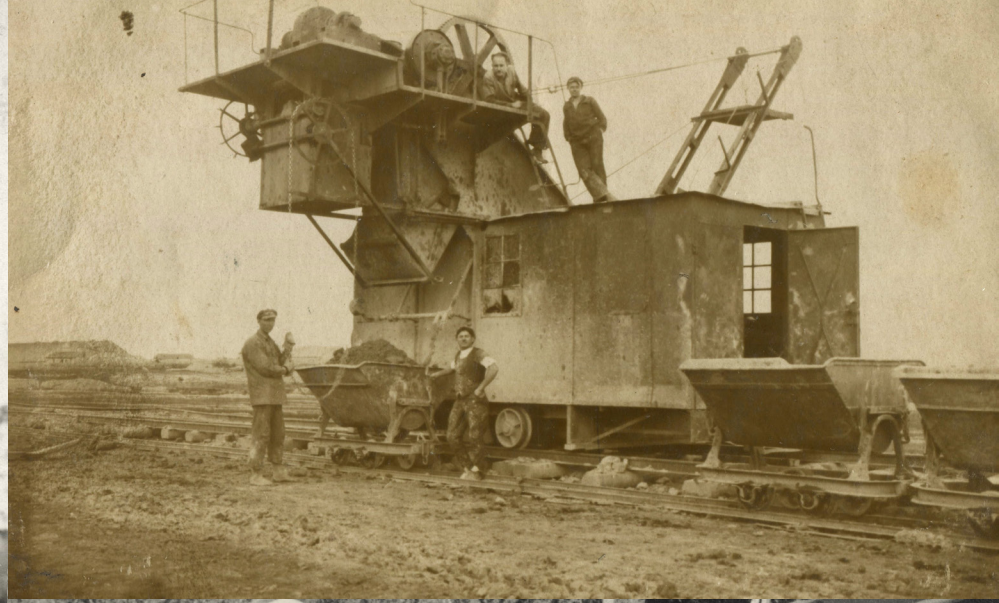


FROM PEAT TO MEGAWATT – WIND PARK LAFLORA ENERGY

Sabīna Alta, Development Director of SIA "Laflora"

CARBON BUILT THE WORLD WE KNOW,

WIND WILL SUSTAIN THE WORLD WE NEED



ENERGY
PEAT
GARDENING

- *Historical reliance on peat as an energy source.*
- *Importance of peat: availability, tradition, early industrial use.*

"GREEN" PEAT TODAY?

- *Latvian peat products are in demand all over the world.*
- *They play an important role in European horticulture, providing 31% of the demand for professional horticulture.*

LATVIA IS THE LARGEST EXPORTER OF PEAT PRODUCTS IN THE WORLD

MODERN CHALLENGES OF THE PEAT INDUSTRY

ENVIRONMENT:
CO2 EMISSIONS

IMPACT ON ECOSYSTEMS:
BIOLOGICAL DIVERSITY

SOCIAL & CULTURAL:
JOBS TIED TO INDUSTRY

LAFLORA: THE LARGEST NATIONAL PEAT INDUSTRY COMPANY IN LATVIA

- IN THE INDUSTRY SINCE 1995
- PEAT EXTRACTION AND PROCESSING, PRODUCTION OF PEAT SUBSTRATES FOR AGRICULTURE AND FORESTRY
- FOOD PRODUCTION, FOREST SEEDLINGS, AND ORNAMENTAL PLANT CULTIVATION
- 90% EXPORTED TO ~100 COUNTRIES
- TURNOVER IN 2024: EUR 34.7 MILLION
- TAXES PAID IN 2024: EUR 6.1 MILLION
- NUMBER OF EMPLOYEES IN 2024: 312

MANAGED LAND AFTER-USE: RECULTIVATION

- *When making a decision to use a bog for peat extraction, a simultaneous decision is made on the land use after peat extraction is completed, as required by regulatory acts.*
- *The respective reclamation measures are planned by SIA "Laflora" taking into account potential environmental impact, economic, and other considerations.*

**MK RULES NR. 570*

LAFLORA VISION

Laflora shapes its vision and defines its core operating principles for the most efficient use of bogs as land capital in the interests of the owner, the nation, and the state.

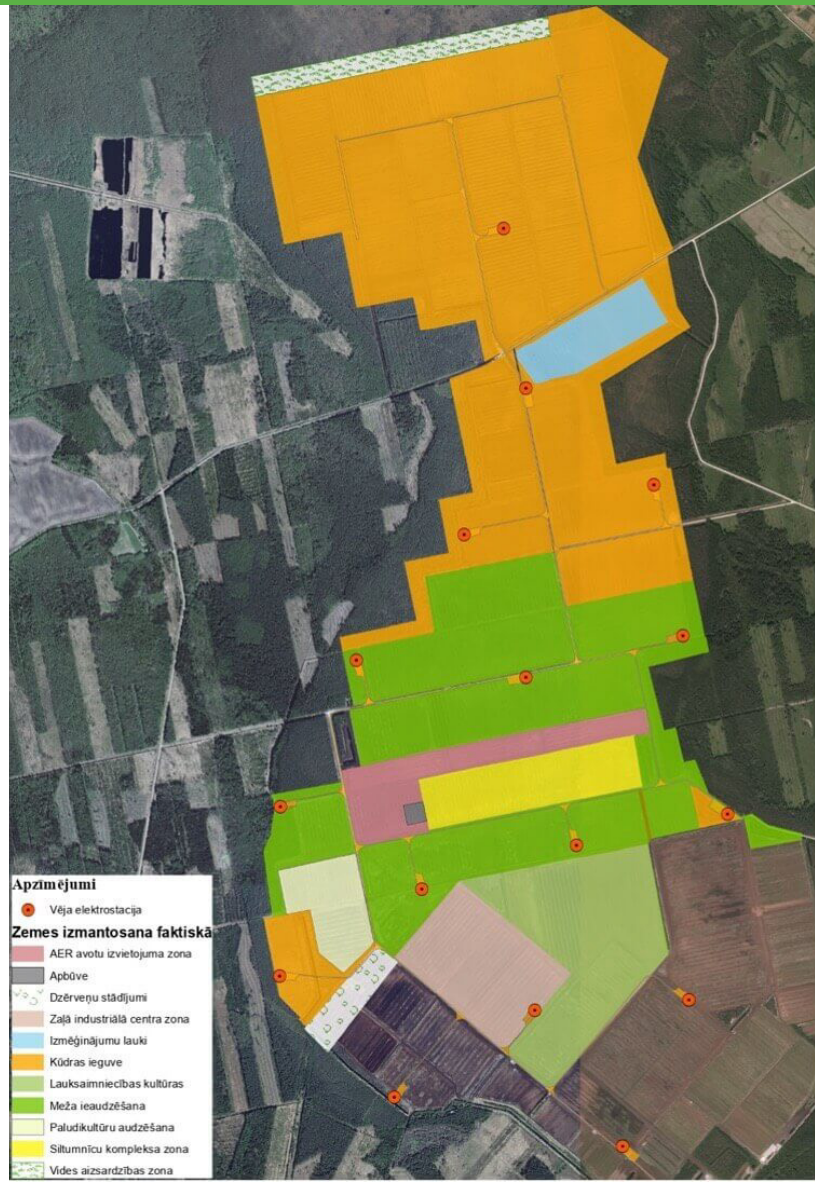
EUROPEAN GREEN DEAL

SUSTAINABLE DEVELOPMENT GOALS

Corporate Sustainability Reporting Directive

FROM BOG TO PARK

- TOTAL AREA: 763 HA
- OWNED AND MANAGED BY LAFLORA
- AGE: 5700
- AVERAGE PEAT THICKNESS: 5–7 M
- 503 HA UNDER RECULTIVATION
- 260 HA UNDER PEAT EXTRACTION



STEP ONE: WIND PARK

- WIND PARK “LAFLORA” OWNED BY LATVENERGO AS (CAPEX: > 185 M EUR)
- 16 NORDEX 6.8 MW HYBRID TURBINES
- TOTAL CAPACITY: 108.8 MW
- ELECTRICITY GENERATED PER YEAR: 350 GWH
- 11 LATVIAN COMPANIES (CAPEX: > 95 M EUR)
- END OF PROJECT: YEAR 2026

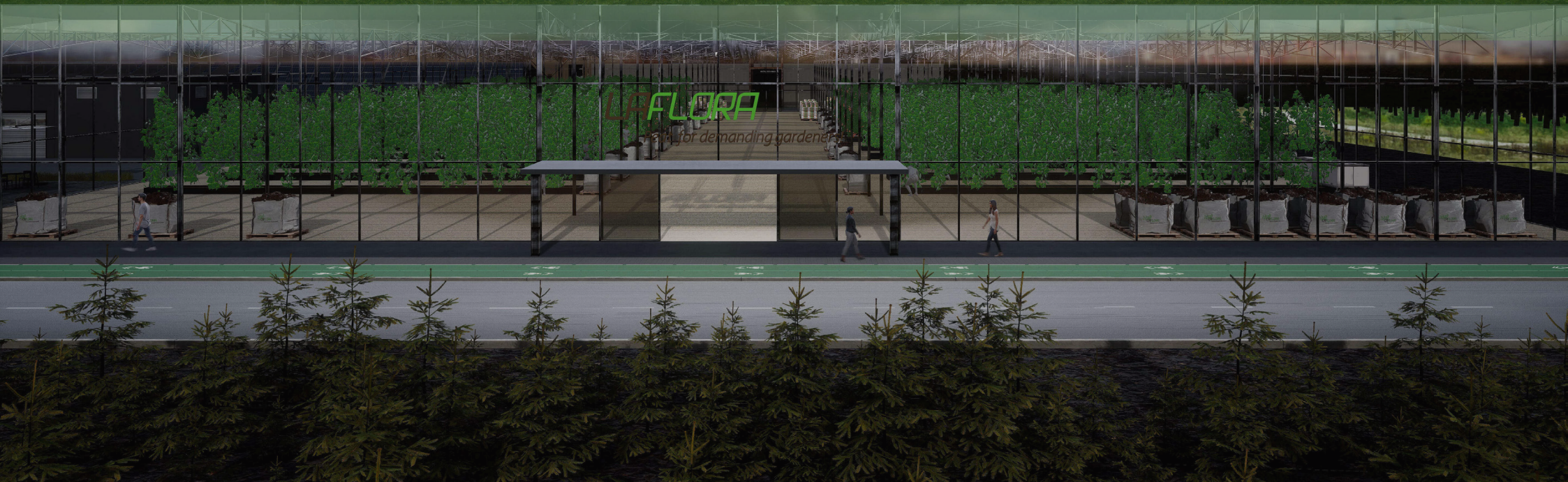
STEP TWO:
GREEN INDUSTRIAL AREA

OASIS OF RENEWABLE ENERGY

- RES INSTALLATION: 28 HA
- RENEWABLE HYDROGEN PLANT
- SOLAR POWER PLANT: UP TO 125 HA
- GREENHOUSE COMPLEX: UP TO 35 HA
- H_2 REFUELING STATION
- ENERGY-INTENSIVE PRODUCTION FACILITIES: ~ 20 HA
- RECREATION ZONE

OUR GOALS

- *To create the first green energy industrial park in the region, obtaining a green certificate*
- *To offset emissions generated by core operations, in synergy with renewable energy and emission-reducing technological solutions*



TRANSFORMATION OF VALUES

- TRANSITION = ENVIRONMENTAL NECESSITY + ECONOMIC OPPORTUNITY
- PEAT → WIND: SYMBOLIC AND PRACTICAL SHIFT
- CALL TO ACTION: SUPPORT POLICIES, INVESTMENT, INNOVATION

LAFLORA

THANK YOU FOR YOUR ATTENTION!

Inspiration Station: Driving Change through Stakeholder Cooperation for Green Futures
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Why did the Estonian islands create an energy agency for transition and independence?

Taavi Liivandi, Consultant at Estonian Islands Energy Agency, Estonia

Interreg
Baltic Sea Region

Co-funded by the European Union

ENERGY TRANSITION
Enercracy

EISEA
ESTONIAN ISLANDS ENERGY AGENCY

Island Learnings from EISEA

A Just Transition for the Estonian Archipelago

Est. 2023 | Saaremaa • Hiiumaa • Muhu • Kihnu • Vormsi • Ruhnu

Taavi Liivandi

14.01.2026

Co-funded by the European Union

Why an Islands Agency?

- **Dispersed Settlement:** Unique service delivery challenges in isolated regions.
- **Building Stock:** Critical need for energy-efficient retrofitting and heating.
- **Diesel Dependency:** Transitioning public ferries and bus networks to green electricity.
- **Aggregation:** One technical body for multi-municipality procurement. OSS to be.
- **Agency’s Collaborative Role**

  EISEA enables project aggregation, community engagement, and bridges local needs with EU funding.

Archipelago Snapshot (2025)

Indicator Category	Value / Capacity	Notes
Total Population	~45,224	Density: 14.77 res/km²
Electricity Consumption	209 GWh (2023)	Decreasing trend (efficiency)
Solar PV Nominal	33.81 MW	High island potential
Wind Nominal	16.51 MW	Key for off-shore scaling

Founding & Governance

Social Enterprise

EISEA is structured as a non-profit social enterprise owned by island municipalities and local entrepreneurs.

Regional Coverage

Initially five municipalities; Ruhnu joined in 2024 to complete full archipelago representation.

Academic Link

Strategic partnership with **TalTech** to ensure data-driven energy planning and monitoring.

EU Network

Active member of FEDARENE and the Clean Energy for EU Islands (CE4EUI) initiative. Member of BEIC - Baltic Energy Islands Connect.

Energy Services Portfolio

Public & Business

EISEA supports local governments, communities, and businesses with energy renovations, transport strategies, and resource efficiency. Deep building renovations, fleet decarbonization, and resource efficiency audits.

Communities

Advisory for apartment associations and support for local energy cooperatives.

Innovation and Collaboration
Partnerships with agencies and academia foster knowledge sharing and capacity building for sustained decarbonization.

Year One Impact (2024)

€20.6M

Investments Mobilised

Under LIFE CET commitments

40+

Apartment Associations

Receiving direct advisory services

In pipeline: Establishment of Hiiumaa's first energy community (Kärdla Sports Centre) using a solar + battery storage hub.

Roadmap to 2030

- **Offshore Wind:** Leveraging >7 GW Baltic pipeline for P2X hubs.
- **Smart Resilience:** Smart ports and EV infrastructure mapping.
- **Energy Hubs:** Kihnu & Vormsi school renovation and smart heating pilots.
- **Zero Carbon:** Ruhnu targeting 100% renewables by 2030.
- Community Energy and Decarbonization
  Scaling energy communities and joint procurement democratize clean energyaccess and reduce costs on islands.
- Strategic EU Engagement
  Engagement with EU initiatives secures funding and aligns island projects withclimate and Green Deal goals.

Key Learnings for Replication

- **Neutral Hub:** The agency acts as a neutral technical capacity for multi-island needs.
- **Anchor Locally:** Build projects around community needs like schools and transport.
- **Data First:** Invest in monitoring platforms to track real transition progress.
- **EU Synergy:** Blend LIFE, CE4EUI, and ELENA instruments to de-risk projects.

Thank you for listening!

EISEA
ESTONIAN ISLANDS ENERGY AGENCY

Co-funded by the European Union

Contacts

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interreg-baltic.eu/project/enercracy

The Enercracy project is co-financed by the Interreg Baltic Sea Region Programme, which fosters transnational cooperation to address shared challenges and drive sustainable development across the region. The project's total budget is EUR 1,591,594.51 (including EUR 1,273,275.59 of EU funding)