

XPRESS CASE STUDIES ON BARRIERS TO INVESTMENTS IN RENEWABLE ENERGY SOURCES

– DENMARK –

Description of the case

The case is based on three SMEs within the field of RES in Denmark. SME 1 sells PV, SME 2 is a supplier of intelligent sustainable energy management systems, and SME 3 is a consulting company that has specialized in delivering innovative RES solutions in buildings. The three SMEs are chosen to look at the different barriers and drivers for them to participate in PP.

- SME 1, solar cell (PV) supplier

This SME is a solar cell (PV) supplier, and the interviewee is the head of sales and project development.

The SME sells PV, and the main market is private as well as public companies. The company works mainly in Denmark but has a sister company in Germany with 80 employees. They can provide construction workers for the mounting in Poland, and they work as consultants for an Albanian sister company. Before Corona, they also worked in the US.

The company has been inventing a mounting system and is now working on selling their invention. Hence, there are no plans for further innovation and the focus is on surviving. The market has been difficult since 2012, where the Danish government changed the rules for the settlement of electricity from PV and the legislation for municipalities, which meant that the municipality should establish a company for each PV plant. Hence, the focus has been on survival for a couple of years, but now they experience that the market is growing again.

The main constraints/barriers for the development of the company are legal issues and lack of financial resources. Since the company has struggled to survive, they cannot invest in innovation, but they do concept development continuously. The company is not satisfied with the level of public support, mostly due to the legislation.

The Danish municipalities want to use PV, but they are not allowed, or it is only considered for new buildings. The national level, the regions and private owners can use PV, but not the municipalities. Hence, the company only sells PV to municipalities if it is a new building.

The SME has participated in pre-tender meetings; else they use a platform for tenders called comdia (www.comdia.com). They win around 50% of their bids, and the winning is almost always price based. One time they lost a tender because the procurer asked for a specific technology which was not available in the market. The SME confirmed with the procurer about it, so they made a bid with the budget for that technology, and the competing firm did not. The SME tried to complain that it would be impossible with the competing firm's budget to get the required technology, but the SME did not win.



Barriers for them:

- Be visible to the procurers
- Financial barriers, need to have their Germany sister company as a financial back up to place a bid for a tender
- Difficult to spend a month to develop a bid for a tender when they have ordinary private customers they need to maintain.

Barriers for SMEs:

- If the municipalities do not know the company, the company are not invited
- Tenders are often published with very short notice, and then they miss them
- Some tenders demand financing that the company cannot meet
- Some requirements are not good, e.g. outdated but the municipality is not willing or able to change it. Then the bidding is not accepted, although the solution is better. An example is one bid that was won on 2 MDKK, but the SME knew that it would cost 5 mill DKK and complained. But the complaint was rejected, and they decided not to go to court, although they had a good case.
- Difficult to take time for development, public support would be good
- Soothe SME considers the phase before the tender as the most problematic phase

Success factors:

- The municipalities must do an effort to invite SMEs
- Dialogue is good
- *SME 2, consulting company*

The SME is a consulting company on low energy and renewable energy supply in buildings with around 15 employees. They have specialized in delivering innovative solutions, and the overall strategy is to work with innovative sustainable energy building solutions in a wider societal context.

The SME has participated and participates in several innovative building projects, where innovative RES are an important part. They have participated in the Horizon 2020 project Deep Energy Renovation and ELENA project on innovative low energy building renovation in social housing companies.

The SME has introduced new goods, services and processes, and believes the impossibility to give the technologies out for rent is the main barrier for the development of the company. However, they plan to increase the percentage of investment dedicated to innovation in the next 12 months.



The SME has received a grant from the Horizon 2020 program, funds from the Danish Energy Agency and municipal funds. However, they perceive the support from public funding to be not easily accessible and not adequate.

The SME has through a tender process been selected a “framework agreement” with a municipality giving the opportunity to bid on smaller projects on innovative sustainable energy building renovation with a process of bidding for the selected companies. This arrangement works well for the SME, allowing more long-term cooperation and thereby innovation in small steps and sharing of knowledge with the customer. They also have a similar arrangement with another municipality, giving access to a network of cooperating municipalities.

The barrier for the SME in participating in PP is that it is demanding much resources to participate, and they find the most problematic phase to be during the bidding process since this is resource demanding. When reflecting on the critical success factors for SMEs to become suppliers to public customers, the SME considers specialization and participating in teams as important factors.

- *SME 3, intelligent sustainable energy management systems supplier*

The SME supplies intelligent sustainable energy management systems focusing on energy savings and RES and the integration into local and regional energy systems. They have specialized in delivering innovative solutions.

The SME has participated and participates in several innovative intelligent energy projects where innovative RES's are an important part. They have introduced new goods, services and processes, and plan to increase the percentage of investment dedicated to innovation in the next 12 months.

The main constraints for the development of the company are related to financial resources and the lack of rentability of projects. The SME has received funding from both the Horizon 2020 program and National Danish funds, but they perceive the public funding as not easily accessible and not adequate. Financial incentives are the support that will help the SME the most to develop and further improve RES services.

The SME has good experience in working together with municipal-cooperative district heating companies and cooperative social housing companies following the same regulation as public authorities on tendering – for development on sustainable energy. They have had the will to invest in developing activities and also to take risks. For SME it is economically very difficult to take the full risk in innovation projects.

The main barrier they face in trying to participate in PP is that it demands a lot of resources to participate. The SME finds the phase during the bidding process as the most problematic phase, as it is resources demanding. When reflecting on the critical success factors for SMEs to become suppliers, the SME answers specialization and participating in teams.



Analysis of the current situation

a. Sustainability strategies, energy-related strategies

The strategy for SME 1 is to work with product management. They have developed an innovative mounting system that makes the mounting fast and effective and have no plans for further innovation. SME 1 has experienced some difficult years due to changes in the rules for the settlement of electricity from PV, so their focus has been on survival for a couple of years. They have not had big earnings, but they experience that the market is starting to grow again.

SME 3 has a strategy to work with innovative sustainable energy building solutions in a wider societal context. The company is working together with other companies in a network context, including the strategic partnership of Civic network for building renovation for 400 MEURO. SME 3 has participated in several innovative building projects, and participates in the Horizon 2020 project Deep Energy Renovation, and the ELENA project on innovative low energy building renovation in social housing companies, which have to follow the same regulations as for public tendering.

SME 2 has also participated, and participates, in several innovative intelligent energy projects where innovative RES are an important part.

b. Regulations and support schemes

SME 2 and SME 3 have received EU-grant from the Horizon 2020 program and funds from the Danish Energy Agency's EUDP support scheme. SME 3 has also received municipal/EU ELENA funds. Still, SME 2 and SME 3 perceive the support from public funding as not easily accessible and not adequate. SME 1, on the other hand, has not received funding or other support from public administrations. They are dissatisfied with the level of public support, mostly due to the legislation.

SME 1 has experienced some difficult years since 2012 when the Danish government changed the rules for the settlement of electricity from PV and the legislation for municipalities. Due to the changes, municipalities must establish a company for each and every PV plant. This makes it difficult for municipalities to choose solar panels, and hence difficult for SME 1 to get public customers.

c. PP and supplier engagement (and d. PP and SME)

SME 2 has good experience in working together with municipal-cooperative district heating companies and cooperative social housing companies following the same regulation as public authorities on tendering – for development on sustainable energy. The PAs have had the will to invest and take the risk in developing activities which is beneficial for SMEs as it can be economically very difficult to take the full risk in innovation projects.

SME 3 has through a tender process been selected a framework agreement with a municipality. This is an arrangement that works well for SME 3 as an SME, giving the opportunity for more long-term cooperation and thereby innovation in small steps as well as



sharing of knowledge with the customer. They have a similar arrangement with another municipality, which gives them access to a network of cooperating municipalities.

SME 1 has participated in pre-tender meetings with PA, and they win around 50 percent of their bids. However, as mentioned, the market has been tough, and municipalities only consider PV on new buildings. When winning public procurement contracts, it is always due to the price.

Barriers and drivers

The main constraints or barriers for participating in PP is according to the SMEs that the process is quite resource demanding. For SME 1 it is especially difficult to use time and resources to develop a bid for a public tender when they have ordinary private customers they need to maintain. Further, perceived barriers are related to financial barriers and as an SME it can be difficult to meet financial criteria. The SMEs experience that tenders are often published with short notice, making it difficult to discover and develop a bid. SME 1 has also experienced that the municipalities are not willing or able to change requirements when they are not good, e.g. outdated. An example of this is a bid where another supplier won on 2 MDKK, but SME 1 complained because they knew it would cost 5 MDKK, but the complaint was rejected and although they had a good case they did not have resources to go to court. Lastly, there is always a barrier for SMEs to be visible to the procurers.

Regarding the driver or success factors for SME engagement in PP, all three SMEs highlight dialogue and participating in teams as factors. The municipalities could make an effort to invite SMEs, and the SMEs can together with municipalities or on their own build the competence needed by the municipality.

Summary and Discussions

The case, especially SME 1, shows how important role legislation has on the RES market. For SME 1 the changes have made it difficult to participate in PP as the municipalities do not require PV. SME 3 and SME 2, on the other hand, have benefited from working with municipalities, and public contracts have influenced both firms in a positive way.

