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MARKET ENTRY PLAN FOR FINNISH SOLAR ENERGY TECHNOLOGY

Case: Suncol Oy & Germany

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ABSTRACT

This thesis studies the German solar energy industry and based on the findings, the author draws up a market entry plan for a case company. The thesis is focused on a solar energy company's willingness to enter the German solar energy market and aims at helping them to find a viable solution to do so.

The main objective of this thesis is to study the potential of Germany as a future market for Suncol Oy and to find out the best way for them to enter the market. With the found data, the author develops an entry plan to the German market. The thesis also examines the solar energy industry, introduces the most essential parts of an internationalization process and analyzes the case company's internal resources.

As a theoretical framework, the author uses the theory of the internationalization process. The author discusses the most relevant modes of entry and distribution channels. The author chose to use some analyzing tools to help examine the different entities of this study. SWOT analysis is used to analyze the internal resources of the case company, Porter's Five Forces Analysis is used to analyze the solar energy industry and PEST analysis is used to analyze Germany as a foreign market.

The research method of this thesis is qualitative research method. The data for this study is collected from both primary and secondary sources, primary sources being interviews and observations and secondary sources being related literature, articles and webpages.

The entry plan consists of three different stages set in three different timeframes. The entry plan includes three different entry modes; direct exporting, licensing and joint venture. Distribution channels used include importer, wholesaler, retailer and sales representative.

Key words: Germany, internationalization, solar energy industry, solar thermal

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TIIVISTELMÄ

Tämä opinnäytetyö tutkii Saksan aurinkoenergia-alaa ja löydöksiin perustaen, kirjoittaja laatii markkinoilleliittymissuunnitelman. Opinnäytetyö keskittyy aurinkoenergiayhtiön halukkuuteen liittyä Saksan aurinkoenergiamarkkinoille ja tähtää auttamaan yhtiötä löytämään mahdollisen ratkaisun siihen.

Tämän opinnäytetyön päätavoite on tutkia Saksan potentiaalia tulevana markkina-alueena Suncol Oy:lle ja löytää heille paras ratkaisu liittyä markkinoille. Löydettyillä tiedoilla kirjoittaja kehittää liittymissuunnitelman Saksan markkinoille. Opinnäytetyö tutkii myös aurinkoenergia-alaa, esittelee kansainvälistämisen prosessin oleelliset osat ja analysoi case-yrityksen sisäisiä resursseja.

Teoreettisena viitekehystenä kirjoittaja käyttää kansainvälistämisen prosessin teoriaa. Kirjoittaja käsittelee oleellisia liittymismalleja ja jakelukanavia. Kirjoittaja valitsi käyttäkönsä apunaan eräitä analysointityökaluja tutkiessaan tämän työn eri kokonaisuuksia. SWOT-analyysiä käytetään case-yrityksen sisäisten resurssien analysointiin, Porterin viisi vaikuttavaa voimaa –analyysiä käytetään aurinkoenergia-alan analysointiin ja PEST-analyysiä käytetään analysoidessa Saksaa ulkomaisena markkinana.

Tämän opinnäytetyön tutkimusmenetelmä on laadullinen. Tutkimuksen tiedot kerätään primäärisistä ja sekundäärisistä lähteistä, primääristen lähteiden ollessa haastatteluja ja havaintoja, sekä sekundääristen lähteiden ollessa aiheeseen liittyvää kirjallisuutta, artikkeleita ja internetsivustoja.

Markkinoilleliittymissuunnitelma koostuu kolmesta eri vaiheesta, jotka on asetettu kolmeen eri aikakehykseen. Suunnitelma sisältää kolme eri liittymismuotoa; suora vienti, lisensiointi ja yhteisyritys. Käytettyihin jakelukanaviin kuuluvat maahantuojat, tukkukauppias, jälleenmyyjä ja myyntiedustaja.

Asiasanat: Saksa, kansainvälistäminen, aurinkoenergia-ala, aurinkolämpö

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ABBREVIATIONS

| | |
|-----|-------------------------|
| B2B | Business to Business |
| B2C | Business to Customer |
| CEO | Chief Executive Officer |

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1 INTRODUCTION

1.1 Background

When the author decided to start his Bachelor's Thesis process, he contacted his tutor-teacher to ask for counsel in the matter. The teacher had been contacted earlier by Suncol Oy, a company dealing in the solar energy business, in regards to their need for a student to conduct a study on the German market for their new product. The author had gained some experience on Germany on his exchange semester there. This combined with the author's interest towards green energy and sustainable development convinced the teacher to recommend the author as the one to implement the wanted study. The parties agreed to meet and soon the project was put into effect.

Solar energy business is globally going through big changes. Energy consumption is increasing while global warming is forcing us to seek more sustainable forms of energy. The situation is offering companies a chance for rapid growth and internationalization. (OSKE 2013.) This being the case, the author feels it is very important to study the solar energy business more and to try and find better ways to bring the good ideas and innovations related to sustainable energy production into action. Suncol Oy has a great product for solar energy business and the author is proudly helping the company to get their product to the market.

1.2 Objectives

The main objective of this thesis is to study the potential of Germany as a future market for Suncol Oy and to find out the best way for them to enter the market. With the found data, the author will develop an entry plan to the German market. Secondary objectives of this study are to examine the solar energy industry, introduce the most essential parts of an internationalization process and to analyze Suncol Oy's internal resources.

The significance of this study can be substantial because the study offers concrete information about a potential market and the best modes of entry to it for Suncol

Oy. Since Suncol Oy is still a start-up company, so far without any actual markets, this study may well become an initial research about their first market.

1.3 Research Questions

The first two research questions are the main ones for this study and the last four are supporting ones. The research questions are listed below:

- 1) What is the potential of German solar energy market?
- 2) What is the most fitting entry mode for that market for Suncol Oy?
- 3) Who are the target customers?
- 4) What are Suncol Oy's internal resources?

1.4 Limitations

Since the author focuses on the German market, no other markets will be examined in this study. This study cannot go through every possible aspect and theory related to market entry strategies and internationalization. Only the most relevant theories are introduced and examined. Since the author is a business student, when analyzing the solar energy business, he will not focus on the technical matters of solar energy, but examine it from a business-point-of-view.

1.5 Theoretical Framework

When entering a foreign market the choice of the entry mode plays a crucial role. The entry mode has an effect to all aspects of internationalization, e.g. control and distribution. (Albaum & Duerr 2008, 270.) The author will define internationalization and give some insight on the modes of entry he thinks have the most relevance to this study. These entry modes will be: indirect exporting, direct exporting, licensing and joint venture.

The author chose to use some analyzing tools to help examine the different entities of this study. SWOT analysis will be used to analyze the internal resources of Suncol Oy, Porter's Five Forces Analysis will be used to analyze the solar energy industry and PEST analysis will be used to analyze Germany as a

foreign market. The aforementioned tools will be introduced more closely in the coming paragraphs.

1.6 Research Method & Data Collection

When conducting a study, one of the first things the researcher has to decide upon is the type of data collection method to be used. The two alternatives are qualitative and quantitative research method. The choice usually depends upon the nature of the research problem and what type of information is the most feasible for the research. (Ghauri & Gronhaug 2010, 103.) Qualitative research is conducted mostly with words rather than numbers, as opposed to quantitative research. In a quantitative method the research often takes a natural scientific model applying measurement, whereas the qualitative research often studies the participants of social processes and the social world. (Bryman, A., Bell, E. 2011, 386; Ghauri & Gronhaug 2010, 104-105.) Typical techniques for data collection in qualitative research are observations and interviews and the method also usually requires a lot of abstract thinking and analyzing different circumstances. When it comes to quantitative research, the researcher often uses statistical analysis and measures quantities. (Ghauri & Gronhaug 2010, 104-105.)

For this thesis a qualitative research method was chosen over quantitative because of the abstract and multi-disciplinary aspects of the study.

One of the main things a researcher has to do is to find out whether the information gathered by the researcher is true or not and then make conclusions. To do so, there are two feasible approaches: deduction and induction. (Ghauri & Gronhaug 2010, 15.)

Deductive approach forms the research by following logic. At first, theory and literature is studied and referred by the researcher upon which he/she bases their hypothesis. From the hypothesis the researcher builds a *deduction*. The deduction can be then approved or disapproved based on empirical testing. Deductive research could be presented in a nutshell as follows:

- Hypothesis: Human beings are animals.
- Hypothesis: All animal species will be extinct at some point.

- Deduction: Human beings will become extinct at some point.

(Ghauri & Gronhaug 2010, 15.)

Inductive approach forms the research by using empirical observations. In *induction* the order goes from observations to findings to theory. The main purpose of inductive research is to enhance the existing theory by using gathered evidence. (Ghauri & Gronhaug 2010, 15.)

Basically a deductive research transforms from general ideas to specific ones, and inductive research does the vice versa. In this thesis the author first introduces some basic theories and hypotheses about internationalization, the case company and the target market and finally draws a conclusion in a form of a market entry plan. Therefore it is evident that the approach of this thesis is deductive.

The data for this study will be collected from both primary and secondary sources, primary sources being interviews and observations and secondary sources being related literature, articles and webpages.

2 INTERNATIONALIZATION PROCESS

When companies internationalize their activities, they have different motives to do so. The motives can be divided into two groups: proactive motives and reactive motives. Proactive motives represent incentives for an effort in change of strategy, which are usually caused by the company's will to take advantage of their strengths or unique openings in the market. Reactive motives, on the other hand, arise from the need to react to threats in the market. (Hollensen 2012, 35.)

Whether the motive is proactive or reactive, the choices for an entry mode are plenty. It is extremely important to find out the best entry mode, since it largely determines the firm's level of control over the target market and its engagement to it (Albaum & Duerr 2008, 270).

Even though the possibilities are numerous, most of the entry strategies fall into three categories; export-based methods, non-equity methods and equity methods, of which the export-based are most common. (Wall, Minocha & Rees 2010, 38-39.) The author chose to introduce the four most relevant modes of entry to this study. The entry modes are listed below.

2.1 Indirect exporting

Exporting is the most simple and used way of internationalizing. Exporting can be divided under two titles: indirect exporting and direct exporting. Indirect exporting takes place when a company does not want to implement any internationalization activities itself, but rather outsources the physical activities to mediators. The outsourced functions can be for example; product distribution and sales. The functions can be outsourced to three different mediators: export houses, confirming houses and buying houses. (Wall, Minocha & Rees 2010, 39.)

- An export house buys goods domestically and then sells them in a foreign market on its own account.
- A confirming house works for a commission, bringing the seller and the buyer into contact, guaranteeing the seller to get the money from the buyer.

- A buying house operates very much in the same way as a confirming house, but is more deliberate in finding sellers that suit the buyer's specific requirements. (Wall, Minocha & Rees 2010, 39-40.)

The clear advantages of indirect exporting are that there is no need for the company to have expertise in internationalization and that no extra-costs will arise during the process. The downsides of indirect exporting, on the other hand, are the lack of control over activities in the foreign market and the lack of contact with the end-users, which results to not having important feedback on the products or services of the company. (Wall, Minocha & Rees 2010, 39-40.)

2.2 Direct exporting

Whereas indirect exporting aims to outsource the activities of internationalization, direct exporting does the very opposite. Typically, a firm that uses direct exporting acts as a seller and a distributor of their own products in the foreign market. This means that, as opposed to indirect exporting, the company needs to have a fair level of expertise in internationalization in order to make the foreign activities successful. Key factors to this success will be networking and maintaining the contacts, proper market research and understanding localization. The advantages of direct exporting are the control over the internationalization activities as well as communication and interaction with the end-user and the market. Thus, the company can react more quickly to changes and developments in the market and also react to customer feedback and market research. The downsides of direct exporting compared to indirect exporting are the increased requirements of resources and expertise of internationalization. (Wall, Minocha & Rees 2010, 40.)

2.3 Licensing

“**Licensing** is a contractual arrangement whereby one company (the licensor) makes a legally protected asset available to another company (the licensee) in exchange for royalties, licence fees, or some other form of compensation.” (Keegan, W.J., Green M.C. 2005, 295.) Licensing is one of the non-equity-based methods and possibly the most popular one. The beauty of licensing lies in its

business of making money just by sharing one's already established and well-proven business-model, brand, product or such without having to take any real measures in order to internationalize one's business.

One crucial advantage in licensing is that both parties can evade and ignore tariffs, quotas and other barriers to trade that often emerge when going international. (Keegan, W.J., Green M.C. 2005, 295.)

Disadvantages of licensing are the limited or total lack of control over the market and the use of the licensed asset. The licensee can e.g. have a very different approach to marketing than the licensor which may have a negative influence on the company's image. Also, one downside of licensing is the threat of losing a licensee-partner and gaining a competitor. Since licensing often basically lets another company in on the licensor's business-model, in a worst-case scenario, the licensee can innovate and develop their own technology, expertise and business-model, resign from the licensing-contract and take over the market in the country where the licensing originally happened. (Keegan, W.J., Green M.C. 2005, 296.)

2.4 Joint venture

Joint venture is an equity-based method of internationalization, which fundamentally involves the usage of foreign direct investment in international trade. Compared to licensing, joint venture requires more active participation in the internationalization process. Joint venture includes at least two parties that usually create a new a business model and start working with it. The advantages of joint venture are sharing of costs and risks and gaining access to other company's resources. The disadvantages are of course the very opposites, meaning sharing of profit and giving access and transparency to one's own resources. (Wall, Minocha & Rees 2010, 47.)

2.5 Comparison between different entry modes

In order to better compare the advantages and disadvantages of the four introduced entry modes, the author compiled a table that clearly displays those.

TABLE 1. Comparison of different entry modes.

| Entry Mode | Advantages | Disadvantages |
|-------------------|---|---|
| Indirect Export | No need for international expertise, no unexpected costs | Lack of control over activities, lack of interaction with the customer |
| Direct Export | Control over the activities, communication and contact with the customer and the market | Requires resources, flexibility and expertise in internationalization |
| Licensing | No need to take real measures in internationalizing, no need to worry about tariffs or quotas | Lack of control over the market and the use of the licensed asset, threat of losing a licensee-partner and gaining a competitor |
| Joint Venture | Sharing of costs and risks and gaining access to other company's resources | Sharing of profit and giving access and transparency to one's own resources |

2.6 Distribution channel

As well as entry modes, distribution is also an important part of the internationalization process and deserves some presentation.

Distribution is often referred to as logistics, but it is also a part of the 4P's of the marketing mix, and in that it is called 'place' (Kotler 1999, 103). According to Armstrong & Kotler (2000, 330), distribution channel is a number of parties dependant on each other with a mutual goal of bringing a product or a service to the reach of customers. The level on which a company's distribution channel works has a great effect on the success of the company. Even if the company had the world's greatest product it will not succeed if the dealers selling the product do a lousy job. Therefore the choice of channel partners is very important. In more depth, the distribution channel has an effect on marketing tools, such as pricing and advertising. The scale and level of dealers partly determines how much thought and effort has to be put on pricing and advertising by the company. (Armstrong & Kotler 2000, 326-329.)

Many manufacturers use an intermediary for getting their goods to the market, even though this has the result of the manufacturer losing control over the target market. The reason for this is that the intermediaries often possess a greater capability to reach target markets and bring products to them. They are often more experienced in understanding supply and demand and making the right kind of selection of products available to the customers. Whereas manufacturers often have a small selection of products in large amounts, the intermediaries offer a big selection of products in small amounts to customers. In addition to this, the main functions of intermediaries are gathering information, contacting and communicating with customers and promoting the products. Manufacturers can use several intermediaries, e.g. a wholesaler and a retailer, for different functions. Some manufacturers don't use intermediaries at all, but instead they sell the products directly to customers. This is called a direct marketing channel. (Armstrong & Kotler 2000, 330-332.)

There are three sorts of distribution strategies that determine the number of intermediaries used in distribution: intensive distribution, exclusive distribution and selective distribution. Intensive distribution means that the product is sold in as many places as possible. This strategy is often used e.g. with soft drinks. Exclusive distribution means that the product is sold in a restricted number of places, and the rights to sell the product can be exclusively given to a certain retailer. This strategy is often used high-end products such as luxury cars.

Selective distribution is somewhere between intensive and exclusive. It means that the product is sold in more than one place, but not in as many as possible. This strategy is often used e.g. with electronic appliances. The idea of intensive distribution is that the customer can have the product wherever and whenever they want it. Exclusive distribution aims at creating an exclusive brand or product image. Selective distribution is, again, somewhere in the middle between the other two strategies, giving the customers a relatively easy access to the product but helping the manufacturers gain a control over the product's marketing and decreasing the costs that come with intensive distribution. (Armstrong & Kotler 2000, 344-345.)

3 RENEWABLE ENERGY

This paragraph of the thesis is intended to explain briefly what renewable energy is about with a special focus on solar energy. The reason behind this is to give the reader some sort of idea about the industry this thesis is dealing with.

Being ecological is nowadays a global movement. Concepts like renewable energy and sustainability are becoming more and more topical and relevant as much to us people as to businesses and governments. Companies are trying to make their products and production processes greener, and governments are using their power and resources to make the whole world and everything we do greener. They favor the ones that use hydropower, biofuels, wind and solar energy, by giving incentives to businesses to become greener. Incredible innovations are made to face the challenges that are upon the world already and technological applications are slowly changing the courses of our everyday lives. Renewable energy is today's leading industry. It is a multi-billion business that keeps on growing. Its future lies in replacing current technologies, altering production more efficient and reusing the excess of raw-material in the world. Also, the fact that renewable energy doesn't restrict itself to any specific product or industry, such as motor-vehicles or paper industry, but it occurs in pretty much every business, makes it an industry worth looking into. (Roland Berger Strategy Consultants GmbH 2011, 1-7.)

3.1 Environmental changes

Even though there is a lot of money to be made in the clean technology business, the reasons behind the innovations and ideas are much graver.

Global warming and greenhouse gases are affecting the world's fragile and intricate ecosystem which may result to changes in our natural environment. (EPA 2013.) In order to reduce the greenhouse gases and emissions, many measures have been taken. One example are the "20-20-20" targets that set three key objectives for the year 2020:

- "A 20% reduction in EU greenhouse gas emissions from 1990 levels"

- “Raising the share of EU energy consumption produced from renewable resources to 20%”
- “A 20% improvement in the EU's energy efficiency”

The EU set these so-called “20-20-20” targets in 2007. (European Commission 2013.)

Other threats that are imminent to the environment are overpopulation and urbanization. Currently there are over 7.1 billion people in the world (Worldometers 2013.) By the year 2050 the expected population will be over 9 billion. The massive growth of population will increase e.g. the groundwater consumption and the amount of waste and emissions. (Roland Berger Strategy Consultants GmbH 2011, 8). Urbanization is caused mainly by the overpopulation. In 2009, half of world’s population was living in urban areas. The increased density among the population is creating problems e.g. in power and water supply and in waste disposal. (Roland Berger Strategy Consultants GmbH 2011, 11.) The decreasing energy-supplies and the scarcity of fossil fuels also accelerate the need for renewable energy (Roland Berger Strategy Consultants GmbH 2011, 46).

3.2 Solar energy

Solar energy is energy that comes from the sun and is transformed into photovoltaic or thermal energy. Thermal energy, or solar thermal, is energy taken from the sun and turned into heat, whereas photovoltaic energy is energy taken from the sun and turned into electricity. Thermal energy is obtained with solar panels and photovoltaic energy with solar cells. Solar energy is renewable, clean and pollution free but it is also somewhat expensive. Solar energy is also dependant on the amount of sunlight and weather conditions. (Go Solar 2009.)

The technology and the materials required to produce solar energy are not highly expensive, but the cost-efficiency of solar energy alone is not yet as good as with some other sources of energy. Subsidies, incentives and investments are still the driving force behind solar energy and they are inevitable in keeping it in production. (Roland Berger Strategy Consultants GmbH 2011, 57-59.)

3.3 Solar Energy in Germany

Solar energy industry in Germany is quite large. In 2010 the number of companies dealing in solar energy was around 15,000, of which 350 were manufacturers. The number of people working in the solar energy industry was approximately 150,000. In 2010 photovoltaic energy covered 2% of Germany's electricity consumption and solar thermal covered 1% of heating. It has been estimated that in 2050 photovoltaic will cover 25% of Germany's electricity consumption and solar thermal will cover 30% of Germany's heating. The industry is making progress but also facing problems. The prices of solar energy systems should be lowered in order to increase the capacity of solar power, but this causes financial challenges for the manufacturers. Due to some cutbacks in the government subsidies, companies with low energy capacity are struggling to survive. Germany has been one of the leading countries in solar energy industry right from the start. They were one of the first countries to take on the feed-in tariffs which caused a good growth on demand. Germany has a competent workforce in the industry and outstanding facilities for research and development. Also, the superb know-how on machinery and technology in general make many German businesses international leaders in the solar industry. (Modee 2011.)

3.4 Porter's Five Forces Analysis

In order to analyze the solar energy industry in Germany the author chose to use the Porter's Five Forces Analysis. Porter (2008) states that when developing a business strategy, one of the most important things is to understand competition. Often competition is considered to be only among the existing rivals, but this is not the case in its entirety. There are four other forces that affect competition within an industry as well: customers, suppliers, potential new entrants and substitute products. In order to better comprehend the industry's structure and competition spectrum one should take all of these five forces into account. Porter's Five Forces Analysis is used exactly for that.

The Five Forces That Shape Industry Competition

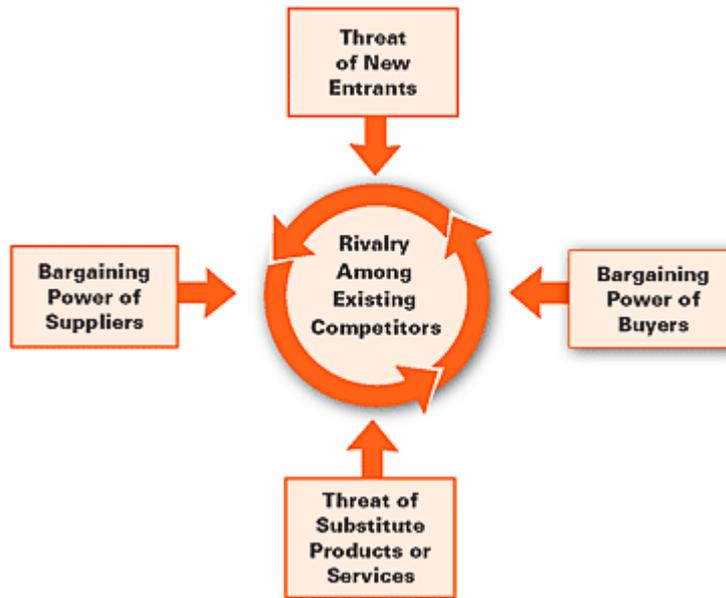


FIGURE 1. Porter's Five Forces Analysis (Porter, 2008)

3.4.1 Rivalry among existing competitors

As stated previously, the number of companies working in the solar energy industry in Germany is around 15,000, 350 of which are manufacturers. This obviously means competition. Most of the companies are so-called SMEs, small or medium-sized enterprises, but the big players exist also, even though they are not necessarily doing too well. According to an article by Pentland (2013), two German solar energy companies had filed for insolvency. These companies were in a leading position in the market. Also, another two big companies had decided to retire from solar energy industry completely after making huge losses during a long period of time.

The rivalry doesn't limit to domestic companies. According to an article by Stearns (2013), 80 per cent of the solar-panel market in the EU is controlled by Chinese companies. Their manufacturing prices are way cheaper than in the EU which has caused the European Commission to set limits to volume and prices.

3.4.2 Threat of new entrants

Threat of new entrants is imminent in the solar energy industry because the industry is fairly new, rapidly growing and subject to change. Since many governments are trying to increase their renewable energy production and the general opinion is “the more renewable energy, the better”, there is a lot of room for new entrepreneurs in the solar energy industry.

3.4.3 Bargaining power of suppliers

Solar cells are usually produced with crystalline silicon technology or thin-film technology (Roland Berger Strategy Consultants GmbH 2011, 60) and solar thermal collectors are made of different metals and with equally complex technology. Even though the products are highly technological and require many resources to manufacture, no one has a monopoly over the market. There are a lot of manufacturers and new-comers that supply the customers. This means that the suppliers don't have too much bargaining power because if one sets a high price-level on their products, another one will jump in and sell similar products cheaper.

3.4.4 Bargaining power of buyers

The buyers don't have too much bargaining power in the market either, even though there are two kinds of products that can utilize sunlight; solar cells and solar thermal collectors. The functions of these two are nevertheless different. Solar cells are used in photovoltaic process to turn sunlight into electricity and solar thermal collectors are used for heating. Therefore, depending on the wanted function, the buyer has only one option for the product. Differences in the materials and used technology exist, but basically the buyer doesn't have much ground to move on, compared to e.g. purchasing a means of transportation. Given that there are several manufacturers and sellers in the market, the customer does have the power to change suppliers and have competitive bidding.

3.4.5 Threat of substitute products or services

Threat of substitute products or services is of course ever present, because energy can be produced and obtained in many ways. First there is renewable energy versus nonrenewable energy, i.e. fossil fuels (National Geographic 2013.) Nuclear power also competes with renewable energy in energy production. Then there is the variation of renewable energy, mainly wind, tides, geothermal and of course solar (Renewable Green 2013.) They all aim at one thing: creating energy that can be used by man. Therefore substitute products and services exist, but, as mentioned above, for solar energy in particular, there are only two kinds of products with different functions. Solar energy has a great niche in the market and will not be overthrown because it is environmentally friendly and there is a growing demand for energy production, especially clean one.

In the figure below, the author displays the levels of the five forces in the solar energy industry in Germany.

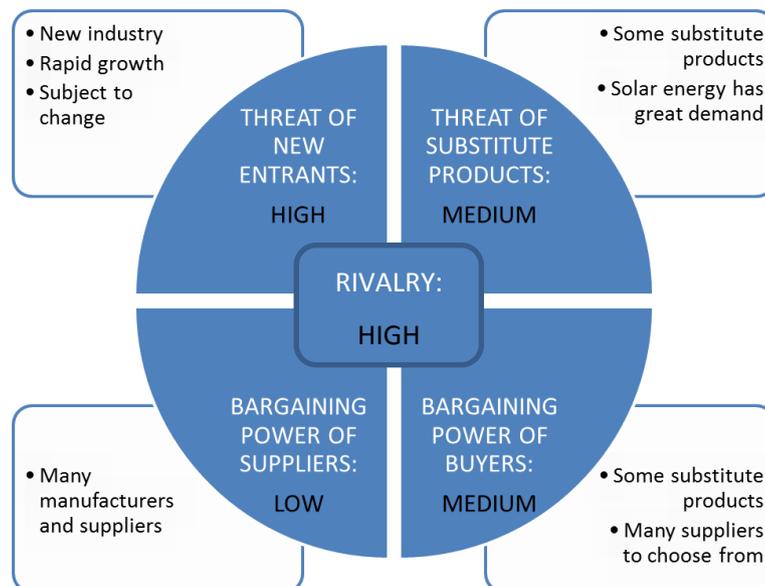


FIGURE 2. The levels of Porter's Five Forces in the solar energy industry in Germany.

4 GERMANY AS A TARGET MARKET

Germany is the leading country in Europe in many respects. It has the most people, the biggest economy and is the most industrialized. Also, the location in Central Europe gives Germany a competitive advantage in many things.

Germany has had a colourful history, and perhaps the most memorable parts of it were played in both of the World Wars. Having lost both of the wars, Germany was broken and struggling for several decades. After the Cold War ended and the Wall was torn down, Germany quickly got economically up to speed with other European countries, and later on strived to become the powerhouse of the European economy. Its export industries and systematical building of the financial status and policies were the biggest reasons behind the economic success. (BBC News 2013.)

4.1 PEST analysis

When analyzing Germany, the author chose to use PEST analysis as a tool for country-analysis. PEST stands for political, economic, socio-cultural and technological forces of the external environment of an organization. According to Capon (2004, 278), external environment, or macro-environment, is the context in which an organization operates. By analyzing that environment the organization benefits greatly by acquiring information about the surroundings of their operations. PEST analysis can be used in smaller or bigger environments than a country, but for this study the macro-environment under examination is Germany.

4.1.1 Political factors

Germany is a federal republic with a stable political situation. President Joachim Gauck acts as the head of state and Chancellor Angela Merkel is the leading politician and head of the German government. (CIA 2013.)

In the beginning of the 90's the German government started heavily supporting solar technology. They began to subsidize households for putting up solar panels on their rooftops. The government introduced a feed-in tariff for electricity

production as a part of their sustainable energy policy. This was very expensive for the government but was vital in getting the investors and businesses interested in renewable energy and with that the whole industry to life. (Roland Berger Strategy Consultants GmbH 2011, 58.)

In May 2011, the government announced that eight nuclear power plants will be shut down instantly and the remaining nine power plants will follow by 2022. The nuclear plants had been reported to be completely safe and tested, but due to rising anti-nuclear pressure the government decided to let go of nuclear power entirely. The government intends to replace nuclear energy with coal- and gas-fired plants and renewable energy. The cost of replacing the nuclear power has been estimated to amount up to 1,000 billion Euros. (World Nuclear Association 2013.)

4.1.2 Economic factors

Germany has the fifth largest economy in the world with its GDP of \$3.25 trillion (CIA 2013). Germany doesn't have that much raw materials. The country imports most of its resources. Yet, Germany has long been one of the leading countries in exporting, technology and manufacturing. (Princeton.)

Germany is the third biggest exporter in the world with \$1.46 trillion in 2012 (CIA 2013). 70% of the country's GDP is consisting of the service sector, 29,1% of industry, and 0,1% of agriculture. Engineered products such as motor vehicles and chemicals are the most significant exports. (Wikipedia 2013.)

Taxation in Germany is somewhat heavy. 45% of it's GDP consists of taxes and other revenues such as social contributions and grants. In comparison, the same figure in Finland is 53.8. The labor force in Germany is over 50% with 43.9 million people. The unemployment rate is only 5.5%, whereas in Finland it is 7.8%. (CIA 2013.)

Germany is a part of the EU and is a very global player in business. The three biggest trading partners of Germany are France, the Netherlands and the UK. (CIA 2013.)

The labour costs in Germany are somewhat high. The figure below shows a graph of the hourly labour costs in the EU-countries in 2012. It shows that the average in EU is 23.4 Euros and that Germany has a little over 30 Euros. The lowest labour costs are in Bulgaria with 3.7 Euros and the highest in Norway with almost 50 Euros/hour. Finland's average is little higher than Germany's.

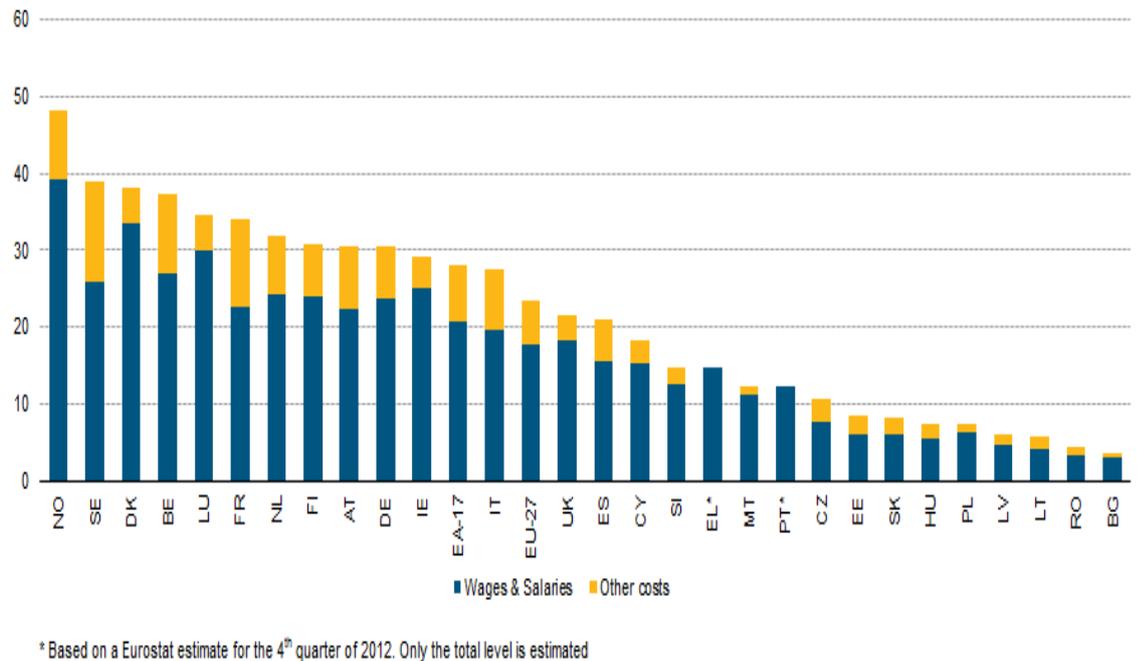


FIGURE 3. Estimated labour costs for the whole economy in EUR, 2012 (European Commission 2013.)

4.1.3 Socio-cultural factors

Germany is the most populated country in Europe, with over 81 million people. The German people have good welfare and education system. (CIA 2013.)

The business culture in Germany is quite easy to generalize and understand. Yet, it can be hard to assimilate if one is coming from a very different culture. The key values in German business culture are efficiency, quality, preciseness, punctuality and formality, just to mention a few. Business is not something to joke about, the Germans react to it very seriously. Hard work is emphasized and admired.

German-made long-lasting high-tech products are well-known globally. Deadlines and time schedules are to be followed exactly as they are given. Formality, in both

dressing and addressing, is considered as expected respect towards the company and the people one works with. (Millar & Reuvid 1997, 59.)

4.1.4 Technological factors

Germany is known for its technological innovations, research and development and Nobel Prize winners. Globally known companies include Mercedes-Benz, Siemens and Bosch. Many of the German universities among the Max Planck Society represent the cutting edge of research and development in Europe.

Germany is one of the leading countries in producing clean energy technologies. It is estimated that the market of clean energy will grow to €300 billion by 2020 (Roland Berger Strategy Consultants GmbH 2011, 101.)

The Fortune Global 500 is a list of companies ranked by their revenue annually. 29 of the Fortune 500 companies are German, and one even made it to the top 10, which was Volkswagen in 9th place. In comparison by country, Germany has the fifth most companies in this list. (CNN Money 2013.)

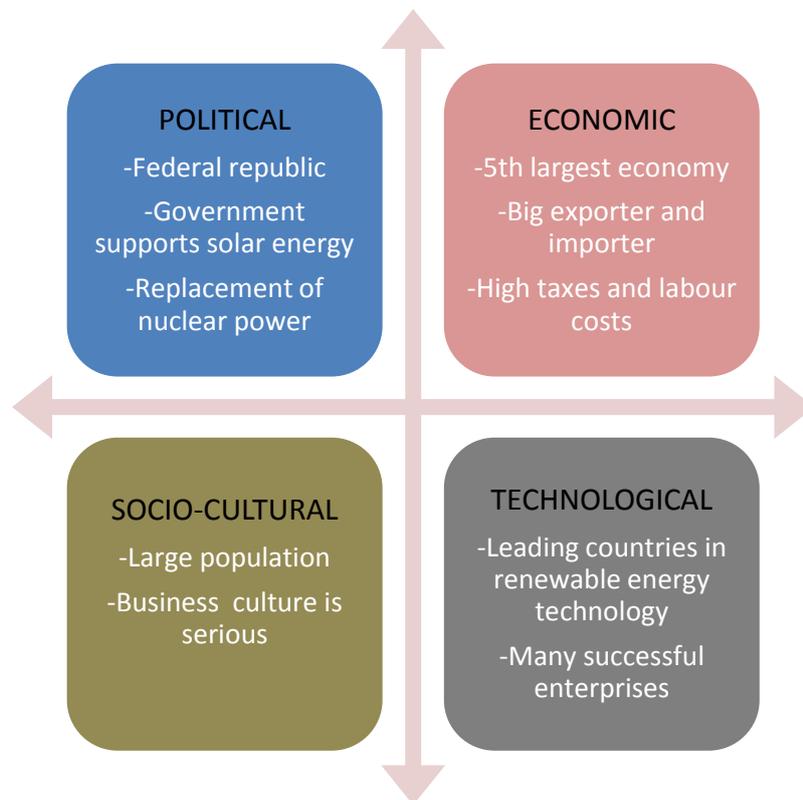


FIGURE 4. The PEST-factors of Germany

5 CASE: SUNCOL OY

5.1 Introduction of Suncol Oy

Suncol Oy, the case company of this study, is a subsidiary of Termo Panels Oy, a company, established in 1980, which manufactures prefabricated wall- and roof elements in Heinola, Finland. Termo Panels has 14 employees, a solid business structure and customer base, which gives Suncol Oy good grounds to start from. Suncol Oy deals in solar energy business, but their product is directly linked to the wall- and roof elements. As mentioned earlier, Suncol is a start-up firm with a good product but no actual markets. The people at Termo Panels and Suncol have belief in their product and are willing to internationalize it at once.

5.2 Marketing mix

In order to analyze the case company, the author chose to use the widely known marketing mix. The marketing mix consists of four concepts or Ps – product, price, place and promotion (Kotler 1999, 94). Armstrong & Kotler (2000, 55) defined the marketing mix as “the set of controllable, tactical marketing tools that the firm blends to produce the response it wants in the target market.”

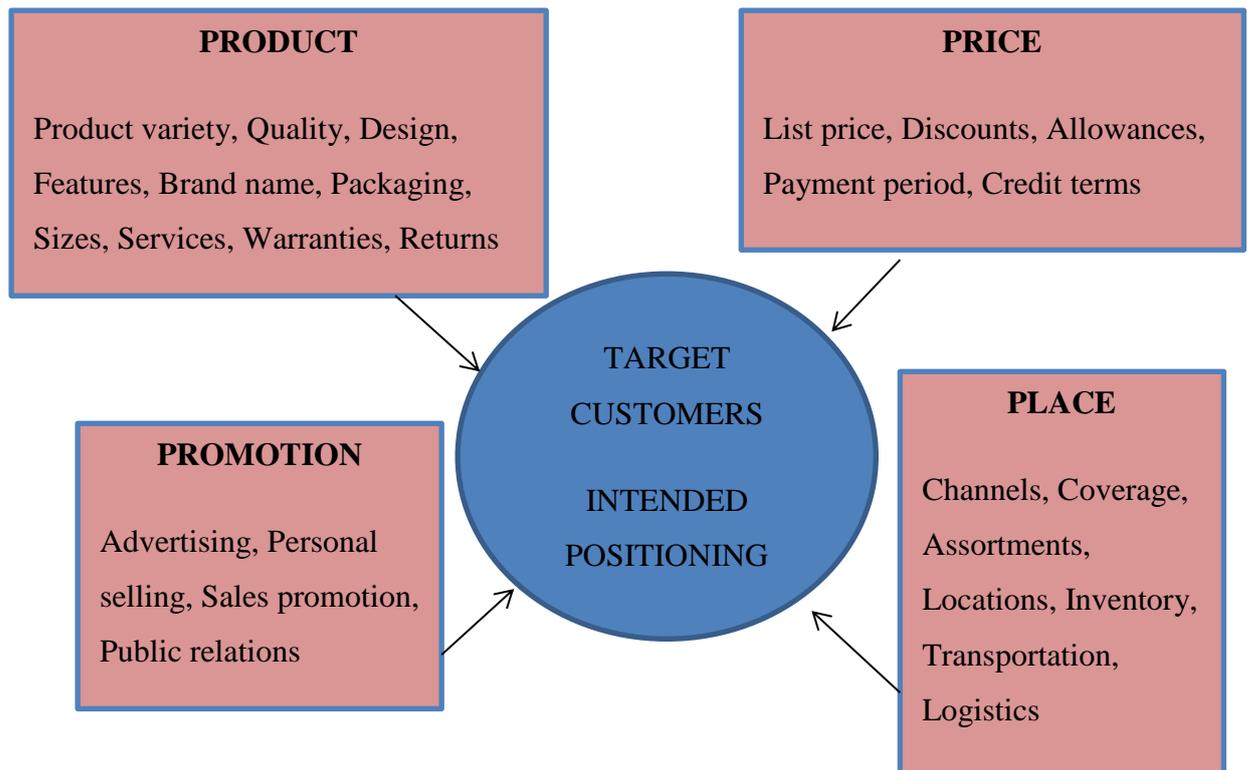


FIGURE 5. The four Ps of the marketing mix (modified from Armstrong & Kotler 2000, 55.)

The picture above showcases the Marketing Mix and what it consists of.

5.2.1 Product

A product consists of all the parts, commodities and services put together in a one entity which is sold to a customer (Armstrong & Kotler 2000, 55). Product is the quintessential ingredient of the 4Ps, because the other three are usually determined on the basis of the product. A product can be standardized or differentiated, meaning that a product with the same standard features is sold everywhere in the world, or if it is differentiated, it is customized to meet the preferences of different cultures. (Wall, Minocha & Rees 2010, 354.)

The product that Suncol Oy has relates to solar energy, more specifically solar thermal energy. Their product is a solar thermal collector which stores solar energy in a tank or container which then can be used for heating or cooling a building or water during a long period of time. As their parent company, Termo

Panels Oy, produces prefabricated wall- and roof elements, it provides Suncol a framework for their product which is an integrated solar thermal collector, because the solar thermal collector is integrated in the wall- and roof elements. A thin film photo voltage collector can also be attached to the surface of the thermal collector producing an insulation panel which works as building insulation, an internal and external surface, a photo voltage collector, thermal collector and when necessary also as an indoor air cooler or warmer. The thermal collector part can simultaneously cool the PV collector, thus, increasing the PV collector's efficiency. Additional function for the roof elements could be melting of snow from roof tops. Suncol Oy is currently trying to patent their product. They already have a utility model protection for it in Finland, Germany, France, Spain, Greece and Turkey and a patent pending in the US.

The figure below showcases how the elements are placed in a building. The thermal collector transforms sunlight into thermal energy which can be used in heating and cooling of the building and water.

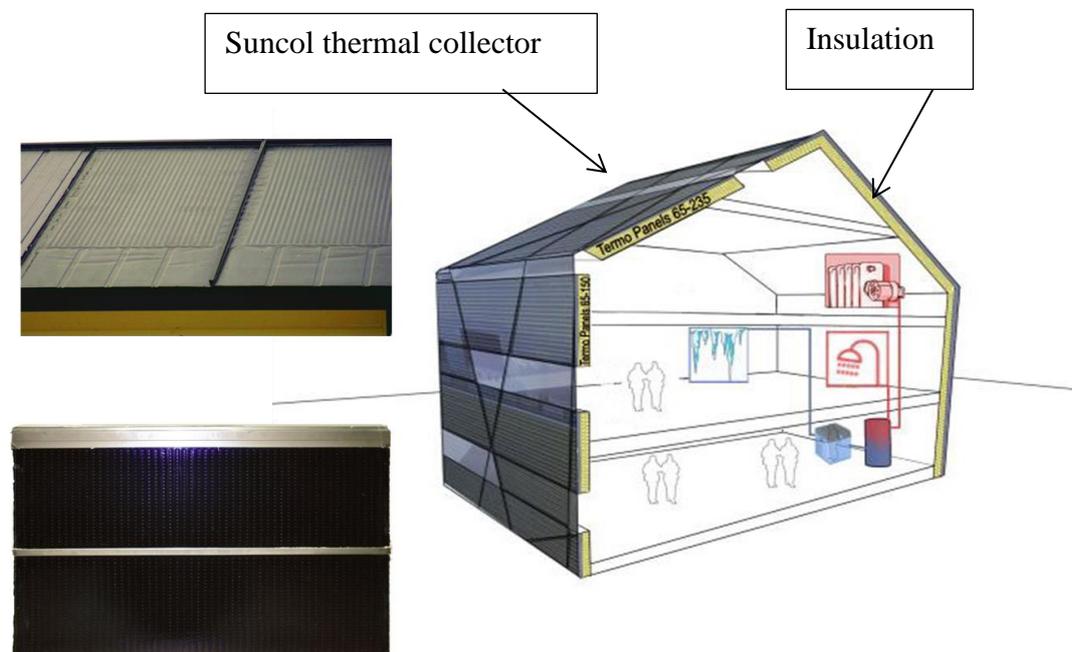


FIGURE 6. Suncol thermal collector (© Suncol Oy)

The materials being used are different metals, polyurethane and different plastic coatings. The dimensions of the products are suitable for both private and

industrial use and the maximum length is 12.7 meters. The weight differs from 12 to 15 kg/m² so the product is relatively light.

The figure below shows the cross-section of the element and all the functions it can have.

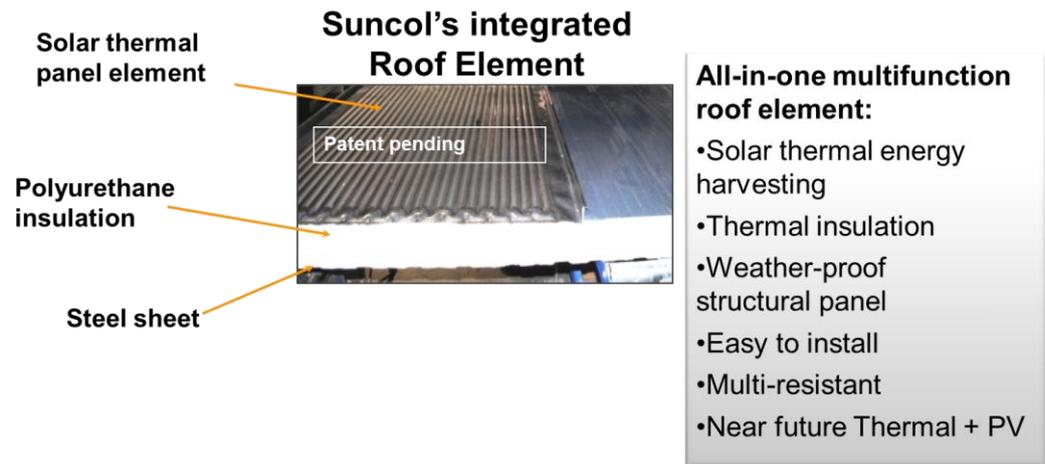


FIGURE 7. Suncol's integrated Roof Element (© Suncol Oy)

Suncol is aiming their product to be sold in both B2B- and B2C-markets. Most of Termo Panels' business is in the B2B-market, their products are used e.g. in industrial buildings, warehouses and cold storages, so it is natural for Suncol also to market their products in that segment. The B2C-market could also have a lot of potential for Suncol's product. People building a new house, garage or a building of any sort, e.g. private farmers, could benefit from the product a lot and therefore would be potential customers. According to the CEO of Suncol Oy, Mr. Timo Friman, the small solar thermal market of Central Europe is 1.5 billion Euros. This means that the B2C-market for Suncol could also be of huge potential.

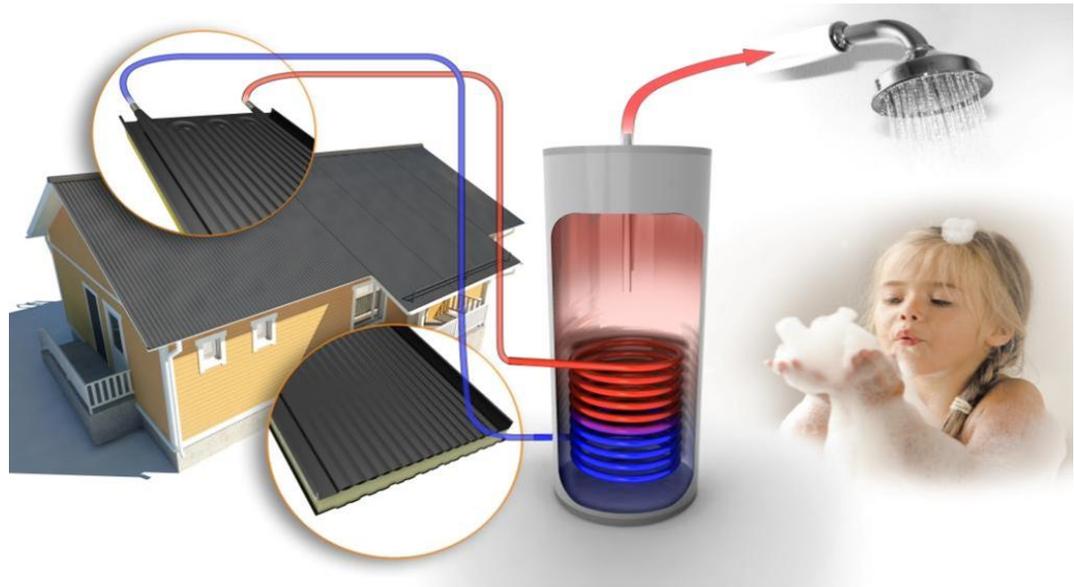


FIGURE 8. Suncol Oy’s integrated solar thermal collector (© Suncol Oy)

Suncol has planned their product family to consist of four different products: wall- and roof elements, cold-room elements, and special elements that could be used in melting snow from yards and streets. The figure below displays this product family.

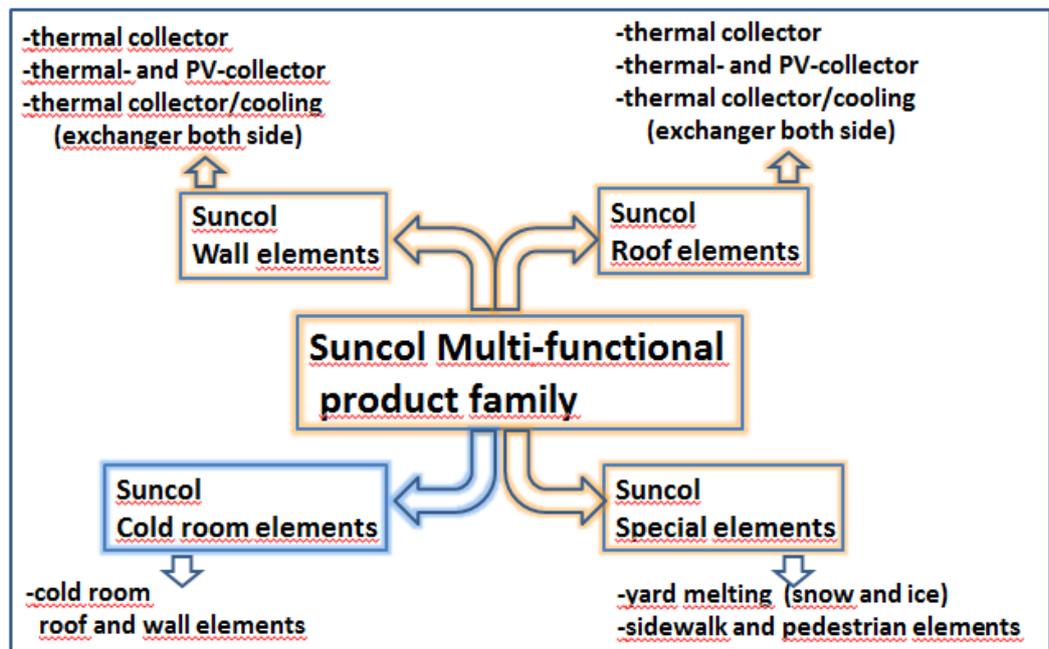


FIGURE 9. Suncol Multi-functional Product Family (© Suncol Oy)

5.2.2 Price

Root (1994, 41) defines price as “the exchange ratio between a product and money.” Price consists of the sum of money the purchasing party needs to disburse in order to acquire the product (Armstrong & Kotler, 2000, 55.) Price is also a critical part of the fundamental business equation: $\text{Profit} = \text{Price} - \text{Cost}$ (Magretta 2012, 40.) With pricing, a company can have different strategies. One is so called ‘penetration pricing.’ With this strategy, the price of a new product is set low with hopes of gaining attention and market share. Eventually the price will be raised and profit will be made when the customer base and market share is stable. ‘Prestige pricing’ is basically the opposite of penetration pricing, because the price is set high, in order to create an exclusive and luxurious image for the product. ‘Loss leader (bait) pricing’ is a strategy where a certain product’s price is set low with the hopes of getting the buyer to purchase other, perhaps related, products with a full price. ‘Competitor pricing’ and ‘parallel pricing’ are very similar strategies where firms in the same market follow each other’s pricing by changing the direction of the prices according to one another, often the market leader. International pricing is a difficult task because the company needs to consider exchange rates, invoicing and payment collection with foreign currencies and tariffs. (Wall, Minocha & Rees 2010, 361-362.)

Suncol Oy hasn’t set any prices for their product yet, because the product isn’t in the production stage. The author will give his suggestions about the pricing in the next chapter.

5.2.3 Place

Place, or distribution, consists of the activities that bring the product to the reach of customers (Armstrong & Kotler 2000, 55). Distribution is a huge challenge in international business and doing it right can give company a competitive advantage in the market. The choice of distribution channels are affected by the type of the product, transportation, controllability of the channels, the competitors’ distribution channels and the chosen entry mode of the company. Distribution channels are hard to control from abroad. Therefore, companies often use local firms in handling the distribution.

Suncol Oy has not set up a foreign distribution channel yet. The author will give his suggestions about the distribution in the next chapter.

5.2.4 Promotion

Promotion is communication between the manufacturer or seller and the customer. It covers everything from the company's side aimed at creating sales or good product and company image. Promotion can be e.g. public relations, advertising, sales promotion and personal selling. (Root 1994, 41.)

The promotion of Suncol Oy has so far been tied to their promotion of Termo Panels' products and to the wooing of potential investors. Termo Panels has taken part in fairs of construction business and promoted also Suncol's product there.

5.3 SWOT analysis

SWOT is derived from the words strengths, weaknesses, opportunities and threats. The SWOT analysis provides a summary of a company's overall position. It takes the company's internal strengths and weaknesses into account, by assessing the company's resources, structure, culture and their business functions such as marketing, finance etc. The company's external opportunities and threats are assessed too, and they on one hand have an impact on which strengths the company chooses to improve and which weaknesses it tries to mitigate. (Capon 2004, 393.) The author chose to analyze the internal resources of Suncol Oy by using SWOT as an analyzing tool because he feels it is comprehensive enough and simple to use. Moreover, the data the SWOT analysis requires can be obtained with interviews and a general research of the industry this study deals with.

5.3.1 SWOT analysis of Suncol Oy

The strengths of Suncol lie in their fine product and the already established framework for making the product: they have the manufacturing facilities, the technology, and engineers to manufacture the product and internationalize it. The weaknesses might be the lack of experience in international activities and the lack of international partners.

Suncol Oy has many future opportunities. Once they would enter the German solar energy market and/or establish a partnership with a local company the possibilities would increase. The German Energy Agency, DENA, has a special “Solar-Roof-Program” which subsidizes German solar energy companies that are willing to enter foreign markets such as China and India in order to promote German exports. The government can finance the companies’ ventures with 45%. (Modee 2011, 12.) Also, according to Modee (2011, 19) storing of solar energy will be the most potential segment of the solar energy industry in the future. This also speaks in favor of Suncol Oy. According to the CEO of Suncol Oy, Mr. Timo Friman, the market for prefabricated elements in Finland is about 30 million Euros. Termo Panels’ revenue is around 3.5 million Euros. The same market in Europe is around 2.5 billion Euros. As already mentioned the market for small solar thermal systems in Central Europe is 1.5 billion Euros. These both markets combined give Suncol a huge potential in Europe.

The figure below displays how Suncol Oy sees itself in the small solar thermal market. The commonly used systems in the market are flat panel and vacuum tube collectors, and in the figure Suncol stands alone among those two systems, introducing a new one to the market.

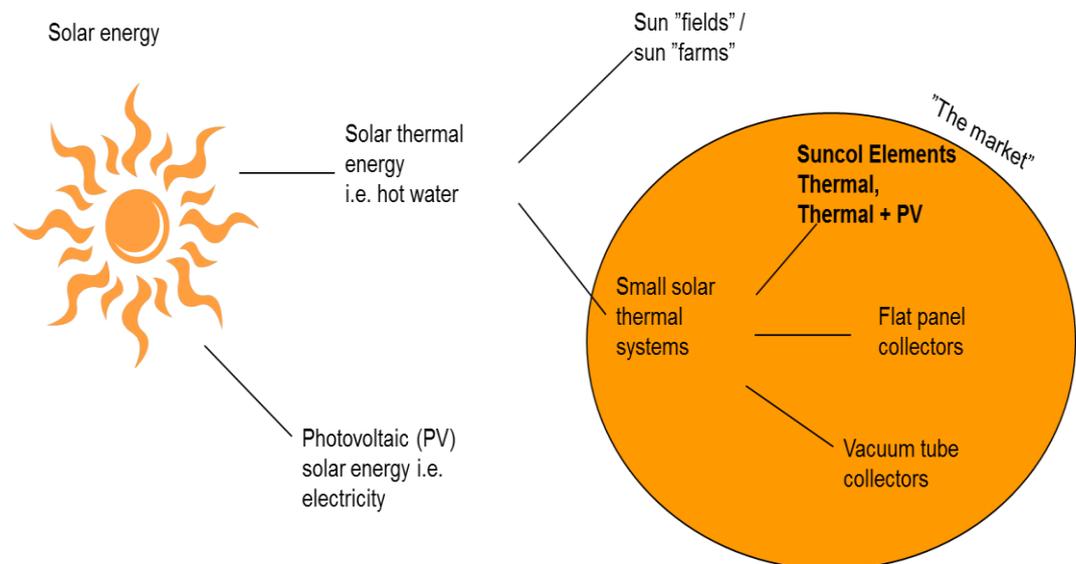


FIGURE 10. Solar energy market and Suncol (© Suncol Oy)

Threats to Suncol come mainly from the same direction as to every other European solar energy company – the east. Asian solar energy companies are more cost-efficient than the ones in Europe, and since cost-efficiency is an important success factor in the business the threat is imminent (Modee 2011, 19.) Also, the vast rivalry in the industry threatens a new-comer, as does the possibility of choosing the wrong partners in the distribution channel, the wrong entry mode or the wrong marketing tools. Nonetheless, those are the risks that everyone needs to take in order to succeed in the international market.



FIGURE 11. SWOT analysis of Suncol Oy (modified from Grafers & Schlich 2006.)

The figure above is a conclusion of the SWOT analysis of Suncol Oy.

6 ENTRY PLAN

This chapter introduces the entry plan for Suncol Oy conducted by the author of this thesis. The author compiled the entry plan based on his own observations and thoughts utilizing the theory and data previously introduced in this study. The entry plan is a suggestion for the company and therefore is completely hypothetical. The entry plan is made for the timeframe of 10 years and is presented in three different stages.

6.1.1 Stage One: Direct Exporting (timeframe 1-2 years)

The first step for Suncol Oy, before taking its products abroad, is to start manufacturing the actual product. Once they have a decent inventory of the product, they can use direct exporting and sell the products in Germany by themselves, e.g. to construction firms, meanwhile gaining customer feedback and important contacts with firms and investors. This approach would be suitable at first because with low volumes Suncol can use their own engineers in overseeing the assembly of the products into a wanted building and not use their resources in training German engineers for the job. When entering the German market, Suncol could use the services of a consulting company, for example Finpro, which could give them advice about German business culture, laws and regulations and the German solar energy and construction markets and companies. In the first stage, Suncol can use low penetration pricing in order to gain market share as a newcomer. The first stage can be seen as a sort of 'pilot phase' where Suncol tests how the product functions in practice and how it is received by customers and constructors. For example, an important thing during this phase is to observe how easily German constructors can assemble the products so that Suncol can estimate how many local experts they should have in later stages.

If the reception and feedback is positive and demand increases this mode of entry is not very durable and long-lasting. The transportation of the products from Heinola, Finland to Germany is not very cost-effective with products of this size. Suncol would need to use multimodal transport across the Baltic Sea and the weight and size of the product would increase costs. With the increased demand, Suncol would need to enter stage two.

6.1.2 Stage Two: Production abroad (timeframe 2-5 years)

If the demand was high enough, Suncol could think about moving their production out of Finland. Since transportation of the Suncol products from Finland to Germany is costly and the labour force in Germany is cheaper than in Finland, the logical thing would be to move production to Germany or to another cheaper but geographically closer country, e.g. Poland, where the labour costs are over three times lower than in Germany. The advantages of producing in Germany would be the German government subsidies, skilled labour and better communication between the manufacturer and retailers, representatives and service personnel, due to the same language and culture. These things could easily suffer when manufacturing the products in another country.

In addition to moving their production, Suncol should start their own office somewhere in Germany where they would have sales representatives who would seek new customers and projects. They should also have German speaking experts who know how the installation and functions of Suncol's products work so that they could give information to constructors and customers. Suncol could use the exclusive distribution strategy and get one or two retailers who would sell their products, not needing to do all of the sales by themselves but still retaining control.

A major flaw in this plan is that starting a production plant requires a lot of capital, which Suncol wouldn't be making too much of during the first stage. But, as the idea of the first stage is to gain market share, proof of their product's excellence and contacts with companies and investors, the capital could possibly be arranged. If the first stage is a success, there is no reason why the second one wouldn't be also. Also, a good thing about this plan is that Suncol Oy uses the same production facilities in Finland as Termo Panels, so the facilities wouldn't need to be sold. Nevertheless, since this plan requires a lot of invested capital, the author has compiled an alternative stage two plan.

6.1.3 Alternative Stage Two: Direct Exporting and Intermediaries (timeframe 2-5 years)

Another alternative for the stage two is to still export the products from Finland to Germany but with using an importer and intermediaries in distributing them in Germany. Suncol could seek out an importer who would distribute the products forward to a wholesaler who would sell them to retailers that would sell them to final customers. This way Suncol wouldn't necessarily need to raise too much capital, just increase their production capacity in Finland. The importer, wholesaler and retailers would increase Suncol's market share and by using selective distribution strategy the products could reach a lot of buyers. Direct exporting should still be used, instead of indirect, because especially in the rapidly changing market of solar energy maintaining control and receiving information is very important. Using an intermediary in the distribution channel leads to loss of communication with the customers and channel members. Therefore Suncol would need to stay in frequent contact with the intermediaries, because they would need the technical details from Suncol and Suncol would need the market details from the intermediaries.

During both of these stages, Suncol could try to find projects which gain media attention and thus better their public image as a clean technology company.

6.1.4 Stage Three: Licensing and Joint Venture (timeframe 5-10 years)

Regardless of which of the two alternative stage two -plans Suncol would implement, the third stage would be the same. Assuming that the business has grown steadily and the market share in Germany is respectively big, the future options should aim at new countries.

When Suncol would have its business model and product family on a stable basis in Germany they could move on to other markets by licensing. They wouldn't need to acquire any information about the foreign markets or start the same internationalization process all over again. On the downside, they wouldn't have control over the foreign markets either. Nevertheless, profits would increase and they could invest more in the German market.

Another option would be to enter into a joint venture with another company. After five years' time, Suncol's product wouldn't be very new anymore, and similar, perhaps even better products would start coming to the market. In this case, exposing the product to another manufacturer wouldn't matter that much anymore, so joint venture would be a good option. If Suncol were to get into a joint venture with another German manufacturer they would gain more market share and could move to new foreign markets with the help of the other party. They could also seal a partnership with e.g. a Chinese manufacturer which would bring them even closer to a foreign market.

The joint venture can bring Suncol closer to the big and attractive deals with the German government. If the partner is big enough, together they can undertake substantial and lucrative projects, which not only bring steady profits but also positive public image.

7 CONCLUSION AND SUGGESTIONS FOR FUTURE RESEARCH

This chapter aims to answer the research questions that were stated in the first chapter of this study and showcase the main findings. The author will conclude the study and make some suggestions for future research of the same topic.

7.1 Research questions and main findings

The table below answers to the research questions that were set in the first chapter. The findings are concluded from all the chapters of this study.

TABLE 2. Research questions and main findings.

| Research questions | Main findings |
|---|---|
| 1) What is the potential of German solar energy market? | The potential of German solar energy market is huge. It is a new industry and a rapidly growing market with a lot of new entrants and innovations and huge demand from both private and public sector. The small solar thermal systems' market in Central Europe where Suncol Oy is entering to is 1.5 billion Euros. |
| 2) What is the most fitting entry mode for that market for Suncol Oy? | Direct exporting is the most fitting initial entry mode for Suncol Oy. After entering the market the company can expand their distribution channel, outsource their production abroad and start licensing their products or start a joint venture with another company. |
| 3) Who are the target customers? | Target customers are both businesses and private customers who engage in construction. Initial emphasis is on the |

| | |
|---|---|
| | B2B-market. |
| 4) What are Suncol Oy's internal resources? | Suncol's internal resources are good and they include: a good and innovative product, established manufacturing facilities and business structure of their parent company, knowing and enthusiastic staff that wants to internationalize their company. |

The answer of the first question is concluded from the analysis of the internationalization process, the industry and the target market and from the information received from the CEO of the case company. The potential of the German solar energy market is huge and Suncol Oy has a great opportunity to succeed in that market.

The answer for the second question comes mainly from the author's own observations and thoughts reflecting to everything that was covered in this research. The most fitting entry mode may or may not be direct exporting, but this the author's own opinion. The third and fourth questions are answered based on the conversations with the CEO of Suncol Oy, Mr. Timo Friman, the material that was given to the author by him and the visit the author paid to the Termo Panels' manufacturing plant.

7.2 Reliability and validity of the research

Reliability in a qualitative research should be measured by internal and external reliability. Internal reliability measures whether the observations would change when a different person would make them. External reliability measures whether the research can be replicated, in other words if another person could do the same study with same results. Validity in a qualitative research should be measured by

internal and external validity. Internal validity means whether there is relativity between the perceptions and theoretical ideas made in the study. External validity means whether the outcome of the study can be generalized in different social settings. (Bryman & Bell 2007, 410.)

The author cannot assess any of these points without a second party, but it can be said that the information was acquired from both primary and secondary sources. The author used mainly up-to-date information from books and articles written by professionals, and was in contact with the case company CEO and also did some empirical study in the facilities of the case company. Therefore it is safe to say that this research is as reliable and valid as it can be given the circumstances it was made under.

7.3 Suggestions for future research

During this thesis process the author gained a lot of new information about solar energy industry, the German solar energy market and internationalization. Still the author feels this study only scraped the surface. A lot of things were left without examination and a lot of questions occurred. The author will list below the things he feels deserve future research the most.

This study's knowledge base is on a very basic level, and in order to actually carry out the entry plan that was conducted in this study, deeper and more detailed information is needed. First of all, a deeper technical understanding of solar energy technology would help a lot. Also, more information about the target market, especially legal and political factors in Germany, would be of great importance. This same study could reach to greater results if it were made by a business student and an environmental technology student, and better yet if the one was German and the other Finnish.

Detailed information about the members of the distribution channel would be worth researching, especially, what would be the best partners in Germany for the case company. A study could actually find out what would be the most cost-effective way of getting these certain products to Germany.

This thesis didn't include any financial analysis or planning. A budget for internationalizing the case company's product would be important information. Finding out how much government subsidies the project could get and how expensive the transportation, distribution, manufacturing and outsourcing would really be would be of great importance.

The marketing and promotion was also left without further examination. Even though these sorts of construction elements and solar energy systems may not usually need as much traditional promotion as e.g. consumer goods, it is still an important part of every business and could be studied within this setting as well.

This thesis could have also studied the competitors more closely and found out what has been the secret behind some success stories in the industry. In other words, a closer analysis of the competition in the industry and benchmarking could have given good information to the case company.

8 SUMMARY

The main objective of this thesis is to study the potential of Germany as a future market for Suncol Oy and to find out the best way for them to enter the market. With the found data, the author has developed an entry plan to the German market. Secondary objectives of this study are to examine the solar energy industry, introduce the most essential parts of an internationalization process and to analyze Suncol Oy's internal resources.

The renewable energy business is globally going through big changes. Energy consumption is increasing while global warming is forcing us to seek more sustainable forms of energy. The situation is offering companies a chance for rapid growth and internationalization. This thesis studies the solar energy business and the German solar energy market with the aim of trying to help Suncol Oy internationalize their product and improve the sustainable energy production. In the first chapter the background and research methods are introduced and qualitative research method and data collection through primary and secondary sources is chosen. The second chapter studies the essential parts of the internationalization process and the third one concentrates on the solar energy industry. After that the research continues to analyzing Germany as a target market and the fifth chapter studies the case company. The sixth part is the actual entry plan and after that is the conclusion.

Many interesting things are covered in this thesis and many things call for further research. The author hopes that the readers of this study will become more interested in renewable energy and possibly continue to study those many unanswered questions.

The author is certain that Suncol Oy will find success in the German market in the future and hopes that this research helps them in some way. Suncol and their product are a part of something very important in creating solutions for renewable energy. The author wishes the company the best of luck and remains in waiting to see what kind of entry plan they decide to implement in the future.

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Interviews

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