

Energy transition in rural communities in Finland

What are the opportunities?



Älvbyarna/Itäisen Mustasaaren Jokikylät and energy transition

- Local opportunities in energy transition
- Practical solutions applicable on the former elementary school
- Is it possible to become an energy community?
- Civil society value for Älvbyarna/Itäisen Mustasaaren Jokikylät as well as other rural communities and associations in Finland and Ostrobothnia

- Method of finding answers: RIPEET and SmartRural27

Responsible research and Innovation Policy Experimentations for Energy Transition

Pilot project: Rural Green Transition in Ostrobothnia – Case Älvbyarna



RIPEET is funded by the Horizon 2020 Framework Programme for Research and Innovation under grant agreement no. 101006295.

Älvbyarna/Jokikylät

The River Villages

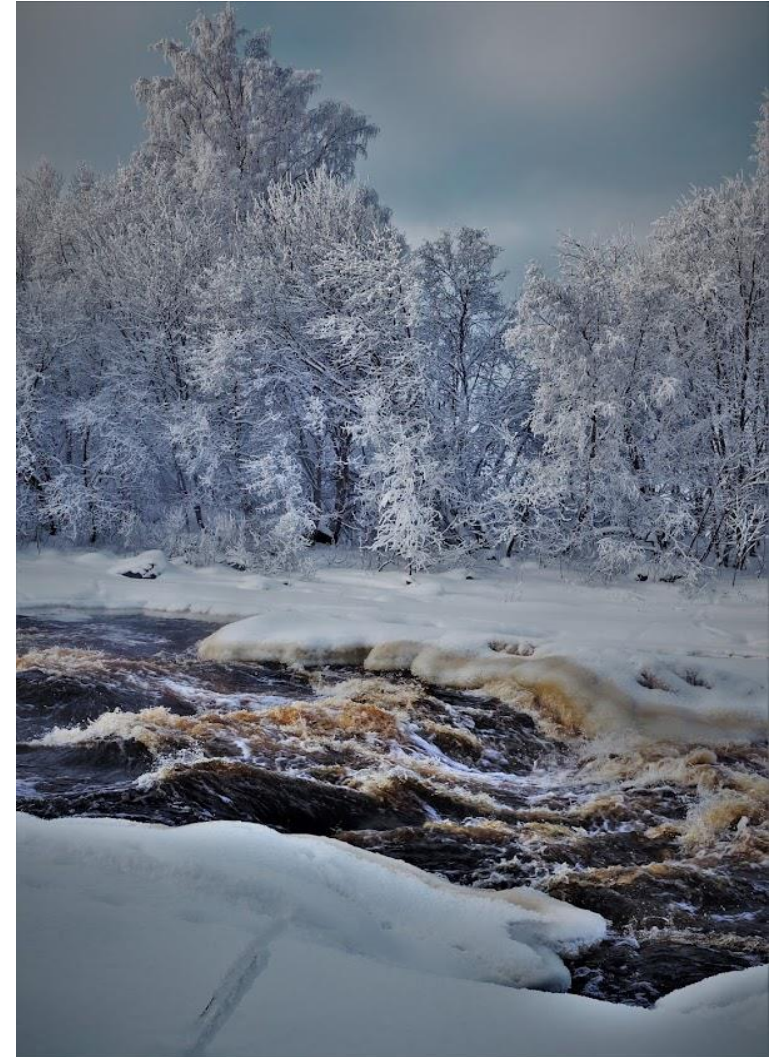
- Six villages in the municipality of Korsholm, 20 kms north of Vaasa, situated on both sides of the Kyrö river, therefore called “The River Villages”
- The names of the villages: Veikars, Anixor, Martois, Voitby, Staversby och Miekka
- Inhabitants: Around 700

The Kyro river

Summer



Winter

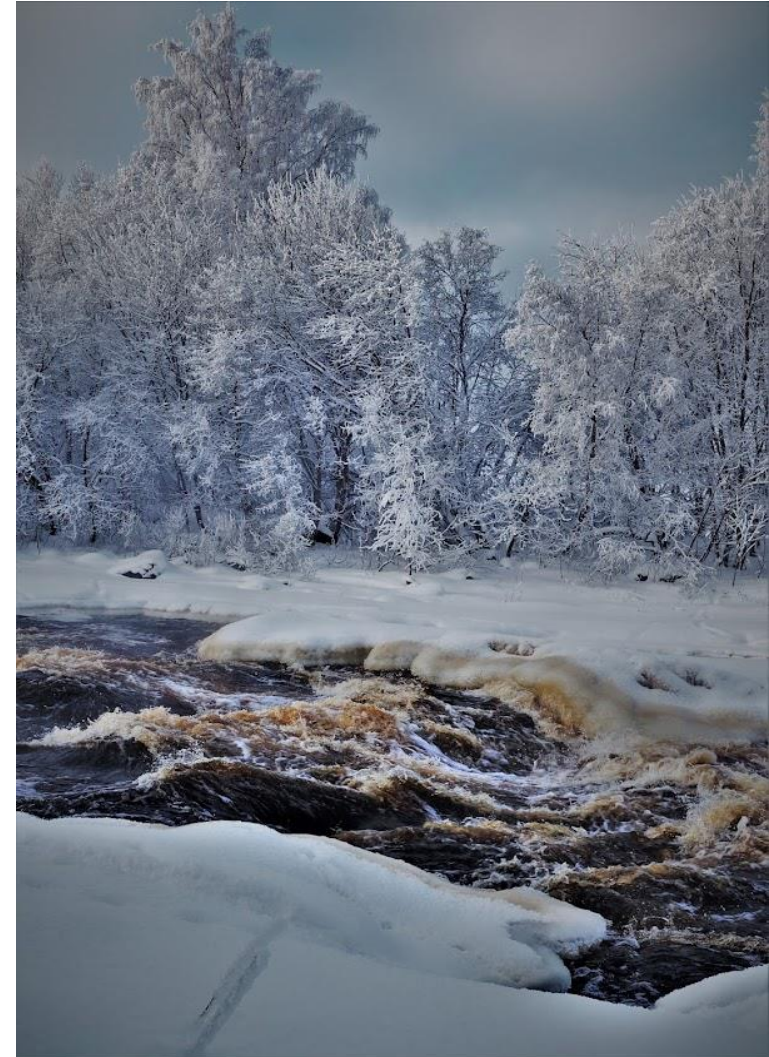


The Kyro river

Summer



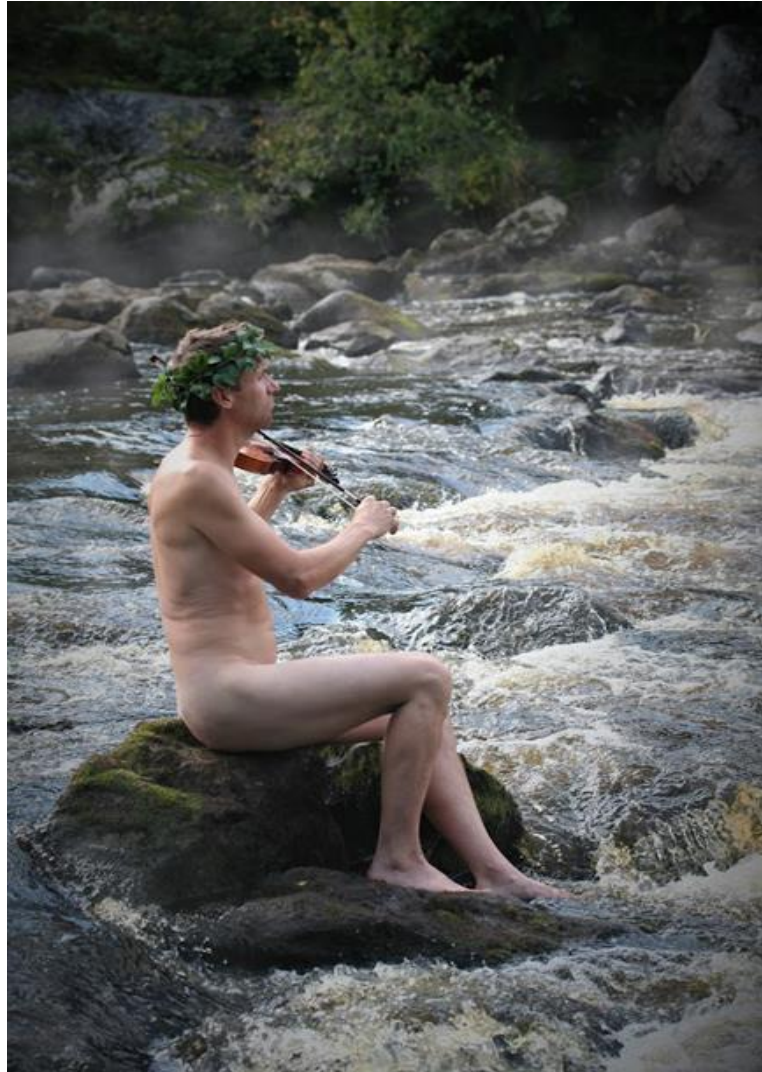
Winter



Old traditional buildings



Näcken and skogsrået



Älvbyarna Vision for 2050

In 2050, Älvbyarna are known for the creativeness of the inhabitants and their ability to rethink community life. **The carbon footprint of the villages is one of the lowest on national level, thanks to innovative collective energy solutions.** Well-being is wide spread and the inhabitants in the villages use the local diverse welfare services as well as daycare and the visiting general physician found in the service and activity center. Growing up and aging in Älvbyarna is safe, since there is always someone to ask for advice and it is also possible to hire the village janitor. No one is alone, there is always someone to talk to at village lunch, the village garden or the central activity space with a café. The village parties also strengthen community spirit and people new to the villages soon get to know everyone. The inhabitants have active leisure time, where nature plays a central role. More and more of the people in the villages get to be over 100 years old and surprisingly many manage at home, thanks to good social network and that they live a physically active life and have a healthy diet. The countryside service home for elderly is internationally known and actively cooperates with Japan regarding the positive effects of nature on well-being.

The resource and the need in RIPEET: A hydroplant and a former elementary school

- There is an old hydroplant in a side flow of the river and also a former elementary school owned by the municipality, which the village association would like to buy in order to create a service and activity center. Technical solutions for local energy production plus sustainable heating of the school is needed in order to make this feasible.



The role of the village association in the RIPEET pilot

The name of the RIPEET call was: Energy solutions connecting local resources to local solutions

Älvbyarna has a need of good energy solutions in order to reach the target in the vision for 2050: **one of the lowest carbon footprints nationally**. There is a **potential local resource** in that there is a hydroplant in a side stream of the river. Another resource is that it is an **open minded community** with many highly educated people **interested in sustainable living**, who are **willing to do volunteer work** for the good for the good of the inhabitants in the villages, and also **the wider community** in Korsholm and Ostrobothnia. **The village association is very active and already runs different projects on transition activities** and arranges community activities and events. The village association hopes that the RIPEET pilot can help pinpoint promising local energy solutions.

The active part of the village association is to coordinate the co-creation process.

Co-creation in Case Älvbyarna

Stakeholders:

Civil society:

Aktion Österbotten (a local LAG group)

Svenska Österbottens Ungdomsförbund (a regional umbrella organisation for youth associations)

Finlands svenska hembygdsförbund, (The Finnoswedish heritage association)

Älvbyarna i Östra Korsholm rf

Municipality: Korsholm

Company: Stormossen, a local waste treatment and circular economy company that is jointly owned by six communities

Regional business and development company, VASEK, The regional business and development company for the Vaasa region, specific knowledge of circular economy

Universities and researchers: Novia University of Applied Sciences (several representatives)

The co-creation process, case Älvbyarna

- The co-creation process is outlined in the pilot application, but it is also partly formed organically when needs arise during the pilot. **No meetings will be held for the sake of meetings, all must have a purpose.**
- The civil society stakeholders hold separate meeting in order to ensure **that the technical solutions created meet relevant needs civil society stakeholders and take into account specific factors of importance.** The civil society stakeholders will also evaluate pilot activities and spread the pilot results regionally and possibly even nationally.
- The large group of stakeholders meet up at three meetings, a kick-off meeting, a mid-way meeting and a meeting at the end of the pilot. The kick-off meeting will give input to the technical people and quite possibly also the civil society stakeholders on solutions to consider and limitations to take into account. The mid-way meeting will evaluate the pilot process and support the work process with further input, the final meeting will evaluate decide which needs can be further investigated and specific suggestions on ways of taking the results on through other pilots and projects. It will also be noted which immediate possibilities are relevant for regional energy transition in Ostrobothnia. The Regional Council of Ostrobothnia will make sure these possibilities are noted and taken into account when trying to solve the regional development challenges regarding sustainable energy systems and climate-smart innovations and business models in Ostrobothnia. **The civil society stakeholders will spread information about the solutions using their networks, as well as the guide for resident and community operated energy production.**
- On top of this, there will also be an end user test of the calculation tool programmed as part of the pilot. Civil society organisations will be specifically invited, but this test will also be open to people in the villages as well as other interested parties.
- There will likely also be a meeting open to all interested about the possibilities around business models for the renewed hydro plant and the usage of the energy produced locally.

SmartRural27, Knowledge Cluster of Renewable Energy Communities



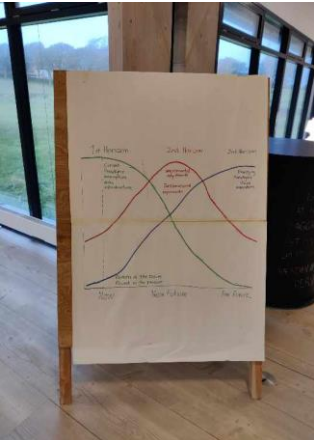
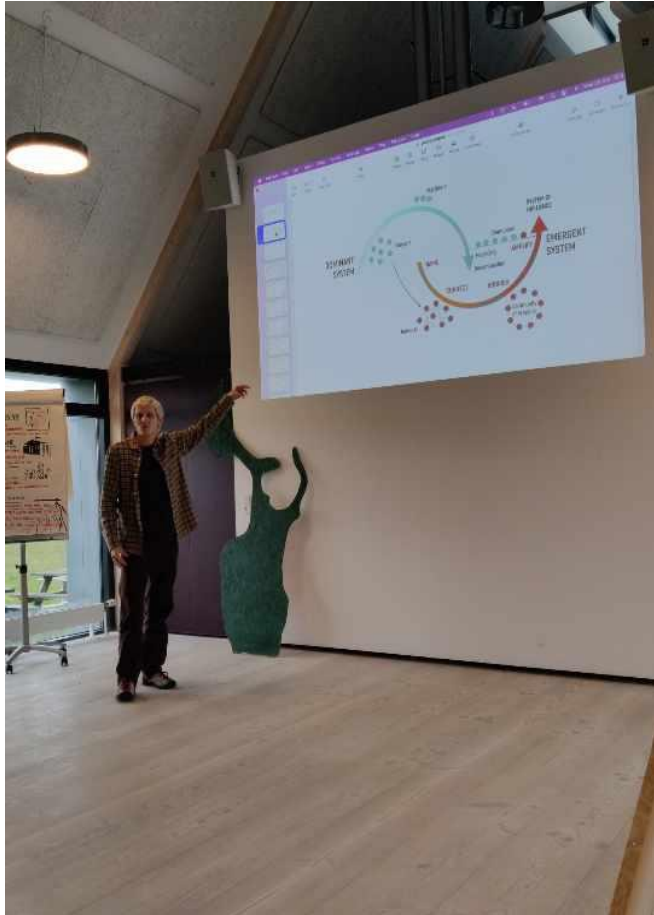
- Participation in seminars

- ✓ Introductory meeting in March 2023
- ✓ Presentation on Samsø in April 2023
- ✓ Due to family engagements couldn't make the 1st Pilot Observatory Meeting in May in Stanz
- ✓ November 2023 exploring business models

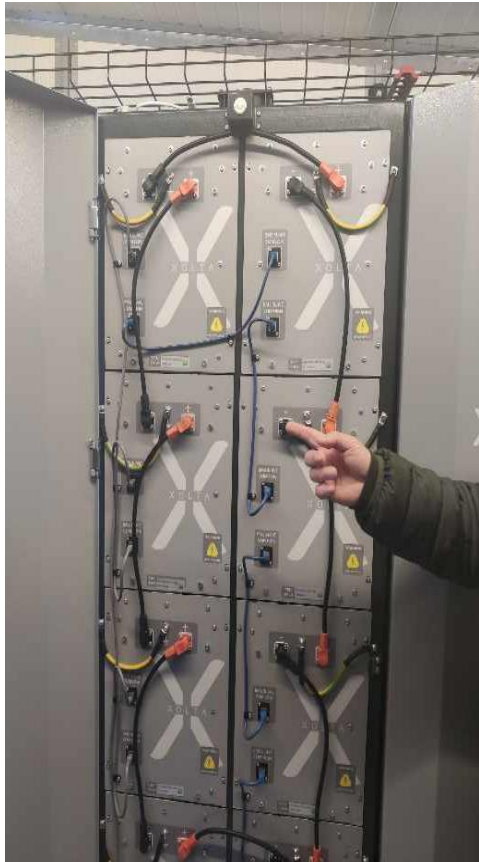
- Field visit and meetings

- ✓ Online meeting with Häradsbäck
- ✓ 2 representatives visited Samsø in October 2023

Samsø field visit



Samsø field visit



Value of participating in SmartRural27

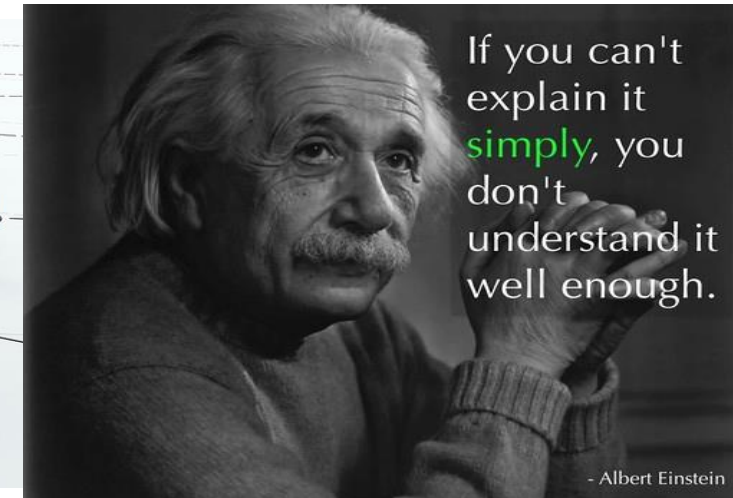
**Ideas, solutions
and their value
to local
community**



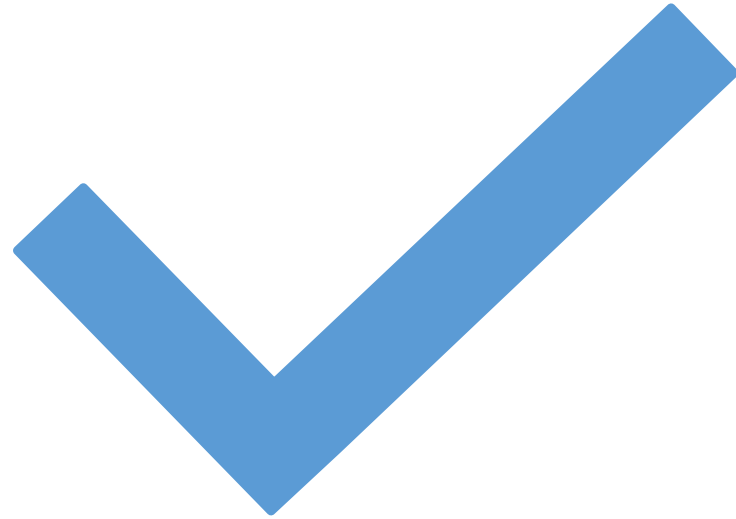
**Networks, exchange
of experience and
local visions**



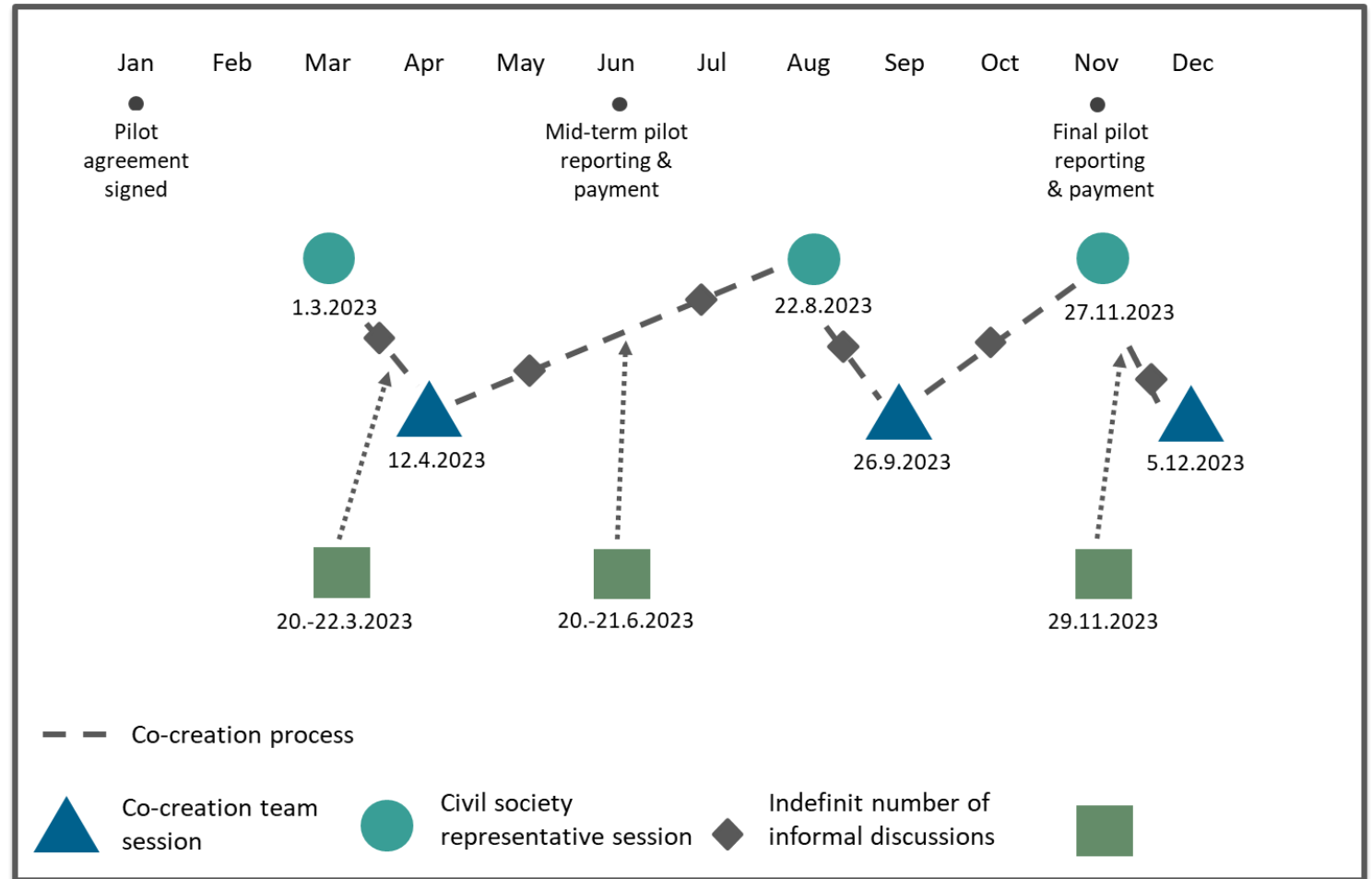
**Understanding our
specific local context
and its opportunities**



End result



Results -co creation process description



Other targets: Novaia University of Applied Sciences



ENERGY CALCULATION TOOL FOR
BUILDING



A GUIDE FOR RESIDENT OR COMMUNITY
OPERATED ENERGY PRODUCTION


Online calculation tool for sustainable energy systems for buildings

- <https://heatingtool-prototype-367b745c73e0.herokuapp.com/?token=2e33a213-6ed8-40a6-b2f8-557a8c89a93e>

Eldriven rumsvärme Panna Fjärrvärme Jordvärmepump Luftvärmepump

Hus egenskaper

1 planshus 1,5 planshus 2 planshus



Byggnadsår: - 2000 +
Rumshöjd: - 2.5 + m
Innetemperatur: - 22 + °C
Yttervägg material: Trä
Bottenbjälklag material: Betong
Typ av ventilation: Självdragsventilation

Bostadsyta inne: - 120 + m²
Antal ytterdörrar: - 2 +
Hushållsstorlek: - 1 + per.
Vindsbjälklag material: Trä
Typ av grund: Betong block

A guide for business models for small scale energy production run by associations

Innehållsförteckning

1. Introduktion.....	3
2. Vad är en affärsmodell?	3
3. Bolags- och organisationsformer	3
4. Elproduktion eller inbesparingar.....	5
4.1. Metoder för att spara el- och värmekostnader	5
4.2. Elproduktion med solpaneler	6
4.3. Batterilagring av el	7
4.4. Elproduktion med vindkraftverk	8
4.5. Elproduktion med vattenkraftverk	8
5. Understöd för att spara el eller skapa förnybar energi	9
6. Innovativa företag och organisationer inom förnybar elproduktion.....	10
7. Råd från lokala föregångare inom förnybar energiproduktion	10
8. Sammanfattning - affärsmodeller	11
Källförteckning.....	13



Thank you!

Tack!

Kiitos!

