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Finland: Skaala

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About

Case study name:
The greening of industries in the EU

Country:
Finland

Organisation Size:
100-499

Sectors:
Construction and woodworking

Skaala operates in the wood manufacturing sector producing products for the construction industry. Its main products are windows and doors (main, balcony and internal). It also provides first-time installation as well as renovation services. In addition to producing highly energy-efficient products, Skaala has adopted widespread procedures that minimise and recycle waste in its operations, thereby making jobs more environmentally friendly. All materials used are carefully planned with recycling in mind. Skaala's certifications include environmental and quality certificates as well as an occupational health and safety certificate.

Introduction

Skaala's main economic activity is classified under NACE code 16.23 'Manufacture of builders' carpentry and joinery'. Altogether 590 companies in Finland operate in this specific manufacturing area, with a combined workforce of 5,200 and combined annual revenue of €743 million.

Skaala's history dates back to 1956 when it began as a family-owned business (which it still is). Its window and door production takes place in central-western Finland (its headquarters are in the Ylihärmä district of the town of Kauhava), but its installation and renovation services are nationwide. In addition to its Finnish operations, Skaala has subsidiaries in Sweden and the United Kingdom. Skaala currently employs over 400 people and has an annual revenue of over €70 million.

Skaala specialises in energy-efficient windows and doors for apartment and commercial buildings as well as houses. It is often cited as the industry leader and has developed its own frost-free window. In addition to business-to-business sales and sales to individuals, Skaala offers an initial installation service as well as a renovation service, where it collects old windows and doors after their removal and transports them to a recycling centre.

Skaala was selected as a case study for its continuous development of highly energy-efficient products and its drive towards a goal of zero waste to landfill. In both, it has exceeded regulations on energy efficiency and waste management. At the same time, it has transformed jobs so that they are more environmentally friendly.

Drivers and motivations

Climate change is of foremost importance in the sector where Skaala operates since a great deal of energy is lost from buildings through windows and doors. Consequently, the energy-efficiency requirements of windows and doors have been tightened repeatedly (outlined in the National Building Code of Finland published by the Ministry of Environment, 'Classification of energy efficiency for windows') and are expected to become even stricter. For a company involved in the construction sector, waste handling regulations are also a challenge, with more stringent recycling requirements and rising landfill fees.

Several motivations can be identified in Skaala's development of green products and business. Firstly, this type of action needs to incorporate environmental awareness within management. Secondly, the sensitivity of the Finnish public to climate issues has been increasing, particularly during the last decade. This has influenced decisions on window and door purchases made by individual families and collectives such as residents of apartment buildings. Addressing the public's concerns is likely to have given Skaala a competitive advantage.

Thirdly, meeting regulatory requirements has been a strong motivator. Skaala has combined this with its drive to maintain its leadership position by staying ahead of the regulatory framework, that is, by going above and beyond existing requirements. Certifications received by Skaala (ISO 14001 environmental certificate, ISO 9001 quality certificate and OHSAS 8001 occupational health and safety certificate) also require that it constantly seeks to improve its operations regardless of regulatory changes.

Green business practices

Skaala's approach to energy efficiency and energy savings has two tracks:

- development of energy-efficient products;
- adoption of appropriate practices in the company's operations, but particularly a goal of zero waste to landfill.

Skaala has been constantly improving the quality of its products to meet and exceed energy-efficiency regulations in both domestic and export markets. It now offers complete product families at different energy-efficiency levels (U-values).

Skaala has been producing insulation glass since 1989 and has updated this part of the business several times. A precursor for Skaala's recent advances was a 2005 collaboration with several partners on a low-energy housing project (MERA, Matala Energia RAkentaminen), which earned the collaborating consortium an award from the Finnish Association of Civil Engineers (RIL) in 2007.

In 2008 Skaala opened an energy-efficient window production line and launched a full energy-efficient window product family. One challenge has been fogging or frosting of the outside glass, which occurs more frequently in highly energy-efficient windows. This problem has been recognised Europe-wide and has slowed down the development of energy-efficient windows. In 2010 Skaala introduced its industry-leading frost-free window (with the same energy efficiency but without frosting), for which it received a regional innovation (InnoSuomi) award in 2011. Also in 2010 Skaala's internal environmental procedures were assembled under its 'Green Field & Factory' concept. This is connected to the ISO 14001, ISO 9001 and OHSAS 8001 certificates it has received, which require the company to continually monitor and improve its processes.

A key component of Skaala's environmental programme is the goal of zero waste to landfill. The company states that its goal is to recycle everything that can be recycled, with nothing going to the landfill. To achieve this, Skaala first selects suitable raw materials and optimises their use to reduce waste. For example, sawdust and excess wood are pressed into briquettes and are used to heat its factories or are sold.

Skaala's initial installation and renovation services include recycling. This is most notable in the renovation service, where Skaala is committed to removing all waste from renovated sites. Accordingly, it takes old windows and doors from such sites to recycling locations. Skaala's collaborating partner in this service is Stena Recycling, a long-term contract signed in 2010. Stena uses wood parts for energy production and glass for insulation material. Metal waste is also recycled.

In addition, the company has designed its logistics system to bring down its carbon footprint. For example, it produces its own insulation glass, which therefore does need not be transported from a distance to its main production plant. This also means that the latest glass technology is available to Skaala, providing favourable conditions to the development of energy-efficient products.

Anticipation and management of the impact of green change on quantity and quality of jobs

Impact on quantity of jobs

Skaala's revenue increased steadily during the first decade of the 21st century, in step with the improvements in the energy efficiency of its products. The company is convinced that the practices it has implemented result in cost savings and that its improved energy efficiency has a positive impact on employment. Window and door manufacturing is a very competitive business as the construction sector is highly cyclical, and employment does not necessarily follow company practices in a straightforward fashion.

Skaala does not see a sharp distinction between green and other jobs. It has tried to develop a comprehensive approach to improve the energy efficiency of both its operations and products. Consequently, all its production personnel can be regarded as being involved in recycling rather than the company creating separate jobs for recycling. The same applies to its renovation personnel (approximately 100 employees). In Skaala's case, it is possible to talk about greening of existing jobs.

The fact that each new improvement is harder to come by than the previous one (decreasing marginal benefit) is a challenge to a company trying to improve its energy efficiency. This is particularly important as improvements require investment, and financial decisions can have a direct impact on the quantity and quality of jobs. Skaala's business requires products that are suitable for large-scale industrial production and consequently reasonably priced, as clients generally look at how soon extra investment in better windows or doors turns into savings. Additional pressure to keep improving has come from the certifications Skaala has received, as these require continual progress. One remaining challenge for its programmes is the lack of recycling procedures for waste paint.

Another factor influencing company decision-making is the benefit of recycling versus taking waste to a landfill. Although this comparison is not the only factor in decision-making (for example, the company image also needs to be considered), recycling should ideally cost less than taking waste to a landfill. Like all financial decisions, the decision to recycle influences other attributes of the company such as the quantity of jobs it can offer. Since pricing decisions are often made by different operators (for example, private companies for recycling and municipalities for landfills), the cost structure may actually be unfavourable to recycling. Here, public authorities could play a key role.

Anticipation at Skaala is primarily, but not exclusively, an in-house activity. It relies on keeping up with current events (for example, developments in energy prices) as well as developments in technology and its particular sector. In its business, participation in exhibitions, both domestic and international, plays an important role. One advantage Skaala has is that it produces its own insulation glass rather than buying it. Consequently, it remains informed of the latest developments in glass technology and is perhaps able to react faster than some of its competitors.

Skaala does not anticipate any momentous changes in its operating environment in the near future with respect to energy efficiency. Materials or techniques are not likely to change in such a way as to challenge its established products or procedures. The company has noted that the trend in buildings and houses has been toward larger glass surfaces and this provides further challenges to it and its competitors.

Impact on quality of jobs

Skaala has not needed to make large-scale changes in the training of its personnel as recycling is a relatively straightforward procedure. However, some training regarding product quality and programmes to reduce waste is required. The company has also recruited an environmental manager, who has brought new skills to the company.

What is important is the establishment of favourable conditions for recycling and other energy-efficient behaviour so that this becomes routine rather than being something that is perceived as a distraction or extra work. The procedures also require careful monitoring. The responsibilities of the environmental manager include:

- planning and carrying out training;
- developing measures for purposes of monitoring;
- designing the logistics of production within a site and between sites (both raw material use and recycling);
- contact with contractors regarding environmental issues such as collaboration on recycling.

Anticipating and managing green change

Collaborating partners

One collaborating partner is Stena Recycling, which receives the waste from Skaala's renovation business. The estimated volume of the recycled material has been 80,000–90,000 units (windows and doors) per year. This collaboration is crucial for Skaala's green practices as, in order to realise its goal of zero waste to landfill in its renovation business, the materials have to go somewhere for further processing. This collaboration has reduced Skaala's need for training as it does not carry out the processing itself.

An important aspect of Skaala's procedures (materials planning and recycling) is that they promote general cleanliness at the site. This, in turn, not only makes the sites more comfortable to work in but also improves the safety of the plants and renovation sites. In particular, the risk of slipping or falling (for workers and passers-by alike) is reduced as there is less excess material covering the surfaces.

Skaala has had other collaborating partners in the development of its energy-efficient business practices. The Technical Research Centre of Finland (VTT) has served as a 'critic' by reviewing Skaala's own assessments of the impact of its procedures. VTT, along with logistics consulting company LC Logistics Centre, Seinäjoki University of Applied Sciences and service innovation consulting company SC-Research (affiliated to Lappeenranta University of Technology) have collaborated with Skaala on the Serve project (Pioneers of Service Business 2006–2013) operated by the Finnish Funding Agency for Technology and Innovation (Tekes), in which they have been developing Skaala's service business. These collaborating partners have assisted Skaala in developing logistical and management skills that are instrumental in the promotion of its green practices. As the focus here is on the client, this collaboration contributes directly to Skaala's ability to sell its products and services. This, in turn, contributes indirectly to the company's ability to maintain and expand its green practices.

Skaala's factories are reasonably short distances apart, reducing energy use for transportation. Despite having its production facilities relatively close to each other, Skaala has also cut down company travel by investing in video conference technology. Apart from other savings, this improves the work–life balance of the employees affected.

Conclusions and recommendations

Skaala has sought growth through environmentally friendly products and practices. The company believes firmly that investment in these has brought good results. However, improvements require significant investment and commitment from management. In order to be financially successful and maintain jobs, the procedures need to be based on an established system which, in turn, requires maintenance and development. Marginal benefits tend to be decreasing, that is, each new improvement is more difficult to achieve. This puts pressure on both management and workers. Financial success and the number of jobs can also be supported by considering carefully which functions should be kept at the company itself and which should be contracted out. In Skaala's case, production of insulation glass has been kept and processing of renovation waste has been outsourced.

The transferability of Skaala's energy efficiency procedures depends, among other things, on local customs and recycling procedures. Creating conditions favourable for recycling is not sufficient if attitudes towards it are not similarly favourable. Even in Finland there are significant regional and local differences in the way in which recycling is organised and differences between countries are equally large, if not larger. Although Skaala has not seen a great need for training in recycling, such training will be necessary in places where recycling is not an established procedure.

Similarly, building customs and the demand for energy-efficient products vary significantly between countries. Public authorities could help by putting pressure on enterprises and individuals alike to adhere to standards. Perhaps even more powerful than pressure (sanctions) would be positive incentives by rewarding enterprises that provide energy-efficient products or adopt such procedures in their operations. Keeping recycling costs lower than landfill costs is one example.

Bibliography

- for Economic Development, Transport and the Environment (2011), 'Etelä-Pohjanmaan INNOSUOMI 2011 -palkinnot jaettiin [Southern Ostrobothnia INNOSUOMI 2011 awards], available at http://www.ely-keskus.fi/fi/tiedotepalvelu/2011/Sivut/Etela-Pohjanmaan_INNOSUOMI-palkinnot_2011_jaettiin.aspx.
- project website (in Finnish), http://www.merainfo.fi/?id=1.
- of the Environment (2012), 'Suomen rakentamismääräyskokoelma' [National Building Code of Finland], available at http://www.ymparisto.fi/default.asp?contentid=409253&lan=en&clan=fi.
- (2012), 'Ikkunoiden energialuokitus' [Classification of energy efficiency for windows], available at http://www.motiva.fi/koti_ja_asuminen/vaikuta_hankinnoilla/ikkunoiden_energialuokitus.
- Statistics of Finland (2012), 'Finnish enterprises', available at http://www.stat.fi/til/syr/index_en.html.

- (2008), 'Ikkunoissa on vielä haastetta',17 January, available at http://www.rakennuslehti.fi/uutiset/energiatalkoot/12179.html.
- (2008), 'Skaalan tuotannosta 35–40 prosenttia A- ja B-energialuokiteltuja ikkunoita 2008', 14 March , available at http://www.rakennuslehti.fi/uutiset/uutiset/12440.html.
- (2008), 'Skaala hakee kasvua energiansäästöstä', 24 March, available at http://www.rakennuslehti.fi/uutiset/talous/12938.html.
- (2009), 'Korjausrakentaminen elvytti nopeasti ovi- ja ikkunavalmistuksen', Rakennuslehti, 12 June, available at http://www.rakennuslehti.fi/uutiset/infra/18266.html.
- (2010), 'Skaala tavoittelee kaiken purkujätteen uusiokäyttöä', 7 July, available at http://www.rakennuslehti.fi/uutiset/rakentaminen/21924.html
- (2010), 'Skaalalta huurtumaton energiaikkuna ja turvaovi', Rakennuslehti, 7 October, available at http://www.rakennuslehti.fi/uutiset/rakennustuote/22762.html.
- (undated), 'RIL-Palkinto' [RIL awards], available at http://www.ril.fi/fi/alan-kehittaminen/rilin-palkinnot/ril-palkinto.html
- website, http://www.skaala.fi/
- Recycling (2010), 'Stena Recycling oy on kehittänyt Skaalan kanssa ainutlaatuisen kierrätystoiminnan', press release, 1 July, available at http://stenarecycling.fi/Ajankohtaista/Uutisarkisto/Lehdistotiedote/.
- (undated), 'Serve project – Pioneers of Service Business 2006–2013', available at http://www.tekes.fi/programmes/Serve.

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