

XPRESS CASE STUDIES ON BARRIERS TO INVESTMENTS IN RENEWABLE ENERGY SOURCES

– NORWAY –

Description of the case

Solar cell on new and existing buildings

Case scenario A: a public purchase with at least one of the suppliers is SME in the field of RES

Based on interviews with one PA and two of the involved SMEs

The chosen case is based on an ongoing project on solar cell on new and existing buildings. The purpose of the request was to gain a better understanding of the opportunities in the market before a possible acquisition of solar cell systems for roofs on new and existing buildings at the university. The PA wanted input from the market on both a general basis and in connection with a specific procurement of solar cells for a new laboratory building. After sending out the RFI, the PA received answers from at least seven suppliers, where four/five of these are SMEs.

The case is based on interviews with the responsible purchaser in the PA, and two of the involved SMEs. The chosen SMEs have less than 10 employees, and the companies have operated for less than 4 years. They have both participated and won public procurements and are chosen because they answered the RFI sent out by the PA. The purpose of the case is to investigate how public authorities try to use innovative, dialogue-based public procurement to achieve RES objectives, and to get the perspective from two of the participating SMEs. The case project is an ongoing public procurement, and the informant from the PA hoped that this project would be the first comprehensive innovative procurement conducted at their workplace. However, due to covid-19, the process has been put on hold.

- PA, public purchaser at university

In January 2020, the PA sent out an RFI (request for information) inviting suppliers to a dialogue regarding RES. The purpose of the request was to gain a better understanding of the opportunities in the market before a possible acquisition of photovoltaic systems for roofs on existing buildings at the university. They wanted input from the market both on a general basis and in connection with a specific procurement of solar cells for a new laboratory building.

In the RFI, the PA had prepared a list of questions that they wanted to shed light on through the market dialogue. This included that the PA asked the suppliers for input on how a future competition for the acquisition of photovoltaic systems for existing roofs could be carried out, such as which award criteria should be used and how to emphasize environmental criteria.



At least seven suppliers responded to the RFI, where four of these are SMEs. However, due to the corona situation, the PA has not moved forward with this project.

The informant hoped that this case could potentially be the first comprehensive innovative procurement conducted at the organization. The PA lags in this field, hence it is the goal of the informant who is the contact person for innovative public procurement.

The informant has good experience in using dialogue and finds it especially useful in markets that develop quickly, then dialogue is the key to not end up with an old product or solution. Further, as a purchaser, the informant does not know the customers' needs or the possible solutions provided by suppliers, so the dialogue needs to address this. Further, the informant highlights that using dialogue could be a good way of involving SMEs.

Potential barriers for SMEs to participate in PP:

- SMEs cannot invest in a lawyer that handles the formal requirements
- Not all SMEs understand what we are asking for, they do not have the knowledge of the process
- Providing documentation such as annual reports, credit account, certifications, is expensive
- Several factors are related to financial aspects

Drivers for SMEs to participate in PP:

- Dialogue
- Simplification of the process

- *SME, solar cell supplier*

The SME was one of the solar cell suppliers who answered the RFI. They are a pure solar energy company and focus on systems towards agriculture, private, industry, public sector, and off-grid.

Their goal is to grow and develop skills and knowledge within solar energy. They have introduced new solutions for the Norwegian market which have a special type of power grid. Hence, they have rebuilt, modified, and adapted international solutions for the Norwegian market. Further, they have recently developed a control system for both production and consumption of solar energy. They are also working on getting funding to install a small research lab in Norway to measure the actual solar condition since there is a lack of data from colder conditions. There are many who believe that Norway is not suitable for solar energy, which the informant believes is an information barrier, because the low temperatures, clear air and reflection from the snow make the conditions unique.

Barriers for development

- Financial resources to support development and innovation projects



- Legal barriers. There are several restrictions on the development of solar energy on a larger scale in Norway.
- Lack of knowledge in some of the grid companies.

Barriers

- Overall, public inquiries contain too few opportunities to be creative and innovative at an early stage, it quickly becomes too controlled.
- PP is perceived as difficult and demanding
- The focus on meeting the criteria goes beyond the goal of a good financially sustainable solution.

Drivers

- Earmarked funds for RES. Then more municipalities can afford to choose the best green solution.
- Pre-tender supplier/market engagement activities.
- Simplification. The process and regulations have become significantly easier, but there is still a way to go.

- *SME, solar cell supplier*

The SME was one of the solar cell suppliers who answered the RFI. They have been running for two-three years and aim to grow 50-100% every year. They operate in Western Norway and try to build a chain of partner companies so that they can carry out the entire value chain. They spend a lot of time and effort in internal competence development and training.

They experience that an increasing number of people want to take part in the green shift. This changes the typical decision-making process, and the payback time and investments are looked at from a completely different perspective.

Environmental criteria have been used as a criterion, but they do not always find it easy to be judged fairly on. In one case where they lost the contract, they lost it because the municipality suddenly required that the supplier should use recycled materials since one of the competitors had bought their support system from a company that used recycled aluminum. This was then written into the municipality's order by a consultant, and the SME was not able to document if their supplier bought recycled materials for their products within the acceptable time, and lost the tender because they scored zero at this criteria.

Barriers for development

- There is a large gap in the various grid companies in interest and competence.
- Hiring new people and training them
- We use "engineering" resources on the marketing and logistic, if we were able to have someone to do the logistic, we could have utilized the expertise in RES better



Barriers for PP

- Financial barriers. When having the public as a customer we are responsible for the import and take the risk of having equipment sent from China
- As a new company they do not have any 3-year account with a profit to refer to yet and have experienced that they have been rejected because they are not considered financially solid enough
- Potential barrier: if the public sector starts to require ISO certifications this would be difficult for small companies to achieve
- Large firm has competence within PP since one of the employees has worked towards the public sector for over 20 years and know what it takes, but for other SMEs, without that experience, it will be a barrier

Drivers/ for PP

- Assistance to get to the right level when it comes to formal qualification for PP.
- Incentives
- Remove criteria such as the need for having 10 MNOK in equity

Analysis of the current situation

a. Sustainability strategies, energy-related strategies

The PA is a public research university in Norway. The university follows the university's strategy for 2018-2025, and one of the practices is that they will contribute actively towards achieving the 17 sustainable development goals. One of the strategic research areas in the period is renewable energy, and the university works on development and integration of *renewables and sustainable energy supply*. Hence, the PA commits itself to contribute to such a transition by minimizing the ecological footprint.

Norway is in the initial phase with solar cells, and several of the suppliers including the chosen SMEs are experiencing strong market growth from both the private and public market. In recent years, the price of solar cells has fallen so dramatically that more and more organizations and private people are now looking to invest in solar panels. Traditionally, solar cells have been economically viable in countries with high electricity prices. However, solar-generated electricity has become competitive even in Norway, although Norway has inexpensive hydroelectricity. The Norwegian climate, the cold weather and sunshine combined with reflection from snow, are ideal conditions for solar cells. The decrease in the price of solar cells and the increased focus on the green shift has expanded the market as more companies value sustainability ahead of price.

b. PP strategy

The PA has not a separate procurement strategy but follows the overall strategy at the university. They have not completed a complete innovative public procurement, but they have previously invited suppliers for dialogue, and find the dialogue phase very important and useful. In the procurement assessment criteria, they experience that there is an increased



focus on environment and ethics. They have discussed whether environmental criteria should have a larger share (percentage weighting), and they do an assessment for each procurement.

c. PP and supplier engagement

The PA is a part of the national program for supplier development (LUP). The program aims to help public authorities to create innovation through their public procurement and provides training and support in the implementation of such projects. Since the start of LUP in 2010, LUP has assisted municipalities and other public enterprises with over 150 procurements. The supplier development program is owned by the Confederation of Norwegian Enterprise (NHO), the Norwegian Association of Local and Regional Authorities (KS), the Norwegian Digitalization Agency (DIGDIR), Innovation Norway and the Research Council of Norway. Even though the PA is part of the supplier development program, they lack experience in conducting innovative procurement processes.

In the chosen case, the suppliers were satisfied with the RFI sent out from the PA, and both SMEs pointed out that this was a good way to include SMEs. The SMEs experienced the RFI as open enough, but at the same time closed/detailed enough. Both SMEs expressed that they hoped that the further process would progress soon.

d. PP and SME

The university does not have a focus or strategy related to SMEs, other than the scheme where the suppliers must answer whether they are SME or not. However, in the project regarding the solar panels on new and existing buildings, the majority of the suppliers who answered the RFI were SMEs. The informant from the PA believes increased use of dialogue and the use of innovative public procurement could help to include more SMEs.

Barriers and drivers

There exist several barriers for SMEs to participate in public procurement. According to the informants, the main barriers are financial barriers and barriers related to the public procurement process, as shown in Table 1.

The financial barriers are highlighted by both the public authority and the SMEs. The purchaser at the PA points out those SMEs in general cannot invest in a lawyer that handles the formal requirements, nor does it have an administration that could provide the required documentation. Public authorities require several documents, and some of them may be expensive for the SME to acquire, especially if public authorities start to require certifications.

The SMEs highlight that a barrier as a newly started SME is that they are often rejected because they are not considered financially solid enough. The public authorities might require 3-years account with profit, which is difficult as a new enterprise. Further, another barrier for



SMEs in taking part in large public procurements is that it is the supplier who must bear the cost and risk of ordering materials, as the public authorities do not pay in advance.

All three informants highlight that the public procurement process is a barrier. The SMEs perceive the process as difficult and time-demanding, which can be a major barrier for SMEs that do not have employees with long experience and knowledge of the process. Both SMEs have employees who have previously worked closely with public procurement and thus know the process and the formal requirements. Still, they consider the process as demanding and experience that public authorities have too much focus on meeting the set of criteria, rather than focusing on the overall goal, to find the best financially sustainable solution. Overall, the SMEs experience that the public procurement processes contain limited opportunities to be creative and innovative at an early stage, and that the process quickly becomes too controlled.

Table 1: Identified barriers

Barriers	
According to the SMEs:	According to the PA:
<p>Financial barriers</p> <ul style="list-style-type: none"> Responsible for the cost and risk of importing products New companies can be rejected because they are not considered financially solid enough. Require 3-years account with a profit. <p>The PP process</p> <ul style="list-style-type: none"> The process is too controlled, and they receive it as difficult and demanding PA is too focused on meeting the criteria, and not on the overall goal of finding a solution that is both financially and sustainable good. Required experience or knowledge of the process to participate <p>Certifications (potential barrier)</p> <ul style="list-style-type: none"> Expensive for SMEs if the PA starts to require certifications such as ISO 	<p>Financial barriers</p> <ul style="list-style-type: none"> SMEs cannot invest in a lawyer that handles the formal requirements Providing the documentation, such as annual reports, credit account, certifications, etc., is expensive <p>Knowledge</p> <ul style="list-style-type: none"> Not all SMEs understand what the PA ask for, and many do not have enough knowledge about the process

The identified drivers or success factors for SMEs to become suppliers to public customers are listed in Table 2. Common to all three informants is that they consider increased use of dialogue/marked engagement activities and simplification of the process as important success



factors for involving SMEs. The public procurement process and regulations have become significantly easier in recent years, but the informants believe that there is still a way to go. The SMEs, especially those who do not have experience with PP, would benefit from assistance when it comes to formal qualification activities.

To alleviate the financial barriers for newly started SMEs one of the SME suggested removing financial criteria such as the need for having 10 MNOK in equity. Further, the SMEs highlight that there is a need for different types of incentives such as earmarked funds for RES, so that more municipalities can afford to choose the best green solution.

Table 2: Identified drivers

Drivers	
According to the SMEs:	According to the PA:
<ul style="list-style-type: none"> • earmarked funds for RES • simplification of the process • market engagement activities • assistance regarding the formal qualification • incentives • remove criteria such as the need for having 10 MNOK in equity 	<ul style="list-style-type: none"> ☑ dialogue ☑ simplification of the process

Summary and Discussions

Both the PA and the two SMEs would like to increase the use of dialogue in an early phase. The use of dialogue is considered as a critical success factor for SME engagement, and it is also a way for the buyer to ensure that the goods or services they purchase are the most sustainable or the newest on the market. Further, a simplification of the process and assistance on how to participate in public procurement, are considered as drivers for increased SME participation. The SMEs experience that it can be time-consuming and require competence to participate in public procurement. Especially for newly started companies, it is perceived as financially difficult to participate.

