

The Status of Nordic Cleantech



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Introduction

In the Global Cleantech Innovation Index published by WWF and Cleantech Group earlier this year, the Nordics stand out above all others as the number one Cleantech Innovation region in the World.

Denmark tops the list and on third and fourth places Sweden and Finland. A little further down the list we find Norway in place number 11. Interesting enough, if the scores for the Nordic countries are combined and weighted by population size, the region scores higher than any other nation except Israel. It is not news to any of us who works within the Nordic Cleantech sector that there is an abundance of good ideas, great entrepreneurs and a quite generous start-up support system. However this is another parameter that is an absolute key before determining the number one cleantech region in the World and that is.... sales growth.

We therefore decided to further investigate the status of this sector. This lead up to the decision to ask, not just a few, but all of the innovative cleantech companies in the Nordics the simple question:

How are you doing?

This report is a summary of the responses. The report also features a couple of company interviews. These companies have been selected due to their extraordinary historic growth as well as their high potential for future expansion.

Last year, investments into the Nordic Cleantech sector were relatively low. This was particularly true when it comes to private investments while public investments have remained at a more constant or even increasing volume. Despite the low investment level the activity in the Nordic cleantech sector has kept growing and evolving.

As we have noted in our other reports (such as the Nordic top 25) an impressive number of new companies have been created, often with innovative as well as capital efficient ideas and solutions.

As we have noted in our other reports (such as the Nordic top 25) an impressive number of new companies have been created, often with innovative as well as capital efficient ideas and solutions. This report shows that many of these companies are now getting ready for market introduction. This report also shows that the people behind these new products and solutions are looking upon a bright future. 60% of the responding companies in the market introduction category expect an increase in turnover for 2013 of more than 200%.

Meanwhile existing companies have sharpened their cases, further improving their solutions and getting ready for market expansion. This report shows rapid increases in sales for many of them and a steady growth for most. 60% of the responding companies in this category experienced an increase in turnover of over 30% this year and 40% of them expect a growth of over 150% for 2013.

The results are fairly clear: The Nordic cleantech sector is actually taking off. If you don't want to miss the flight it is time for boarding.

60%

of the responding companies in the market introduction category experienced an increase in turnover of over 30% this year and

40%

of them expect a growth of over 150% for 2013.

Method

The material for this report was gathered in several steps. The first was to put together a list of all relevant Nordic cleantech companies with updated contact data.

What could then be considered a relevant cleantech company in this sense? This is a very hard question to answer as it comes down both to defining cleantech and to setting other criteria that would make a company eligible to fit on the list. At Cleantech Scandinavia we have not made our own definition of cleantech and we will pass on this again. The closest we come is: Quite a bit better for the environment than what is currently dominating the market. Other criteria that we used to determine who fits on the list were that the companies should be based around some new technology or some innovative way of doing business. Also the companies should not be listed on any major stock exchange or fully owned by any company listed on a major stock exchange. Yet another criterion was that the companies should be based in one of the Nordic countries or Estonia. We hope that these limitations have created a list of the companies that YOU could have a potential interest in.

The list was created through comparing and merging a number of different listings and complementing missing data using web research as a major tool. Of course we have missed a few companies, it could be companies that are newly started and have not been detected by our radar yet, it could also be companies that have been around for quite a while but that we just never have come into contact with. As for the later these should not be too many. There are probably also a few companies that are in the list but should not be there.

This could be companies that have gone bankrupt, companies that are not cleantech in some part of their operations etc. But all in all, it is a list that would to a very good extent include the companies that we are interested in.

In total the list contains over 700 companies. We think this is an impressive number in itself coming from only the Nordics and being mainly innovative, high tech, cleantech companies!

The second step was to contact companies. We chose to do this as a total population survey instead of the commonly used method of sampling. We used this method in order to get as many answers as possible. For us it is important to keep in touch with as many companies as possible and also the variety of the performance of the companies makes it better to have as broad a picture as possible.

The companies were contacted with individual e-mails, asking them to fill out a short survey. This e-mail was followed by a reminder and then yet another reminder. Addresses that bounced were exchanged for better working ones during the process. After all e-mails were sent we contacted a number of companies with telephone calls. This was done partly to further improve the number of replies and partly to get a picture of the companies that did not answer the emails and see if they in any way differed from the ones replying. We chose a few companies

due to their extraordinary historic growth as well as their high potential for future expansion and described their profiles based on telephone interviews.

You can read more about the list, the survey and the companies answers in the result section. You will find the company profiles in the examples of rapid expansion cases section.

Results

This section describes most of the results we got out of the survey. If you have any requests for special features not included below feel free to contact us.

The list

The list that was compiled for this report consists of 704 companies. Out of these 314 were from Sweden, 135 from Finland, 118 from Denmark, 115 from Norway, 12 from Iceland and 9 from Estonia (see Chart 1).

We also took a closer look at where these companies were located and came up with the map in Illustration 1. It is clear that the main areas where the cleantech companies are located are around the capitals with the 88 companies located in the Stockholm area representing the highest concentration. Second most important capital area of cleantech in the Nordics is Copenhagen (Sjælland) with 50 companies, followed by Helsinki with 45 companies and Oslo with 34 companies.

Apart from this there are also several other areas with high concentration of cleantech companies. One such example is the Gothenburg area that is home to 56 cleantech companies. Beyond this, there are also a lot of companies that thrive in rural areas or smaller cities all over the Nordics. These companies, located far from any metropolitan areas constitute a large percentage of the total number of companies, for example Norrland, the sparsely populated northern two thirds of Sweden houses 42 cleantech companies!

The number of companies per country, corresponding to the overview in Illustration 1.

<u>Sweden</u> 258 Companies	<u>Norway</u> 82 Companies
<u>Denmark</u> 99 Companies	<u>Iceland</u> 12 Companies
<u>Finland</u> 69 Companies	<u>Estonia</u> 09 Companies

Origin of companies

Chart 1: Number of companies in the different countries.

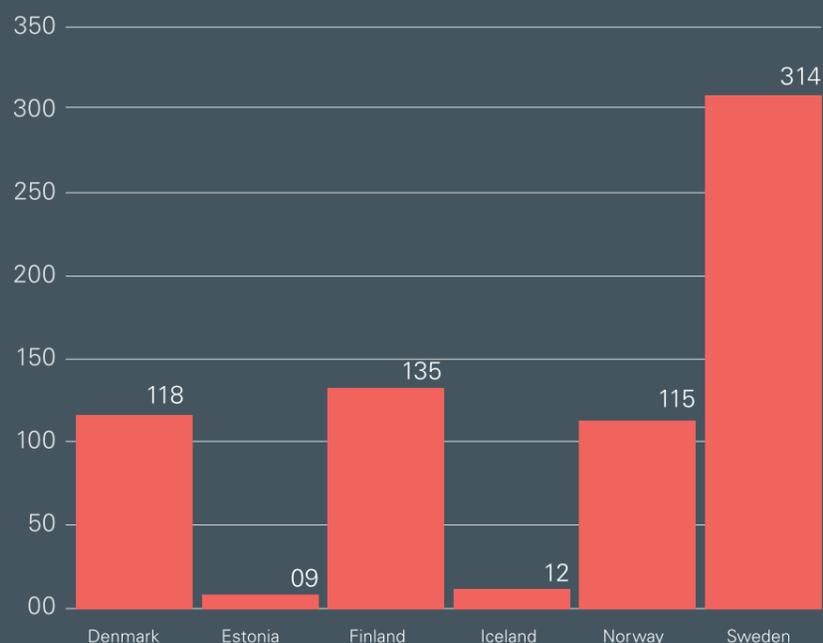
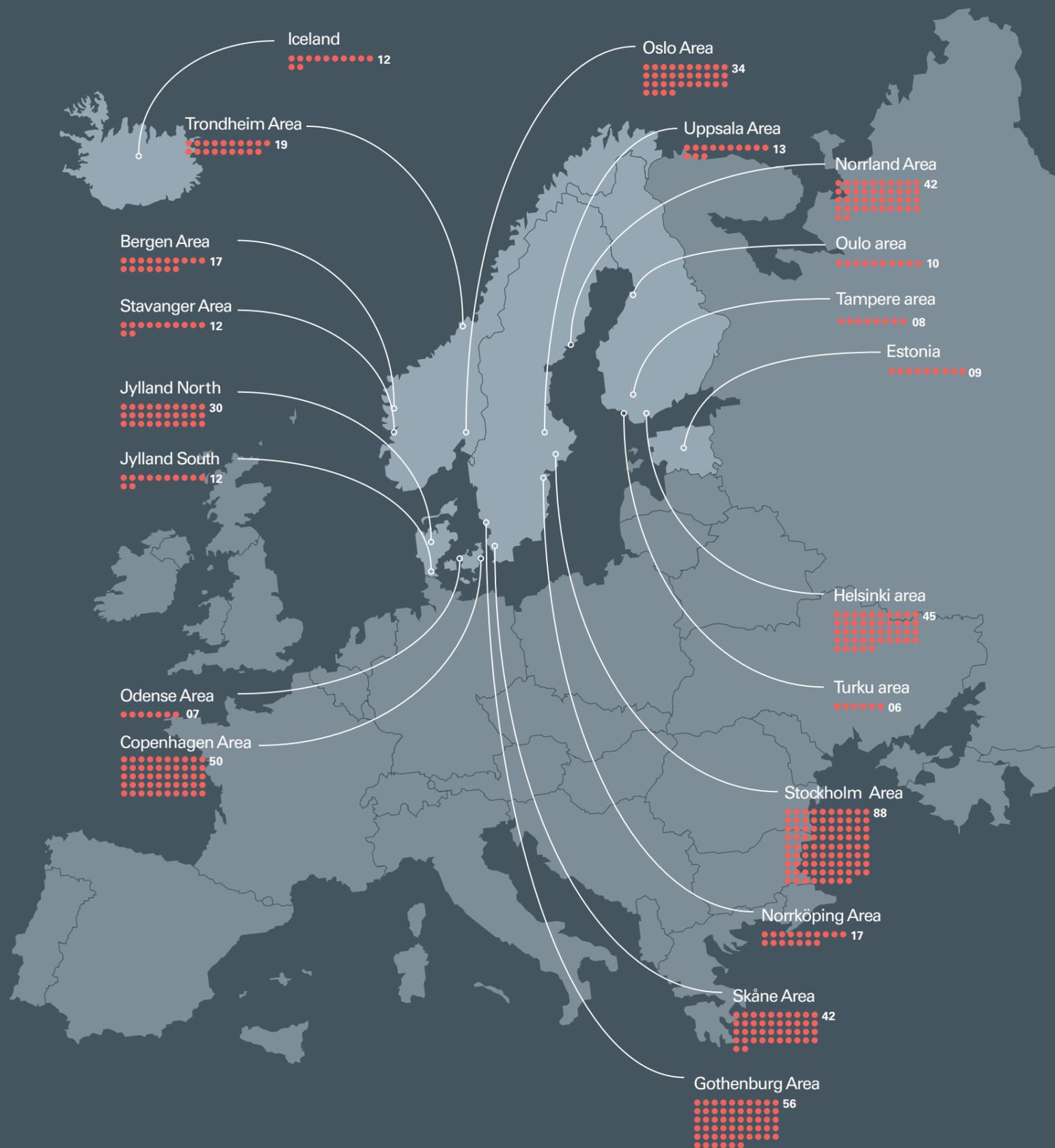


Illustration 1: Areas with a high density of cleantech companies



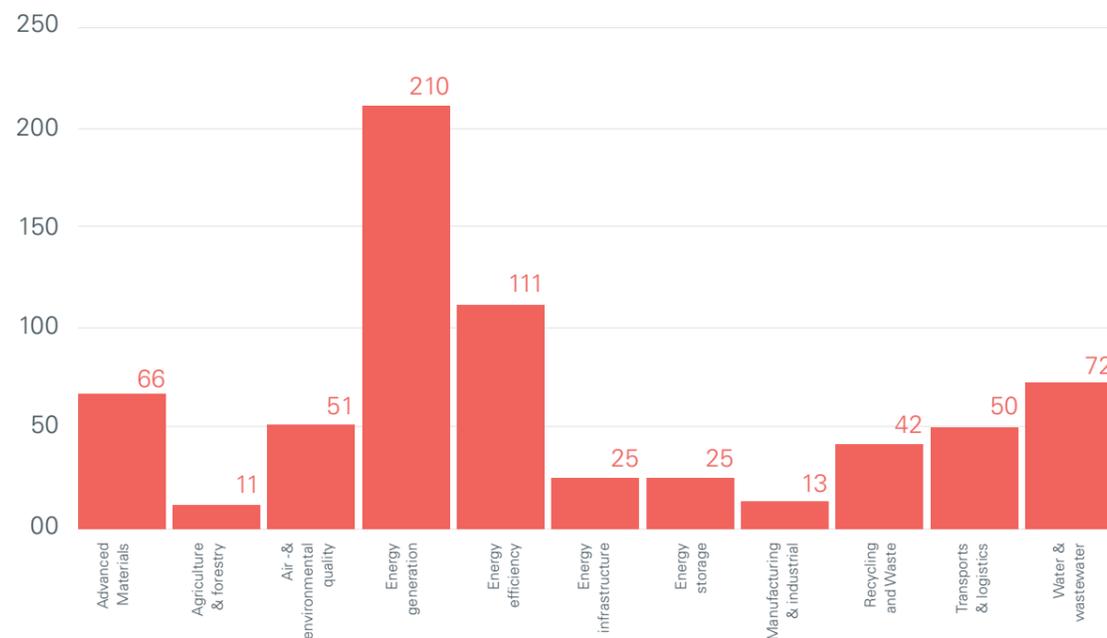
Results

The 704 companies on the list were distributed in 11 different cleantech segments with Energy generation constituting the largest segment with 210 companies on the list. Chart 2 shows the distribution of companies on the different segments.

Chart 2 might show some variety among the segments but we still do not think that this is a very good picture of the incredible number of great ideas, innovative technologies, amazing solutions and entrepreneurial people that lie behind the quite uninteresting category names. We hope that the company profiles in section 4 of this publication may give you a few of the stories not told by the charts.

Cleantech segments

Chart 2: shows the distribution of companies by the different segments.



Results

The answers

Out of the 704 companies we managed to get meaningful replies from 178 or 25%.

This is not enough to get a fair picture of the entire group but 178 companies is in itself such a large group that the results are relevant to study. And while it may not say everything about all the 704 companies, it definitely gives a good hunch on the status of the sector. Also, we made phone calls to a number of the companies that did not return our e-mails and based on these calls we conclude that these companies in general seem to be doing as well as the companies that replied but that fewer of them are in need of external financing.

The answering rate of the companies was quite evenly distributed among the different countries. The answering rate of the Norwegian companies was slightly below the 25% average (19%) and the answering rate of the Finnish companies was slightly higher than average (30%).

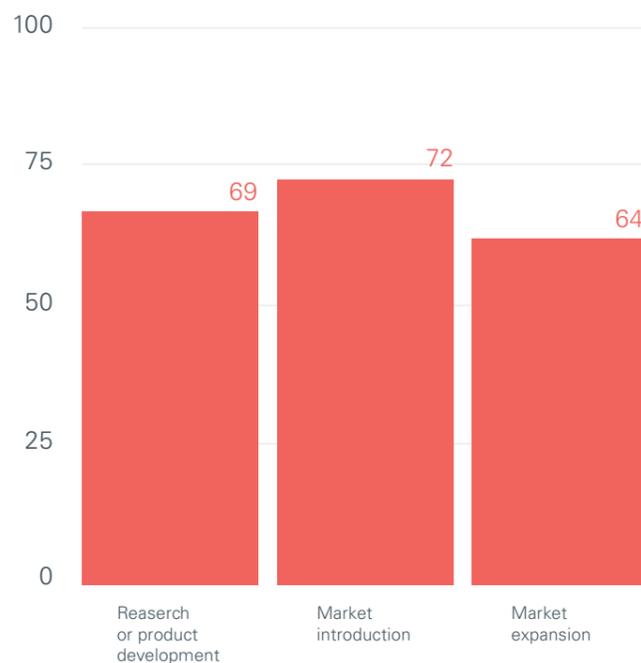
You may notice that the number of replies (n) differs a lot from question to question. This is because of two reasons. Firstly because all companies did not answer all questions, especially there were a lot of companies that did not submit answers to all the questions on turnover. Secondly it is not possible to calculate relative changes (percentage growth in turnover) out of a starting point of zero.

30% 
Finnish companies answered

Development stage of the companies

Development stage of companies

Chart 3:



We asked which out of three development stages they thought that their business was in at the moment. It turned out that they were quite evenly distributed on all three alternatives with a slight overweight on market introduction. Quite a few of the companies thought they were in several development stages at the same time which is in reality quite often the case since different products and markets for a company will be in different phases. In these cases we let them enter in more than one category. The results are summarized in Chart 3.

Sales development of the companies

A clear majority of the companies are experiencing increasing, or even rapidly increasing sales.

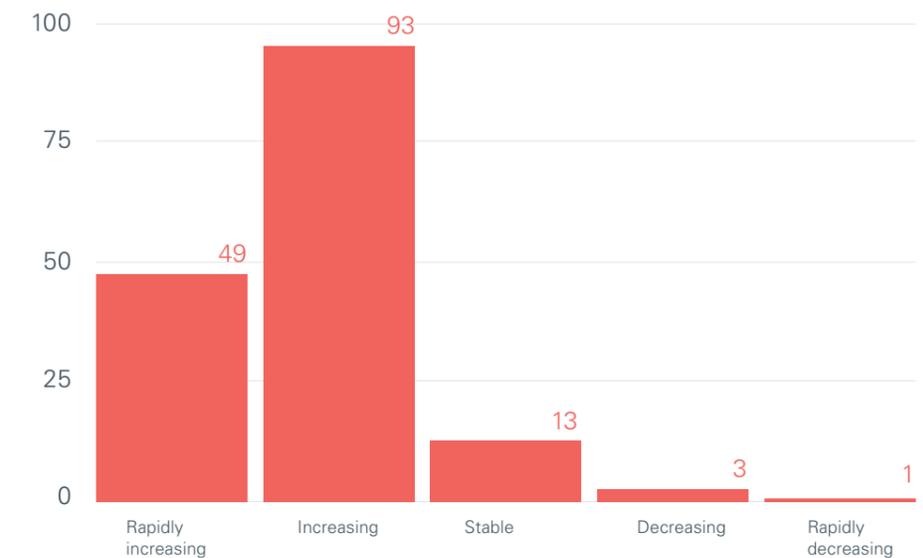
We also asked the companies how their sales were developing. Quite a few did not answer this question as they do not at the moment really have sales (24 companies). The rest of the answers are summarized in chart 4.

A clear majority of the companies are experiencing increasing, or even rapidly increasing sales (89%). Only very few companies (4) have decreasing sales. One of these cases was submitted during a telephone interview and the background could be explained. That company's product was redrawn after a few years on the market and was now to be redesigned in order to better meet market needs.

The common experience of most of the companies that their sales are increasing is a good illustration to the positive attitude that we have felt in our contacts with the companies while gathering this information and we see it as a clear indicator on how well this sector is doing.

Development companies' sales

Chart 4:



Turnover

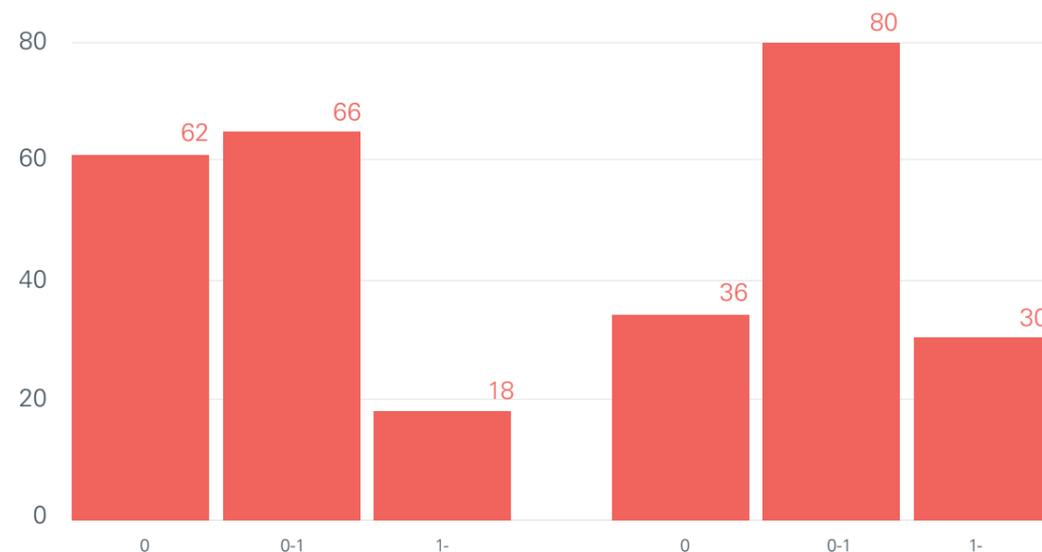
The companies were asked for turnover in the years 2010, 2011, 2012 (expected) and 2013 (expected).

Quite a few companies (32) chose not to do so as they either lacked, or did not want to reveal their turnover. The figures for expected turnover in 2013 are of course very uncertain and should be considered more of educated guesses than facts but for the year 2012 the data should be quite accurate as the survey was performed during late autumn of that same year.

It turns out that the companies have had a very good development for the years investigated. In the first year, 2010, many lacked turnover (62). Quite a large group (66) were bringing in between 0 and 1 million euro and could be classified as small businesses. In 2010 only 18 of the companies had a more substantial turnover of over 1 million euro. The companies' turnover in 2010 is shown in Chart 5.

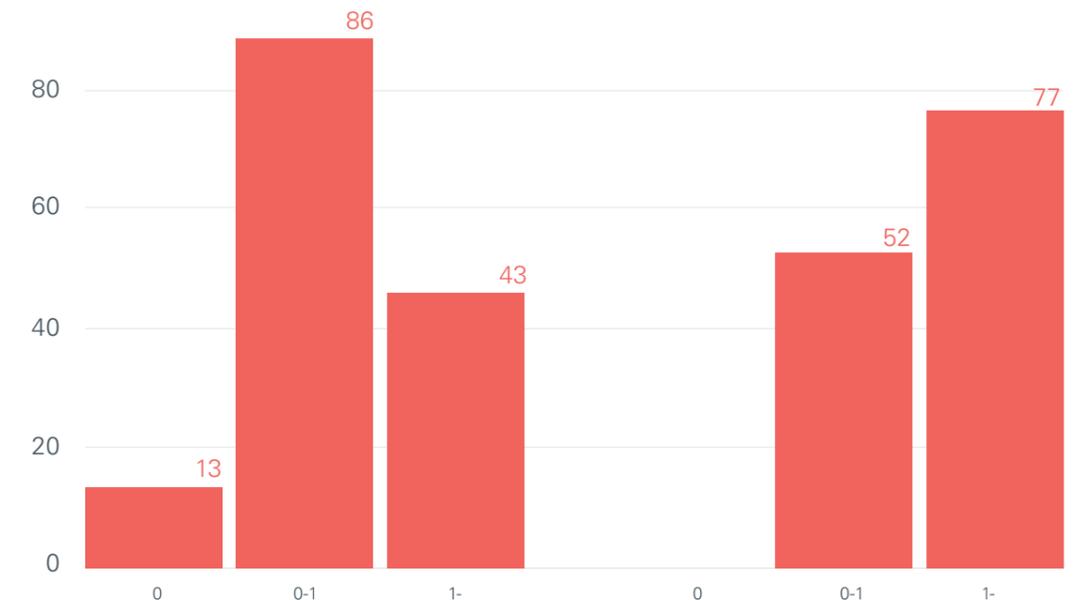
2010

Chart 5: Turnover in 2010 (million euro)



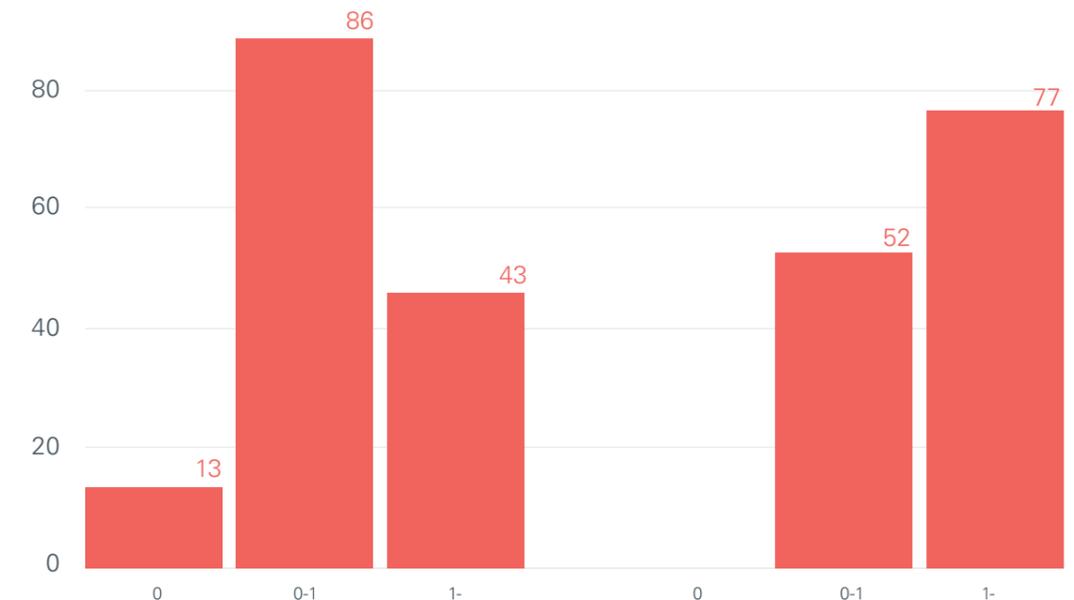
2011

Chart 6: Turnover in 2011 (million euro)



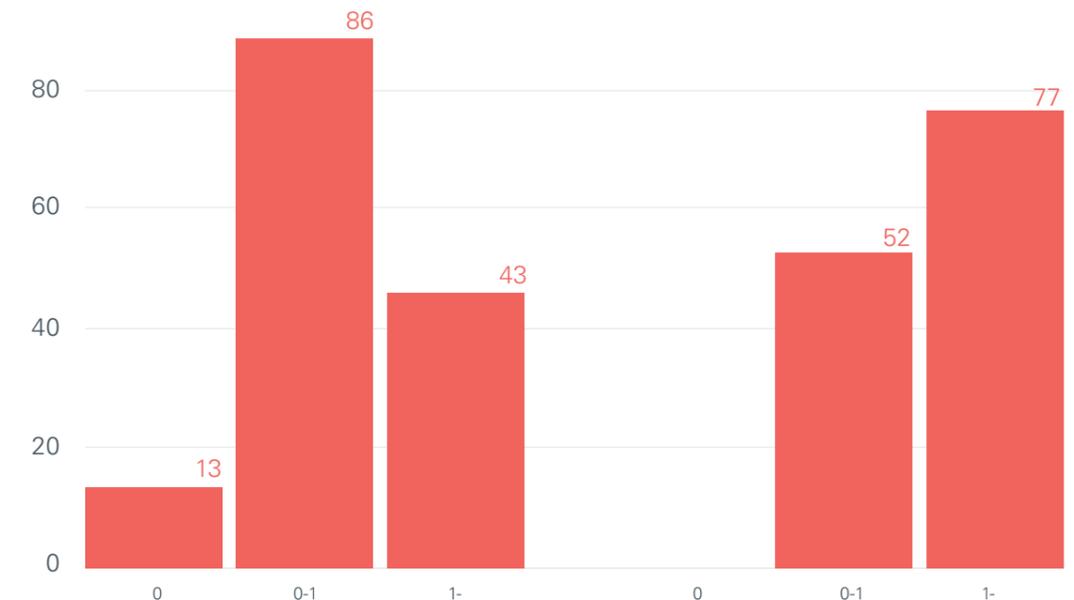
2012

Chart 7: Turnover in 2012 (million euro)



2013

Chart 8: Expected turnover in 2013 (million euro)



By 2011 the number of companies lacking turnover was much smaller (from 62 in the previous year to 36). The number of companies with a turnover under 1 million euro was the clearly largest group (from 66 to 80) but also the number of companies with turnover over a million euro increased very much (from 18 to 30) from the previous year. The companies' turnover in 2011 is shown in Chart 6.

Looking at 2012, the development of the sector is striking. The Nordic cleantech sector is no longer just a sector with a great number of promising companies but a sector with a great number of promising companies with sizable and growing turnover.

A few of the companies still had no turnover (from 36 in the previous year to 13). While the number of companies with a turnover under 1 million euro was slightly larger than the year before (from 80 to 86) the number of companies with a turnover of more than 1 million euro had

grown substantially (from 30 to 43). The companies' turnover, in 2012, is shown in Chart 7.

We will not make any comments on the figures for turnover in 2013 submitted by 129 cleantech companies. Of these all expect turnover in 2013 and most of them (77) expect the turnover to be above 1 million euro. The companies' turnovers in 2013 are shown in Chart 8

The transition of companies from the no turnover group towards the small business and further to the large turnover group might look promising to an investor but does not reveal the risks involved. The diagrams only show figures for the companies that are still up and running and not for the ones gone bankrupt.

However one of the most striking things that were noted while compiling the list of companies was how surprisingly few that actually had to be removed from the list because they gone bankrupt. We do not have exact statistics of this but the numbers would be in the range of 10-20 out of over 700 cases.

Turnover growth

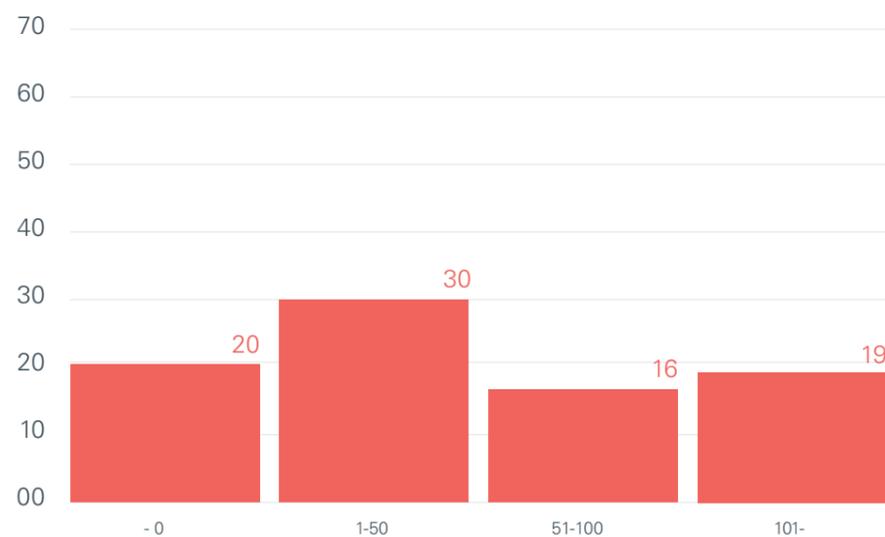
Another way of describing the growth that takes place within the Nordic cleantech sector is by looking at the growth of turnover in-between years.

Another way of describing the growth that takes place within the Nordic cleantech sector is by looking at the growth of turnover in-between years. We have done so for the years 2010 to 2011, 2011 to 2012 and 2012 to 2013. The companies have been divided into four different growth categories for each year. The first category includes those that experienced negative or zero growth. The second category consists of those companies that experience a moderate growth of 1-50%. Third category experienced a fast growth of 51-100%. The fourth category represent very fast growing companies with more than doubling turnover from one year to the other.

In the years 2010 to 2011 there were a lot of companies in each category. The moderately growing companies represented the largest group with 35% of the 85 companies that answered the question and had turnover both years. The rest of the companies were quite evenly distributed over the remaining categories as is shown in Chart 9. Summed up, the value of the turnover in the companies participating in this part of the survey (n=147) grew from 179 million euro in 2010 to 245 million euro in 2011, an increase of 37%.

Turnover development in % 2010-2011

Chart 9: Growth in turnover between 2010 and 2011

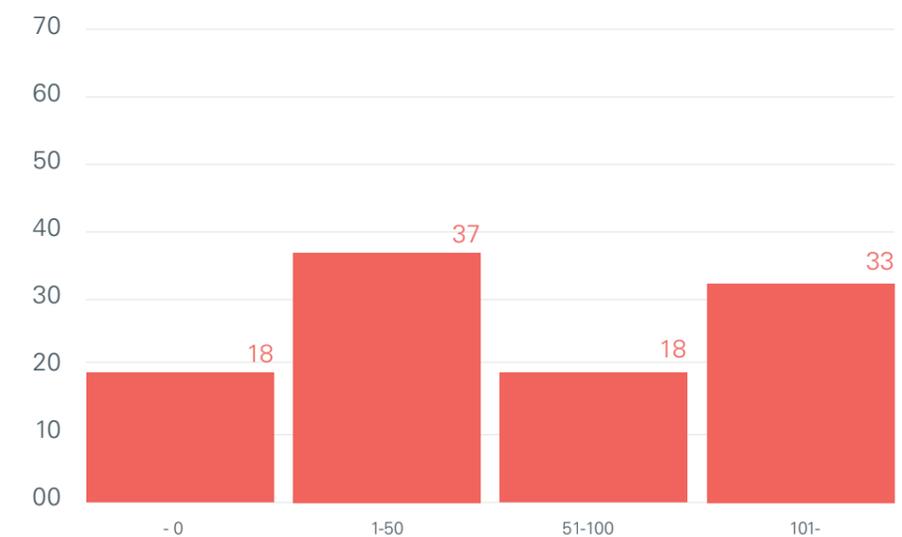


From the year 2011 to 2012, Nordic cleantech companies on average experienced much higher growth than the previous year. The percentage of companies that experienced negative growth fell from 24% to 17% and at the same time the percentage of companies that qualify as very fast growing (increase in turnover over 101%) increased from 22% to 31%. The percentages

of companies in the growing and fast growing groups are more or less the same as previously. Chart 10 describes the distribution of companies in accordance to the different growth categories. Summed up the turnover value in the companies participating in this part of the survey (n=143) grew from 109 million euro in 2011 to 175 million euro in 2012, an increase of 61%!

Turnover development in % 2011-2012

Chart 10: Growth in turnover between 2011 and 2012



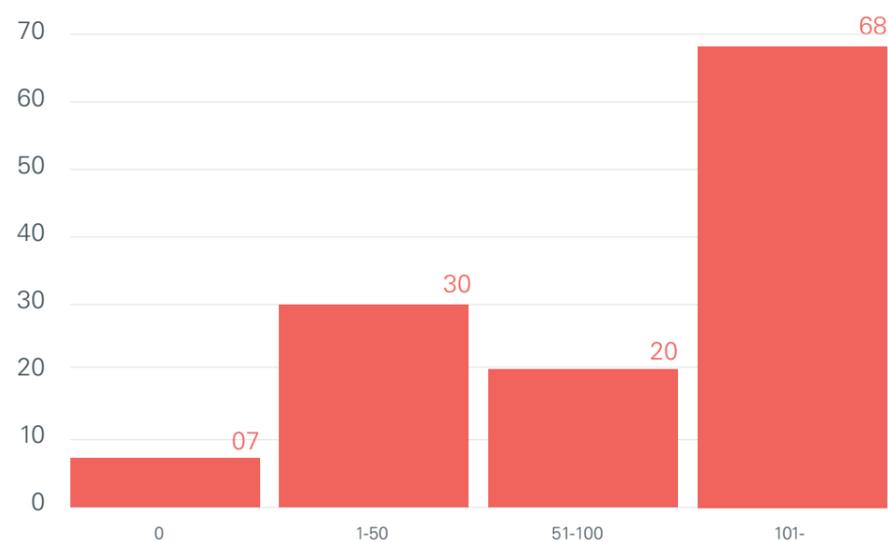
Turnover growth

For the coming year most of the companies expect a growth of turnover figures of over 101% (54%). Only seven companies do not expect to grow and none expect negative numbers. This is shown below in Chart 11. Summed up, the value of turnover in the companies participating in this part of the survey (n=129) is expected to grow from 151 million euro in 2012 to some 373 million euro in 2013, an increase of 147%!

The charts of this section clearly show that there is strong growth in the Nordic cleantech sector. It is also clear that the rate of growth increased a lot from 2010/2011 to 2011/2012 and that the companies look very positively upon the future.

Turnover development in % 2012-2013

Chart 11: Expected growth in turnover between 2012 and 2013



Do they need funding?

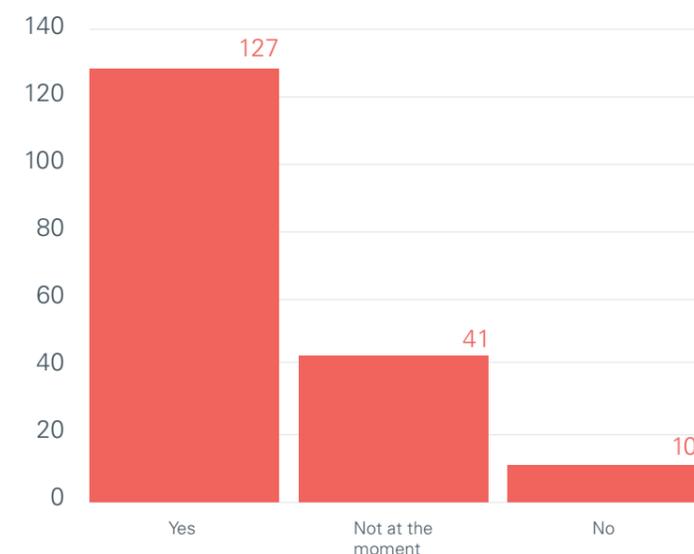
There is a simple answer to the question in the headline of this section: Yes! The companies need financing.

Out of the companies participating in the survey (n=178) all but 10 are planning for external financing, either now or in the future. Chart 12 summarizes the companies' answers.

We have called many of those companies who did not reply to the survey questions by e-mail. The most common reason for not answering was that many of them were not interested in external financing, often because they were already fully financed. This is how we think that the 526 companies that did not answer the survey might be different from the 178 that did, we suspect that a lower proportion of them are currently planning for external financing.

Are companies planning to get external financing?

Chart 12:



There is a very high demand for investments into the Nordic cleantech sector. This is not surprising as investments have been low the last year. The companies have grown inspite of this and are now ready, with strengthened cases, to bring in investors. As a member of Cleantech Scandinavia you will be seeing a lot of these companies in the future. They will be presenting at our future events and it is also possible that you will get their investment proposals sent directly to your inbox through our direct referral service.

Six exemplifying cases of high growth companies

Out of the companies that answered the questions on turnover we have chosen to profile a few as examples of high growth cases.

These are companies in different development stages and in different cleantech segments with the common denominator that they have experienced high growth in the past and are expecting high growth also in the future. Their stories reveal that there might be very different paths towards success. Each of the companies has chosen, or has been forced to choose, different, often unorthodox business decisions in order to reach the market. We think that these are interesting stories of how these shining Nordic cleantech stars were lit or to be less moderate: We love these kinds of growth stories!



Finnish materials company Canatu has been growing steadily ever since the start in 2008 and is now looking forward to a period of even faster expansion.

Canatu

A unique technology platform with high demand applications

Finnish materials company Canatu has been growing steadily ever since the start in 2008 and is now looking forward to a period of even faster expansion. The first years were used to develop the company's technology and prepare for commercial production. The technology is carbon NanoBuds that allows for better and cheaper production of numerous existing products for example solar cells, speakers, particle filters and lasers as well as opening up possibilities for new products that do not even exist today. The company has decided to go to market with one product, to begin with, which was considered the lowest hanging fruit. It is films and sensors for flexible and formable touch screens, displays, and touch sensitive surfaces.

Small-scale commercial manufacturing will be started next year and already the year after, 2014, the production will be scaled up significantly. In that year Canatu hopes for revenues of between 15 and 100 million euro. And yes, they did say euro! The only question mark to this growth, according to CTO /VP Business Development David Brown, is how fast production can be ramped up as there is a significant market pull for the product. This might sound boastful but the product certainly does have quite a few advantages to existing materials, such as being flexible and formable, enabling higher contrast in screens as well as being more neutral to colour. In addition, the production process is clean and

environmentally friendly and is scalable as well as low in cost.

David Brown attributes the company's high growth track to three factors. Firstly a great team that has been very innovative and eager to meet customer needs. Secondly, support from Tekes and the European Commission has been useful during the research and product development phase of the company. Finally, the technology platform itself has been great with its abundance of opportunities. The challenge ahead lies mostly in being able to finance the planned up-scaling of production. Canatu has been showing small but steadily growing revenue the latest years but most VCs tend to look for companies that already show more substantial turnover. Canatu is now closing a financing round that should be large enough to meet its growth and revenue goals.

Canatu has been marketing its products actively for quite some time, showing it at fairs and trade shows all over the world and sales have been done on multiple levels. The major brand names have been addressed to show what the product can do, thereby creating a demand for the product. The component suppliers have also been addressed as well as their material suppliers. This active marketing has resulted in a situation where interested customers now tend to come to Canatu instead of the other way around.

Optisort is delivering unique solutions for intelligent sorting of waste.



Optisort

Learning from a niche before entering the big volume market

The first product is a battery sorter with a capacity of between 4 and 8 tons of batteries a day. The first lines of the battery sorter have already been delivered to recycling companies in Sweden and the UK. And there are very interesting plans for the future of the company ...

Optisort started as a project at the IT University in Gothenburg. The project, lead by professor Claes Strannegård, gathered a few researchers on the common interest of using Artificial Intelligence to sort waste. The project found its way to the university incubator, Chalmers Innovation, where the need of a professional CEO was soon realized. Hans Eric Melin with experiences from running a start-up was recruited.

The company's management had the original plan to develop a sorter specifically for batteries to reach a first market but investors of the company did not agree. The battery-recycling stream is a relatively small market and the investors instead wanted to create solutions for a much larger markets, outside of the recycling industry.

The conflicts related to market focus lead to a point where the investors withdrew their support and the company was about to go broke. The CEO, being the main creditor of the company due to unpaid wages, then took control of the company and continued the effort to create a product for sorting of used batteries. It did not take long before a contract was signed to deliver the first of its kind of such a device to Swedish recycling company Renova.

As the market is so small this product more or less covered the need for the Swedish market and the next order had to come from abroad. In the spring of 2012 a contract was signed with British battery collector and recycler G&P Batteries to deliver two sorting units to fulfil their recycling needs.

Hans Eric Melin explains that the niched market introduction has given them an opportunity to learn things that will now benefit them greatly as they set their eyes on the larger market of E-waste. The Optisort technology has the ability not only to sort batteries into different sizes and chemical content but also to recognize individual features of the batteries.

This means that a huge amount of data is collected and can be extracted and used. For example a battery manufacturer can get information on their market share or the age of collected batteries can be determined opening for measurements of lifespan for the different batteries. This ability to collect data, demonstrated by the battery sorter, will become essential for the companies plans to concur the E-waste segment.

Determining the exact content of the waste becomes even more important when it comes to E-waste. E-waste is today considered a large problem and there are high costs involved in the deconstruction and destruction of the waste. At the same time the trashed items include components that are very valuable. By enabling collectors to determine the actual content of their E-waste Optisort aims to create a market for E-waste where the used products gets a proper valuation instead of just being seen as a costly problem.

Optisort is currently involved in several EU projects concerning E-waste and these projects basically finances the companies R&D in the E-waste segment. However the company will be considering external financing when it comes to a future broad introduction of the products into the E-waste business with the complete change of the function of this industry that the products enables.

Meanwhile daily business is financed by sales of the battery sorter. This is a product that has been very easy to sell as it creates massive savings in a mandatory process previously done manually and that lack competitors. Positioning themselves firstly towards this market is, according to CEO Hans Eric Melin, the short answer to the Optisort success.

Swedish materials company Organoclick has come a long way since the company was started in 2006. "It has been quite a journey."

CEO, Mårten Hellberg



Organoclick

Development paid by customers

When the company first started there was no product, just a technology platform with ideas on how to give cellulose new properties. The first four years were spent on research trying to find out how the technology could be used for different marketable products. Research was to a large extent financed by costumers - something that solved both financial issues and secured that the products meet customer needs.

Organoclick manufactures key inputs to enable production of a number of different products. The common thing with all of them is that they involve natural fibers from different sources. It could be paper, textile or wood. With the Organoclick technology these renewable and environmentally friendly inputs can be used instead of the traditional, delivering products of same or higher quality at the same cost.

Responses from the customers that were involved in product development were positive and two years ago the company felt that there were both products and customers sufficient enough for the next step. Organoclick, after having spent 500 000 euro on research and product development, now raised another 1.5 million euro to be used for production and market introduction. In 2011 Organoclick started deliveries and reached a turnover of 300 000 euro.

That amount will be doubled this year as production and sales keep growing rapidly. Mårten Hellberg is confident that turnover will keep increasing at a 100% a year rate for a number of years to come.

The key for the Organoclick success is according to Mårten Hellberg the early cooperation with customers. This has lead to development of the right products that the customers demand. Also Organoclick has been able to share the customer's knowledge and know how. In addition, when product development was done the customers were already there.

Mårten Hellberg sees three different challenges ahead for the company to manage the high growth rate; Firstly, finding the right staff, especially on the marketing side. Secondly, making the logistics in the growing production run smoothly. Thirdly, there needs to be enough working capital to sufficiently cover the needs. The company could currently be profitable on its sales but due to the rapid expansion, currently it is not the case.

In 2012, PAC-Solution made a strategic decision to introduce water service offering instead of selling treatment systems. Today the company provides its customers tailored services, where its PACS8 system is adapted to customer's treatment environment and customer is charged based on treatment results.

PACS

PAC-Solution

Selling clean water as a service

Finnish company PAC-Solution has developed a new and innovative method for more effective water treatment. The method involves adding fast reacting oxidizing substances to the water needing treatment in a smart, controlled and environmentally safe way. Chemical dosing is automatically controlled based on regular measurements from the water quality and quantity using the patented PACS8 system method. Examples of application areas include permanently eliminated harmful microbes from wastewater, odor eradication in sewerage systems and pumping stations, piping corrosion prevention, breaking of organic material and sludge disinfection. The dosing of the substances always needs to be exact in order to meet the treatment needs and cost efficiency. PAC-Solution CEO, Marko Tiesmäki, describes how the company has evolved during its short life span:

During the first two to three years of the company's history the focus was to develop the innovation into an easily scalable system for municipal water treatment purposes. By 2010 the company had gone from a promising idea to a successfully field tested product with pilot customers in Finland and China and a service that could be scalable without heavy investments in equipment. At that time John Nurminen Oy, a Finnish family owned company

and independent investor, entered PAC-Solution as a VC-investor and since then over 5 million euro have been invested into R&D, commercialization, marketing and internalization of sales with the focus on municipal water and wastewater treatment and industrial applications, such as mining.

In 2012, PAC-Solution made a strategic decision to introduce water service offering instead of selling treatment systems. Today the company provides its customers tailored services, where its PACS8 system is adapted to customer's treatment environment and customer is charged based on treatment results. This way the upfront cost for the customers would be minimized. This model is seen as an attractive alternative to capital-intensive upgrades or investment. Today several commercial applications of the PACS8 System are deployed in Finland such as wastewater effluent treatment; sludge treatment, odor elimination and raw water treatment, and pilots of the PACS8 System have been performed worldwide from China to Russia and from Brazil to South Africa. International sales channels and local key account management organizations are currently being developed focusing on a few large key markets; Russia, China, the Middle East and South Africa.

The company is also considering initiating a financing round to further expedite its international presence and growth.

PAC-Solution's smart technology has been tested in several different real environments, regardless of which the test results have been extremely good. This comes in very handy, as a challenge at the moment is to earn the long-term trust of customers, whereas other challenges ahead lie in competing technologies. Marko believes that as the PAC8 system water treatment method spreads, competitors will step up their efforts to come up with alternative solutions. Also, the enforcement of regulations and restrictions can create an additional challenge, as these are sometimes not being strict enough or diligently enforced. This removes the pressure to introduce more effective advanced methods for cleaner results. Nevertheless, the company has managed to grow at a CAGR of approximately 55% since 2010 and has doubled its turnover in 2011. With the current strong focus on capitalizing its promising sales pipeline and international presence the company has every possibility to become a true Nordic cleantech success story.

Diamorph started already in 2003 and have since the start been focused mainly on research.



Diamorph

Growth through acquisition

Special materials company Diamorph manufactures a number of advanced high performance materials to several different end users. One usage is extremely wear resistant materials for bearings used for example in trains and offshore vessels. Another line of products is heat resistant materials used for insulation, fire protection and for conveyer rollers in ovens. A third example of usage is for rotors in different types of vacuum pumps.

Diamorph started in 2003 and has since the start been focused mainly on research. The research has been conducted in close contact with customers in order to create products with a clear market potential. At a certain point, however, it was time to scale up. And there has been quite an up-scaling!

During the last few years Diamorph has gone from a small research based company to a high growth supplier of advanced materials. The number of employees has gone from 10 to 50 to 270 and sales have increased from below one to a few to tenths of millions of euro a year! How has all this been made possible in just a few years?

This remarkable growth has taken place due to a very expansive go to market strategy. Diamorph has fully acquired two healthy companies, one in the Czech

Republic and one in Great Britain. These companies have had the capacity to manufacture the new Diamorph products alongside their previous products. With these acquisitions Diamorph has also acquired established and well working customer networks. This means that the time to market of the new products have been drastically reduced.

It might seem like a high-risk strategy, says Fredrik Svedberg CEO of Diamorph. But considering the risks, costs and time involved in taking a new technology to production and market this has actually been more a strategy to reduce risk. The expansive plan seems to have paid off as the company is now further expanding production in the factories, introducing more exciting new products. For those of you who recognize the Diamorph story it might be because they presented this very growth strategy and wanted to find investors at our Cleantech Venture Day in Copenhagen. Well, now you know that they succeeded in attracting that funding, and have executed their acquisition strategy! We await their further development with eager anticipation, as this is not a company that will stand still.

Absolicon manufactures solar concentrators that provide either pure heat or heat combined with electricity.



Absolicon

Growing in export markets

Absolicon manufactures solar concentrators that provide either pure heat or heat combined with electricity. The concentrators make it possible to reach high water temperatures of up to 160°C. In addition the heat is available during a longer period of the day as the concentrators rotate and follow the sun from dawn till dusk.

The company started in 2007. The first two years were spent refining the original idea and manufacturing a prototype of the solar concentrator. When this was done the next step in the company's development was to install test and demonstration units. During the years 2009 to 2011 over 30 such units were sold to paying customers in 8 countries around the world. During this period sales increased from 200 000 to a million euro a year.

Johan Sandberg, relatively newly appointed CEO of Absolicon, explains that the company is now entering a new step of its development: We are getting into an industrial phase where volumes increase and the production process becomes more industrial. Previously production has been almost artisan but this will now change. In 2012 the sales of Absolicon increased to over 2 million euro. This will also be a likely turnover in 2013 as Johan Sandberg means that it will take time to increase sales. The customers are in the middle-sized market segment and consist of industrial plants, hospitals or residential areas. The sales cycles are long in this segment and expansion takes some time. During 2014 sales are projected to grow to some four-five million euro.

Right now Absolicon is looking for additional funding for increased sales activities around the world. A network of sales representatives will be built in countries with good opportunities. Johan Sandberg considers getting enough funding for these activities as one of the two major challenges for future growth. The other challenge is not to be associated with the failures of the PV business. Absolicon is not a PV company as their solar concentrators for the most part are used for heat production, states Johan.

To make a profit, the sales of Absolicon have to increase. Johan Sandberg is convinced that this will be happening in the near future as the company now have identified the target customers as well as the most appropriate export markets. One of the more exciting is India, where Absolicon is now involved together with Cleantech Scandinavia and the Swedish Energy Agency in an effort to promote cooperation between Indian industry and Swedish cleantech companies. According to Johan Sandberg, India has a very high potential when it comes to Absolicon's products as there is a somewhat neglected energy infrastructure but at the same time democracy, subsidiaries for alternative energy and plenty of sun. One could also add huge and fast growing market. In India Absolicon is planning to join forces with local industries and has formed a joint venture with an Indian company, Bergen Group where most of the production will be done in India. This way production and sales could be easily scaled up.

Summary

In summary we think that this report strengthens the case that the Nordics is the number one cleantech region in the world.

Not that we made any comparisons but the development and growth taking place among these companies right now is certainly not contradicting this statement.

The report also shows a sector that is full of opportunity for those investing. There are a great number of great cases that are, or will be looking for finance. For an investor it is simply a Smörgåsbord! The variety of these companies also ensures that there will be something to satisfy every particular taste and appetite. So pick your favourite, the Nordic cleantech sector is in dire need of money, not for survival or development, but for expansion.

In the process of gathering material for this report we have been collecting quite a lot of knowledge, all of which will be used to the benefit of Cleantech Scandinavia members. We are committed to providing you with the very best, newest and most exciting when it comes to business cases from the region as well as updated information on dealflow and other business intelligence. We are now better prepared for our task than ever before.

Yours truly, the team.

Contact Details

info@cleantechscandinavia.com
www.cleantechscandinavia.com

Cleantech Scandinavia
Magle Stora Kyrkogata 7
223 50 Lund, Sweden

info@cleantechscandinavia.com
www.cleantechscandinavia.com

Cleantech Scandinavia
Magle Stora Kyrkogata 7
223 50 Lund, Sweden