Unsuccessfull community wind project in Lithuania by the Smalininkai village association

Highlights

- The first community wind project in Lithuania was carried out by the Smalininkai village association.
- Although the project had high expectations, it turned out to be unsuccessful due to the project's low production of electricity and difficulties regarding project funding.
- Companies have a significant advantage over community-based organizations regarding money borrowing for renewable energy projects.
- A level playing field between firms and community-based organizations should be created.

Background information

In Lithuania, the smallest administrative division is called seniūnija, which translates to ward or eldership. Especially in rural areas, city wards are often organized in village associations which are often nonprofit organizations promoting economic development and representing the interests of local people.

Smalininkai is one of the 12 wards in the municipality of Jurbarkas in the Tauragė County. It is a small village but with highly educated people due to the fact that the village is home to a technical school. Similar to other rural communities in Lithuania, the city of Jurbarkas does not have enough resources to provide street lighting for the village. For instance, the main road in the Smalininkai village is about 3 km long but there are only 13 street luminaries. Furthermore, many of the roads are unpaved. Consequently, with no outdoor lighting and limited daylight hours throughout the winter months has led to no outdoor activities (such as markets). Furthermore, villagers feel that the lack of street lighting has contributed to the rise of acts of vandalism in public places.

Wind power development in the region started between 2007 and 2009 when wind power developers were looking for new areas of implementation. At that time, the state had an ambitious goal to go from approximately 50 MW to 200 MW of wind power capacity in two years thanks to a generous feed-in tariff.

Brief description of what was done

In 2009, the Smalininkai's village association opened the first wind power plant ever owned by a local community in Lithuania. When the project started it was considered as an example of good practice and received praise from the Minister of the Interior. The power plant consisted of a 250 kW wind turbine that was expected to generate power for the grid. The wind turbine was purchased from a German company that had its manufacturing plant based in India. Over the years, the wind turbine had various problems that could not be fixed and, therefore, only produced half of the expected electricity. Consequently, in 2017 the village association decided to sell the power plant to a private investor.

Project champions and motivations

The main project champions were the chairperson of the village association and another villager who was inspired by some of the wind farms that had been constructed in the region. The project champions wanted to invest in the wind power plant to generate revenues for improving street lighting, building pavements and public spaces, and funding youth projects in their village. They did not have any experience or skills in renewable energy projects but had sought the help from many consultants and other well-known experts in Lithuania.

Decision making process

The members of the village association, which mostly consisted of people living in the village, made all the decisions. All the members of the association were interested in the wind power plant and they were asked to vote on one out of several investment options. This resulted in the project leaders having support from all association members.

Ownership model adopted

The people living in Smalininkai had already established a village association back in 2003. The wind power project was carried out by this organization. A village association in Lithuania is an NGO and non-for-profit organization model aimed at promoting rural development. The Smalininkai association is very active and it has currently many projects in different fields including environment, health and economic development even though it only consists of approximately 40 members.

Financing and economic viability

The required funding for the wind project was 1,312,885 Lt (400,000 €). The original idea was to fund 40% of the project through a bank loan and the remaining 60% by a grant. The project had approximately 60,000 € of available funds and received pre-funding from the Jurbarkas District Municipality (6,000 €) and LEADER program (7,000 €). The project leaders had also applied for a grant from the Lithuanian Environmental Investment Fund. The project was eventually granted approximately 180,000 € but since the power plant did not reach its production goals, the money was never allocated. Therefore, the project was almost entirely funded with a bank loan from the Jurbarkas credit union totaling close to 300,000 €. The project was considered to be economically viable because of the high feed-in tariff. According to the project leaders' expectations, it should have generated about 40,000 € a year and with the grant from the Lithuanian Environmental Investment Fund it should have had a payback period of 5-7 years. However, since the power plant produced only half of the expected electricity it did not generate enough revenues to cover the loan. By the

end of 2013, the village association had managed to pay close to 30,000 € of the loan and finished the year with a loss of about 8,000 €.

Project benefits

Due to the low productivity, the project did not bring the expected benefits to the local community. Moreover, since the mass media gave a lot of attention to the story of the Smalininkai community power plant, it contributed to reduce people trust in community energy projects in Lithuania. For the project leaders, however, their experience was a valuable learning opportunity regarding community energy development in Lithuania.

Barriers

The project faced numerous barriers with low productivity of the power plant being one of the projects key concerns. The project leaders did everything in their power to understand why their power plant did not perform as expected. They even invited the owner of the wind turbine manufacturing company to check the system, and found that everything was in order. Therefore, some people pointed out that the problem might have been with the wind speed. However, after checking the performance of other wind power plants in the area the project leaders realized that the wind speed was not the problem. On the market, there would have been better performing wind turbines with Vestas or Enercon, but the project leaders felt that they would have costed too much.
A number of other unfavorable circumstances also contributed to the projects defeat. Some of them include the fact that the manufacturing company had a change of ownership and the company that installed the power plant went bankrupted. As a result, it was extremely difficult to receive the maintenance service when the wind turbine stopped working.
Another barrier faced by the village association was difficulty in finding a bank that would provide them with a loan. This was due to the fact that, as they were the first community wind project in Lithuania, banks were not accustomed with the funding procedures for community-led projects. In addition, since the village association did not have any assets, the project leaders had to give their own houses as a guarantee for the loan. The interest rate on the loan was originally 6%, however due to the financial crisis that was striking Europe at that time, kept increasing until it reached 16%.
The established company that purchased the Smalininkai power plant in 2017 could easily borrow capital to refurbish the power plant. They were able to purchase a new wind turbine and also received funding for an estimated 200,000 € to cover the interests on the loan. This is in stark contrast to the difficulties which the village association had for borrowing money. Moreover, the private investor could also enjoy the original feed-in tariff granted to the Smalininkai power plant until 2021.

Main lessons learned

- Buying a second-hand wind turbine from a well-known company is better than investing in a new one from an unknown manufacturer.
- To promote renewable energy, a community does not necessarily need to invest in very expensive projects, but it can invest in smaller initiatives such as the installation of solar PV on a communal building.
- There is too high of a risk to an individual to take out a loan for a high investment project.

Project champions' recommendations to policy makers

- Community groups and associations that want to invest in renewable energy projects should be given more favorable conditions for borrowing money. At the moment, only companies' investments are supported.
- A fund guaranteed by the state should be created for community energy projects. Community groups can borrow the money they need and pay it back as a project progresses so that the fund is not deplete over time.

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