

Kagu commercial association pioneering community solar in the Seto region, Estonia



Highlights

- A commercial association was established to pilot the first community solar project in Estonia.
- Current legislation in Estonia mainly supports on-site energy consumption and energy efficiency initiatives.
- Energy cooperatives and other forms of associations are not granted access to grants and therefore rely on a relatively low feed-in tariff.
- Although a feed-in tariff for small-scale renewable energy production exists, cultural barriers in Estonia have resulted in very few community energy projects.
- The Seto region is home to a diverse cultural background in comparison to the rest of Estonia, making it a more favorable context for community energy projects.

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Background information

The Kagu energy association is located in Värška in the southeastern region of Estonia known as Setomaa. This is a culturally distinct and rich region inhabited by the Seto people who are an ethnic and linguistic minority living on the border between Russia and Estonia. People in this region have stronger social ties and sense of community due to their distinct cultural background. In 1994, four of the municipalities in this region established a non-profit organization called Setomaa Valdade Liit (SVL). This is an umbrella organization promoting local development and cooperation between Setomaa communities. Under SVL, a NGO called Borderzone Energy Development was created in 2007 to promote regional energy self-sufficiency through the use of local renewable energy sources and energy efficiency. The town of Värška has been considering various options with one option being community energy production to increase its share of renewable energy. At the moment, the municipality is running a small solar PV system that provides electricity to a school.

Brief description of what was done

The Kagu energy association is a project that is still in its initial phase with the intention to establish a solar PV farm. The produced electricity would be sold to the grid. The association wants to start the first project in Estonia to test a community solar PV model. The plan is to first test the model with a few members and then expand the membership to the entire region. Kagu Energiaühis is a legal entity that has been registered to carry out the project.

At the moment the energy association includes 9 members. They are a municipal company for energy and waste water management, Borderzone Energy Development, and 7 private citizens. The first accomplished task by the association was determining the most suitable location for the future solar PV power plant. The project leaders choose a location in Värška due to its convenience in terms of grid connectivity. Currently the association is concluding the feasibility study to determine the economic benefits of the project.

Project champions and motivations

The main project champions are the mayor of Värška and a small group of private citizens who share common interests and have experience in the energy industry. They have several motivations for starting this initiative. Their first motivation is ideology. A community energy initiative is a good match to the values and traditions which they share such as community initiatives for food production or handcrafted goods. Second, although very ambitious at the moment, is the region's aim in becoming energy independent. Third, is to create jobs, economic development, and reduce depopulation. Fourth is to reduce energy costs.

Decision making process

All the decisions are made by the members of the energy association. They currently do not have any fixed long term goals as they are focusing on short term decision-making processes. These decision-making processes are based on knowledge they have gathered throughout the project development. For the project leaders it is important that when the shares of the association are available to other community members, every member can equally contribute to collective decisions. Therefore, each participant has one vote, independent from the number of shares which they own. In addition, the distribution of profits is based on the level of investment.

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Ownership model adopted

The legal entity chosen for the initiative is known in Estonia as a commercial association (tulundusühistu). This is a type of for-profit association that aims at supporting and advancing the economic interests of its members through collective entrepreneurial activities. Typically, the members of a commercial association join either as a consumer or supplier. One of the main advantages of this legal form is that members are not personally liable for the association's obligations. However, to establish a commercial association there is a minimum capital requirement of 2,500 € and there must be two founders. Moreover, if the annual turnover exceeds 40,000 €, the association must register as a VAT payer with the Tax and Customs Board.

Financing and economic viability

The financing model has not yet been created but the association is expected to offer shares in the project to the local people who want to invest in the solar PV plant. The power plant will sell its electricity to the grid as the current Estonian law does not make it possible to sell directly to the members of the association. Another alternative that has been considered is finding a company that could buy the generated electricity. In this case, the solar PV system should be installed on the property of the company because under Estonian law the electricity produced can be either consumed on-site or injected into the grid.

The project is already economically viable thanks to a 5,37 ¢/kwh feed-in tariff offered by the Estonian government. However, the payback time (11 years) is still considered relatively long and might not be able to attract a large number of investors. One of the options which has been considered is to wait for a further decline in the costs of PV technology or for an investment grant to make the investment more convenient. However, project leaders are willing to move on with their initiative even with such a long payback period as they want to be an example for other people in their country.

Barriers

One of the first barriers to the project is the fact that the electricity produced by the association cannot be directly sold to its members. It needs to go through the grid and when is bought from the grid distribution fees and other taxes apply making it no longer convenient for the members of the association. Therefore, the current electricity law that prevents small energy producers to sell their electricity directly to their neighbors is one of the main obstacles. In Estonia there are investment grants up to 30,000 € but they are only available for companies and other organizations that self-consume the generated electricity. As the association does not have any on-site energy demand the incentive is not applicable. Therefore, the only funding instrument for the association is the feed-in tariff. Unfortunately compared to other countries, Estonia has a low feed-in tariff and therefore the project leaders fear that people may not be willing to invest in the project.

Another issue is related to grid connectivity. The costs for connecting to the grid is entirely in the hands of the power plant owner. Furthermore, there are certain areas where the grid needs to be upgraded before connecting a solar PV installation, resulting in additional costs. This implies that there is currently a limited number of places where a solar power plant can be installed.

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Main lessons learned

- It is important to be together and start something collectively even if it is not related to renewable energy production (e.g. food or cultural activities).
- One should start with very small things like communally installing a few PV panels on the village center. Learn from that experience and then grow bigger if it seems feasible.
- Setting very high goals can be counterproductive and transform something that should be done for the community in a business.
- It is crucial to have access to people with technical knowledge and experience in energy projects.

Project champions' recommendations to policy makers

- Investment grants should also be available for those organizations that do not generate power for self-consumption
- Energy laws should be amended in a way that is possible for the members of energy associations to use the electricity produced even if they do not physically live on the same site where the power is generated.

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