



The Dutch Windmill



***Sarah Intven
0821643
International Business and Languages
Rotterdam Business School
June 2014***

Rotterdam University, University of Applied Sciences	Institution
Rotterdam Business School	Address
Kralingse Zoom 91	
3063 ND Rotterdam	
Postbus 25035	Mail address
3001 HA Rotterdam	
+ 31 (0)10 794 62 14	Phone
010 794 60 01	Fax
rbs@hr.nl	E-mail
http://www.rotterdambusinessschool.nl	Website

Document title	Exportplan The Dutch Wind Mill
Status	
Datum	June 2014
Company	The Elivesto Group

Author	Sarah Intven
Student number	0821643
Date	February 2014



Executive summary

The Elivesto Group wants to become the main distributor of The Archimedes urban wind turbine. Because of the developing and growing market in green energy, there are many possibilities for this product. Due to the fact that they have no time to investigate the export possibilities for the wind turbine they have decided to hire a student with international knowledge to write an export plan. In the following document you can read the answer to the question: "What are the three most economical potential countries for the Elivesto group to sell the urban windmills in and how can they enter the selected market within three years?" This research also includes different methods, as research has been done internally and externally what has lead to different strengths, weaknesses, opportunities and threats.

The research will be written for the urban wind turbine and it will be given another name to improve the sales; this name will be the Dutch Wind Mill. High efficiency, low noise and the urban design are the three main features of the wind turbine. The fact that it has a system, called the Archimeteo, attached to the wind turbine itself that calculates how much wind the turbine is generating also adds more value to the product.

After a global analysis based on the three factors: electricity price, amount of wind and share of total electricity from wind generation, three countries were chosen. Those countries were Denmark, Ireland and Curacao. The PESTEL analysis performed on each country showed that Denmark has the most opportunities. Denmark is politically and economically stable, it's a member of the EU and the liberal trade policy support foreign countries to easily export in their country. Denmark has a Wind Power Cluster that supports wind companies and the Danish wind energy target is 50% wind energy by the year of 2020. The strong wind speed and the fact that Denmark has a Feed In Tariff for small wind turbines also made the country the most potential.

Three options came forward out of the SWOT analysis. The selected option was to focus on the Feed In Tariffs for customers as well as the tax break of 30% that Denmark offers to small business owners that invest in small wind turbine. With this option, The Elivesto Group will use the diversification strategy because they are entering a new market with a new product. This strategy is considered a difficult strategy that requires time and hard work to enter the market. The company will be investing in a website and a folder for the product all translated in Danish. To gain more knowledge in the small wind turbine market in Denmark, the company will also consult the Danish Wind Turbine association. This association helps new wind companies with the legislation and application for technical certifications of small wind turbines. Start of the sales of the Dutch Wind mill and shipments are planned in January 2015. Shipments will be done directly from The Netherlands to the location of the customer in Denmark.

Because of the unique and innovative product, I strongly believe that there will be many interested customers in Denmark. However, the results of the market research showed that potential customers want to see results of the performance of the product beforehand. This is why I recommend that potential customers receive a Archimeteo on their house to estimate a payback time and to see if the wind turbine will be profitable. Buying a small wind turbine and choosing green energy is a big investment. It requires time and a strong relationship with the customer. My other recommendations for The Elivesto Group are, that in order to sell more than two wind turbines, they will have their own technical specialist within the company that can advise the customer and answer all their questions.



Résumé de gestion

Le Groupe Elivesto veut devenir le principal distributeur de La Archimède éolienne urbaine. Parce que le marché développement et la croissance dans l'énergie verte, il ya beaucoup de possibilités pour ce produit. En raison du fait qu'ils n'ont pas le temps d'étudier les possibilités d'exportation pour la turbine de vent, ils ont décidé d'embaucher un étudiant ayant une connaissance internationale de rédiger un plan d'exportation. Dans le document suivant, vous pouvez lire la réponse à la question : «Quels sont les trois pays les plus économiques possibles pour le groupe Elivesto pour vendre les moulins à vent urbaines et comment peuvent-ils pénétrer les marchés sélectionnés choisis dans les trois ans ? » Cette recherche inclut également différentes méthodes, la recherche a été effectuée à l'interne et à l'extérieur ce que a conduit à différentes forces, faiblesses, opportunités et menaces.

La recherche sera rédigée pour l'éolienne urbaine et il vous sera donné un autre nom à améliorer les ventes ; ce nom sera le Moulin de vent néerlandais. Haute efficacité, faible bruit et le design urbain sont les trois principales caractéristiques de l'éolienne. Le fait qu'il dispose d'un système, appelé Archimeteo, attaché à l'éolienne elle-même qui permet de calculer la quantité de la turbine vent génère ajoute également une plus grande valeur au produit.

Après une analyse globale sur la base des trois facteurs : prix de l'électricité, la quantité de vent et part de l'électricité totale de production d'énergie éolienne, trois pays ont été choisis. Ces pays sont le Danemark, l'Irlande et Curaçao. L'analyse PESTEL effectuée sur chaque pays a montré que le Danemark a le plus de possibilités. Le Danemark est politiquement et économiquement stable, c'est un membre de l'Union européenne et les supports de la politique commerciale des pays étrangers libérales à exporter facilement dans leur pays. Le Danemark a un cluster Wind Power qui soutient les entreprises du vent et de la cible danoise de l'énergie éolienne est de 50 % de l'énergie éolienne d'ici l'an 2020. La vitesse du vent fort et le fait que le Danemark a un tarifs de rachat pour les petites éoliennes également fait le pays le plus de potentiel.

Trois options se sont présentées sur l'analyse SWOT. L'option choisie a été de se concentrer sur les tarifs de rachat pour les clients ainsi que l'allégement fiscal de 30 % que le Danemark offre aux propriétaires de petites entreprises qui investissent dans des petites éoliennes. Avec cette option, le groupe Elivesto utilisera la stratégie de diversification, car ils entrent dans un nouveau marché avec un nouveau produit. Cette stratégie est considérée comme une stratégie difficile qui exige du temps et travailler dur pour entrer sur le marché. La société va investir dans un site Web et un dossier pour le produit tout traduit en danois. Pour acquérir plus de connaissances dans le marché de la petite éolienne au Danemark, la société va également consulter l'association danoise de l'éolienne. Cette association aide les nouvelles entreprises de vent avec la législation et l'application des certifications techniques de petites éoliennes. Début de la vente de l'usine du vent hollandais et les livraisons sont prévues en Janvier 2015. Envois seront faits directement à partir de Pays-Bas à l'emplacement du client au Danemark.

Parce que le produit unique et novateur, je crois fermement qu'il y aura de nombreux clients intéressés au Danemark. Cependant, les résultats de l'étude de marché a montré que les clients potentiels veulent voir les résultats de la performance du produit au préalable. C'est pourquoi je recommande que les clients potentiels reçoivent un Archimeteo sur leur maison pour estimer un temps de récupération et de voir si l'éolienne sera rentable. L'achat d'une éolienne de petite puissance et en choisissant l'énergie verte est un gros investissement. Il faut du temps et une relation forte avec le client. Mes recommandations pour le groupe Elivesto sont que dans le but de vendre plus de deux éoliennes, ils auront leur propre spécialiste technique au sein de l'entreprise qui peut conseiller le client et répondre à toutes leurs questions.



Resumen ejecutivo

El Grupo Elivesto quiere convertirse en el principal distribuidor de la turbina eólica urbana de Arquímedes . Debido al desarrollo y en crecimiento del mercado de la energía verde, hay muchas posibilidades para este producto. Dado que la empresa no tiene tiempo para investigar las posibilidades de exportación de la turbina de viento, han decidido contratar a un estudiante con conocimientos internacionales para escribir un plan de exportación . En el siguiente documento se puede leer la respuesta a la pregunta : "¿Cuáles son los tres países posibles con mejor economía para el grupo Elivesto para vender los turbinos de viento urbanos y cómo pueden entrar en el mercado seleccionado dentro de tres años? " Esta investigación también incluye diferentes métodos , como la investigación se ha hecho internamente y externamente lo que ha dado lugar a diferentes fortalezas , debilidades , oportunidades y amenazas.

La investigación ha sido escrita para la turbina eólica urbana y se os dará otro nombre para mejorar las ventas; Este nombre será The Dutch Windmill. Alta eficiencia, bajo nivel de ruido y el diseño urbano son las tres características principales de la turbina eólica . El hecho de que tiene un sistema, llamado Archimeteo , junto a la propia turbina eólica que calcula la cantidad de viento de la turbina está generando también añade más valor al producto .

Después de un análisis global sobre la base de los tres factores : los precios de la electricidad , la cantidad de viento y de acciones del total de electricidad de generación eólica, se eligieron tres países. Esos países fueron Dinamarca , Irlanda y Curazao . El análisis PESTEL realizado en cada país mostró que Dinamarca tiene la mayor cantidad de oportunidades. Dinamarca es política y económicamente estable, es miembro de la UE y su tratado de comercio libre con otros países beneficia la exportación entre los países extranjeros. Dinamarca cuenta con un grupo de Energía Eólica que apoya a las empresas de viento y el objetivo de energía eólica danesa es el 50% de la energía en 2020 . La velocidad de viento fuerte y el hecho de que Dinamarca tiene un feed in tariff para las pequeñas turbinas de viento también convertido al país en el mayor potencial.

Tres opciones se presentaron fuera del análisis FODA . La opción seleccionada ira centrarse en la alimentación de los aranceles para los clientes , así como la rebaja de impuestos del 30 % de que Dinamarca ofrece a los propietarios de pequeñas empresas que invierten en pequeñas turbinas de viento. Con esta opción, el Grupo Elivesto utilizará la estrategia de diversificación , ya que están entrando en un nuevo mercado con un nuevo producto. Esta estrategia se considera una estrategia difícil que requiere tiempo y trabajo duro para entrar en el mercado. La compañía va a invertir en un sitio web y una carpeta para el producto todo traducido en danés. Para obtener más conocimientos en el pequeño mercado de aerogeneradores en Dinamarca , la compañía también consultará a la asociación de Aerogeneradores danés. Esta asociación ayuda a las nuevas empresas de viento con la legislación y la aplicación de las certificaciones técnicas de las pequeñas turbinas de viento. Inicio de las ventas de la fábrica de viento holandés y los envíos se han previsto en enero de 2015 . Los envíos se realizan directamente desde los Países Bajos a la ubicación del cliente en Dinamarca.

Por ser un producto único e innovador , creo firmemente que habrá muchos clientes interesados en Dinamarca. Sin embargo , los resultados de la investigación de mercado mostró que los clientes potenciales quieren ver resultados del desempeño del producto de antemano. Es por eso que recomiendo que los clientes potenciales reciben un Archimeteo en su casa para estimar un tiempo de recuperación de la inversión grande y para ver si el aerogenerador será rentable. La compra de una pequeña turbina de viento y la elección de la energía verde es una gran inversión . Se necesita tiempo y una relación estable con el cliente. Mis otros recomendaciones para el Grupo Elivesto son, que con el fin de vender más de dos turbinas de viento , tendrán su propio especialista técnico dentro de la empresa que puede asesorar al cliente y responder a todas sus preguntas.



Index

Executive summary.....	3
Résumé de gestion	4
Resumen ejecutivo	5
1. Introduction.....	8
1.1 Company description.....	8
1.2 Thesis assignment.....	8
1.3 Research design.....	9
1.4 Sub questions.....	9
1.5 Method research.....	10
1.6 Theoretical framework.....	10
2. Internal Analysis	12
2.1 Management & Organisation	12
2.2 Product & Processes	13
2.3 Resources & Systems	14
2.4 People.....	15
2.5 Culture.....	16
2.6 USP (Unique Selling Points)	16
2.7 Financial Analysis (Performance).....	17
2.8 Strengths and Weaknesses.....	18
3. External Analysis.....	20
3.1 PESTEL Analysis.....	20
3.2 Consumer Analysis	22
3.3 Industry Analysis	24
3.4 Competitor Analysis.....	29
3.5 Distributor Analysis.....	32
3.6 SWOT Analysis	34
4. Entry Strategy.....	36
4.2 International Marketing Mix.....	37
4.3 Conclusions	42
4.4 Recommendations	43
5. Attachments.....	45
Attachment I Plan of approach.....	45
Attachment II PESTEL Analysis	48
Attachment III Objectives and strategy of competitors.....	76
Attachment IIII Strengths and weaknesses direct competitors	79
Attachment V Option matrix	81
Attachment VI Risk versus reward analysis.....	82
Attachment VIII Danish Micro generation Certification Scheme for small wind turbines	83
Attachment IX Qualitative research	84
Attachment X Existent folder Archimedes wind turbine.....	92
Attachment XI Financial overview.....	95
Attachment XII DHL price quote	98
Attachment XIII Financial details the Elivesto Group	100
Attachment XIX Executive Order on a technical certification scheme for wind turbines	103

6. Sources..... 117



1. Introduction

This is a general introduction on the thesis subject. It contains a description of the company and the assignment. In the research design the motivation and problem statement will be discussed in the form of sub questions. Also the research design with an overview of the different research methods is included to give a clear view on the different steps in the research. Finally, a theoretical framework including five scientific sources will be given.

1.1 Company description

The Elivesto group is a family company active in a variety of industrial related products, applications, services and industries. They have around 40 employees and many business connections worldwide. The Elivesto Group made an agreement with Archimedes, a company active in developing urban windmills. Since Archimedes only wants to do research and development of windmills they have agreed on letting the Elivesto group manage the sales part and become main distributor.

1.2 Thesis assignment

The assignment of this thesis is writing an export plan with the end goal of selling the urban windmills business to consumer as well as business-to-business. The urban windmills are produced and assembled in South Korea but in the future Archimedes aims to only ship from South Korea and assemble them in the country of destination.

The first thing to determine is which country to export to and which one is the most economical beneficial. Countries with high-energy prices and a lot of wind seem the most potential but there are always other factors concerning this decision. If consumers don't get any profit out of the windmills or the government is not stimulating them with subsidies, people won't buy the product. Eventually, after global research, the three most potential countries will come out and for the most potential one an export plan will be written.

The choice of three countries will be based on these three criteria:

- 1) Electricity price
- 2) Amount of wind
- 3) Share of total electricity from wind generation

After this choice has been made the research can start. The goal of this export plan is to get information on the opportunities and threats within the countries. With this unique product, the market is still new and open for new businesses. Many countries already use solar energy; have windmills parks and other projects. And according to their future plans, especially in Europe, they plan to generate more green energy. This could be a potential advantage for the product and can be used in the marketing strategy. I will also research the market possibilities, potential competitors and agents or intermediaries that have knowledge of the country and speak the language.

The product is not something you buy in an impulse; for a consumer it is a big decision to make. That is why the company also needs to know what the target group is. Besides selling business to consumer, the Elivesto group aims to sell the product business to business. The product is made for consumers but the cost price is still high, if there are more orders in the future the

price can decrease. This is why the Elivesto group thinks it would be better to first start with selling the product business to business. Corporate Social Responsibility is part of a company's reputation nowadays which will make companies consider buying the urban wind mills even faster.

1.3 Research design

1.3.1 Motivation

The new urban windmills are developed in 2005. This means that the product is relatively new. The generation of green energy and people being aware of the environment is trending. The Archimedes wants to respond to these actualities and has given the Elivesto group the responsibility to sell their windmills worldwide. Before you want to sell a product internationally, you always need research and an operational plan. That is why the Elivesto group asked me to explore the international opportunities of selling this product.

1.3.2 Problem sketch

Urban windmills are a new concept and it is not very known yet. Besides solar energy, people are not very aware of the other possibilities for green energy. The Elivesto group wants to investigate how to sell the product to potential customers in the most efficient way but they don't have the time to develop an export plan. Since they want to export the product abroad they also need someone with international knowledge of marketing, business and legal aspects who speaks English. This is why they asked me.

1.3.3 Problem statement

What are the three most economical potential countries for the Elivesto group to sell the urban windmills in and how can they enter the selected market within three years?

1.3.4 Objective

Writing an export plan with all the possibilities in the selected country and market for urban windmills, what will give information about the customers, intermediaries, distributors and competitors. The plan will furthermore describe how to approach the market in the best commercial way and gain profit.

1.4 Sub questions

1.4.1 Internal analysis

1. Is the company prepared to sell the product internationally?

1.4.2 External analysis

PESTEL analysis

2. Which of the selected countries has the most potential market to enter?

Customer analysis

3. What are the potential customers?
 - a. How can customer target groups be defined?
 - b. What are the needs of the target group(s)?



- c. How can we satisfy the needs of the target group(s)?

Industry analysis

4. Is there already a market for urban windmills?
 - a. Is the market attractive?
 - b. What are the opportunities and threats in the market?
 - c. What are the influences of the market on the company?

Competitor analysis

5. Are there any competitors yet? If yes:
 - a. Who are our competitors?
 - b. What are their strengths and weaknesses?
 - c. Will the competition grow in the future?

Distribution analysis

6. What is the most favourable distribution channel?
 - a. Does the company need different distribution channels?
 - b. What are distribution options in the selected country?

1.5 Method research

In this thesis desk research but also field research will be done. Desk research, also called secondary research, exists of data that is already there. The most important thing is to collect this data and select it on reliability. Another thing is to present the selected data in a clear way by using tables and graphics. In this way it will be easy for the company to use the information.

The field research is the collection of data that is not there yet. To get this data, interviews with potential customers and distributors are needed. It is very important that the researcher is open for all ideas and concepts. In this way more information can be gathered and this makes the thesis more useful. To have an interview where there can be a lot of data collected, the questions need to be open and concrete. This will increase the liability of the research. Also the data collected from the field research needs to be presented in a way that everyone can understand it. It is also important to compare all the information and decide what is most useful.

All of the methods in the desk research that will be used are shown in attachment I.

1.6 Theoretical framework

To research if there is not already an answer to the problem statement, five different international scientific sources are consulted. These are the researches and their results.

1. Cooperation and Competition between Europe and China in the Wind Power Sector by Rasmus Lema, Axel Berger, Hubert Schmitz and Hong Song

This paper researches the prospects for competition and cooperation between Europe and China in the global wind power sector. Findings say that Chinese and European industries are competing while they should be working together to lower the costs of the



technology, improve quality, increase innovation capabilities and make wind power a more credible energy option for the world. These relationships between the industries and companies must make policy initiatives to all benefit from future relationships. The paper also researches the wind energy market in Denmark, which could be profitable for this thesis.

2. Small Wind World 2012 report by New Energy

This is a summary of a report in the small wind markets all over the world by an energy organization called New Energy. The results are that the market is growing and the total capacity of installed wind is 27% more than the previous year. There are around 330 manufacturers of small wind turbines and these are located in 40 different countries. The report also states that more supportive policies could help the small wind market grow. These facts can help researching the market of small wind and shows potential of the product that I'm writing an export plan for.

3. Big Prospects for Small Wind Turbines by Raghunandan Kothamasu, GlobalData

This article describes the prospects and trend in the small wind market. The US has the biggest market share in small wind turbines with 45,2% and they are growing every year. After the US a company in the UK has 3,9% of the market share what might be low but in comparison to the rest of Europe is a big share for the company. Also this article states that the small wind market is still growing and less mature than the global wind market. Financial incentives and government policies are key global market drivers. According to the Renewable Energy Directive, the renewable energy target for 2020 is 35% renewable energy power. The article describes trends and facts of the current market for the urban windmill that the Elivesto Group wants to export. It does not state what the most successful way to approach this market and it only mentions global key factors. It is very useful though to know that statics on the current situation in the small wind market.

4. Annual report on Global Wind by Global Wind Energy Council

This report describes facts and improvements in the global wind market including the European Union and Denmark. Results say that the market is growing and governments in different countries set targets of a percentage of renewable energy by 2020. Still this does not answer my problem statement and only gives a general description of trends in the global wind market.

5. The European offshore wind industry – key trends and statistics by the European Wind Energy Association

This report states the key trends and statistics in the European wind market. It gives a global view on the European countries and its installed wind capacity. This does not answer to my problem statement and only describes the markets, not the best ways of approaching it.



2. Internal Analysis

This internal analysis includes the KPMG model describing the company and its current situation. It will give an answer to the question if the Elivesto group is prepared to sell internationally. The model contains the following aspects:

Management & Organisation
Product & Processes
Resources & Systems
People
Culture

2.1 Management & Organisation

Vermeulen BV is established in 1989 by Tom Vermeulen and he is today still 100% owner and CEO. Their core business is Lifting- & Ships rigging equipment. They have knowledge of industry inherited from father and grandfather

Since the 1950ies, the company Vermeulen Europoort is active in providing wire rope, rope, lifting equipment and ship's rigging. The knowledge and experience within the company has been there for three generations from father to son.

Due to continuing (re)development of the business and its products Vermeulen BV presently provides its products and services to a great variety of industries, 56 in total.

A strong focus on cost saving and (personal) safety increasing solutions has led to the development of for example, the SMART TERMINATION© -, a patented end connection for wire ropes mainly used for transshipment applications. Another example is the HIGH PERFORMANCE UNLOADER© -, a patented de-compacting device for effective, safe and non-damaging cleaning of ribs and stairs on board of bulk vessels

Expansion of the business and a growing diversity of activities have required a re-focus on the corporate and managerial strategy to guarantee growth.

From January 1st 2009, The Elivesto Group is divided into five, independently operating, companies:

- Vermeulen Europoort
- Tecmacon Structures
- Dry Bulk Solutions
- Vitalitas Recruitment
- Crystal Concrete Technology
- Route 62 (pending)

They are all managed under supervision of the Elivesto Group executives

Their mission statement is to be a competitive organization that delivers products and services of the highest possible quality. Their goal is to be recognized as a market leader and to be friendly to the client as an ambitious partner with the long-term dedication on in the area of technical innovation.

They fully accept the ethics, morals and laws concerning the company. They understand the perspectives of their clients and distributors and aim to treat them as partners. The Elivesto group aims for the highest quality of their products and services.

All business related activities are fully executed in compliance with the group policy, the Elivesto Group.

This is an overview of the management system in the company.



2.2 Product & Processes

As seen in the management overview The Elivesto Group has different companies. Every company has their own product or service.



Vermeulen Europoort provides supply and servicing of general-, specialist- and tailor-made lifting- and ships rigging equipment.



Tecmacon Structures provides development, modification, engineering, project management, production, assembly and servicing of steel constructions and marine components.



Dry Bulk Solutions provides development, modification, engineering, production, assembly, servicing and rental of equipment (High Performance Unloader) for solids processing applications.



Vitalitas

Recruitment

Vitalitas Recruitment provides staffing, Recruitment, search & selection and secondment for international oil & gas, petrochemical and power generation industries.

Crystal

Concrete

Crystal Concrete provides consultancy, development and engineering for road stabilization immobilization and contracting



Road 62

This is a new business unit they started recently. It contains a special chemical that stabilizes pollution in the ground. This chemical is called Geosta.

The Dutch Windmill

This is the project that will be a part of the business unit Crystal Concrete. The company The Archimedes developed and produced a new innovative urban windmill. The Elivesto group is covering the sales execution and handling the communication between the consumer and The Archimedes. The official market introduction of this urban windmill will be in April 2014. From that moment on The Elivesto group will start selling the Dutch Windmill through their own home made website.

With the urban windmill, another product is delivered. This product is called Archimeteo and it is made to measure wind, temperature and two more measurable factors and directly translate the measurements into real valuables. The translated valuables are shown on their homemade website and app. In this way, the customers of the urban windmill can directly see how much wind speed there is and, most importantly, how much energy their windmill can proximately provide. This product is a Unique Selling Point for the Dutch Windmill since the customer can see the actual benefits on the Archimeteo website or app, as well as the calculated “payback time”. The Archimeteo is not a product of The Archimedes but the developer made an agreement to deliver it with every urban windmill.

2.3 Resources & Systems

The communication between the customer and the company is mainly through email or telephone. The office employees have a phone and mobile phone and most of them also have a computer since they have their own desk in the office. For the sales and account managers who need to visit clients, the company provides lease cars with fuel allowance. The communication at the office is face to face since the workspace is not that big. Employees only communicate via email or phone outside office hours.

The Elivesto group has two weekly or monthly meetings with different departments. Especially the sales meetings are important to discuss the satisfaction of the current customers and to



brainstorm for new ideas. With the urban windmills they have a meeting every two or three weeks with Archimedes to discuss the market introduction, sales processes and other ideas.

SAP Business 1

To manage business operations and customer relations the company uses the enterprise software SAP Business 1. SAP stands for Systems Applications and Products in Data Processing. SAP by definition is Enterprise Resource Planning software as well the name of the company. SAP system comprises of a number of fully integrated modules, which covers virtually many aspects of business management. It is the number one software in the ERP market.

In the attachments you can see their primary sales process using the software. When a client sends an order, the company makes a specific Work-Instrument with the requirements of the client and the protocol of the employees how they should execute this order. This is the only software that the company uses beside Microsoft Office and Adobe Reader.

2.4 People

The question if the organization is able to export to the selected countries will be answered with the fact if the staff members have enough international knowledge and experience. Also the international connections, clients and distributors are an important factor to decide whether the company is prepared to export internationally or not.

After monitoring the company a conclusion can be made that there is enough knowledge. Only the knowledge is mainly gained by experience. The Elivesto group believes in learning by doing and this explains why not every employee has a Bachelor degree. It is logical that the company has a lot of employees with technical experience, which is the main business. This means that they rather hire an employee who has a lot of experience in the technical world than someone that has a Bachelor degree in Engineering. The CEO, Tom Vermeulen, has international connections from all over the world and because of his many projects also international experience and knowledge. He sends his employees to business meetings abroad and invites business relations at the office as well. Because of the many constructions The Elivesto group works with, the Health and Safety is a priority. The Elivesto group aims to put the well being of its personnel first. That is why they created a special Health & Safety protocol. QHSE stands for Quality, Health, Safety and Environment. With this protocol they try to keep a routine when it comes to incidents or accidents.



Accident and incidentreport

No.:	Explanation:	Who:	Procedure/ record/ document
1.	After an incident or accident, the accident/ incident report is filled in and sent to the QHSE manager.	All	Accident/ incident report
2.	The QHSE manager performs a root cause analysis and determines if there are actions to be taken to prevent future accidents or incidents. In case of injury a rootcause analysis is carried out according to the Ishikawa method	QHSE manager	Accident/ incident report WI-ongevallen-onderzoek
3.	Actions are performed.	QHSE manager	Accident/ incident report
4.	Based on the reportform the damage is assessed and is registered.	QHSE manager	Accident/ incident report
5.	All incidents and accidents are evaluated yearly and registered in the annual account.	QHSE manager	Accident/ incident report Annual account

2.5 Culture

The culture within the company is very open and honest. The communication between the different departments is structured. To improve this they develop new queries and protocols every year. There isn't a visible hierarchy, everyone has respect for each other and treats their colleagues as equals. The CEO aims to keep his personnel satisfied and he thinks that the safety in the work place is important. Customer satisfaction is important and everyone in the company is motivated to gain new clients and keep them satisfied.

2.6 USP (Unique Selling Points)

To determine the advantages the company has in contrast to the competitors, Unique Selling Points are used. These points can show why the customer should buy an urban windmill from The Elivesto Group and not from a competitor.

- **Unique product:** the product is relatively new and in combination with the Archimeteo it has many advantages. A customer of an urban windmill can see how much the windmill generates and how beneficial it is and will be. In the future also, the product is green and environmentally friendly. In some countries the government provides subsidies for families that have green energy sources.
- **International experience and connections:** the company has gained international experience and connections by earlier business operations and other business units. This means that the staff members of the Elivesto Group know what they are doing and how to deal with international barriers.
- **Learning by doing:** the fact that the company believes in learning by doing means that risks will be taken but they are always willing to learn from mistakes or previous experiences. These experiences and mistakes will make the company stronger and wiser today. This concludes that the company is always open for improvement and that is important for the sales processes and customer relations.



2.7 Financial Analysis (Performance)

With the financial details of the company, a financial analysis can be made to see what the current situation of Elivesto is. The results are from the most recent financial statements of 2011 and 2012.

Liquidity

To determine the liquidity of the company we use the current ratio, quick ratio and the net working capital. The current ratio shows that the company not yet healthy with a number above 1. This means that they are not able to pay off their short-term debts independently. The quick ratio under 1 shows that the company is not able to pay off their short-term debts. The new working capital is a negative number. This means that their current assets are less than their short-term loans. This negative number is increased slightly in 2012, this means that the Elivesto group is improving.

Year	Current ratio
2011	0,63
2012	0,74

Year	Quick ratio
2011	0,30
2012	0,23

Year	Net working capital
2011	-583.320
2012	-538.202

Solvability

The solvability is the ratio between the equity and total assets. The minimal requirement is between 25 and 40%. As seen below the ratio of 2011 and 2012 is negative because of the negative equity the company had in both years. The number in 2012 is increasing but still negative. Whenever the equity of the company will be positive, the solvability ratio will be positive as well.

Year	Solvability ratio
2011	-18,51%
2012	-9,81%

The solvability can also be determined by calculating the debt ratio. The debt ratio shows the ratio of total debt to total assets, and can be interpreted as the proportion of a company's assets that are financed by debt. If a debt ratio is higher than 1 it indicates that a company has more debt than assets. If the ratio is less than 1 it indicates that a company has more assets than debt. In this case the debt ratio is higher than 1, this should mean that the company has more debt than assets.

Year	Debt ratio
2011	1,16
2012	1,11

Profitability



The profitability is the ratio between the income and the assets generated from that income. Below you can see the profitability of the total assets, the equity and the rate of interest. The profitability of the total assets was very low in 2011 but increased in 2012, which means that their profitability is in between the by the management required 8 and 13%. The negative equity causes a negative number in 2011 This means that the company is not able to generate earnings as compared to its expenses. The rate of interest shows that there was more interest paid in 2012 than in 2011.

Year	Profitability of total assets
2011	-4,41%
2012	8,36%

Year	Rate of interest
2011	2,54%
2012	2,94%

Leverage

The profit gained on loans is better for the profitability of the equity. This fact can be shown in a calculation called the financial leverage. With the financial leverage they can also determine the financial risk. The number in 2011 shows that using loans has helped the company gain more income but in 2012 it was not enough to compensate with the negative equity. The negative equity of the company in both years has caused the calculation of the leverage to be low and hardly usable.

Year	Leverage
2011	1,14%
2012	-0,72%

Conclusion

Looking at the different numbers in 2011 and 2012 you can conclude that the company had two bad years with both negative equity. Overall the company did not meet the requirements of the ratios and that means that the current financial situation at Elivesto is unstable but improving from 2011 to 2012. The company should perform better in the future to gain a positive equity.

2.8 Strengths and Weaknesses

Strengths

1. The Elivesto Group their staff has international knowledge and connections by international experience in the other business units
2. The product is green and environmentally friendly, it adds value to the environment and eventually is economical beneficial for the customers. It enhances the CSR of a company.
3. The Elivesto Group consists of many companies, this means they can manage well and multitask.
4. The Elivesto Group believes in learning by doing

Weaknesses

1. The Elivesto Group has many business units what might lead to confusion within the company
2. Not every staff member has a bachelor degree what might lead to a lack of theoretical knowledge.



3. The product has a high cost price
4. The Archimeteo can not measure the payback time of the urban windmill in advance



3. External Analysis

The Elivesto group would like to sell the urban windmills internationally. The selection of what countries to export to has been made by different factors. The results of this analysis are: Denmark, Ireland and Curacao. A country analysis with the PESTEL analysis will be made of these three countries and eventually the most beneficial country will be chosen to make a distributor, competitor, industry and consumer analysis for.

3.1 PESTEL Analysis

3.1.1 Denmark

<i>Factors</i>	<i>Results</i>
Political	Denmark is politically stable, a member of the EU and has a democracy. These are all advantages when it comes to exporting to the country.
Economical	Denmark has a stable economy but they have known unstable periods in the financial crisis. The liberal trade policy in Denmark supports foreign countries to easily export in their country. The terms of trade do show that Denmark is exporting more goods than importing what means that they have more capital coming in. The low interest loan and positive exchange rate shows economic wealth. The current inflation means that consumers are spending more money.
Social	The population is growing and 73% of the working-age population has a paid job. The Danish believe in respect, are individualistic and easy to do business with. They have balance in work and life, always open for new ideas and prefer to think rationally.
Technological	Denmark is one of the most innovative countries. Successful companies like Google and Nokia are established there as well. There is a wide range of development en research facilities available and the general worker motivation is high. Denmark has a Wind Power Cluster that supports wind companies and the country has a target of 50% of wind energy by 2020.
Ecological	Denmark has strong wind and an average wind speed of 4.9 at 10 m height. Urban windmills can generate energy perfectly with this wind speed. The country is working on environmental technology in the form of an ATAP, this shows their care for wind energy. For wind power users, Denmark has a Feed In Tariff for small wind turbines < 25kW.
Legal	Denmark is one of the most active trade liberal and development friendly members of the EU. The country has a favourable tax climate their labour law is modern and flexible. There are many environmental laws what show awareness of green energy. And the trade regime in Denmark promotes growth of trade in all sectors.

Source: PESTEL Analysis in Attachments

3.1.2 Ireland

<i>Factors</i>	<i>Results</i>
Political	The political risk in Ireland is low which means that there is a relative political stability within the country. Being a member of the EU Ireland has improved in almost every aspect and the country is still improving nowadays.
Economical	Ireland has a business friendly and modern economy. This means that they are open



	for foreign investment. Also successful companies such as Google and Intel are established in the country. A low interest rate and with the euro no exchange rate, makes Ireland an ideal country to export to. Inflation has decreased in the past two years; this means that the prices in general are lower.
Social	The Irish population is growing with a life expectancy of 81 years. Underemployment is 15% with 60% of people aged 15 to 64 having a job and 19% of the population has had a tertiary education.
Technological	The country is very innovative and continuously looking for new ways of improving. Ireland's strategy is to deliver future solutions with new projects. At the moment 15% wind energy is present and they have set a target of 40% by 2020.
Ecological	Ireland has a favourable climate with the two windiest locations in Europe. They created an ETAP Road map with one of the objectives to meet their international commitments on air emissions.
Legal	Being a member of the EU, Ireland and the Netherlands have the same EU trade policy. The country has one of the lowest corporate tax in the world, which means companies save money on their profits in comparison to other countries with a higher corporation tax. Furthermore there are no trade restrictions expect for VAT implications and the trade and investment freedom is relatively high.

Source: PESTEL Analysis in Attachments

3.1.3 Curacao

Factors	Results
Political	Curacao is in despite of recent happenings mostly political stable. It's a a part of the Kingdom of the Netherlands, which makes it easier to enter the market
Economical	The economy of Curacao is currently not growing but is expected to make small progressions in a 5-year perspective. The interest and exchange rate are favourable for foreign investment, also the low inflation rate shows customer confidence
Social	Education on the island is low in comparison to other countries but the unemployment rate is relatively low with 10,3%. The exact cultural dimensions aren't investigated but an average of the dimensions of several countries can be implemented to determine the culture in Curacao
Technological	Curacao has an innovation centre that helps small to medium size companies in innovating, also CTEX is supporting companies to work together in different countries in the Caribbean and Latin America
Ecological	Curacao already has two wind farms but facts state that the island can only generate 40% of wind energy
Legal	The Curacao government is focused on developing economic growth with free zones although there are laws concerning importation of goods. Being an associate of the European Union does not mean Curacao is a part of the EU fiscal area, this means that they have different taxes. Curacao has a tax treaty with the Netherlands

Source: PESTEL Analysis in Attachments

3.1.4 Comparing matrix

To determine the country and market for the industry, consumer, competitor and distribution analyses, the three countries are compared in a matrix by all its PESTEL factors. The scores on the PESTEL factors can vary from - - tot ++ based on the level of profitability for the company to export this country. There is also an importance rate added to the matrix. This shows that the Economical en Environmental factors are more important than the others. The economical factor is more important because the country needs to be economical stable and wealthy to make a high and quick profit. The Environmental factor is more important because the level of



environmental awareness in the country needs to be high to be able to sell the product to customers. The results are shown in the matrix below.

	Denmark	Ireland	Curacao	Importance %
Political	+	+	-/+	15%
Economical	++	+	-/+	20%
Social	++	++	+	15%
Technological	++	++	+	15%
Environmental	++	+	-/+	20%
Legal	++	++	++	15%
Total	97,00	89,00	72,02	100%

Total is based on - - is 3,33 and ++ is 16,66

3.1.5 Conclusion

In the comparing matrix, all three countries have scored above 50 out of 100, which means they are all potential countries to export to. The most favourable country with the highest score of 97 is Denmark. The research will be continued specifically on this country including a consumer, industry, competitor and distribution analysis

3.2 Consumer Analysis

Six W's by Ferrel

To determine the consumer analysis the Six W's by Ferrel model will be used. This model shows the wants and needs of the current and/or potential customers of the company. Since the Elivesto Group is the first to sell the Archimedes wind turbines, the model can only be used to describe the potential customers. The conclusions made in this analysis are based on the market research attached in attachment IX.

Who are our potential customers and what are they doing with our product?

There are over 300,000 detached properties in Denmark. A committee set up in 1993 by the Danish Energy Agency has estimated that it is realistic that 1% of these properties, 3,000, establish small wind turbines, representing a total capacity of 30-50 MW.

- Households or domestic users

This target group includes households or domestic homeowners. The target group is aware of the environment changes and willing to invest more at first to eventually gain back the investment and benefit from possible Feed In Tariffs. Willing to invest does not require able to invest since the Elivesto group plans on offering financial advise or paying in terms. The target group has enough space on the roof or in the garden to place the wind turbine and they live at the countryside since it is prohibited in Denmark to have a wind turbine close to urban areas in Denmark

- Farmers



Farmers who are aware of the environment and willing to invest in a wind turbine project for their own farm. They have an interest in producing with green energy and at the same time taking advantage of the benefits. The main reasons for buying a wind turbine will be improving their image and gaining free energy.

- **Medium to big sized companies improving CSR**

Companies with more than 100 employees and a revenue of more than 5 million euros per year established outside of urban areas. The companies are aware of the environment and want to show society that they care for improving their Corporate Social Responsibility. If a company has a good image in CSR, customers will take this into account when considering buying from them.

- **Community projects**

With or without solar energy panels, the wind turbines can be used on free and open space to start community projects. If one small community, for example a neighbourhood, decides to invest in a wind energy project to provide the neighbourhood from green energy and sell back to the electricity provider. Those community projects are, depending on the country and policies, partly subsidized by the community of a town or the government.

Where do our potential customers buy our product?

The potential customers buy directly from the wind turbine supplier. Since the customers gather information via Internet, folders or green energy fairs, an actual store is not necessary.

When do our potential customers buy our product?

There is no special time or period related to buying the product. The only important factor is that the customer has sufficient income to invest in the small wind turbine. This could take time; the customer might want to invest in a turbine but has to save money first.

Why do our potential customers buy our product?

According to the market research, the main reason that customers invest in our product is not the awareness of the environment; they think their reputation about green energy is important but not important enough to invest time and money. The most important motive for the potential customers is the pay back time, or so called profitability of the small wind turbine. Another motive is that since a few years there is no more compensation for solar panels anymore, this means that wind energy has become more attractive than solar energy.

With the Danish Micro generation Certification Scheme, customers can be assured of receiving the Government's environmental bonus. This means that turbine owners will now get a feed in tariff premium of approximately 0.35 EUR/kWh. Small businesses can also take advantage of a tax break of nearly 30% on new capital purchases. The exact standards and requirements of the Danish Micro generation Certification Scheme for small wind turbines is shown in attachment VIII.

Why don't our potential customers buy our product?



In Denmark 50% of all energy is already green, and it is possible to buy 100% green energy from Danish suppliers nowadays. This would make investing in a small wind turbine seem unnecessary for companies trying to improve CSR.

According to the market research households, domestic users and farmers want to be willing invest in a small wind turbine, although without putting in too much effort. Homeowners that want to invest in a small wind turbine need to apply the technical department in the municipality to erect a small homeowner wind turbine. This is complicated because of noise restrictions and neighbour hearings and the wind turbine supplier has to be approved by governmental authorities according to Danish standards.

Community projects in Denmark with wind turbines are possible, but market research shows that the Danish prefer to invest in offshore projects with manufacturers of big wind turbines like Vestas and Siemens. Their main focus is on industrial commercial wind energy business and not small wind turbines.

Conclusion

The potential customers are aware of the environment and willing to invest in a small wind turbine as long as it is not too much effort. For companies it is already possible to buy 100% green energy what makes investing in a turbine seem unnecessary. An opportunity is that there isn't compensation for solar energy anymore what makes wind energy more attractive. The feed in tariff and 30% tax break are very profitable for wind turbine owners if the Archimedes wind turbine can meet the Danish standards. Offshore wind projects are trending in many communities but there can be room for onshore solutions with small wind turbines as well.

Opportunities	Threats
<i>No compensations for solar energy</i>	<i>100% green energy possible from energy suppliers</i>
<i>Feed in tariff for small wind turbines</i>	<i>Offshore wind projects more popular than small wind turbines</i>
<i>Possibilities for onshore projects in communities</i>	<i>Potential customers are not willing to put in much effort in the small wind turbine buying and planning process</i>

3.3 Industry Analysis

3.3.1 Market factors

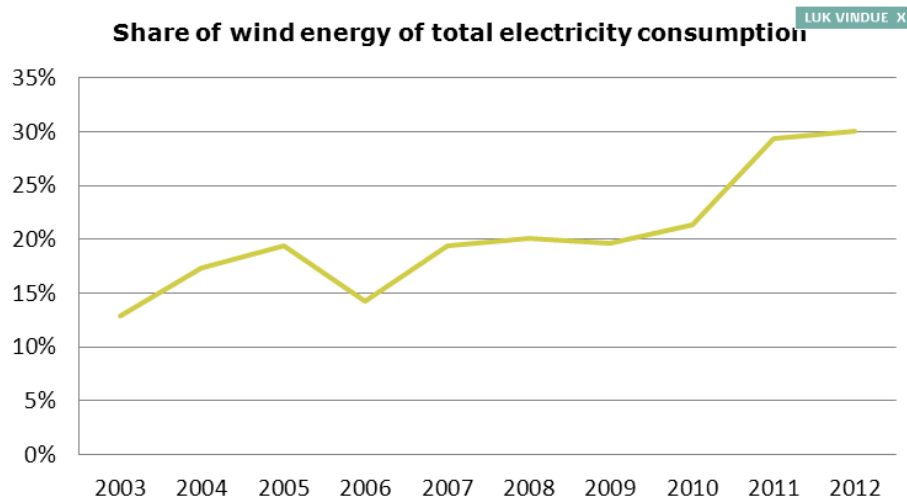
The industry that The Elivesto Group will be operating in is the Wind Power market. This market in Denmark is currently growing and has many opportunities. In this industry analysis the market factors will be described.

3.3.2 Market size

Denmark has been installing wind turbines for over 30 years. The entire wind energy market generates 33 per cent of Denmark's electricity consumption with On- and offshore wind turbines. This level of wind power integration makes Denmark the biggest wind energy market in the world. The recent government targets aim for a 50 per cent electricity supply of total energy consumption. The country's wind power integration is made possible by a transmissions infrastructure. This means that the grid is connected to the neighbour countries and allows for import and export of energy during peak periods.

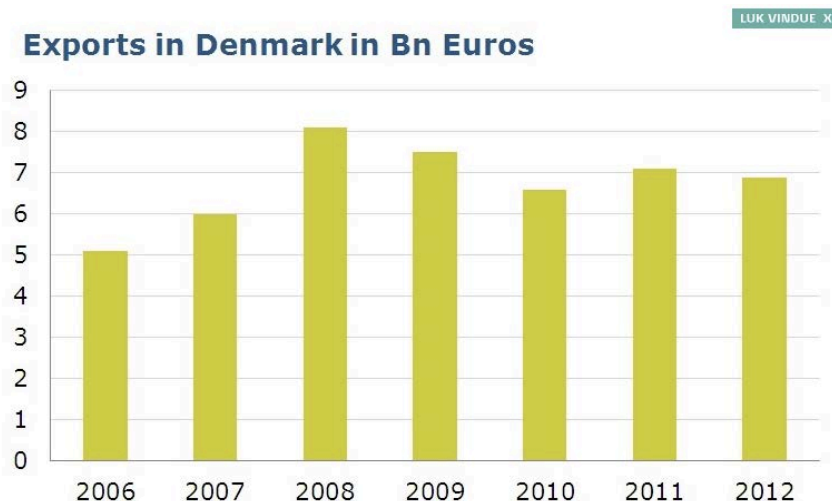


The Danish wind industry includes more around 30.000 employees. (Danish Wind Industry Association, 2013). Research and development operations of international companies are located in Denmark and the concentration of companies covering the entire wind power value chain is unparalleled elsewhere in the world.



(Danish Wind Industry Association, 2013)

The Danish wind industry decreased from 11.1 billion EUR in 2011 to 10.9 billion EUR in 2012. The total exports experienced a decline from €7.2 billion in 2011 to €7 billion in 2012. And the export share of total sales in the same period remained slightly above 60 per cent. Compared to 2006 and 2007 the export share in the industry increased from 55 to more than 60 per cent.



(Danish Wind Industry Association, 2013)

3.3.3 Cost structure

In Denmark there is a current overcapacity in Wind Power and this development reflects the European power exchanges. Political support is important to penetrate the renewable energy market and health and environmental costs are never calculated into the kWh-price. If these costs would be calculated, wind power would be competitive today.

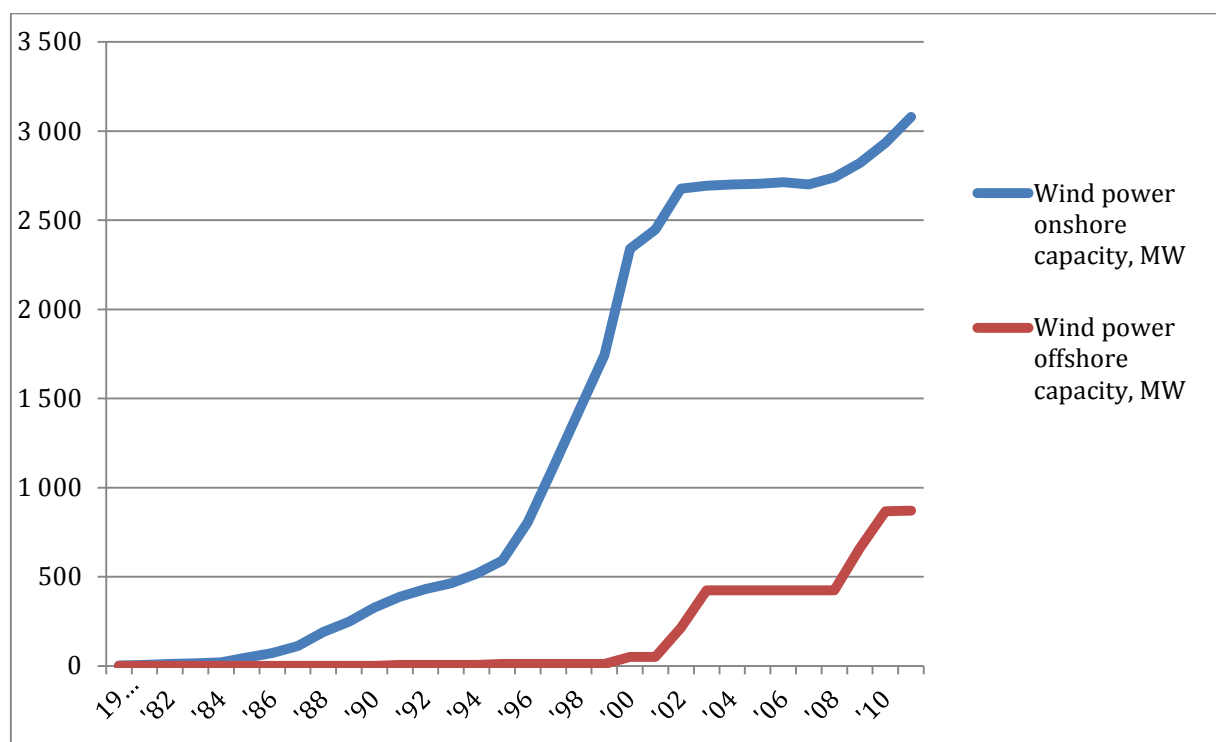


Denmark has a payment system with an environmental bonus to promote the installation of wind power. In addition to the market price, which is set by the Nordic power exchange and Nord Pool, wind power investors get an environmental premium of €0.013 per kWh.

3.3.4 Growth

Denmark's wind turbines covered 122% of the country's demand for electricity in November this year. The director of the Nordic Folkcenter for Renewable Energy said that this is the highest registered figure so far and means that the Wind Power market is extensively growing. The annual Danish electricity consumption by wind power is 25 per cent, which is the highest percentage in the world. Expectations are that this share will double over the next decade with the target of supplying more than half of the total energy needs in Denmark by 2050.

Below there is a graphic of the growing capacity in Wind power, onshore and offshore in Mega Watt.



(Danish Energy Agency, 2013)

3.3.5 Life cycle

The growth of an industry's sales and developments over time is shown in a life cycle. The different stages of an industry life cycle are: introduction, growth, maturity, and decline. (INC., 2012) Looking at the Wind power market in Denmark, the current stage can be described as growth. The market is still developing and growing every year with the increase of capacity and more consumers considering wind power electricity.

3.3.6 Trends

Wind power is on its way to be competitive on the liberalised market. The production cost per kWh is reduced by more than 80% in the last 20 years and this trend is expected to continue resulting in a fully competitive technology in 7 to 10 years. The Danish Parliament adopted an Energy Agreement in March 2012 on the development of the energy supply. One of its main



targets is to cover the 50 per cent of the Danish electricity consumption with wind energy. This wind energy will be generated from wind turbines placed both off- and onshore. In addition to that main target, a long-term goal is to cover the total demand by renewable energy sources by 2050.

In the figure below is shown that renewable energy is trending comparing from 20 years ago till now. This while other ways of energy consumption are decreasing or staying constant.

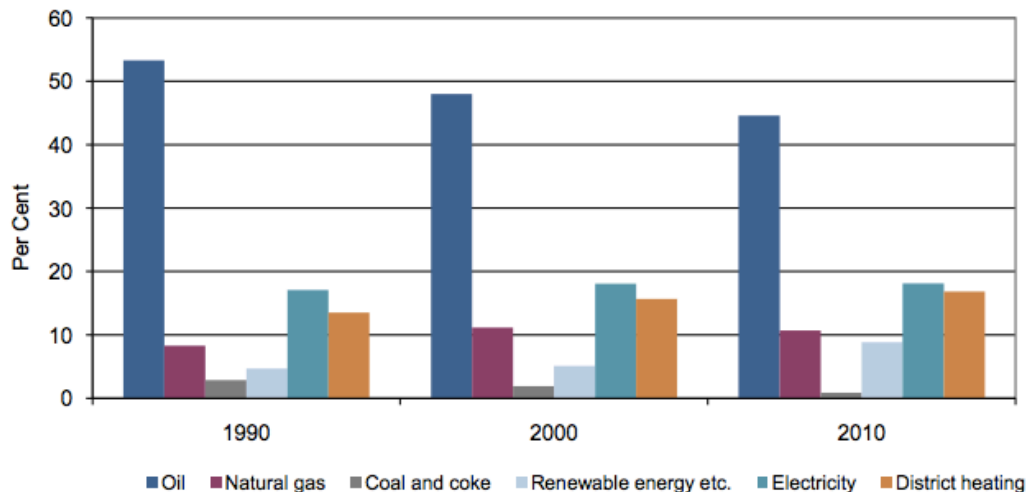


Figure 3.2.2 Final energy consumption by fuel. Climate adjusted

(Danish Energy Agency, 2012)

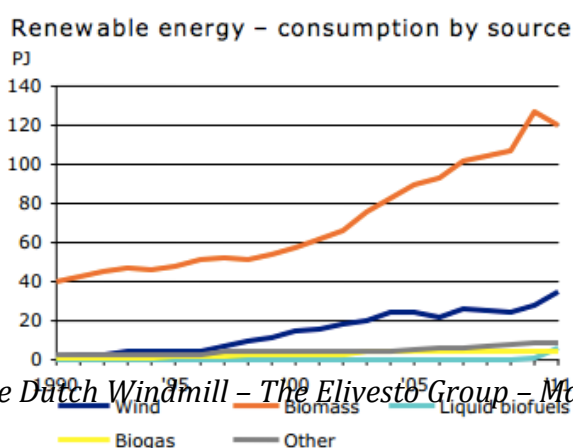
3.3.7 Seasonal and cyclical sensitivity

The wind power market is not seasonal sensitive since there is always wind. Awareness of the environment is an important factor and the growing consumers of wind energy shows that more people start to understand the advantages of wind power electricity. The demand for energy will continue to rise and with this the need for renewable energy will rise as well. But with this demand, political benefits will have to rise with them to attract more customers for wind energy. Therefore, the wind power market can be considered cyclical sensitive.

3.3.8 Porter's Five Forces Analysis

Threat of substitute products and services

There are many other technologies to generate electricity that are potentially a threat for the wind energy market. Examples of these are solar energy, Biomass Energy, Geothermal Energy and Hydroelectric Energy sources. All these alternatives for renewable energy have their advantages and disadvantages.



The Dutch Windmill - The Elivesto Group - March 2014



(Danish Energy Agency, 2012)

Looking at the Renewable energy consumption by source, Biomass energy is the most used source. However, in 2011, consumption of biomass energy only decreased to 120.3 compared with 127.1 PJ in 2010, while wind power increased from 28.1 to 35.2 PJ. For electricity: 1 pet joule (PJ) equals 277.78 million kWh. This threat will be considered medium.

Threat of entry of new competitors

The threat of entry of new competitors is always existent in the wind energy market in Denmark. With growing energy demand, renewable energy demand is growing as well. This means that the market is attractive for new competitors. However, the Denmark standards to wind turbines are high and difficult to meet. New competitors will find the market attractive but hard to enter. This threat will be considered high.

Intensity of competitive rivalry

The amount of players in the small wind energy market when it comes to providing fully integrated service are few but the intensity of competitive rivalry can be cited as medium as there is enough scope available in the Danish industry. This threat will be considered medium.

Bargaining power of buyers

Nowadays the customer is the king. However, the wind energy market is still in its development stage in the life cycle. Buyers don't have the power yet to negotiate in the terms or prices of the supplier. This threat will be considered low.

Bargaining power of suppliers

A wind turbine is made out of different components. Not all wind turbine companies are fully manufactured by the company itself. This means that the power of suppliers can be high since few components have long delivery time or limited capacity to be produced. This threat will be considered high.

3.3.9 Conclusion

The Danish wind market is growing and expected to be competitive. With more awareness and support of the government, the market will be easy and open to enter for foreign companies interested in exporting to Denmark. However, the market can be considered cyclical sensitive since the growing demand for renewable energy needs political support of the government to attract more customers, this can be a threat. One of the main trends with the target to cover 50 per cent of the Danish energy supply by 2050 is a definite opportunity for the Elivesto Group.

Opportunities	Threats
The Danish wind market is open to enter for foreign companies	The market is cyclical sensitive
The Danish government has a 50% target of green energy by 2050	The current wind energy capacity is 122%
The wind market is still in the growing phase of the life cycle	There are competitive other green energy solutions



3.4 Competitor Analysis

3.4.1 Identify the Competition

The competition will be divided in direct en indirect competitors. Direct competitors are companies that sell small wind turbines and indirect competitors are companies that are involved in wind energy, for example big wind turbines for offshore projects. The companies below are considered competitors based on their product and found through their websites.

- *Direct competitors*

Gaia-Wind

Gaia-Wind is a Danish designer and manufacturer of small wind turbines. They have been established in 1993 with their current headquarter in Glasgow, Scotland. Their main small turbine is called the Gaia-Wind 133-11kW turbine and they have internationally sold over 500 in Denmark, Ireland, Italy, UK and the USA. The small turbine is applicable for rural properties, businesses, community projects and farms. The company employs about 40 people and is managed by Johnnie Andringa.

WindPowerTree

WindPowerTree is a small wind turbine developer located in Svendborg. Their product is called the Wind Coverter because of the different approach to traditional wind turbines.

C&F Green Energy

C&F Green Energy is manufacturer of small and medium sized wind turbines. They provide and install wind turbines for mainly Ireland and the UK but sells internationally as well. The company specializes in providing wind turbines for farmers with the need to reduce energy costs, carbon emissions in power generation. They have a wide range of ten different wind turbines; some of them qualified Action Renewables under the Micro generation Certification Scheme.

Coemie

Coemie is a company established in the UK selling three different kinds of wind turbines from 55 up to 300kW. They are focussed on selling their turbines to farms, commercial uses and the public sector.

Evance Wind Turbines

Evance Wind Turbines is a manufacturer and supplier of small wind turbines in the UK. They sell their products internationally and have currently installed over 1,700 turbines. Their user groups are farms, homeowners and schools and communities.

Weole Energy

Weole Energy is a company specializing in design and distribution of small wind turbines. They offer two small wind turbines, both MSC certified in the UK.

Evoco Energy

Evoco Energy is a manufacturer of small wind turbines with the certification of MSC established in the UK. They offer a 10kW turbine mainly used by farmers.

Kingspan Wind

Kingspan Wind is a manufacturer that has small wind turbines installed in over 70 countries including the Falkland and Scottish islands. Their main target group is farms, landowners,



schools, businesses and community projects. Their core business and production is established in the UK.

Quietrevolution

Quietrevolution is small wind turbine manufacturer in the UK. They offer energy solutions for landowners, organisations and communities. They offer two kinds of turbines and work with the ISO9001 quality system. The company has received several awards in the recent years including the D&AD Awards for being the most prestigious in the design and advertising industry.

Use The Wind Ltd

Use The Wind Ltd is a company established in the UK. They are working with several suppliers; this is why they have a full range of wind turbines. Fully MCS accredited, the company has been selling wind turbines for 15 years, trying to buy the best qualitative products for a realistic price. The user groups of Use The Wind Ltd are small farms, commercial properties, large farms and industrial premises.

West Wind Turbines

West Wind Turbines is a company established in the UK, manufacturing small wind turbines from 3kW up to 20kW. They offer five different kinds of wind turbines of which the smallest suitable for domestic use. The four bigger ones are mainly installed for farms and community projects.

Fortis Wind Energy

Fortis is the world leader in design and manufacturing of high performance stand-alone and grid connected wind turbines in the range from 1400 Watt up to 10 kW. They currently offer three different kinds of small wind turbines from 1,4 up to 10 kW. Fortis Wind Energy turbines are used all over the world because their easy installation and maintenance free service. They only use stainless steel, plastics or galvanised metal.

Wind Energy Solutions

Wind Energy Solutions is a Dutch wind turbine manufacturer. They have four different kinds of midsize wind turbines; the smallest has a height of 24 meters. The so-called WES turbine was designed in 1980. And over 1000 units of the turbine have been installed around the world in agricultural locations and universities, islands, small communities and coastal and mountainous sites.

Future Energy

Future Energy is a British wind turbine manufacturer and engineering company specialising in the design, production and distribution of micro wind turbines for the generation of renewable energy. They have sold more than 5000 domestic wind turbines worldwide, via a network of distributors. They offer the 1kW Upwind turbine mainly used for battery charging, water and air heating.

- *Indirect competitors*

Vestas

Vestas is the main player in big wind turbines in Denmark. This does not make them a direct competitor. Although there is chance that potential costumers are already using energy generated from Vestas wind turbines and projects.

3.4.2 Objectives and strategy competitors

All direct and indirect competitors are focussing on customer relationship and high quality of their products. The most outstanding direct competitor is Gaia Wind because they are the only



one that has achieved receiving Danish Micro scheme Standards. The total overview of objectives, strategy and website of the direct and indirect competitors are found in attachment III.

3.4.3 Success Factors in the market

Which companies are having the most success in the market and what are their success factors?

Gaia Wind

The Gaia-Wind small wind turbine is the first small wind turbine to have achieved the Danish HB certification standards.

Evance Wind Turbines

The company has been listed in the 2013 Deloitte UK Technology Fast 50 ranking the fastest-growing technology companies, based on revenue growth over the last five years.

Kingspan Wind

Kingspan Wind has over 600 installations on islands, especially the islands of Scotland.

QuietRevolution

Quietrevolution was named one of the fastest growing cleantech companies in Europe, winning fourth place in the Cleantech Connect League Table Awards 2010.

West Wind Turbines

The company received an award for Outstanding Achievement at Antrims Borough Councils Annual 'Excellence Awards' held at the Dunadry Hotel in June 2013. The award is to acknowledge the special contribution that individuals, groups and businesses make to improve the life in our community.

Vestas

With 57 GW of installed capacity and installations in more than 70 countries, Vestas is the leader in an industry that offers a sustainable and cost-efficient solution to the world's energy needs.

3.4.5 Strengths and Weaknesses of direct Competitors

The strengths and weaknesses of the direct competitors can be found in attachment III. The results of this analysis are shown in the comparing matrix.

3.4.6 Comparing Matrix

<i>Company</i>	<i>Product price and quality</i>	<i>Experience</i>	<i>Innovation</i>	<i>Customer satisfaction</i>	<i>International sales</i>
Gaia wind	++	++	+	++	++
<i>Wind Power Tree</i>	+	-/+	+	-/+	-/+
C&F Green Energy	++	++	+	+	+
Evance Wind Turbines	++	++	+	++	++
<i>Weole Energy</i>	+	++	+	+	++
<i>Evoco Energy</i>	+	++	+	++	++
<i>Kingspan Wind</i>	+	++	++	+	++



<i>Quiet Revolution</i>	+	++	+	+	+
<i>Use The Wind ltd</i>	+	-/+	-/+	+	+
<i>West Wind Turbines</i>	-/+	++	+	+	+
<i>Fortis Wind Energy</i>	+	++	+	+	++
Wind Energy Solutions	++	+	++	++	++
<i>Future Energy</i>	+	+	+	+	++

Based on five different factors and their ratings, the three most important competitors are Gaia Wind, Evance Wind Turbines and Wind Energy Solutions.

3.4.7 Conclusion

Many direct competitors already have established as a reliable and innovative wind turbine manufacturer or designer, which can be a threat. The fact that several companies even have more than 30 years of technology development gives them a great advantage. However, most of the products of the competitors are not comparable to the 1,8 KW Archimedes windmill. Most wind turbines are 5KW or higher, this is what they call “medium sized” turbines. These turbines are required to be installed in an open and windy space, perfect for farmers or community projects. The bigger the turbine and generator, the more a wind turbine can produce in energy and this is why most companies focus on farmer and community projects rather than households. Another fact is that competitors work with dealers and resellers in other countries. This shows that the best way to approach foreign markets for wind turbines is indirect. Local resellers and dealers know the language, political restrictions, feed in tariffs and best way to get in contact with potential customers. This means an opportunity for the Elivesto group can be to work together with these dealers and resellers.

Opportunities	Threats
None of the direct competitors sells a product that is exactly comparable with the Archimedes wind turbine	Direct competitors have the advantage of more experience and technology development
Cooperation with local dealers and resellers	Direct competitors are focussing on bigger turbines which are more attractive to potential customers of the energy generation
Most direct competitors are not established in the country	Only one company of the direct competitors achieving the Danish standards shows the difficulty of achieving these standards.

3.5 Distributor Analysis

3.5.1 Distribution Method

Producer → Archimedes → Resellers → Consumer

The current distribution method of the Archimedes wind turbine includes the following: the production is in South Korea and the assemblage of the components is in The Netherlands. Besides The Elivesto Group, 7 other resellers are selling the wind turbines. The Elivesto Group is taking care of the marketing and will be main distributor. Installers of the resellers will install



the wind turbines and maintain service. With the warranty of two years and a service subscription this will be done for free.

3.5.2 Distribution Function

If The Elivesto Group is going to export the wind turbines to Denmark, the direct distribution channel will be most favourable because of the shipping costs. Shipping costs will be lower if the product will be distributed directly to the consumer instead of through a local reseller. It is also possible to use a distributor in Denmark or an agent to sell the wind turbines for The Elivesto Group. This indirect distribution channel means making use of the local resellers that have knowledge of the languages and sales processes in the country as well as the political restrictions. The channel might be an option in the future if the sales of the small wind turbines rise.

Producer → Archimedes → The Elivesto Group → Consumer

Producer → Archimedes → The Elivesto Group → Local reseller → Consumer

Plans are that once the first order has been shipped from South Korea to The Netherlands, the assemblage will be done at the workplace from The Elivesto Group. Also the wind turbines will be shipped directly to the company. This will shorten the distribution channel.

Producer → The Elivesto Group → Consumer

Producer → The Elivesto Group → Local reseller → Consumer

3.5.3 Conclusion

Denmark is a European country what makes it easy to distribute to the consumer. With a clear target group and short distance, a direct distribution channel might be the best channel to use. An indirect distribution channel is also an opportunity by making use of a local reseller.

Opportunities	Threats
Short distance from the Netherlands to Denmark	Shipping through resellers can be expensive
Indirect distribution channel	
Denmark is a part of the European Union, which means there are no restrictions or extra costs related to shipping to the country	



3.6 SWOT Analysis

All the strengths and weaknesses from the internal analysis and the threats and opportunities from the external analysis will be combined together in a confrontation matrix. The best combinations will eventually form options to realize the right entry strategy and eventually the international marketing mix.

3.6.1 SWOT

S1	International expertise
	The Elivesto Group their staff has international knowledge and connections by international experience in the other business units
S2	Green product
	The product is green and environmentally friendly, it adds value to the environment and eventually is economical beneficial for the customers. It enhances the CSR of a company.
S3	Multitasking
	The Elivesto Group consists of many companies, this means they can manage well and multitask.
S4	Learning by doing
	The Elivesto Group believes in learning by doing

W1	Business Units
	The Elivesto Group has many business units what might lead to confusion within the company
W2	Knowledge
	Not every staff member has a bachelor degree what might lead to a lack of theoretical knowledge.
W3	Price
	The product has a high cost price
W4	Payback time
	The Archimeteo can not measure the payback time of the urban windmill in advance

O1	Green Target
	One of the main trends with the target to cover 50 per cent of the Danish energy supply by 2050
O2	Resellers
	There are resellers and agents existent in Denmark that know the language and have knowledge of the market
O3	No compensation for solar
	There is no more compensation for solar energy
O4	Feed in tariff and tax break
	A feed in tariff of 0,35EUR/kWh and tax break of 30% is profitable for wind turbine owners

T1	Political support
	The growing demand for renewable energy needs political support of the government
T2	Experienced competition
	Most of the direct competitors have already over 30 years of experience in innovation and design

T3	Offshore projects
	Offshore wind projects are popular in country side communities
T4	Wind energy
	Companies can already improve CSR by buying 100% green energy from suppliers nowadays

3.6.2 Confrontation matrix

The confrontation matrix will be combined factors that are being rated in the following measures: -- (Relevant negative), - (Negative), 0 (Not relevant), + (Positive) to ++ (Relevant positive).

Confrontations	Opportunities	O1	O2	O3	O4	Threats	T1	T2	T3	T4	+	-
<i>Strengths</i>												
S1		+	++	0	+		-	+	+	-	6	2
S2		++	+	++	++		+	0	+	-	9	1
S3		0	++	0	0		-	-	-	-	2	4
S4		+	++	+	+		-	+	+	-	7	2
<i>Weaknesses</i>												
W1		0	-	0	0		0	--	0	0	0	3
W2		0	++	0	0		--	--	--	--	2	8
W3		-	+	++	++		+	-	--	--	6	6
W4		+	+	+	++		--	--	--	--	5	8
+		5	11	6	7		2	2	3	0		
-		1	1	0	0		7	8	7	10		

As seen above the relevant positive combined factors are marked. Naturally, the combinations of strengths and opportunities will be the best outcome for an option. This is why these six combinations will eventually form options. One of them will be the basis for the entry strategy.

3.6.3 Options

Option 1: International expertise and cooperating

To combine Elivesto's international expertise and work together with local resellers, the perfect marketing mix can be made. The local resellers know the language and can translate the website and folder. They can also arrange the agreements and settlements between the supplier and the customer together with the international knowledge and connections of Elivesto.

Option 2: Green product and FIT and tax break

This option can be compared with option three. The green product that Elivesto offers can be certified with Danish standards. This means that potential customers can receive Feed in tariffs and small business owners can even receive a tax break of 30%. With this option the company



will have to get the Archimedes wind turbine certified according to the Danish Micro generation Standards.

Option 3: Learning by doing and cooperating

When cooperating with a Danish agent or reseller, Elivesto can learn and exchange knowledge. With the mission of learning by doing, the company will gain even more international experience and use this in the future or even with exporting to other countries.

To determine and select the best option, two analyses will be made. One is an option matrix where the options will be measured on the suitability, feasibility and acceptability. The second one is the risk versus reward analysis. The complete analyses are shown in attachment V and attachment VI.

3.6.4 Selected option

Criteria	Option 1	Option 2	Option 3
Suitability			
<i>Suits the problem statement</i>	++	++	+
Feasibility			
<i>Financial</i>	-	++	-
<i>Organizational</i>	+	+	++
<i>Economical</i>	+	++	+
<i>Technical</i>	++	++	0
<i>Social</i>	+	+	+
<i>Legal</i>	+	+	0
<i>Ecological</i>	++	++	+
Acceptability			
<i>Staff</i>	+	+	+
TOTAL	10	14	6

The complete option matrix with explanation is found in attachment V and the risk versus reward analysis in attachment VI.

The option matrix pointed out option 2 as the best selected option and the risk versus reward analysis pointed out option 1 and 3 with the low risk and high reward. Option 2 has a high reward but a high risk as well. This means that if the company would choose option 2, the risk is as high as the possible high reward. Nevertheless, option 2 is the one with the most possible profit. The Archimedes wind turbine with Danish MS standards is another Unique Selling Point that can be added to the product. This is why option 2 is chosen and an international marketing will be determined with the basis of this option.

4. Entry Strategy

With the Entry strategy the Ansoff model will be used. It is a strategic tool in formulating growth strategies. By linking two major strategies to each other, the product and the market, a logical way in the strategic development of a business in a market can be considered. In this way a company can think about the best opportunities for the company. Ansoff identified four growth directions, divided along the dimensions of product and market:



- Market penetration
- Market development
- Product development
- Diversification

The strategy for The Elivesto group will be **diversification** because they are entering a new market with a new product. There are already existent small wind turbines in Denmark, which makes the Archimedes wind turbine an existent product. But the small wind turbine is a new product within the Elivesto group.

4.1.1. Objectives

The objectives of the diversification strategy for The Elivesto group will be:

- Achieve Danish certification in small wind turbines in 2015
- After achievement of the Danish certification, start export in Denmark
- Realise a minimal order of 10 small wind turbines in Denmark

4.1.2 Segmentation

The main focus of The Elivesto group will be the B2C market including the main target group of homeowners and farms that are allowed to have a wind turbine on their property.

4.1.3 Positioning

Market research shows that the process of buying a small wind turbine is a complicated and long process. A long term and good relationship with the customer is very important. Because of the high cost price, the small wind turbine will be a big investment that needs time and care. Also the quality and technical development of the product is important, The Elivesto group should focus on making a contract with clear arrangement about the maintenance and insurance of the small wind turbine.

4.1.4 Conclusion

Entering a new market with a new product is always difficult. This is why most diversification strategies won't work in the first place. The most important thing that the Elivesto group should focus on is the first objective of achieving the Danish certification in 2015. If this objective can be reached, the sales process of the small wind turbines will become easier and the Danish wind market will be less competitive.

With the diversification strategy, the set objectives and the segmentation and positioning determination, the international marketing mix can be completed with the four P's: Product, Price, Promotion and Place.

4.2 International Marketing Mix

The four different P's of the marketing should be combined in the best possible way to determine the right strategy.

4.2.1 Product

Core product



The consumer does not buy the product just for the product. They invest in the environment and with that they also invest in their own energy savings. Especially the last motive is important when selling the product. The current name for the Archimedes wind turbine is Liam. This name is not attractive for customers. This is why The Elivesto group will call it The Dutch Windmill. The name describes the origin of the product and represents a sense of reliability because there have been windmills in the Netherlands for ages and they always worked. The Dutch windmills are even an attraction for tourists; the core product will aim for the same image and reputation.

Tangible product

The standard wind turbine will be in the colours white and grey. But to satisfy the customer, the turbines will be in other colours available. In this way the customer can customize their own turbine and avoid ruining their or their neighbour's view. Since the wind turbine will be shipped from the Netherlands or directly from the production in South Korea, the packing is chosen and handled by the producers.

Total package

The product will not only exist of the wind turbine. The Archimeteo will be attached as well. The Archimeteo is a wireless sensor that can measure different weather situations like wind speed or solar. With the Archimeteo, consumers can check these weather situations from their computer but they can also see how much their wind turbine is generating in energy. With these details an estimated payback time can be calculated. This is a practical extra tool that gives consumers the insight and more understanding in their energy generating. Since the wind speed and weather situation are different on any location and height, it is almost impossible to calculate an exact payback time beforehand. Although, the Archimedes has stated that a small wind turbine can vary from 2 up to 15 years.

The Elivesto group will offer maintenance and warranty for one year. The Archimeteo will be able to detect damage or errors in the wind turbine. This will make it easier for both consumer and seller to execute maintenance as fast as possible. Sending mechanics from the Netherlands to Denmark for maintenance without exactly knowing what the damage is will be too expensive. This is why there will be a mechanic being educated in Denmark to perform maintenance for the Elivesto group. If the damage is that big and more than one mechanic is needed, a mechanic from the Netherlands will be send in. This will be on costs of the consumer.

4.2.3 Price

The sales price of the wind turbine is still high because it is in its introduction phase. The official launch of the Dutch windmill will be held in April with the price of €3.500 the first orders. This price will be exclusive of taxes, shipping costs, the Archimeteo and extra services like maintenance and insurance. Maintenance is a service offered when the wind turbine is broken or not functioning the way it should be. The insurance is a contract including arrangements about covering the costs of maintenance or the costs of parts of the wind turbine that need to be replaced.

Dutch Windmill, 1,8kw	€3.500
Archimeteo	Undetermined
Controller 2KW and inverter	€1.100
Assemblage and transport	Undetermined
Subsidy	Consumer must apply
Subtotal exc. VAT (Value Added Tax)	€4.600



VAT 21% (If applicable)	€966,00
Subtotal	€5.566

The Archimedes decided to calculate €650 per installation via a distributor or agency. The Elivesto group will become main distributor.

The product will be offered in three possible ways of paying:

1. Paying the whole amount directly
2. Paying in 12 or 24 terms with a prepayment of 50%
3. Paying in the form of a loan with a bank or institution that will cover the whole amount. The Elivesto group will offer consultation about where the consumer can apply for a loan.

Because of the introduction phase the product is in, there will be no discounts available. In the future this can be discussed if there are orders of more than 10 wind turbines.

4.2.4 Promotion

Danish people are known for intelligent and proud people. This means that the possible customers will be hard to convince when it comes to buying the Dutch Windmill. As shown from the consumer analysis, energy saving and receiving subsidy from the government is the most important motive. The Elivesto group will have to meet these needs in promoting the profitability of the product.

There are already existent folders in Dutch, translated in English, Arabic and Spanish. The existent folder in English is found in attachment X. These were all done by international connections. That means that there were no costs related to this. To promote the product in Denmark, the folder will have to be translated in Danish.

Translating a folder to Danish with the company www.snelvertalen.nl will cost €0,22 per word. The existent folder counts 720 words.

Folder Dutch to Danish 720 words	€0,22 per word
Subtotal	€158,40

Printing a folder in Rotterdam with the company Drukkerij Rotterdam will be €30 for 50 folders and €50 for 100 folders. The prices are estimated and may be different depending on the amount of text and color. (Drukkerij Rotterdam, 2014).

50 folders	€30
100 folders	€50

The Danish are also known to be well educated. This means that there will not be business cards translated to Danish necessary. The Elivesto group already has business cards available in English.

To promote the product in Denmark, a website is also needed. For the Dutch Windmill, a new website with registered domain will be made. When registering at <https://www.antonist.nl>, a domain will cost €10,95 a year. The Elivesto group has employees that can design and build websites, which will not bring extra costs. The text on the website will be done by the same employees that are building the website in close cooperation with The Archimedes and very similar to the text that is already existent in the folder of the small wind turbine. The translation of the website to Danish will also have to be done by a translation office. The price will depend of



the amount of words on the website. The same indication as the translation of the folder will be calculated.

Website Dutch to Danish Estimated amount per page: 200 Amount of pages: 6	€0,22 per word
Subtotal 600 words	€264,00

To promote the folder and website in Denmark, consultation is needed. There is a Danish small wind turbine owners association in Denmark, which is a non-profit organization with 5 consultants that help wind turbine companies with applying for the technical certification, information about the legislation of small wind turbines and getting in touch with people that are interested in investing in a small wind turbine. The association is already familiar with foreign companies that want to sell small wind turbines to households or starting a wind project in a community.

Consultation of the Danish wind turbine owners association	€171 per hour
Estimated consultation needed: 3 hours (DKVIND, 2013)	Subtotal of €513

Another option to promote the website and folder is in the magazine of the Danish wind turbine owners association. This magazine is called Natural Energy and companies can place advertisements for the following prices:

210 x 297 mm advertisement	€4473,00
122 x 263 mm advertisement	€3129,00
185 x 130 mm landscape advertisement 91 x 263 mm portrait advertisement	€2304,00
185 x 85 mm landscape advertisement 60 x 263 mm portrait advertisement	€1691,00
185 x 63 mm landscape advertisement 44 x 263 mm portrait or 90 x 136 mm advertisement	€1319,00
60 x 130 mm portrait advertisement	€866,00
60 x 88 mm advertisement	€653,00
Banner advertisements 208 x 54 pixels (on the website http://www.naturlig-energi.dk)	€80,00 per month
Banner advertisements 208 x 106 pixels (on the website http://www.naturlig-energi.dk)	€147,00 per month
Banner advertisements 208 x 208 pixels (on the website http://www.naturlig-energi.dk)	€253,00 per month

(Naturlig Energi, 2013)

4.2.5 Place

In the distributor analysis is shown that The Elivesto group has chosen to ship the wind turbines directly to the customer. The small wind turbines will be shipped from the location of the Elivesto group, located in Europoort, Rotterdam. The customers can order their small wind turbines by sending an email to The Elivesto group. The contact details will be available on the website of The Elivesto group but also on the website especially made for the Archimedes wind turbines. There is enough space in the Europoort to stock small wind turbines shipped from South Korea. This is why The Elivesto group will be the main repository and distributor.



A price indication of shipping costs via sea freight from The Netherlands to Denmark will be:

600 cm x 244 cm x 260 cm container	€122,00
1200 cm x 244 cm x 260 cm container	€158,00
1202 cm x 235 cm x 269 cm HQ container	€166,00

(Zeevrachtcaculator, 2013)

HQ stands for high cube container. High-cube containers are similar in structure to standard containers, but slightly taller. The shipping per sea freight will take maximum four days.

The specifications of a Dutch Windmill are 160 cm x 150 cm x 170 cm. This is a total of 4.080 m³. In the table below is shown how many turbines will fit in the containers.

600 cm x 244 cm x 260 cm = 38.064 m ³	9 wind turbines
1200 cm x 244 cm x 260 cm = 76.128 m ³	18 wind turbines
1202 cm x 235 cm x 269 cm = 75.984 m ³	18 wind turbines

The high cube containers are in this case irrelevant for the wind turbines. Also, the HQ containers are more expensive which makes them unnecessary.

Besides shipping per sea freight there are other possibilities to compare with. The sea freight forces the company to ship more than one wind turbine at the time or to pay more for only shipping one wind turbine. Sending by UPS could be another possibility and the prices are shown below:

UPS Standard (4 days) 55.0 kg	€249,00
UPS Express Saver (1 day) 55.0 kg	€344,07

A real price quote indication made by DHL calculated a total price of €557,60. The complete details of these price quotes are shown in attachment XII. After these price details a conclusion can be made that shipping per sea freight is cheaper and more convenient.

4.2.6 Planning

This is an overview of the planning for selling the Dutch Wind Mill based on achieving the Danish Micro Scheme standards.

Task	When
Introduction Archimedes wind turbine in the Netherlands	April 2014
Applying for Danish Micro Scheme Small Wind Turbine	September 2014
Building special website for the Dutch Wind Mill	September 2014
Translating existent folder to Danish	September 2014
Contacting Danish Wind Turbine Owners Association for consultancy	November 2014
Translating website the Dutch Wind Mill to Danish	December 2014
Launching the Dutch Wind Mill website	January 2015
Contacting Natural Energy for advertisements or banners on the website	January 2015



Start selling the Dutch Wind mill and shipping to Denmark	January 2015
---	--------------

The application for the Danish Micro Scheme for small wind turbines takes one or two months depending on size of the turbine. The Danish Energy Agency determines if wind turbines are obliged to apply or exempted from an application according to different rules. A small wind turbine company can also choose to register the wind turbine with the Energy Agency's Secretariat. The details needed for this registration and the rules of the whole process, from construction, production and operation of the wind turbines, is included are attached in attachment XIX.

4.2.7 Financial overview

For the financial overview there is a scenario with the investment costs and a cost benefit analysis. The total extra costs in the statements included will be at first €1007,40 excluding possible advertisements or banners or future promotion costs.

Cost	Benefit
Price per unit €5566,00	Received commission per unit €650,00
Investment costs €1.107,40 (these costs are only paid once)	Received amount per unit €6.500 (Profit per unit €934,00)
Subtotal €6673,40	Subtotal €7.150

The cost benefit analysis shows that there is a positive difference of €476,60. The price per unit is added to the cost side of the analysis because the Elivesto group is the main distributor. This means that if they get an order, they order at the Archimedes. The amount that they receive from the paying customer will be transferred directly to the Archimedes, minus the profit. The profit that the Elivesto Group will make per unit is €934,00. They are the main distributor of the wind turbine and that means that they will not be dependent on the amount of sales. The position of being the main distributor lowers the financial risk for the company. They will only have to sell one wind turbine and already make a profit ($650 + 934 = 1.584$). Nevertheless, the investment costs can turn out to be higher in reality or the company will need to pay more shipping and advertisement costs.

The complete financial statements are shown in attachment XI.

4.2.8 Scenario

Since the Elivesto group will become the main distributor of the Archimedes windmill, there will be less financial risk because they only have to cover the invest costs of €1068,35. This means that they will have to sell at least two windmills to gain these investment costs back. The worst-case scenario will be a loss of €1068,35 if they don't sell any wind turbines in Denmark. The best-case scenario would be that they sell more than two wind turbines and cover the investment costs, plus a profit starting from €231,65.

4.3 Conclusions

After finishing all the analyses, the problem statement and the sub questions can be answered. Every analysis has its own conclusions and answers a different sub question. Eventually these conclusions will form the recommendations for the Elivesto group.



The problem statement was: *What are the three most economical potential countries for the Elivesto group to sell the urban windmills in and how can they enter the selected market within three years?*

The orienting interviews and a global analysis concluded the three most economical potential countries for the Elivesto group. Those were Denmark, Ireland and Curacao who both scored high on share in wind generation, high electricity price and wind speed.

The internal analysis was the answer to the sub question: *Is the company prepared to sell the product internationally?* The company proved to be international experienced with a lot of other companies under the Elivesto group working together with foreign companies and clients in different sectors.

The conclusion from the PESTEL Analysis could be made that Denmark was the best option to explore the market.

The competition is relatively high and the consumers are hard to please and want to be convinced that the product is profitable. There are many trends in wind energy and that Denmark is one of the countries that is most engaged in the environment. The most important conclusion that can be made from these four analyses is that there are Danish Micro Scheme standards for customers to be able to receive subsidiary on small wind turbines. This subsidiary will be the main motive for the customer to invest in a small wind turbine. Also, wind energy is more in favour because the compensation for solar energy is not existent in Denmark anymore.

The option that was chosen from the combined factors in the SWOT is as rewarding as it is risky. Nevertheless, it is the option with the most possibilities.

The Elivesto group will use the growth strategy of diversification with a new product in a new market. The most important objective in this strategy is the achievement of the Danish certification.

The conclusion from the International Marketing Mix is that the best way to export the small wind turbine is directly through sea freight. The website and folder need to be translated in Danish and there will be three possible ways for payment of the turbine. The conclusion of the financial overview is that the costs of the international marketing mix are lower than expected and can be covered by the assets of the Elivesto group.

4.4 Recommendations

The recommendations are the most interesting part of the thesis and will hopefully be used by the company in the future.

Product

The product that the Elivesto group wants to export is unique. Although Denmark already has knowledge of small wind turbines, the innovation of the Dutch Windmill is high. It is a must that the Danish will eventually recognize the advanced technology of the product. The first step and most important thing to do is to achieve the Danish certification and register for Energy Agency's Secretariat. Without this certification the product will be difficult to sell in the market. Danish people are known to be very interested in new technology and always open for improvement. This does not take away the fact that Denmark is one of the most innovative countries in the world when it comes to renewable energy. This means that it will be complicate



to convince potential customer to buy a wind turbine from a company in the Netherlands. The Danish Wind Turbine Owners Association can help the Elivesto group with their knowledge and experience in the Danish small wind turbine market.

Results and specifications

The qualitative market research showed that there is proof or results of performance needed before the Elivesto group can sell a wind turbine to potential clients. It is very important that the small wind turbines are being tested with a real generator in order to see what the actual performance is. Without these results, only the specifications in the current folder will not do. The Archimeteo is a measuring tool that comes with the small wind turbine. I recommend that interested buyers get a Archimeteo installed on the roof of their house to determine an estimated payback time and to see if a small wind turbine will be profitable.

Introduction

Although the Danish might already be familiar with small wind turbines, the Dutch windmill will be in its introduced April 2014. This means that the product will be in its introductions phase. This phase is always hard to get through and the first years might be disappointing. The Elivesto group should take into account that especially a product that is known as such a big investment as a small wind turbine, will take long to get acquaintance. To get through the introduction phase The Elivesto Group has to sell at least two wind turbines to cover the promotion costs. If there will be more promotion or advertisement costs they will have to sell more.

Relationship with the customer

Because of the big investment, the relationship with the customer is very important. Most of the potential customers have no idea of the complicated process they have to get through to apply to be a small wind turbine owner. This means that the Elivesto group should focus on helping and guiding the customer through the whole process. This means that at least one staff member should carefully study the process and rules of small wind turbines in Denmark. In this way, The Elivesto Group has their own specialist that can advise the customer and answer all their questions. The happier the customer will be, the more good testimonials he or she will give. This means new potential customers and more revenue.



5. Attachments

Attachment I Plan of approach

Analysis	Methods	Including
Internal analysis	Situation analysis	Company description, Mission and Objectives
	KPMG model	Management & Organization, Product & Processes, Performance, People & Culture, Resources & Systems
External analysis	PESTEL analysis	Political, Economic, Social, Technological, Environmental and Legal factors
	Consumer analysis Industry analysis Competitor analysis Distributor analysis	Strengths, Weaknesses, Opportunities and Threats Direct or indirect export
	SWOT analysis	
	Entry strategy	
Operational plan	International marketing mix Ansoff model Cross cultural aspects	Product, Price, Promotion, Place Diversification Hofstede cultural dimensions

This is an overview of the resources that I will use for my field research:

Analysis	Resource	Details
PESTEL Analysis Denmark	Netherlands Embassy in Copenhagen	Phone: (+45) 33 70 72 00
Consumer analysis Industry analysis Competitor analysis Distributor analysis	The Danish Wind Industry Association (DWIA)	Email: danish@windpower.org
PESTEL Analysis Ireland	Ireland Embassy in Dublin	Phone: +353 (0) 1 269 3444
Consumer analysis Industry analysis Competitor analysis	Irish Wind Energy Association (IWEA)	Email: office@iwea.com

Distributor analysis

PESTEL Analysis Curacao	Representative of Curacao	Phone: 070-3066111
Consumer analysis Industry analysis Competitor analysis Distributor analysis	Dutch Durables, Durable Energy Association	Email: info@dutchdurables.nl
Operational plan	Potential logistical partners Potential distributors	
Cross cultural aspects	Chamber of commerce of chosen country	

Internal analysis

In the internal analysis an overview of the company will be presented including their objectives and their missions. I will also use the KPMG model to see if the company is prepared to export the product internationally.

External analysis

The external analysis is the most important part of the thesis because without the right information an operational plan cannot be written. I am using a PESTEL analysis to gather information about the chosen countries. Looking at the product especially the Environmental factors are important for the company. Not only by using desk research but also field research, not everything can be found in international literature or databases.

To determine the consumers and their needs and wants I will be using the Abell Model. This model is developed to define a market and show the possibilities of new technologies and trends in the market.

To analyse the industry, the PESTEL factors are the most relevant information to use. The factors will give information of the macro environment and the already existent competitors. The PESTEL factors include:

- Political factors that show the governments decisions and laws
- Economical factors that show the economical situation in the country
- Social cultural factors that show the characteristics of the culture and the habits of the population
- Technical factors that show the new technologies and trends in the country
- Environmental factors to determine the physical environment
- Legal factors include discrimination law, consumer law, antitrust law, employment law, and health and safety law in the country

The competitor analysis will be performed with the help of Porter's five chains model. This is a strategic model to decide how attractive the market is for the Elivesto group.

To get a clear view of the distributors in the country there are several factors to analyse:

- Are there any trade barriers?
- Is the Elivesto group dependent on the distribution channels?



- What are the different ways to get the product to the customer?
- What are the requirements of the distributors?
- What are the advantages and disadvantages per distributor?

In the field research I will contact the embassies of the selected countries for information on the PESTEL factors. There are also associations based on wind or durable energy in the three selected countries. I will contact them if more information specifically about wind energy is needed. These associations know the possibilities, existent competitors and distributors in the market. That is why the information gained will be highly reliable.

After these analysis I can make a SWOT analysis presenting all the Strengths and Weaknesses the company has and what Opportunities and Threat the international markets have. This will eventually lead to the most attractive country. With the chosen country an entry strategy can be made.

Operational plan

After gaining and selecting all the information about the chosen country I can start using it for the international marketing mix including Price, Product, Promotion and Place. Interviewing potential logistical partners and distributors will help gaining reliable information about the how to enter the market in the country. Also I will use the Ansoff model to decide the marketing strategy and the cross-cultural aspects are always important when exporting to a new country. I will be using Hofstede's cultural dimensions to put draw the differences of culture. To also determine the aspects I will have an interview with the chamber of commerce in the chosen country.



Attachment II PESTEL Analysis

Demark

Denmark, officially the Kingdom of Denmark, is a sovereign state in Northern Europe, located south-west of Sweden, south of Norway, and bordered to the south by Germany. Denmark is a part of the European Union since 1973 and a constitutional monarchy, ruled today under the 1953 constitution. The single-chamber parliament or Folketing has 179 elected members.

Political factors

- *Political system*

The Political System in Denmark is democratic. The administration of the State is based on a voluntary agreement between the constitutional monarchy and the citizens of the country. The citizens exert their influence indirectly through voting. Different ministries, including their relevant institutions, and various regional and municipal authorities, comprise the state administration. Each ministry is led by ministers who have their own area of responsibility.

- *Political stability*

Looking at the risk ratings of Denmark the risk of political instability in Denmark is low with a score of 5 out of 100. The country has a long tradition of open and transparent parliamentary democracy. It also benefits from stable, effective and accountable governance in a political system that is highly decentralised.

RISK RATINGS	Current Rating	Current Score	Previous Rating	Previous Score
Overall assessment	A	9	A	8
Security risk	A	4	A	4
Political stability risk	A	5	A	5
Government effectiveness risk	A	4	A	4
Legal & regulatory risk	A	3	A	3
Macroeconomic risk	A	20	A	20
Foreign trade & payments risk	A	4	A	4
Tax policy risk	A	6	A	6
Labour market risk	B	29	B	25
Financial risk	A	4	A	0
Infrastructure risk	A	9	A	9

Note: E=most risky; 100=most risky.

(AIG, 2013)

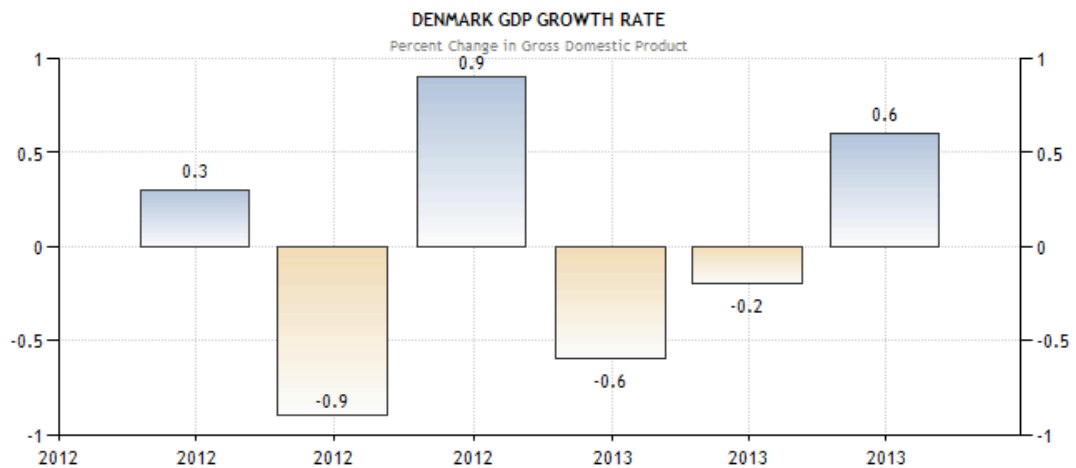
- *European Union*

Denmark has been a member of the EU since 1973. And as a member of the EU, the country, along with the other member states, influences the legislation of the member states. The EU's influence in the world has grown in many areas, and member states collaborate among other things on the environment, consumer issues and free trade. Some of the member states have a common currency, the Euro, but Denmark is not part of the agreement.



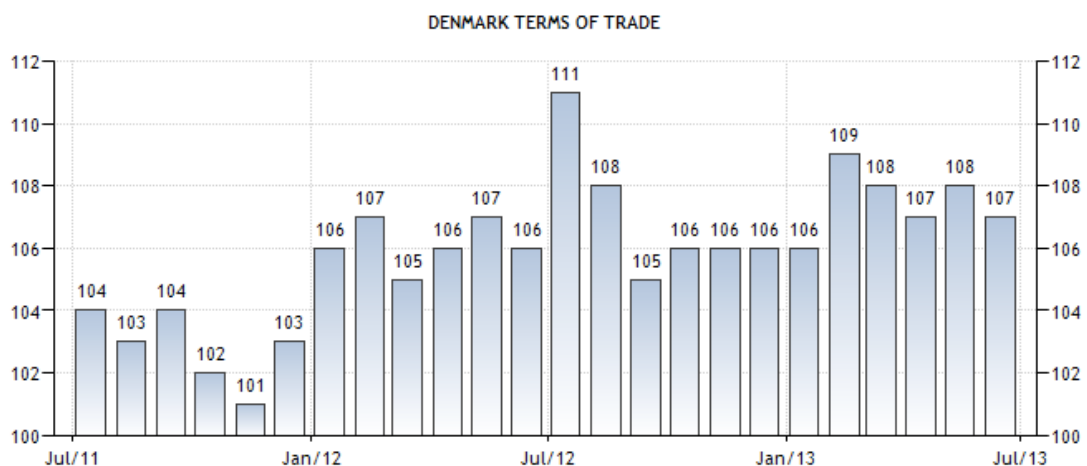
Economical factors

- Economic growth



(Trading economics, 2013)

As seen above the GDP rate has increased with 0,6% the second quarter of this year. The average GDP growth rate from 1991 until now is 0,37, which means that overall the country, is economically stable. The industrialized market economy in Denmark depends on imported raw materials and foreign trade. Denmark supports a liberal trade policy in the European Union and the standard of living in the country is one the highest in the world. The average household net financial wealth is estimated at 36 184 USD, lower than the OECD average of 40 516USD but the average household net-adjusted disposable income is 24 682 USD a year, more than the OECD average of 23 047 USD a year.

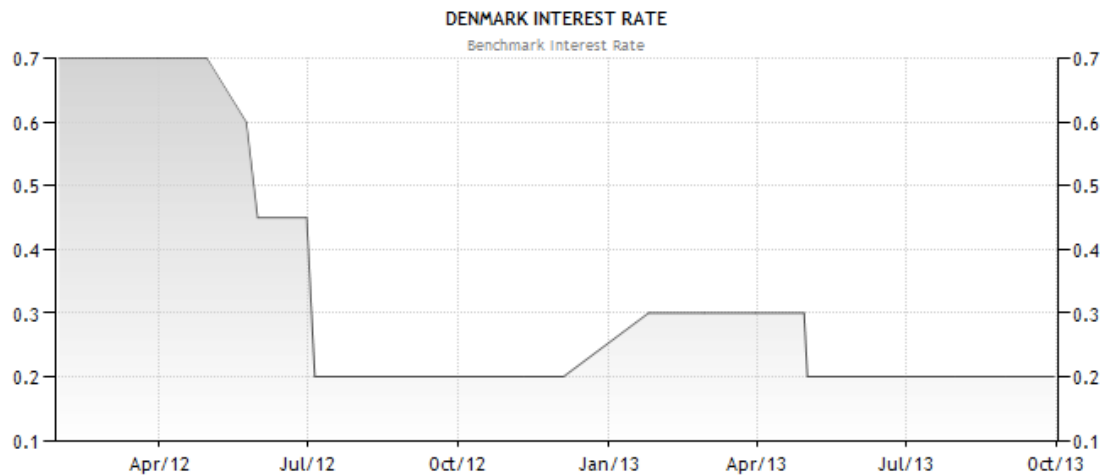


(Trading Economics, 2013)

Looking at the terms of trade, Denmark has a current rate of 107. This means that the country is exporting more than it is importing and that the capital is coming in.



- Interest rates




(Trading Economics, 2013)

As seen above the interest rate in Denmark has decreased in 2013 with a current rate of 0,2 in October. The Central Bank of Denmark has made the interest and the interest rates decisions are taken by the Board of Governors. The main interest rate is the lending rate. The Danish central bank follows the path set by the ECB and the lending rate will be raised or lowered when the ECB changes the refinance rate.

A low interest rate means that companies can take loans without having to pay back much interest.

- Exchange rates

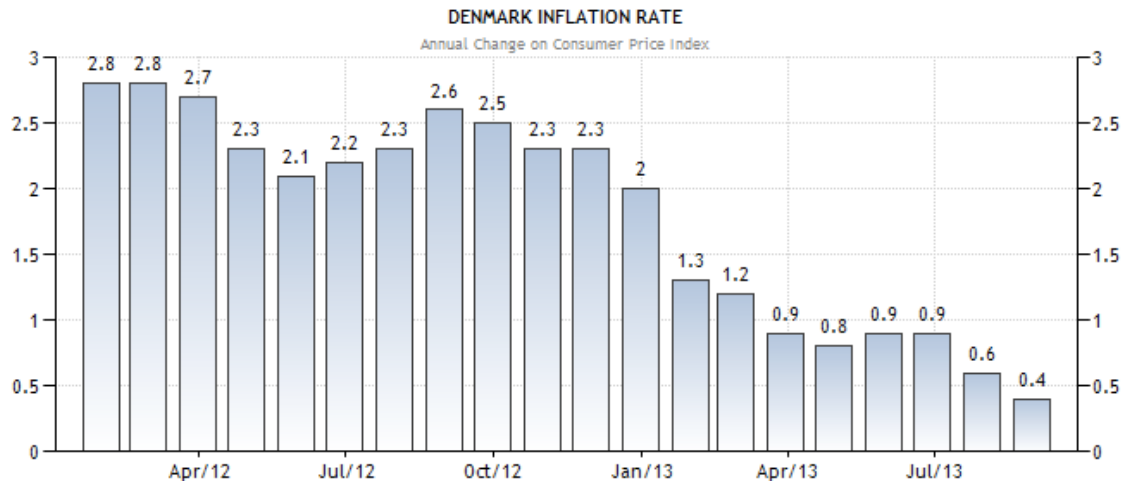
 RATES TABLE 1 Danish Krone Rates table		
Top 10		Oct 09, 2013 08:08 UTC
Danish Krone	1.00 DKK	Inv. 1.00 DKK
Euro	0.134054	7.459655
US Dollar	0.181295	5.515865
British Pound	0.113046	8.845929

(X Rates, 2013)

As soon above 1 Danish Krone is worth 1,13 Euro. This means that the Danish Krone is more worth than the Euro. When there is a positive exchange rate, the country is economically stable.

- Inflation





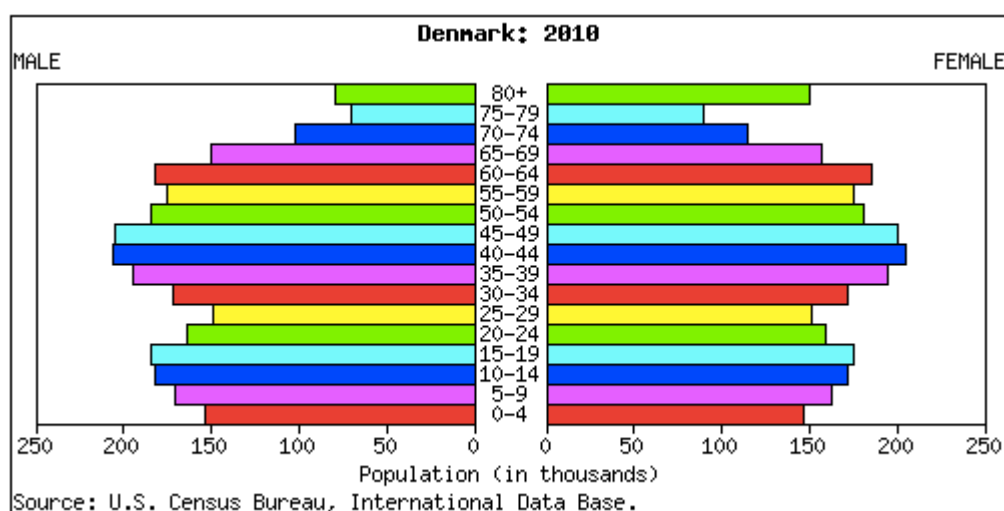
(Trading Economics, 2013)

As seen above the inflation rate has decreased in 2013 with a current rate of 0,4. The inflation rate in Denmark is measured by an average rise or fall in prices that consumers pay for a standard basket of goods. The higher the inflation rate, the lower the purchasing power. This means that the low current inflation rate in Denmark results to consumers spending more money.

Social factors

- Population growth

Denmark is ranked 146 in the world with a 0,5% of growth rate in population. The total population exists of 5.550.142 in 2013, which makes them ranked 109 in the world. As seen below the age distribution is relatively equal.



- Education

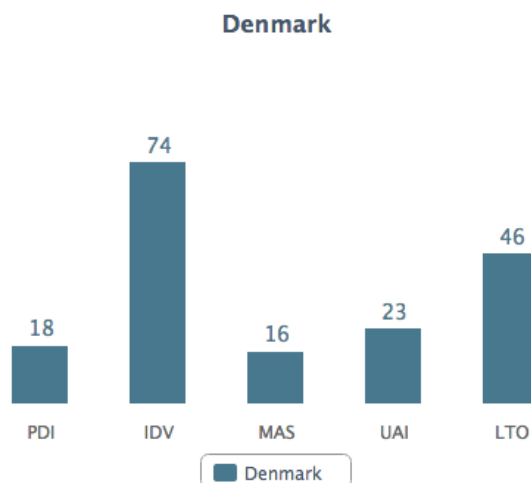


In Denmark, 76% of adults aged 25-64 have earned a high-school degree, which is higher than the OECD average of 74%. Furthermore 85% of individuals with at least a tertiary education have a paid job and 59% without an upper secondary education. The difference between those is lower than the OECD average of 37 percentage points, which means that the job market in Denmark is relatively inclusive. Although more than 73% of the working-age population aged 15 to 64 has a paid job. This rate is higher than the 66% rate of the OECD and means that Denmark is doing well in the crisis.

- *Health*

Life expectancy at birth in Denmark is around 80 years. Total health spending accounts for 11.1% of GDP and 70% of people find themselves to be in good health.

- *Cultural dimensions*



As seen above the cultural dimensions of Geert Hofstede are shown in a graph. On power distance, Denmark scores only 18 points. This means that Danes treat each other equally and employee autonomy is required. Workplaces have an informal atmosphere and people believe that respect is earned by proving your expertise.

With a score of 74 on individualism, Denmark proves to be very individualistic. Which means that Danes expect that you can take care of yourself without help of your family. This number also means that it is very easy to do business with the Danish because they don't need to create a relationship beforehand. In communication they are very direct and implicit.

Denmark scores 16 on Femininity versus Masculinity. This means that the country is feminine. Characteristics of these countries are balance in work and life, managers are supportive to their employees, decision-making is achieved through involvement and conflicts are always resolved by negotiation and compromise. Besides striving for solidarity and quality in working life, Danish are in favour of flexible work hours and place.

A low score on long term orientation means that the Danish don't always follows strict schedules. Arrangements can always change last minute and they are always open and curious for new things. This results in the fact that Denmark is a country with innovation



in advertising, marketing and financial engineering. In the work environment this also reflects in openness. It is perfectly normal to be honest to Danish if you don't know something.

With a score of 46, Denmark is a short-term orientation culture. This means that companies focus more on now than the future. The Danish prefer to think rationally and analytical.

Technological factors

- *Innovation*

Denmark is ranked 10th country in most innovative countries among the world. To point this out, the wireless and mobile industry is one of the strongest in software engineering and communication technology. Companies such as Google, Microsoft, Nokia and Ericsson have invested in research and development facilities in the country. Also the Economist Intelligence Unit ranks Denmark as the best country to locate a business seen from a five-year investment perspective.

Danish businesses offer technical specialists that are able to innovate and enhance the production processes of the company. There are also many high-tech production facilities and the general worker motivation is ranked highly.

- *Wind power*

For wind power companies Denmark has a Danish Wind Power Cluster that comprises leading market players like Siemens Wind power and Vestas. This gives new companies the opportunity to do testing, project management, sales and research and development. Also more than 20 per cent of wind turbines were supplied by Danish companies and the country invests in research institutions and test centres. These research institutions are among the best renowned in the areas of biotech, wireless and mobile technology, software development and acoustics. By 2020, the government of Denmark aims for 35% of its electricity to be renewable and 50% of wind energy.

Environmental factors

- *Climate*

Denmark has a temperate climate, this means the country has mild winters with mean temperatures in January and February of 0 degrees, and cool summers with a mean temperature in August of 15.7 degrees. Because of Denmark's northern location, there are large differences in daylight. In the winter they have short days with sunrise coming around 8:45 and sunset 15:45. But also long summer days with sunrise at 4:30 and sunset at 22:00. The amount of sunshine is on average 1,495 hours per year. The wind in Denmark is very strong and the average wind speed is 4.9–5.6 m/s measured at 10 m height.

- *Environmental technology*

The EU has a parallel measure to promote environmental technology, which was launched in 2004, in the form of an Action Plan entitled ETAP (Environmental Technologies Action Plan). This is a part of the overall Danish measures to promote green technologies and research in order to create growth in Denmark.



At the moment Denmark is a leader in environment technology but they aim to improve every year. They designed an action plan to improve technological development in those areas in the country where there is potential to combine commercially focussed technological investment with delivery of solutions to the environmental challenges in the future. These challenges mainly exist of water, waste and air.

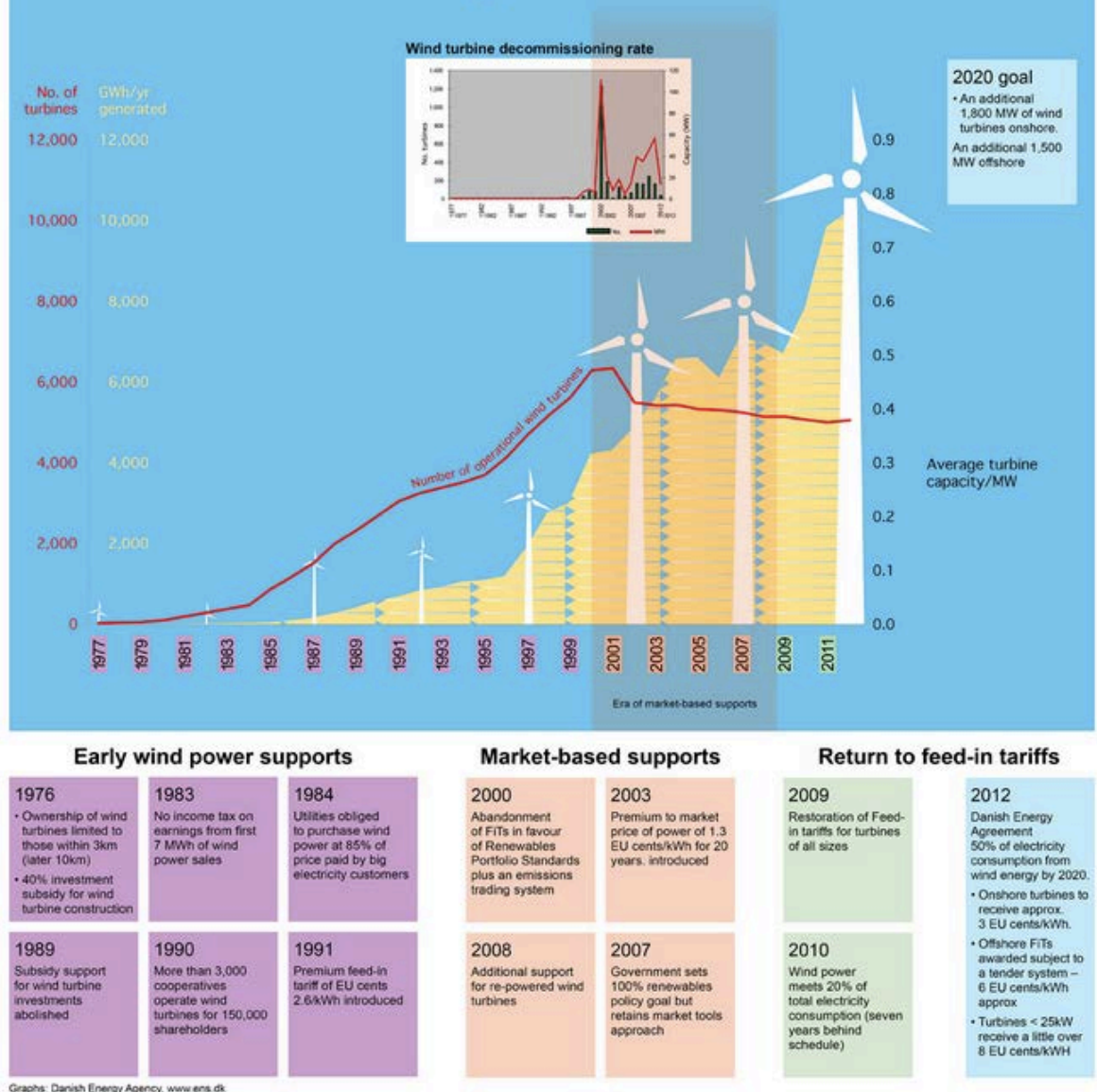
- *Environmental targets*

Denmark is continuing to the development of wind power, and the government has set the target of 50 per cent wind power in the electricity system by 2020. This target seems unreachable but it is in line with the overall vision to make Denmark completely free of dependence on fossil fuels by 2050. By that time the Danish energy system will only have renewable energy, with wind energy as the main contributor.

As seen below the country has returned to feed in tariffs to compensate renewable energy users. For the small wind turbine the agreement on turbines < 25kW would apply. This means that small wind turbine users receive 8 cents per kWh.



Denmark: Community Wind Power in Retreat



(Leonardo Energy, 2012)

Legal factors

- Government Policy

Denmark is a constitutional monarchy with Queen Margrethe II as the head of the state. But similar to the Netherlands, royal power has been limited to ceremonial functions. The monarch is not answerable for her actions and the monarch's person is sacrosanct. The political system is operating under a framework in the Constitution of Denmark. If there are any changes there needs to be an absolute majority in two consecutive parliamentary terms and majority approval through a referendum. The system is based on the separate and individual branches; the judiciary, the legislative and the executive.



Since October 2011, the present Government has consisted of the parties Social Democrats, Social Liberals and Socialist People's Party. Helle Thorning-Schmidt, from the Social Democrats is the Prime Minister.

- *Foreign trade policy*

Denmark's foreign trade policy is all in co-operation with other EU countries. The EU has impact in international trade fora and always one voice when it comes to international trade negotiations.

Denmark commits to multilateral negotiations whereby the World Trade Organization is the main focus on the EU's trade policy. The World Trade Organization has an international legal system and it provides guarantees for all actors in the global economy. It is important for Denmark that there is always flexibility in the areas of negotiation.

The country is one of the most active trade liberal and development friendly members of the EU. They help countries integrating into the multilateral trading system.

- *Tax policy*

Denmark has a favourable tax climate. The Danish corporate tax rate is 25% but the effective rate is lower, as business expenses and depreciations are tax deductible. The Danish taxation rules allow for unlimited loss carry forward. Denmark levies no capital duty, share transfer duty, nor wealth taxes. Dividends may generally be received/distributed without tax. Also, Denmark is one of the countries in the world, which has entered into most tax treaties to avoid double taxation. Danish transfer pricing legislation is in accordance with OECD guidelines.

- *Labour law*

Denmark labour law is modern and flexible. An employment contract must describe: salary conditions, workplace, working hours, annual leave, notice period. There are no legislative requirements as to the duration of an employment contract.

Furthermore there is no legislative provision on what constitutes normal working hours, and they are therefore determined through the collective agreements. A normal workweek is 37 hours a week and the maximum working hours are 48 hours, including overtime, calculated over a period of four months. Overtime is governed by collective agreements. There is no legislation prohibiting or limiting night work only under 18 years old. Work on Sundays is not prohibited. The only rule is that an employee must be allowed one day of rest for every seven days. Work on public holidays entitles the employee to a bonus of 100 %. There is no legislation on public holidays. The question of whether or not employees are expected to work on such days is governed either by collective agreements or by an individual agreement between the employee and the employer. All employees are entitled to 30 days' annual leave on the basis of 2.5 days for each month worked the previous year.

- *Environmental law*

Most of the Danish environmental regulation is based on directives from the EU.



According to the Act of Physical Planning regional authorities must decide how areas of land may be used. Every time a project affects the environment substantially, an EIA must be made (Environmental Impact Assessment). The EIA is performed by the local authorities and describes the anticipated environmental effects of the project. It is important to notice that the EIA approval must be granted before the realisation of the project begins.

The Act of Protection of the Environment is to prevent and control pollution of the environment. The Act specifically aims at prevention and control of the pollution of air, water and soil, but also at the inconvenience of noise.

The Act on Soil Protection covers soil, which due to human interaction may have a harmful impact on water, human health and the environment in general. A central part of the protection of soil relates to the mapping of the polluted areas, which is usually performed by the local authorities. The results of these mappings decide whether the soil may be used for habitation or business, or whether an order should be given. A polluter is obliged to follow an order given by the local authorities.

The Acts on Protection of Nature are based on two EU directives, The Wild Birds Directive and The Habitats Directive. Through plans made by the EU, the national and local authorities designate several areas to be habitats of wild birds and other animals. These habitats are typically located near lakes, rivers and beaches. Within these designated areas, it is generally impossible to carry out projects that affect the environment.

The Act on Compensation for Environmental Damages regulates compensation for damages done against the environment, primarily in relation to air, water, soil and the underground. Generally, no compensation may be granted for a non-economical loss unless special authorisation is provided by an Act.

- Trade restrictions

The trade regime in Denmark is competitive but promotes the growth of trade in all sectors. The applied tariffs have an average of 1,6%. The country is very open to foreign investment and the investment code is transparent. Similar to other EU countries the financial sectors performed poorly after a period of instability.

Trade Freedom	86.8	▼	📈
Investment Freedom	85.0	▼	📈
Financial Freedom	90.0	—	📈

(Heritage, 2013) *Trade freedom is a measure of the absence of tariff and non-tariff barriers that affect imports and exports of goods and services. Investment freedom evaluates the restrictions on investment in a country. Financial freedom is the ability to do business in a country without any financial constraints.*

Conclusion

After analysing this country the following can be concluded:



- Denmark is politically stable, a member of the EU and has a democracy. These are all advantages when it comes to exporting to the country.
- Denmark has a stable economy but they have known unstable periods in the financial crisis. The liberal trade policy in Denmark supports foreign countries to easily export in their country. The terms of trade do show that Denmark is exporting more goods than importing what means that they have more capital coming in. The low interest loan and positive exchange rate shows economic wealth. The current inflation means that consumers are spending more money.
- The population is growing and 73% of the working-age population has a paid job. The Danish believe in respect, are individualistic and easy to do business with. They have balance in work and life, always open for new ideas and prefer to think rationally.
- Denmark is one of the most innovative countries. Successful companies like Google and Nokia are established there as well. There is a wide range of development en research facilities available and the general worker motivation is high. Denmark has a Wind Power Cluster that supports wind companies and the country has a target of 50% of wind energy by 2020.
- Denmark has strong wind and an average wind speed of 4.9 at 10 m height. Urban windmills can generate energy perfectly with this wind speed. The country is working on environmental technology in the form of an ATAP; this shows their care for wind energy. For wind power users, Denmark has a Feed In Tariff for small wind turbines < 25kW.
- Denmark is one of the most active trade liberal and development friendly members of the EU. The country has a favourable tax climate their labour law is modern and flexible. There are many environmental laws what show awareness of green energy. And the trade regime in Denmark promotes growth of trade in all sectors.



Ireland

Ireland is an island to the northwest of Europe and the twentieth-largest island on Earth. It's the neighbour of Great Britain, from which it is separated by the Irish Sea.

Political factors

- *Political system*

The island is divided between Ireland, a sovereign state also called the Republic of Ireland, and Northern Ireland, a constituent country of the United Kingdom. They have an open border and both are part of the Common Travel Area.

Ireland is a parliamentary democracy and the Head of the Government is the Taoiseach. The Deputy Prime Minister is Tánaiste and there are 15 Government Departments. The Taoiseach and the Ministers collectively form the Government under the Irish constitution and they hold executive power.

There are two Houses of Parliament: Dáil Éireann (House of Representatives) and Seanad Éireann (Senate). The House of Representatives has 166 members who are elected using proportional representation with a single transferrable vote (PR-STV). Elections take place at least every five years. The current government is elected in 2011 and a coalition between Fine Gael and Labour. The other main political parties are Fianna Fáil and Sinn Féin.

The Seanad has 60 members, with eleven nominated by the Taoiseach and the rest elected from vocational panels and by national universities. The Seanad can initiate or revise legislation, but the Dáil can reject their amendments and proposed legislation.

- *Political stability*

RISK RATINGS	Current		Previous	
	Rating	Score	Rating	Score
Overall assessment	B	27	B	28
Security risk	B	21	B	21
Political stability risk	A	20	A	20
Government effectiveness risk	B	32	B	32
Legal & regulatory risk	A	5	A	5
Macroeconomic risk	C	60	C	60
Foreign trade & payments risk	A	18	A	18
Financial risk	C	46	C	50
Tax policy risk	B	25	B	25
Labour market risk	B	21	B	21
Infrastructure risk	B	25	B	25

Note: E=most risky; 100=most risky.
The risk ratings model is run once a quarter.

(The Economist Intelligence Unit Limited, 2013) Risk ratings Ireland

Looking at the risk ratings of Ireland, a statement can be made that there is a political risk but it is 20 out of 100. This means that the country is not entirely political stable but as long as this score is not higher than 50, there are no serious risks.

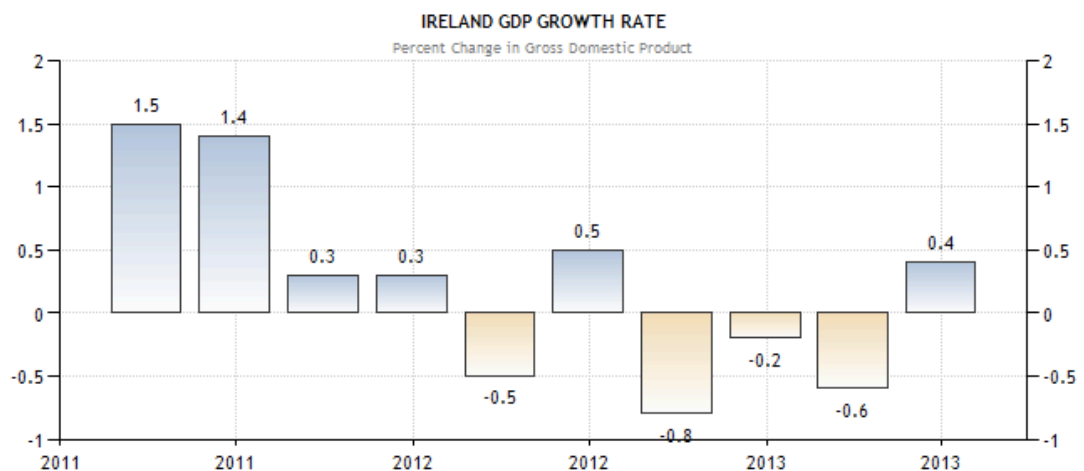
- *European Union*



Ireland has been a member of the European Union since 1973 and has developed in many aspects since. It has improved almost every aspect of Irish life from how they work, travel and shop to the quality of their environment and the way their businesses buy and sell their goods and services. Furthermore it held the Presidency of the Council of the European Union on six occasions. The Presidency of the Council of the European Union is responsible for the functioning of the Council of the European Union, the upper house of the EU legislature.

Economical factors

- *Economic growth*



The Gross Domestic Product in Ireland is 0.4 in the second quarter of 2013. GDP Growth Rate in Ireland is always stated by the Central Statistics Office Ireland. Ireland has a business-friendly and modern economy and the country is dependent on foreign direct investment from major high-tech manufacturers such as Intel, Google and Pfizer. This results in Ireland being one of the world's biggest exporters of pharmaceuticals and software.

- *Interest rates*

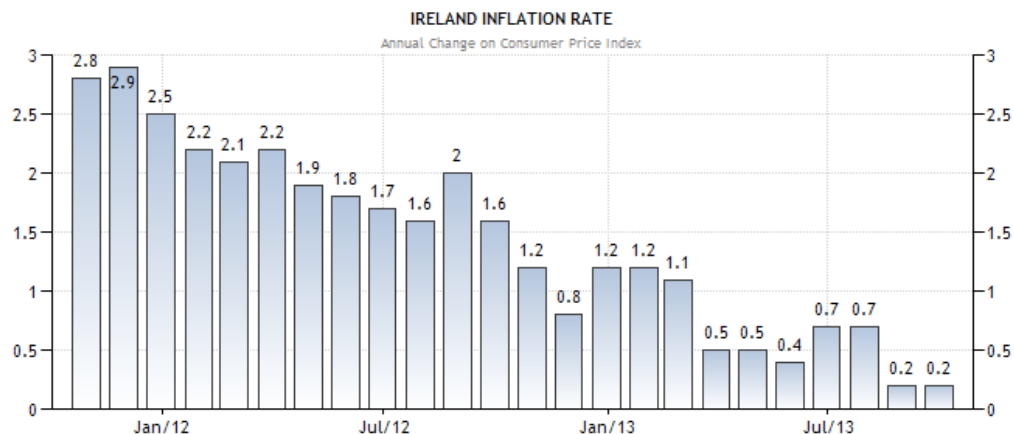


As seen above, the interest rate is currently at 0,5. Ireland is a member of the European Union, which has adopted the euro. The European Central Bank sets this benchmark interest rate and is the overnight rate at which central banks make loans to the commercial banks under their jurisdiction. The central bank can make an impact on interest rates of commercial banks, inflation level of the country and national currency exchange rate.

- *Exchange rates*

Ireland is using the Euro; this means that there is no exchange rate with The Netherlands since they are using the same currency.

- *Inflation*



As seen above the inflation rate is currently at 0,2 and has very much decreased in the past quarters. This number is due to lower communications and clothing prices. The most important categories in the consumer price index in the country are: housing, water, electricity, gas and other fuels.

Social factors

- *Population growth*



Ireland Population clock		23-10-2013 12:02:10
4 668 591	Current population	
2 336 651	Current male population (50.1%)	
2 331 940	Current female population (49.9%)	
58 983	Births this year	
100	Births today	
23 227	Deaths this year	
39	Deaths today	
14 141	Net migration this year	
24	Net migration today	
49 897	Population growth this year	

As seen above the Irish population has grown with 49.897 this year and there is a 0,2% difference between male and female.

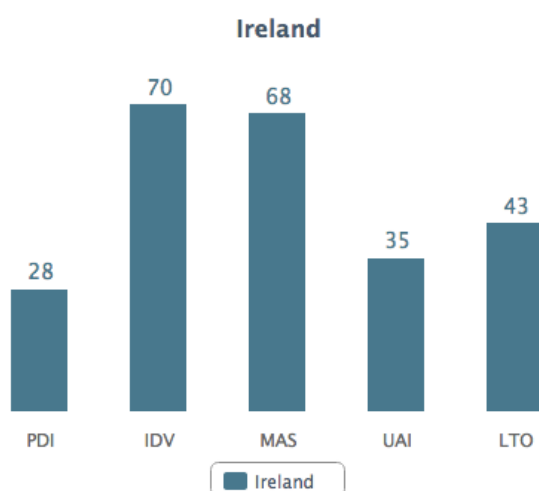
- Education

In Ireland 73% of adults aged 25-64 have earned the equivalent of a high-school degree and 60% of people aged 15 to 64 in Ireland have a paid job. 885.000 people have a tertiary education; this is 19% of the total population.

- Health

The life expectancy in Ireland is 81 years with 83% of the population that stated to be in good health. Around 9,2% of the GPD is being spend for health care.

- Cultural dimensions



On

in a table. With a score of 28 at power distance, Ireland is a society that believes in minimizing

the table above the main cultural dimensions of Ireland are shown



inequalities. Hierarchy within a company is hardly known and managers are always accessible. Their communication is informal, direct and participative and the Irish expect that information is shared frequently.

Ireland scores 70 on Individualism versus Collectivism. For doing business this means that the Irish are expected to be self-reliant and to take initiative. In a company hiring and promotion decision are based on evidence of performance.

With a score of 68, Ireland is a masculine society. This means that people are success oriented and driven. They believe that you should always strive to be the best they can be and that the winner takes it all. This also makes them very proud of what they have achieved and in companies the successes forms a basis for hiring and promotion. Conflicts among employees are always resolved at the individual level and with the goal to win.

Ireland has low uncertainty avoidance with a low score of 35. New ideas and creativity are always being appreciated. When it comes to businesses, new ways of approaching problems is a must and making a point it's better to use practical facts instead of technical language.

With a score of 43, Ireland is a short-term oriented society. This means that companies have great respect for history and traditions but also focus on quick results in the future. They set short-term quarterly goals and plan horizontally. The Irish also don't believe in giving up something today for the promise of something bigger in the future.

Technical factors

- *Innovation*

Ireland has a knowledge-based economy and is continuously looking for new ways of innovating. The government has put in place a national Strategy for Science, Technology and Innovation (SSTI) in 1990. They made funding and support available for companies to invest in innovation, research and education. Because of this strategy Ireland now has new projects that deliver future solutions in the marketplace.

Companies like Microsoft, Google and IBM are already established in the country because of Ireland's corporate tax and access to innovative and progressive management.

- *Wind power*

Ireland and Northern Ireland now have a total of 2,262 megawatts of renewable electricity capacity. The country has 15% of wind energy and they are aiming for a target of 40% in 2020. They develop smarter technologies like biomass and energy tech to help hit its targets. In wind energy they have already installed 218MW and their 40% goal is to eventually have 5100MW.

Environmental factors

- *Climate*

Ireland has a temperate oceanic climate; the weather is mild, moist and changeable with abundant rainfall and a lack of temperature extremes.





As soon as the average wind speed differs from 4 to 7 m/s, the north and west coasts of Ireland are two of the windiest locations in Europe and have great potential for the generation of wind energy. Because Ireland is an island the average temperatures aren't extreme with 20°C on summer days and 8 on winter days.

- *Environmental technology*

Also Ireland is improving their environmental technology by following an ETAP (Environmental Technology Action Plan). The first step Ireland made with this plan was to develop an Irish ETAP Roadmap. The objective of the Irish Roadmap is to provide a high level perspective on existing eco-innovation activities in Ireland and to find future opportunities. The Department of Environment, Community and Local Government and the Department of Enterprise, Trade and Employment are representing Ireland on the Commission's ETAP High Level Working Group together with the Environmental Protection Agency (EPA). The country is working on many projects but their main focus is the Eutrophication of surface waters, meeting their international commitments on air emissions and better management of waste.

- *Environmental targets*

Ireland has developed a National Climate Change Strategy to state the current situation and set environmental targets and objectives. The target on renewable energy is to have 33% by 2020. The Strategy Ireland wants to use is to promote using energy more efficiently and further reducing the CO₂ output of large industrial plants through their participation in the EU Emissions Trading Scheme. Also important is that the Government is supporting homeowners and businesses to switch to renewable energy and planning changes have made it easier to install solar panels and small wind-turbines.

Legal factors

- *Government policy*

Ireland is a parliamentary democracy and the constitution of Ireland regulates the structure of the government. The government is headed by a prime minister called the



Taoiseach. The deputy prime minister is called the Tánaiste, and is nominated by the Taoiseach from among the members of the Government. The Government must consist of between seven and fifteen members, according to the Constitution of Ireland. The Taoiseach and the Ministers collectively form the Government under the Irish constitution, and they hold executive power.

The Government is an employer in the state because of its control of the civil service, the public service, and the state-sponsored bodies. These three sectors are often called the "public sector".

The President of Ireland serves as head of state and is directly elected by the people. The current President, elected in 2011, is Michael D Higgins.

- *Foreign trade policy*

Ireland's trade policy within the European Union is a policy by the EU and sets the direction for trade and investment in and out of the EU. The Directorate-General for Trade in the European Commission helps to develop and implement EU trade and investment policy. Along with the EU's Trade Commissioner Karel De Gucht, they aim to create a healthy trade and investment environment for people and for business.

The EU trade policy helps recover Europe's economy in a plan called "Trade, Growth & World Affairs". The EU wants to be a main factor in keeping markets open worldwide and helping Europe to conquer the economic crisis.

- *Tax policy*

In Ireland there is income tax, VAT and other taxes. They have a progressive taxation on earnings with little income tax for low earners and high income tax for top earners. All employees pay a pay-as-you-earn (PAYE) tax based on their income. A large part of the central government tax revenue is earned from VAT, excise duties and other taxes on consumption. Corporation tax is one of the lowest in the world with 12,5%. The tax policy of the Irish is mainly to pay for free education, healthcare, social welfare payments and public capital expenditure.

- *Labour law*

Minimum standard legislation exists for all employees in Ireland concerning minimum wage, equal pay, hours of work, minimum age of employment, overtime pay, parental leave, vacations and termination of employment. Rights are slightly different between industries but there is a minimum standard:

All employees must have a contract in with the written terms and conditions of employment, including pay, sick pay, and hours. There must be at least the minimum wage relevant for the industry where a person works and that person's age. A maximum working week exists of 48 hours, based on a four-, six- or 12-month period. Employees are allowed to have unpaid breaks during working hours. Employees are allowed to annual leave. Employees are allowed to receive a minimum notice period before dismissal.

- *Trade restrictions*



Since the Netherlands and Ireland are both a part of the European Union, trade what is, intra-EU supplies, involve no border controls, though there may be Value Added Tax (VAT) implications.

Trade Freedom	86.8	▼	📈
Investment Freedom	90.0	—	📈
Financial Freedom	70.0	—	📈

The average tariff rate is 1.6 per cent similar to the other members of the European Union and there are few non-tariff barriers. Foreign companies generally receive equal treatment under a competitive and efficient investment regime. As seen above, especially the investment and trade freedom is high, which means that Ireland is open for new business opportunities.

Conclusion

After analysing this country the following can be concluded:

- The political risk in Ireland is low which means that there is a relative political stability within the country. Being a member of the EU Ireland has improved in almost every aspect and the country is still improving nowadays.
- Ireland has a business friendly and modern economy. This means that they are open for foreign investment. Also successful companies such as Google and Intel are established in the country. A low interest rate and with the euro no exchange rate, makes Ireland an ideal country to export to. Inflation has decreased in the past two years; this means that the prices in general are lower.
- The Irish population is growing with a life expectancy of 81 years. Underemployment is 15% with 60% of people aged 15 to 64 having a job and 19% of the population has had a tertiary education.
- Similar to the Netherlands, Ireland is direct, informal and participative in communication; they are individualistic and have a great respect for history and traditions. Different from the Netherlands, Ireland is a masculine country, which means that people believe that the winner takes it all and with low uncertainty avoidance they are more creative and open for new ideas.
- The country is very innovative and continuously looking for new ways of improving. Ireland's strategy is to deliver future solutions with new projects. At the moment 15% wind energy is present and they have set a target of 40% by 2020.
- Ireland has a favourable climate with the two windiest locations in Europe. They created an ETAP Road map with one of the objectives to meet their international commitments on air emissions.
- Being a member of the EU, Ireland and the Netherlands have the same EU trade policy. The country has one of the lowest corporate taxes in the world, which means companies save money on their profits in comparison to other countries with a higher corporation



tax. Furthermore there are no trade restrictions expect for VAT implications and the trade and investment freedom is relatively high.



Curacao

Curacao is an island in the southern Caribbean Sea. The Country of Curacao, including the main island plus the small island Klein Curacao, is a constituent country of the Kingdom of the Netherlands.

Political factors

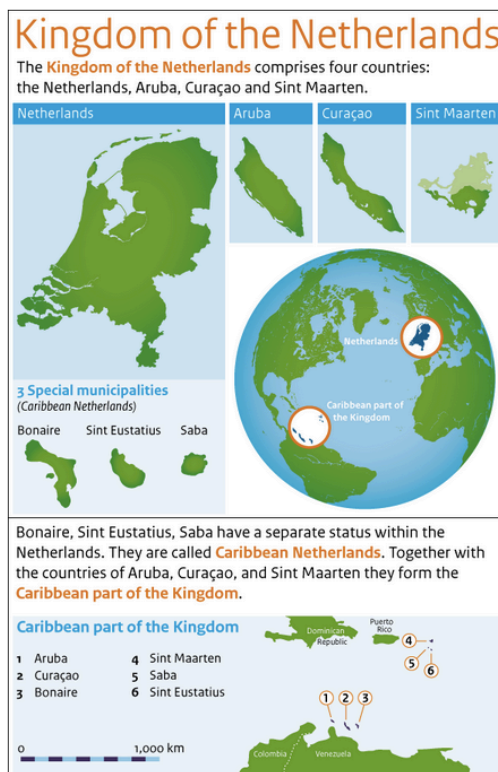
- *Political system*

The political of Curacao is a framework of a parliamentary representative democratic country, whereby the prime minister the head of government and a multi-party system is. The government has executive power. Both the government and parliament have legislative power. The judiciary is independent of the executive and the legislature. The island has full autonomy on most matters and the exceptions are resumed in the Charter for the Kingdom of the Netherlands under the title "Kingdom affairs". The Constitution of Curacao was confirmed in September 2010, and brought into force on 10 October 2010 upon the dissolution under the name of the Netherlands Antilles.

- *Political stability*

Curacao is having difficult times, both economically and political. In 2012 they had four different prime ministers and a politician was murdered. Researchers state that it is evident that there are ties between politicians and criminals. The political leader Helmin Wiels, who wanted to fight fighting corruption, was alarming. Murder of politicians on the island is very uncommon and in 2012 was the first time a local politician was killed. Despite of these happenings, the island is mostly democratic and political stable.

- *The kingdom of the Netherlands*



The Kingdom of the Netherlands has four parts: Curacao, Aruba, The Netherlands and Sint-Maarten. Three of the six Dutch Caribbean islands (Aruba, Curacao, and Sint Maarten) each form one of the three

remaining constituent countries. The other three (Bonaire, Sint Eustatius, and Saba) are



part of the country of the Netherlands and known as the Caribbean Netherlands. Since 2008 Curacao has a separate status as autonomous country. They have their own government and are no longer a dependency of the Netherlands.

Economical factors

- *Economic growth*

Economy		2012
<i>Economic size</i>	<i>bn USD</i>	<i>% world total</i>
Nominal GDP	3.1	0.004
<i>Economic structure</i>	<i>2012</i>	<i>5-year av.</i>
Real GDP growth	-0.1	0.5
Agriculture (% of GDP)	1	n.a.
Industry (% of GDP)	15	n.a.
Services (% of GDP)	84	n.a.
<i>Main sectors</i>		
Tourism		
Petroleum refining		
Petroleum transshipment facilities		
Light manufacturing		
<i>Standards of living</i>	<i>USD</i>	<i>% world av.</i>
Nominal GDP per head	22,619	208
<i>Openness of the economy</i>		<i>2012</i>
Exports value of G&S (% of GDP)		76
Imports value of G&S (% of GDP)		100

(Rabobank, 2013)

The economy of Curacao is currently not growing but has a prospective of 0,5 growth in 5 years average. Being a popular holiday destination, the country gains their main income from Tourism. And just like all other holiday destinations, the tourism sector has increased because of the economical crisis.

- *Interest rate*

The interest rate in Curacao has been the same for four years in a row with 3%. They have decreased the rate in the past years. This low interest means that it is not too expensive to take loans and can be an advantage for companies that want to establish in the country.



Official (Legal) Interest Rates

	January 1 - June 30	July 1 - December 31
1987	11,00%	9,00%
1988	9,00%	9,00%
1989	9,00%	9,00%
1990	9,00%	9,00%
1991	9,00%	9,00%
1992	9,00%	9,00%
1993	9,00%	9,00%
1994	9,00%	9,00%
1995	9,00%	9,00%
1996	9,00%	9,00%
1997	9,00%	9,00%
1998	9,00%	9,00%
1999	9,00%	9,00%
2000	9,00%	9,00%
2001	9,00%	9,00%
2002	9,00%	7,75%
2003	5,50%	4,50%
2004	4,25%	4,25%
2005	4,75%	5,25%
2006	6,25%	7,25%
2007	7,50%	7,50%
2008	7,00%	4,50%
2009	3,75%	3,00%
2010	3,00%	3,00%
2011	3,00%	3,00%
2012	3,00%	3,00%
2013	3,00%	3,00%

- Exchange rate

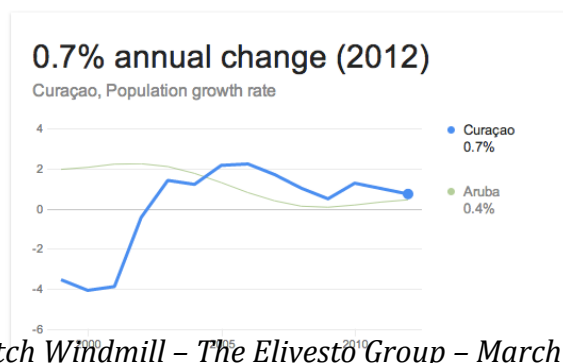
Curacao has the currency of the Antillean Guilder. The current currency is €1 = 2,45 NAF. This exchange rate shows that the Euro is more stable and worth more than the Antillean Guilder, which can be positive for foreign companies.

- Inflation

According to the CIA World Fact book, the interest rate in Curacao is currently 2,3%. Low inflation rates always shows that the customers have faith in the economy. The low number of inflation also brings low interest rates whereby people intent to take more loans.

Social factors

- Population growth



Looking at the annual change in 2012, Curacao its population is growing with a current population of 151,892.



- Education

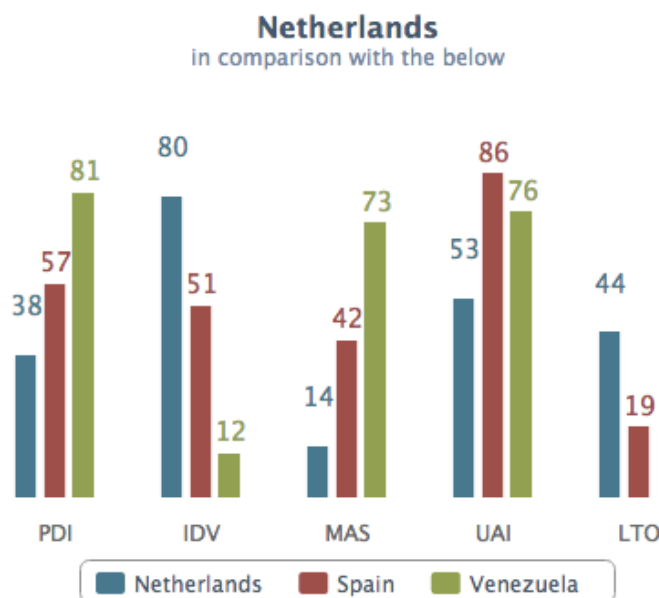
According to the UNESCO Statistics 73,6% is the net enrolment ratio, secondary level. This is the ratio of the number of children of official secondary school age enrolled in school to the number of children of official secondary school age in the population. The higher learning institute is the University of Curacao, enrolling 2,100 students. The enrolment ratio for tertiary education is 21,8%; this is a very low number for a country. Although the unemployment rate is only 10,3%, this means that relatively many people have a paid job.

- Health

Curacao has a mortality rate of under 5 (per 1000) a year. And the health expectancy is 72.4 years for males and 80.1 years for females.

- Cultural dimensions

Unfortunately the cultural dimensions of Curacao have not been studied. A reference could be made assuming that the Caribbean countries have a heritage from the Netherlands. Because Curacao is a part of the Netherlands but can differ totally in culture I compared the cultural dimension of the Netherlands with those of Spain and Venezuela. Spain because the Island also has some Spanish influences and their languages Papiamentu is very similar to the Spanish language. Also because Curacao is located close to South America and then the closest to Venezuela, there is another comparison made.



The three compared countries are very different in cultural dimension scores so for every dimension an average will be calculated. The average on power distance would be 59. This means that hierarchy is important and the boss is the boss, you listen to him no matter what. People do not believe in everyone being equal within a company, there are high and low functions.



With an average score of 48, Curacao is slightly individualistic but the score is almost heading to collectivism. Collectivism shows that individuals can expect their relatives or members of a particular group to look after them in exchange for loyalty. Individualism shows that people are expected to take care of themselves and their immediate families only.

Curacao scores an average score of 43 on Masculinity versus Femininity. This means that the country is more feminine than masculine and it stands for a preference for modesty, cooperation, caring for the weak and quality of life.

At uncertainty avoidance Curacao has an average score of 72. High uncertainty avoidance means that people like to maintain codes of belief and behaviour and are intolerant of unorthodox behaviour and ideas. It explains the level to which the members of a society feel uncomfortable with uncertainty and ambiguity.

The long-term orientation in Venezuela is not calculated. This means that the average score would be 32. In a short-term orientation people generally have a strong concern with establishing truth, thinking normative and great respect for traditions. They have a strong focus on achieving quick results.

Technical factors

- *Innovation*

To help small to medium enterprises in Curacao, the island has started an innovation centre in 1991. The innovation centre is meant to help the enterprises with quality management, product-and service innovation, safety management, marketing, benchmarking, workshops, innovation events and innovation contests. This will eventually lead to improving in business performance and increasing the competitiveness.

Another company CTEX, Curacao Technology Exchange, is a data centre and systems integration company formed by executives with experience in the Information Technology, Telecommunications and Data Centre development and operations. They aim to help countries in the Caribbean and Latin America to work together and exchange data. In this way they provide industry solutions via for example cloud solutions.

- *Wind power*

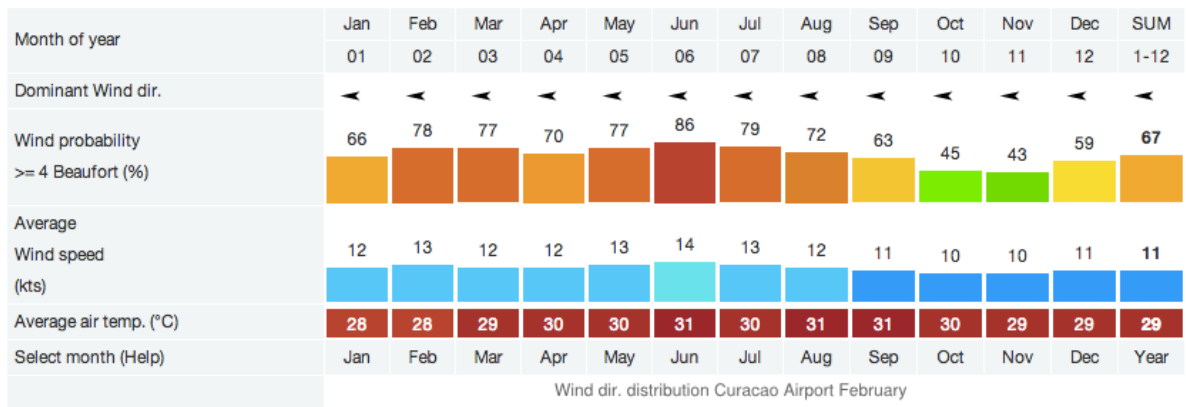
Curacao has two wind farms on each side of Hato International Airport of Curacao: Tera Kòrá with 12 small wind turbines on the western and Playa Kanoa (owned by Delta) with 18 wind turbines on the eastern side. Although Curacao may be the perfect island for Wind Energy, sources have been proving wrong because of the following: A power grid has entirely different characteristics on an island than on the mainland. Because of the fluctuating nature of wind electricity one has to take measures to guarantee the stability of the grid. This is why only 40% of wind energy can be produced.

Environmental factors

- *Climate*

Curacao has a tropical savannah climate with a dry season from January to September and a wet season from October to December.





As seen above the average wind speed is between 10 and 14 knots, which is between 5,4 and 7,9. This average is seen as moderate wind; Small waves, becoming larger; fairly frequent white horses.

- *Environmental technology*
- *Environmental targets*

Legal factors

- *Government policy*

As part of the Kingdom of the Netherlands, Curacao is a parliamentary democracy. This form of government is based on freedom of speech, freedom of press, freedom to set up a political party etc.

The central government is responsible for everything that happens on the island: it regulates all matters on the island and may ordain laws. In addition, they are responsible for the infrastructure and ports.

The government in Curacao includes:

- **The governor:** the representative of the Head of State of the Kingdom of the Netherlands in Curacao.
- **Prime minister**
- **States of Curacao:** parliament with 21 members, each elected for a term of 4 years (similar to the House in the Netherlands).

The Cabinet of the Minister Plenipotentiary is the official representation of Curacao in the Netherlands. The Minister Plenipotentiary of Curacao is a member of the Council of Ministers of the Kingdom. The National Council of Ministers consists of the ministers is formed by the government of The Netherlands, Curacao, Aruba and St. Maarten.

- *Foreign trade policy*

The Curacao Government is focused on developing economic growth by attracting industries and promoting international trade. This is why they have created initiatives to



attract foreign investors to Curacao including the Economic Zones and the Industrial Zone.

The free zone law is regulating Curacao's Free Zones. It is one of the tools supporting the development of Curacao as a Logistics and Distribution Centre. These are areas where goods can be stored, displayed, packed, manufactured, released from bond and where services may be delivered. Import, export and transit are duty-free and special tax incentives are given to free zone companies.

The laws concerning importation of goods into the country are the General Ordinance Import, Export and Transit and the National Ordinance on the Tariffs of Import Duties. All importers and their agents are required to submit an Import Declaration, which should include the following:

- Invoice stating the value, type and quality of the goods imported.
- Bills of lading
- Insurance certificates
- Import license
- Permits and certificates where necessary
- Value of declaration form

- *Tax policy*

Curacao is an associate of the European Union but does not form part of the EU fiscal area and does not apply Dutch or EU taxes. The income and profit tax of residents is based on the income and profit gained worldwide. Even foreign residents are subject to Netherlands Antilles tax, if they gain income or profit from Netherlands Antilles sources. The tax system a classical system, this means that a corporation must pay tax on its profit and the shareholder of a corporation must also pay tax on dividends received from the corporation. The current corporate tax rate is 27,5%. The Value Added Tax standard rate is 6% and levied on the sale of goods and provision of services. When it comes to profit tax of companies within the e-zones, it is rated at 2% - including surtax - until January 1, 2026.

- *Labour law*

Employment agreements in Curacao can be written or verbally made. It's an official employment agreement if the following elements are included in the agreement:

- Relationship of authority
- Duration/continuance
- Salary/recurring remuneration

There are standard minimum wages in the Netherlands Antilles of NAf 1,000 (€418) for industrial workers and NAf 900 (€377) for trade and services workers. These are all based on a standard 5-day 40-hour week.

- *Trade restrictions*

Curacao has tax treaties with the Netherlands, Norway and the U.S. The Central Bank of Curacao regulates exchange control. Imports and exports may be transacted in any convertible currency except Netherlands Antilles guilders. A licence is required for the investment of any foreign capital into the Netherlands Antilles. The licence is only



permitted if the investment is beneficial for the economy and social environment of the jurisdiction. A license is also obligated for the repatriation of capital and earnings from the Netherlands Antilles. Holding companies in Curacao can apply to be excluded from foreign exchange restrictions.

Conclusion

After analysing this country the following can be concluded:

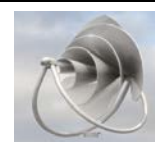
- Curacao is in despite of recent happenings mostly economical and political stable.
- Curacao is a part of the Kingdom of the Netherlands, which makes it easier to enter the market
- The economy of Curacao is currently not growing but is expected to make small progressions in a 5 year perspective
- The interest and exchange rate are favourable for foreign investment, also the low inflation rate shows customer confidence
- Education on the island is low in comparison to other countries but the unemployment rate is relatively low with 10,3%
- The exact cultural dimensions aren't investigated but an average of the dimensions of several countries can be implemented to determine the culture in Curacao
- Curacao has an innovation centre that helps small to medium size companies in innovating, also CTEX is supporting companies to work together in different countries in the Caribbean and Latin America
- Curacao already has two wind farms but facts state that the island can only generate 40% of wind energy
- The Curacao government is focused on developing economic growth with free zones although there are laws concerning importation of goods
- Being an associate of the European Union does not mean Curacao is a part of the EU fiscal area, this means that they have different taxes
- Curacao has a tax treaty with the Netherlands



Attachment III Objectives and strategy of competitors

Company	Objectives	Strategy	Website
<i>Gaia-Wind</i>	They are committed to optimising performance, safety and reliability. Also to continually improve performance and reliability for their customers.	The Gaia-Wind 133-11kW turbine is the only small wind turbine to have achieved the Danish HB Standards, which certify compliance with rigorous quality, safety and performance requirements. Gaia-Wind small wind turbines also incorporate many of the safety features found on large utility-scale wind turbine farms.	http://www.gaia-wind.com/
<i>WindPowerTree</i>	Their objective is to become the leading manufacturer of user specific solutions in the market of small wind power.	The WPT Wind Converter claims to have these qualities offered: pleasant, tree-like appearance, integrates harmoniously into the landscape, low noise, efficient even with a light breeze, choice of three sizes, 3 phase grid connected, monitoring and supervision possible, designed to last 25 years, Danish design - made in Denmark, service and maintenance from a network of local installers, type certified	http://www.windpowertree.com
<i>C&F Green Energy</i>	To become the global leader in wind turbines for the farm, home and business. The company aims to achieve this through its use of the latest technological innovations and manufacturing expertise to build the ultimate machine and harness the energy of the wind.	They provide and install high yield, efficient and low noise wind turbines for Ireland, the UK and increasingly across the world. With the latest technological innovations and manufacturing expertise the company wants to build the ultimate machine and harness the energy of the wind.	http://www.cfgreenenergy.com
<i>Coemie</i>			
<i>Evance Wind Turbines</i>	Using the latest advances in aerodynamics and electronics, the company wants to set out to bring one of the most advanced small wind turbines on the market with unsurpassed efficiency, reliability and safety.	The company is testing and qualifying the product in the most extreme of conditions. This means that their product, the Evance R9000 was the first wind turbine under 10kW to be fully certified under the UK Government Industry Standard, Micro generation Certification Scheme, which allows customers to benefit from UK Feed-in Tariff (rewarding end-users for both the generation and export of renewable energy).	http://www.evancewind.com

<i>Weole Energy</i>	Weole Energy aims to lead the small wind turbine market by offering ready to install systems to consumers.	They offer are low-cost turbines and low-maintenance products. And Weole Energy is constantly looking for local partners and resellers who have the best experience and knowledge of their respective areas. Also, they have established an R&D department in order to develop new products, capable of higher productivity and longer life cycles, at the most competitive prices.	http://www.weole-energy.com
<i>Evoco Energy</i>	Evoco Energy aims to provide all of their customers with complete reassurance that the return on investment from an Evoco turbine will surpass its expectations.	Evoco Energy has a 30-year trading history, a multi-million pound turnover and multinational operations, driven by a team with a track record of success. They invest into research and development and have a factory with capacity to deliver 5,000 high quality, small-scale wind turbines to the global market each year.	http://www.evocoenergy.co.uk
<i>Kingspan Wind</i>	Kingspan Wind wants to commit to long-term growth and investment in the small wind sector.	Kingspan Wind combines patented, high performance technology with long-standing expertise in the sector to form Kingspan Wind, delivering the very best in innovation, customer services and results.	http://www.kingspanwind.com
<i>.QuietRevolution</i>	To play a leading global role in the local energy revolution by promoting wind turbine solutions and the role they play in helping combat climate change.	Quiet Revolutions has made a strategy in response to the growing demand for renewable technologies. It demonstrates that turbines can be elegant, quiet and a long-term, cost effective solution for generating energy. They also want to offer opportunities for landowners and businesses to earn income though no-cost turbine installations	http://www.quietrevolution.com
<i>Use The Wind Ltd</i>	To help the environment, reduce climate change	Use The Wind Ltd are independent, they are not forced to stick with a single turbine supplier, allowing them to offer a full range of wind turbines. With 18 years of experience they find reliable turbines & offer them at realistic prices.	http://www.usethewind.co.uk
<i>West Wind Turbines</i>	To manufacture and supply the most reliable wind turbine in the World.	They aim to see people harness the power of the wind by generating power for themselves and also be rewarded financially for doing so. They want to reach this by offering small wind turbines that are robust and reliable and will run for many years with minimal maintenance.	http://www.westwindturbines.co.uk
<i>Fortis Wind Energy</i>	Their target is to have turbines competing with grid electricity without a grant in 3 years time.	Improving the output of the turbines while at the same time lowering their costs.	http://www.fortiswindenergy.com
<i>Wind Energy Solutions</i>	To remain the global market leader in the growing market for midsize wind turbines.	Wind Energy Solutions will continue to develop specific technology and manufacture more types of turbine meeting the needs of midsize turbine markets worldwide.	http://www.windenergysolutions.nl



<i>Future Energy</i>	To harness energy from the wind efficiently, quietly and cost effectively	They undertake extensive research and development to produce high performance, micro wind turbines for the global marketplace, whilst maintaining rigorous control over quality and after sales service.	http://www.futureenergy.co.uk
<i>Vestas</i>	Meeting their customer's expectations and commit to providing high-quality, competitive products and services.	Lowering the cost of wind energy to ensure business case certainty for their customers and to prove wind to be a competitive energy source.	http://www.vestas.com



Attachment III Strengths and weaknesses direct competitors

Gaia Wind

- Strength: The company with the only small wind turbine that has the Danish HB certification standards
- Strength: In recent tests conducted by the US Department of Energy's National Renewable Energy Laboratory, the Gaia-Wind 133 wind turbine outperformed its nearest competitor by a factor of more than 2 to 1.
- Strength: A Gaia-Wind turbine generating 30,000 units of green electricity per year will offset around 17 tonnes of CO2 emissions. This is sufficient to erase the carbon footprint of the average 4-person household.
- Weakness: There is no head quarter based in Denmark.

Wind Power Tree

- Strength: Their website is available in English and Danish
- Weakness: The website is still under construction
- Weakness: The website does not contain much information about the company and products.

C&F Green Energy

- Strength: C&F Green Energy is a world leading manufacturer of small and medium sized wind turbines
- Strength: C&F's client list includes IBM, EMC, APC, Volkswagen Group, BMW, Ford, Thermo King Ingersoll Rand, Toshiba, and Sanyo
- Weakness: The company does not have any installations in Denmark

Evance Wind Turbines

- Strength: Evance Wind has over 1,700 turbines are currently producing around 19,400MWh of energy per year.
- Strength: Their Evance R9000 was the first wind turbine under 10kW to be fully certified under the UK Government Industry Standard, Micro generation Certification Scheme
- Weakness: The location of the wind turbine needs to have enough space

Weole Energy

- Strength: Weole Energy is working with partners and local resellers with experience and knowledge in the market.
- Strength: The company has established an R&D department
- Weakness: Weole Energy has a rather small range of wind turbines

Evoco Energy

- Strength: Evoco Energy is fully certified under the Micro generation Certification Scheme
- Strength: Evoco Energy compromises their customers with a comprehensive five year warranty
- Weakness: The company only has one turbine to offer and their only target group is farmers

Kingspan Wind

- Strength: Kingspan Wind has over 30 years of experience
- Strength: The company has installed turbines in every continent
- Weakness: The product the company is offering requires an open aspect location with at least 100m from their closest neighbour

Quiet Revolution

- Strength: Quiet Revolution has won several awards including the Rushlight Wind Power Award 2007
- Strength: The company has their own advanced assembly plant and all processes are compliant with the ISO9001 quality system
- Weakness: They have been established in the UK, German and Irish market but not in Scandinavia yet

Use the Wind ltd

- Strength: Use the Wind ltd has several suppliers they work with, which gives them a wide range of products
- Weakness: Poor website design and not recently updated

West Wind Turbines

- Strength: West wind has experience in innovation and excellence
- Weakness: Not all turbines are eligible for Feed In Tariffs

Fortis Wind Energy

- Strength: The company has more than 6000 installed wind turbines world wide
- Strength: The company has a dealer already established in Denmark
- Weakness:

Wind Energy Solutions

- Strength: Wind Energy Solutions has installed over 1000 turbines around the world
- Strength: The company can assist in finding a financial partner if the costs of the investment are unaffordable
- Weakness: They don't have installations in Denmark

Future Energy

- Strength: Future Energy has sold 5000 domestic wind turbines worldwide and are very recognized in the renewable energy sector for innovative designs
- Weakness: The products Future energy is offering can not be installed on roofs



Attachment V Option matrix

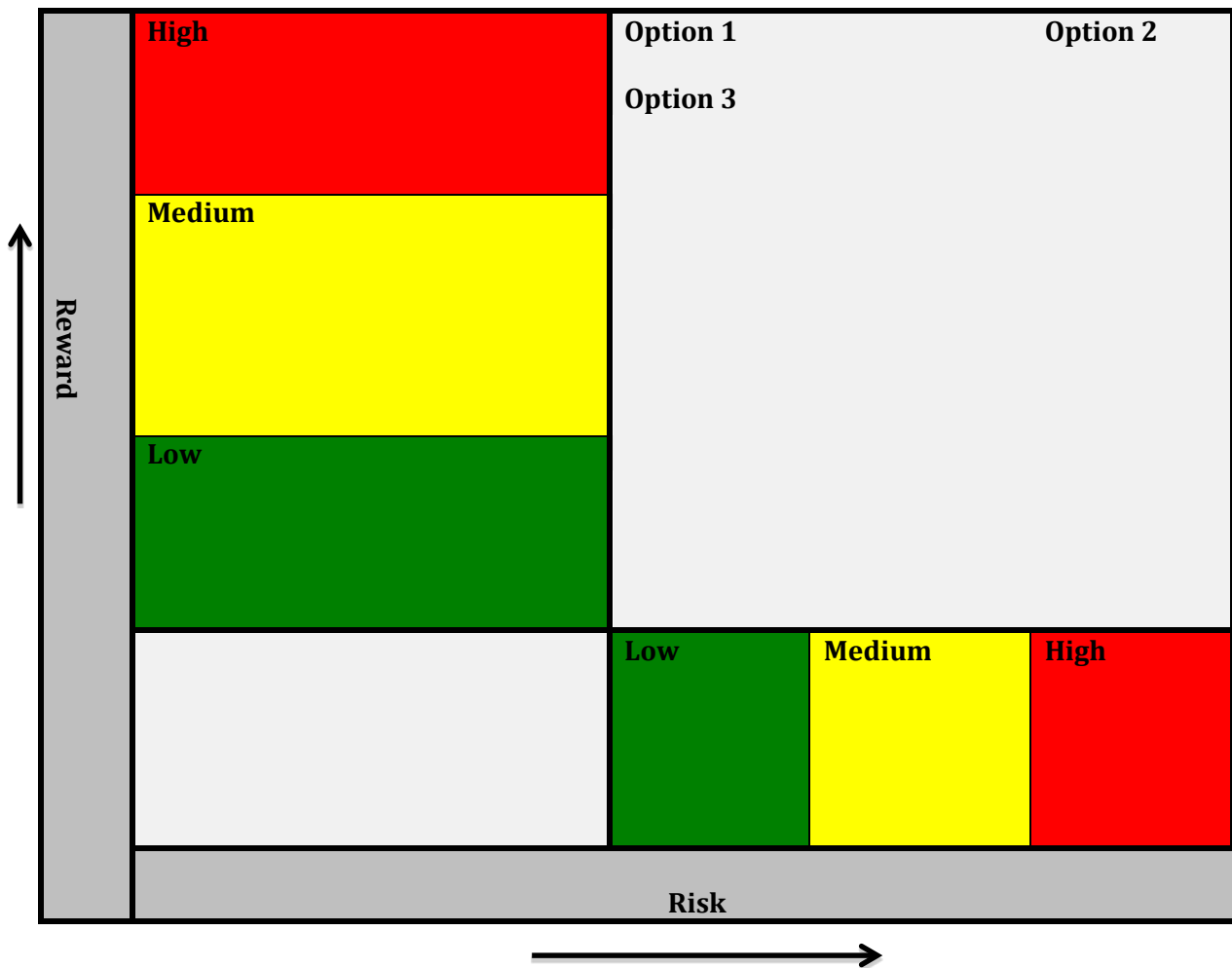
Criteria	Option 1	Option 2	Option 3
Suitability			
<i>Suits the problem statement</i>	++	++	+
Feasibility			
<i>Financial</i>	-	++	-
<i>Organizational</i>	+	+	++
<i>Economical</i>	+	++	+
<i>Technical</i>	++	++	0
<i>Social</i>	+	+	+
<i>Legal</i>	+	+	0
<i>Ecological</i>	++	++	+
Acceptability			
<i>Staff</i>	+	+	+
TOTAL	10	14	6

The option matrix measures the suitability, feasibility and acceptability of the options. The measurement will vary from - - (Highly negative), - (Negative), 0 (Irrelevant), + (Positive) to ++ (Highly positive).

These are the criteria selecting the options:

- *Suitability: Does the option suit the problem statement?*
- *Financial: Is it financially achievable?*
- *Organizational: Is the option organizational executable? Does the option fit within the organisation?*
- *Economical: Does the option meet the economical objectives of the company?*
- *Technical: Is the option technically achievable?*
- *Social: Is the option socially acceptable?*
- *Legal: What is the level of legal restrictions related to this option?*
- *Ecological: Is the option ecological responsible?*
- *Acceptability: Will the staff be satisfied with the option?*

Attachment VI Risk versus reward analysis



The risk versus reward analysis shows the comparison of the risk of an option to its related benefits (reward).

- Option 1 is a low risk because the company will cooperate with a Danish reseller or agent that knows the market. The reward will also be high, if the agent or reseller will perform well.
- Option 2 is a high risk because of the high Danish standards but if those will be met, the reward will be high as well.
- Option 3 is a low risk when cooperating all goes well with the Danish agent or reseller; it could be financially a medium risk. The reward will be high if the reseller or agent performs well.

Attachment VIII Danish Micro generation Certification Scheme for small wind turbines

4.e. Household wind turbines and small wind turbines. A household wind turbine is normally understood to be a smaller, stand-alone turbine with a total height of less than 25 metres that is erected directly connected to existing housing in the open countryside, usually in a rural zone. Small wind turbines are normally understood to be stand-alone turbines with a rotor area of up to 1 m² ("micro turbines") or 1-5 m² ("mini turbines"). The turbine may be installed on a building. For all turbine types the Danish Ministry of the Environment Order on noise from wind turbines must be respected when erecting and operating the turbines. Turbine types with a rotor area in excess of 1 m² are subject to the Danish Energy Agency's Order no. 651 of 26 June 2008 on the technical certification scheme for the design, manufacture, installation, maintenance and servicing of wind turbines. In the case of turbines with rotor area 1-5 m², however, only a registration notification is required. Wind turbine projects must as a minimum be screened in accordance with the regulations of the EIA Order. Household and small turbines will not normally require an EIA, supplement to the municipal plan and EIA.

The complete wind turbine guide of the Danish Energy Agency is published on the website: <http://www.ens.dk/sites/ens.dk/files/supply/renewable-energy/wind-power/Vindturbines%20in%20DK%20eng.pdf>

The Danish Energy Agency's Order no. 651 of 26 June 2008 on the technical certification scheme for the design, manufacture, installation, maintenance and servicing of wind turbines
<http://www.ens.dk/en/supply/renewable-energy/wind-power/facts-about-wind-power/technical-certification-scheme>

Approving and certifying bodies can be found on the website: <http://www.wt-certification.dk/UK/Bodies.htm>



Attachment IX Qualitative research

To gather more reliable information on potential customers and their wants and needs, desk research is not sufficient. In the qualitative research, several interviews with potential customers from the different target groups are conducted. Below the results and conclusions of these interviews are shown. The complete interviews can be found in attachment IX.

Households or domestic users

After having interviews with domestic users in Denmark already owning a small wind turbine, the following conclusions can be made:

- The process of project planning for a small wind turbine is complicated because of the many restrictions and especially noise restrictions
- Home owners are only allowed to own a wind turbine outside of urban areas, this means they need to live on the country side and need to have enough space between their home and their neighbours home
- There are currently 15 types of small wind turbines certified according to the Danish standards
- Overall the domestic users are happy with their decision of investing in a small wind turbine, the results of energy generating are above expectations

Farmers

After having interviews with farmers in Denmark already owning a small wind turbine, the following conclusions can be made:

- There is hardly any interest of owning a small wind turbine since the energy production is too less to be profitable for the farm activities
- Investing in more than one small wind turbine is not attractive because of the bigger wind turbine offers and it will take too much space in the property
- If they consider investing in a small wind turbine the professional relationship is very important since not a lot of farmers have the knowledge of the project planning process of a small wind turbine

Medium to big sized companies improving CSR

After having interviews with potential companies on the countryside of Denmark, the following conclusions can be made:

- Most companies are not interested in a small wind turbine because there are energy suppliers in Denmark that offer 100% green energy, this will help them improve CSR and is easier to invest in
- Companies would rather choose wind energy over solar energy since there is no more compensation on solar energy
- Improving the revenue and profit is more a priority than working on CSR activities and increasing the company “green” image

Community projects

After having interview with three different communities on the countryside of Denmark, the following conclusions can be made:

- Communities are interested and engaged in projects related to the environment
- The main activities and projects related to the environment are offshore wind projects



- Since offshore wind projects are the new main focus, small wind turbine parks are not attractive, especially since they do not know what the costs and revenues will be.

Conclusion

Out of the four target groups there is only one target group that could be a potential customer group. This group is the households or domestic users. Bigger potential customers hardly have any interest in a small wind turbine because of the small difference it will make for their energy saving. This concludes that the Elivesto group should focus on B2C.

Below are the interviews with the different target groups.

Interview 1

Name: Thomas Thrane

Company: Mover Technology

Thank you in advance for filling out these questions.

1. Is your company involved in CSR (Corporate Social Responsibility) activities?
No – we are a small company and don't have the resources for these activities.
2. Is your company willing to invest in the environment through renewable energy? Why?
In some way we already do that as more than 50% of the produced energy in Denmark is green energy - coming mainly from wind turbines.
3. Have you ever considered investing in wind energy?
No - not as a company investing directly in wind turbines and energy production.
4. Why would you consider wind energy rather than, for example, solar energy?
For the time being there is no reason for us to consider own energy production as this is not a part of our strategic plan. However there is no longer subsidized on solar energy panels in Denmark, which makes wind turbines more attractive in this sense.
5. Would you still consider investing in a small windmill if the payback time is longer than five years?
A ROI longer than 5 years makes it not very interesting investment as it is mechanical devices, which require service and repairs on the long term.
The turbine has to be followed by a 10-year service contract.
6. Looking at the catalogue, is there enough information to be convinced to buy the product? *(Please find attached the folder in the mail)*
I would like to have a scheme showing the ROI and when there will be a positive cash flow.
I see some problems in getting the permits for installing it on the premises.
7. Do you think it is important to know before hand the estimate of how much energy the small wind turbine will generate?
Yes – the cash flow is very important.
8. How important is the appearance of the small wind turbine?
It has to look well constructed.



9. Do you think the small wind turbine will improve your company image and CSR (Corporate Social Responsibility)? Why?
No – In Denmark 50% of all energy is already green, and it is possible to buy 100% green energy from our suppliers today.
10. Do you think investing in the small wind turbine will improve the revenue of your company?
I don't know. I think the manufacturer should tell me that it improves the revenue.

Interview 2

Name: Carsten Hansen

Company: Nordisk Tagteknik ApS

Thank you in advance for filling out these questions.

1. Is your company involved in CSR (Corporate Social Responsibility) activities?
We are involved in some CSR activities like donating to charity once every year.
2. Is your company willing to invest in the environment through renewable energy? Why?
We are willing to invest in the environment as long as this does not affect our revenue. Also, according to the facts 50% of the energy in Denmark is green energy.
3. Have you ever considered investing in wind energy?
The fact that Denmark has the biggest share in wind generation makes us want to consider it.
4. Why would you consider wind energy rather than, for example, solar energy?
We would rather have wind energy than solar energy since there is no more compensation for solar energy anymore
5. Would you still consider investing in a small windmill if the payback time is longer than five years?
A payback time of longer than five years would only be interesting if our revenue will improve after those five years
6. Looking at the catalogue, is there enough information to be convinced to buy the product? *(Please find attached the folder in the mail)*
There is not enough information in the folder. Plus the product needs to be certified by the Danish standards first.
7. Do you think it is important to know before hand the estimate of how much energy the small wind turbine will generate?
Yes that is the most important motive that we will even consider investing in wind energy.
8. How important is the appearance of the small wind turbine?



It is important but not as important as the energy generation.

9. Do you think the small wind turbine will improve your company image and CSR (Corporate Social Responsibility)? Why?

If the small turbine is certified, maybe it will improve our CSR

10. Do you think investing in the small wind turbine will improve the revenue of your company?

I don't think the energy generation will be enough to improve our revenue

Interview 3

Name: Jimmie Heise Jensen

Company: Trend Enterprise & Handel A/S

Thank you in advance for filling out these questions.

1. Is your company involved in CSR (Corporate Social Responsibility) activities?

We are currently not involved in CSR activities.

2. Is your company willing to invest in the environment through renewable energy? Why?

In Denmark everyone who uses energy is already investing in renewable energy since we have the biggest share in wind generation.

3. Have you ever considered investing in wind energy?

Not in investing directly in wind energy. Maybe through a energy supplier that offers greener energy.

4. Why would you consider wind energy rather than, for example, solar energy?

We would rather consider wind energy than solar energy because the wind is very strong here in Denmark. The solar is also interesting but our preference would be wind energy.

5. Would you still consider investing in a small windmill if the payback time is longer than five years?

Longer than five years is a long time. The product has to be very profitable if we want to wait five years for it to be energy saving.

6. Looking at the catalogue, is there enough information to be convinced to buy the product? *(Please find attached the folder in the mail)*

I would like to know if the product is certified and any proof or results of current customers.



7. Do you think it is important to know before hand the estimate of how much energy the small wind turbine will generate?

Yes I think that is very important, if I invest in something that promises me energy and money saving I want to know exactly how much that will be.

8. How important is the appearance of the small wind turbine?

It is very important but the noise is more important since Denmark has strict restrictions in wind turbines and noise.

9. Do you think the small wind turbine will improve your company image and CSR (Corporate Social Responsibility)? Why?

It might improve the CSR if our customers would know that we have one.

10. Do you think investing in the small wind turbine will improve the revenue of your company?

If it takes longer than five years in pay back time I don't think it will improve the revenue but you can always convince me otherwise.

Interview 4

Name: Christoph Kjærgaard

Company: Hjerting Laks

Thank you in advance for filling out these questions.

1. Is your company involved in CSR (Corporate Social Responsibility) activities?

No we are not involved in CSR.

2. Is your company willing to invest in the environment through renewable energy? Why?

We are only willing to invest if it is profitable for us as well. Renewable energy is around a lot in Denmark and we like that but only investing to improve the environment is not in our strategy.

3. Have you ever considered investing in wind energy?

We have never considered wind energy before.

4. Why would you consider wind energy rather than, for example, solar energy?

The wind is very strong in Denmark so we would rather consider wind energy than solar energy. There are some subsidies for homeowners that have a small wind turbine and there is no more compensation for solar energy anymore.

5. Would you still consider investing in a small windmill if the payback time is longer than five years?



No five years is too long for us.

6. Looking at the catalogue, is there enough information to be convinced to buy the product? *(Please find attached the folder in the mail)*

The folder looks promising but there are no actual results of the performance of the turbine.

7. Do you think it is important to know before hand the estimate of how much energy the small wind turbine will generate?

It is very important to know that beforehand especially if it's such a big investment.

8. How important is the appearance of the small wind turbine?

The energy generating is more important than the actual appearance of the turbine.

9. Do you think the small wind turbine will improve your company image and CSR (Corporate Social Responsibility)? Why?

That depends on the pay back time and performance.

10. Do you think investing in the small wind turbine will improve the revenue of your company?

It's the job of the company selling me the small wind turbine to tell me if it will improve my revenue or not.

Interview 5

Name: Pia Børsting

Company: Am Gruppen

Thank you in advance for filling out these questions.

1. Is your company involved in CSR (Corporate Social Responsibility) activities?

Yes we recycle and try to use less printing paper. We don't have solar or wind energy.

2. Is your company willing to invest in the environment through renewable energy? Why?

We might be willing to invest if we would have a budget for that, which we do not have right now.

3. Have you ever considered investing in wind energy?

Yes we see it every day. Denmark is very engaged in wind energy. But as I mentioned before we do not have the budget to do it.

4. Why would you consider wind energy rather than, for example, solar energy?

We think wind energy is a better solution since the weather in Denmark is more applicable for it. Solar energy is also very expensive.



5. Would you still consider investing in a small windmill if the payback time is longer than five years?

No five years is too long.

6. Looking at the catalogue, is there enough information to be convinced to buy the product? *(Please find attached the folder in the mail)*

The folder is too short and it needs more graphs or information of the energy production. I also need to see the certification with the Danish standards.

7. Do you think it is important to know before hand the estimate of how much energy the small wind turbine will generate?

That is very important to know. If the seller can't tell us that we will not buy it.

8. How important is the appearance of the small wind turbine?

The profit that you can make with the turbine is more important than the appearance.

9. Do you think the small wind turbine will improve your company image and CSR (Corporate Social Responsibility)? Why?

It can definitely improve the company image as long as we promote it.

10. Do you think investing in the small wind turbine will improve the revenue of your company?

If the pay back time is longer than five years I don't think it will improve the revenue. But this depends on the energy generating of the turbine.

Interview with Uffe Lundgaard, Business Consultant from the Esbjerg Business Development Centre

1. Would you be interested in doing a community project with small wind energy turbines to improve the environment? Why?

Our interest here in Esbjerg is in the offshore wind industry, which is not for consumer products. That means that the activities within the local industry is supplying and contracting for large energy developers such as DONG Energy, RWE Energy, SSE and Eneco.

2. Are you willing to invest in or give subsidiary for a small wind energy project?

As mentioned before, our interest is in the offshore wind industry. Small wind turbines would be too expensive and not profitable for a project in Esbjerg.

3. Are there any restrictions or rules concerning green energy projects?

There are many restrictions concerning green energy projects. The technical department in the municipality is responsible to erect small wind turbines. The process is complicated because of noise restrictions and hearings from household living close to the small wind turbine parks and the wind turbine supplier has to be approved by governmental authorities according to Danish standards.



Interview with Bahram Dehghan, Senior Project Manager in Energy City Frederikshavn

1. Would you be interested in doing a community project with small wind energy turbines to improve the environment? Why?

Our main interest right now is in solar energy. For wind solutions offshore projects are more attractive but we are not working on this right now. Green busses and cars are in our interest as well.

2. Are you willing to invest in or give subsidiary for a small wind energy project?

If there is proof that a project with small wind turbines can be profitable, the Energy City can consider it.

3. Are there any restrictions or rules concerning green energy projects?

There are several restrictions concerning these projects. It depends on the size and purpose of the project. The board of foundations and secretary are responsible for approving these projects with influence of the government.

Interview with Bente Christensen from Norddjurs kommune

1. Would you be interested in doing a community project with small wind energy turbines to improve the environment? Why?

We want to invest in green energy projects but it is our responsibility to protect the nature and environment as well. Right now our budget is low on investing in green projects so we are not very interested.

2. Are you willing to invest in or give subsidiary for a small wind energy project?

As I mentioned before, our budget is very low at the moment so we would not be very willing to invest.

3. Are there any restrictions or rules concerning green energy projects?

Yes there are, we have a monitoring plan for environmental monitoring of businesses and agriculture. This plan is the basis for the restrictions and rules concerning this kind of projects.



Attachment X Existent folder Archimedes wind turbine



The Archimedes is an innovative wind turbine design: small, silent, and affordable. Based upon the writings and methods of the Greek mathematician Archimedes the design mimics a shellfish, the Nautilidae (translated as sailor). We did 10 years research and development of the wind turbine Liam, and the results are spectacular. Main characteristics of this innovative design are high efficiency, low maintenance, and an organic appearance. All together this wind turbine is able to generate about five times more energy than standard wind turbines of the same diameter.

The LIAM fl is designed for urban surroundings, making it exceptionally suitable for family homes, public and commercial buildings, and high-rise buildings. This Dutch invention and design, therefore guaranteeing quality and long-lasting customer satisfaction.

For many conventionally-shaped wind turbines the urban environment is a challenge. The challenge is to handle the turbulence --a typically occurring phenomenon in urban environments caused by buildings, vegetation, and other obstructions.

The LIAM fl will feel at home on your rooftops. It handles turbulence like no other wind turbine. In fact, multiple Archimedes wind turbines can be placed in close distance of each other, preferably in a triangular pattern.

Depending on your local wind conditions the LIAM will be competitive with solar panels. Under perfect conditions the return on investment will be even higher, resulting in a shorter payback time. On average the LIAM fl produces approximately 1433 to 1800 kWh annually (with an estimated average wind speed of 5.2 m/sec)*. As wind speeds depend on location and altitude, wind speeds at higher altitudes will be higher.

The best way to estimate and calculate your personal payback time you can measure the wind speed at your location. This can be done with our anemometer the Archimeteo, who can give actual data about the possible wind en sun power.

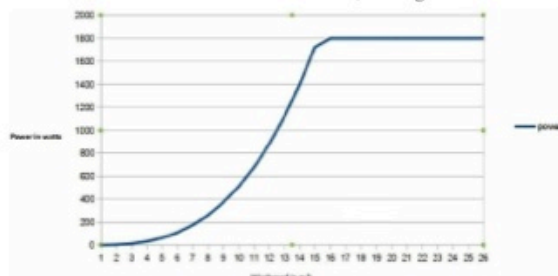
Options for grid tie-in or off-grid are available. Not always is grid tie-in possible or economical. Local laws and limitations should be reviewed carefully and in advance.

In summary, the Archimedes LIAM urban wind turbine offers you the following advantages:

- Excellent technology, resulting in money savings by controlling your electricity bills
- High yields as a result of low cut-in wind speed
- Independence from centralized energy providers (when combined with solar panels)
- Reduction of your carbon footprint by a significant 680 kg* annually, and helping to reduce the effects of greenhouse gas emission
- Suitable for nearly any roof
- Low vibrations and low noise emission.

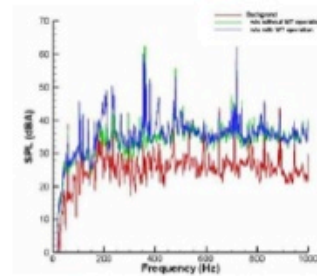


Archimedes urban Windturbine with 1,8KW generator



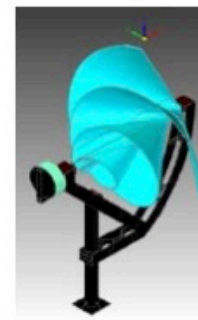
*more info www.windwaterturbines.com


Sound





LIAM F1 Specifications	
Power generator	1.80 kW
Rated power at 10 ms ⁻¹	510.70 W
Rated power at 14 ms ⁻¹	1.401.50 W
Maximum power at 18 ms ⁻¹	1.800.00 W
Cut in wind speed	2.00 ms ⁻¹
C _s 10 ms ⁻¹	52.00
Survival wind speed	50.00 ms ⁻¹ (IEC61400-1 class 1)
Number of blades	3
Standard color spiralblades	monolith gray
Blade diameter	1.50 mtr
Production Certificates	ISO 9001, CE (IPE, MCS, CSA)
Potents UWM	more then 5
Inverter	2.00 kW
Type	DC/AC on grid tie inverter
Generator - Phases	3
Generator - Poles	6
Output voltage	200 - 400 V
Maximum RPM at 35 ms ⁻¹	445
Operating temperature	-25 <> +50 °C
Safety systems	3, electrical, mechanical, switch
Turbine controller	Controller (w/ up connections with pink power handling)
Starting system	none, self starting
Yaw control	none, yaws itself in the wind
Material blades	Glass fiber or Bazalt fiber reinforced or PI
body-material feet	RVS
Weight (incl. blades generator)	55 kg
Length, width, height without pole	approx. 1,6m, 1,5m, 1,7m
Maintenance-low	only 2 moving parts
Warranty	2 Years limited warranty



Watt Hours/Day	300	600	1100	1800	2300
					
Average Annual	8	10	12	14	16
Wind Speed					

The Archimedes B.V.

Scheepsbouweg 8-KK, 3089 JW Rotterdam, The Netherlands, Telephone: +31 (0) 10 265 33 38, email: info@dearchimedes.nl

Registration number Chamber of Commerce, Rotterdam: 24396360 www.windwater turbines.com

Rabobank: 143325221, Rotterdam Tax number: NL8199.60.780.B01, IBAN number: NL16RABO0143325221 BIC code: RABONL2U

A member of the EWEA European Wind Energy Association and the NOVU.

Any information contained in this flyer is intended exclusively for the addressee(s) and may contain confidential and/or privileged information. Any disclosure, reproduction, dissemination, distribution or use by a party other than the addressee(s) is strictly prohibited. There are no legal rights in other parties of this publication.



Attachment XI Financial overview

Dutch Windmill, 1,8kw	€3.500
Archimeteo	Undetermined
Controller 2KW and inverter	€1.100
Assemblage and transport	Undetermined
Subsidy	Consumer must apply
Subtotal exc. VAT (Value Added Tax)	€4.600
VAT 21% (If applicable)	€966,00
Subtotal	€5.566

As seen above, this is the price quote of a Dutch Windmill from the Archimedes to the Elivesto Group.

The scenario is that the Elivesto Group will become the main distributor of the Dutch Windmill. According to the planning they will start selling in 2015 after launching a website and managing all the Danish legal requirements.

The investment costs include the following:

Translating a folder to Danish with the company www.snelvertalen.nl will cost €0,22 per word. The existent folder counts 720 words.

Folder Dutch to Danish 720 words	€0,22 per word
Subtotal	€158,40

Printing a folder in Rotterdam with the company Drukkerij Rotterdam will be €30 for 50 folders and €50 for 100 folders. The prices are estimated and may be different depending on the amount of text and color. (Drukkerij Rotterdam, 2014).

50 folders	€30
100 folders	€50

To promote the product in Denmark, a website is also needed. For the Dutch Windmill, a new website with registered domain will be made. When registering at <https://www.antagonist.nl>, a domain will cost €10,95 a year. The Elivesto group has employees that can design and build websites, which will not bring extra costs. The text on the website will be done by the same employees that are building the website in close cooperation with The Archimedes and very similar to the text that is already existent in the folder of the small wind turbine. The translation of the website to Danish will also have to be done by a translation office. The price will depend of the amount of words on the website. The same indication as the translation of the folder will be calculated.

Website Dutch to Danish Estimated amount per page: 200 Amount of pages: 6	€0,22 per word
Subtotal 600 words	€264,00

To promote the folder and website in Denmark, consultation is needed. There is a Danish small wind turbine owners association in Denmark, which is a non-profit organization with 5 consultants that help wind turbine companies with applying for the technical certification,

information about the legislation of small wind turbines and getting in touch with people that are interested in investing in a small wind turbine. The association is already familiar with foreign companies that want to sell small wind turbines to households or starting a wind project in a community.

Consultation of the Danish wind turbine owners association	€171 per hour
Estimated consultation needed: 3 hours	Subtotal of €513

(DKVIND, 2013)

Another option to promote the website and folder is in the magazine of the Danish wind turbine owners association. These are only additional promotions options and the company can decide to place an ad or not. The costs will not be included in the investment costs. This magazine is called Natural Energy and companies can place advertisements for the following prices:

210 x 297 mm advertisement	€4473,00
122 x 263 mm advertisement	€3129,00
185 x 130 mm landscape advertisement	€2304,00
91 x 263 mm portrait advertisement	
185 x 85 mm landscape advertisement	€1691,00
60 x 263 mm portrait advertisement	
185 x 63 mm landscape advertisement	€1319,00
44 x 263 mm portrait or 90 x 136 mm advertisement	
60 x 130 mm portrait advertisement	€866,00
60 x 88 mm advertisement	€653,00
Banner advertisements 208 x 54 pixels (on the website http://www.naturlig-energi.dk)	€80,00 per month
Banner advertisements 208 x 106 pixels (on the website http://www.naturlig-energi.dk)	€147,00 per month
Banner advertisements 208 x 208 pixels (on the website http://www.naturlig-energi.dk)	€253,00 per month

(Naturlig Energi, 2013)

A price indication of shipping costs via sea freight from The Netherlands to Denmark will be:

600 cm x 244 cm x 260 cm container	€122,00
1200 cm x 244 cm x 260 cm container	€158,00
1202 cm x 235 cm x 269 cm HQ container	€166,00

(Zeevrachtcaculator, 2013)

HQ stands for high cube container. High-cube containers are similar in structure to standard containers, but slightly taller. The shipping per sea freight will take maximum four days.

The specifications of a Dutch Windmill are 160 cm x 150 cm x 170 cm. This is a total of 4.080 m³. In the table below is shown how many turbines will fit in the containers.

600 cm x 244 cm x 260 cm = 38.064 m ³	9 wind turbines
1200 cm x 244 cm x 260 cm = 76.128 m ³	18 wind turbines
1202 cm x 235 cm x 269 cm = 75.984 m ³	18 wind turbines

The high cube containers are in this case irrelevant for the wind turbines. Also, the HQ containers are more expensive which makes them unnecessary.



Concluding all these costs with the additional advertisement costs. This will be the subtotal:

Translating the folder	€158,40 (recurring costs)
100 folders	€50,00 (recurring costs)
Translating the website	€264,00 (recurring costs)
Consultation of the Danish wind turbines owners association	€513,00 (recurring costs)
Shipping 1 up to 9 wind turbines to closest harbour in Denmark in a 600 cm x 244 cm x 260 cm container	€122,00
Subtotal	€1.107,40

Cost-benefit analysis

Cost	Benefit
Price per unit €5566,00	Received commission per unit €650,00
Investment costs €1.107,40 (these costs are only paid once)	Received amount per unit €6.500 (<i>Profit per unit €934,00</i>)
Subtotal €6673,40	Subtotal €7.150

The cost benefit analysis shows that there is a positive difference of €476,60. The price per unit is added to the cost side of the analysis because the Elivesto group is the main distributor. This means that if they get an order, they order at the Archimedes. The amount that they receive from the paying customer will be transferred directly to the Archimedes, minus the profit. The profit that the Elivesto Group will make per unit is €934,00. They are the main distributor of the wind turbine and that means that they will not be dependent on the amount of sales. The position of being the main distributor lowers the financial risk for the company. They will only have to sell one wind turbine and already make a profit ($650 + 934 = 1.584$). Nevertheless, the investment costs can turn out to be higher in reality or the company will need to pay more shipping and advertisement costs.



Attachment XII DHL price quote

DHL Global Forwarding Schiphol
 Prestwickweg 1
 1118LC Schiphol South-East
 Tel: 020-316 9000
 Fax: 020-316 9280



OFFERTE EXPORT AIRFREIGHT PLUS NAAR DENEMARKEN

Klantnaam:	Sarah Intven	Offertenr.:	Sarah Intven / OVZ
Contactpersoon:	Mevr. S. Intven	Uw contact:	Sales Support Team
Telefoonnr.:	n.v.t.	Telefoonnr.:	020 316 9026
Email:	saarintven@gmail.com	Email:	nldgf.insidesales1@dhl.com
Datum:	7 februari 2014		
Offerte geldig tot:	28 februari 2014		
Leveringsconditie:	Vanaf geladen deur Rotterdam (Europoort) tot aankomst DAP haven Esbjerg.		
Goederensoort:	Windturbine, ongevaarlijk		

Aantal colli	Lengte (cm)	Diepte (cm)	Hoogte (cm)	Totaal gewicht (kg)	Volume gewicht (kg)	Cubage M3	Chargeable weight (kg)	Chargeable weight (kg)
1	160,0	150,0	170,0	55,0	680,0	4,1	680,0	680
1			Totaal	55,0	680,0	4,1	680,0	

Volume/gewicht verhouding: 1 m3 = 167 kgs (1:6)

AIRFREIGHT PLUS EXPORT

Leveringsconditie: Vanaf geladen deur Rotterdam (Europoort) tot aankomst DAP haven Esbjerg.

Wegtransport vanaf Rotterdam naar Esbjerg & toeslagen

	Valuta	Per kg	Minimum per zending	Totaal
Wegtransportkosten (all-in)	EUR	0,82	-	557,60
Totale wegtransportkosten:	EUR			557,60 ***

*** De opgegeven kosten zijn indicatief en afhankelijk van het actuele gewicht/volume van de zending

**DHL Global Forwarding verzekering**

DHL Global Forwarding kan uw zending voor u verzekeren.

De premie om deze zendingen met een waarde van Eur..... te verzekeren is:

EUR ***

Zending verzekeren (omdruken wat van toepassing is):

☐ Ja ☐ Nee

*** De opgegeven premie is indicatief, en afhankelijk van de actuele waarde en transportkosten van de zending

OVERIGE KOSTEN (INDIEN VAN TOEPASSING)

	Valuta		
T1 Document 1)	EUR	45,00	per document
(Inclusief 2 aangifte posten)	EUR	11,00	per extra post
Lithium batterijen toeslag 2)	EUR	22,50	per HAWB
Gevaarlijke goederen toeslag	EUR	85,00	per zending
Rocars toeslag 3)	HKD	50,00	per zending
Charges Correction Advice (C.C.A.)	EUR	50,00	per zending
Neutraliseren	EUR	50,00	per zending
Kluisopslag	EUR	60,00	per zending, maximaal 5 dagen
EUR 1 / ATR document	EUR	40,00	per zending
Afhandeling (ATA) carnet zendingen	EUR	85,00	per carnet
"Letter of Credit" zendingen	EUR	85,00	per zending
Legalisatie kosten	EUR	50,00	per zending + kosten derden
"Third Party Billing"	EUR	147,50 + 3% over het factuur bedrag	
ACN scanningskosten 4)	EUR	0,08	per kg
Minimum	EUR	12,50	per zending
Maximum	EUR	250,00	per zending

1) u bent gehouden op eerste aanvraag van DHL Global Forwarding informatie te verstrekken aan de hand waarvan aanspraking van het r.v. document kan worden aangemaakt, en in gebreke blijven, bent u verantwoordelijk voor alle daar uit voortvloeiende kosten en consequenties.

2) over fee is van toepassing voor alle zendingen waarin Lithium batterijen zijn verwerkt, maar die niet geclassificeerd worden als gevaarlijke goederen.

3) zijn kosten voor DAT / DAP / DPU / DDP excluser luchtvrachttariefen, welke via Hong Kong naar Zuid China vervoerd worden.

4) indien uw bedrijf niet is geregistreerd bij AEA - "unknown shipper".

VOORWAARDEN LUCHTVRACHT

- * Volume/gewicht verhouding is 1:6 (1 m3 = 167 kg).
- * Voor DAP en DOP kosten van export luchtvrachtzendingen in vreemde valuta gelden de volgende toeslagen:
 - Bank transactiekosten van 2,75%
 - Een "Collection Fee" van 3% + Eur 21,00 per factuur
- * Geaccepteerde tarieven zijn geldig tot nader order en onder voorbehoud van eventuele tariefwijzigingen en beschikbaarheid van de ruimte bij luchtvaartmaatschappijen.
- * Luchtvracht tarieven zijn geldig voor normale handelsgoederen, ongevaarlijk, en niet hoger dan 160 cm.
- * Tarieven worden per kilogram op basis van "chargeable" gewicht berekend, tenzij anders vermeld.

ALGEMENE VOORWAARDEN

- * Bovenstaande tarieven zijn exclusief BTW, invoerrechten & voorschotprovisie (= 3 % over de invoerrechten & BTW).
- * Voor zendingen binnen Europa zijn bovenstaande tarieven exclusief 21% BTW.
- * Betalingscondities: indien er geen krediet aan uw bedrijf is toegekend, via telefonische overboeking.
- * Betalingscondities: indien er krediet aan uw bedrijf is toegekend, **binnen 14 dagen na factuurdatum**.
- * Deze offerte is gebaseerd op de huidige tarieven en mogelijkheden. Indien zich substantiële wijzigingen voordoen in bijvoorbeeld wisselkoersen, brandstofprijzen of situaties die een direct gevolg hebben op capaciteit of tarieven, dan behouden wij ons het recht voor om onze tarieven dienovereenkomstig aan te passen.
- * Op al onze diensten zijn de Algemene Expeditievoorwaarden (FENEX) van toepassing.
- * Let op, verpakkingsmaterialen en/of pallets van hout moeten voldoen aan de ISPM 15 (International Phytosanitary Measure 15) voorwaarden.
- * Zendingen die via derden bij DHL Global Forwarding binnenkomen, zullen conform uitgave afgerekend worden. Tevens zal een voorschotprovisie van 3% over alle kosten belast worden.
- * Voor een correcte douane afhandeling is een ondertekende verklaring "Directe Verantwoordelijkheid" noodzakelijk.
- * Wist u dat: DHL ook een GOGREEN product aanbiedt waarbij u uw CO₂ uitstoot van uw transport kunt compenseren? Vraag ernaar bij uw Account Manager.

* Na uw schriftelijke acceptatie zijn de tarieven geldig tot:

28 februari 2014

* Graag ontvangen wij de getekende offerte per email retour om vertragingen te voorkomen.



Acceptatie van deze tarieven op:	Geaccepteerd door:	
Handtekening:		

Attachment XIII Financial details the Elivesto Group

DECONSOLIDERDE BALANS PER 31 DECEMBER 2012 (na resultaatbepaling)				
		31 december 2012		31 december 2011
		€	€	€
ACTIVA				
Vaste activa				
<i>Immateriële vaste activa</i>	(1)		104.000	116.000
<i>Materiële vaste activa</i>	(2)			
Machines en installaties		27.405	38.425	
Andere vaste bedrijfsmiddelen		344.725	436.857	
			372.130	475.282
<i>Financiële vaste activa</i>	(3)			
Deelnemingen in groepsmaatschappijen		-	1	
Waarborgsommen		54	54	
Leningen u/g		4.284	19.990	
			4.338	20.045
Viottende activa				
<i>Voorraden</i>	(4)			
Gereed product en handelsgoederen			825.046	1.034.842
<i>Onderhanden projecten</i>	(5)		15.000	10.000
<i>Vorderingen</i>	(6)			
Handelsdebiteuren		1.282.808	1.157.710	
Belastingen en premies sociale verzekeringen		36.289	139.301	
Overige vorderingen en overlopende activa		176.190	97.189	
			1.495.287	1.394.200
<i>Liquide middelen</i>	(7)		32.500	5.113
			2.848.301	3.055.482

port bij accountantsrapport

- 10 -



		31 december 2012		31 december 2011	
		€	€	€	€
PASSIVA					
Groepsvermogen	(8)		-317.104		-494.316
Voorzieningen	(9)				
Pensioenvoorziening		578.899		578.899	
Overige voorzieningen		391.379		362.366	
			970.278		941.287
Langlopende schulden	(10)				
Onderhandse Leningen		86.000		110.000	
Schulden aan kredietinstellingen		75.628		274.992	
			161.628		384.992
Kortlopende schulden	(11)				
Schulden aan kredietinstellingen		563.356		381.406	
Aflossingsverplichtingen langlopende schulden		83.932		103.681	
Schulden aan leveranciers en handelskredieten		944.096		1.277.013	
Belastingen en premies sociale verzekeringen		199.659		188.090	
Overige schulden en overlopende passiva		242.455		273.330	
			2.033.498		2.223.520
			<u>2.848.300</u>		<u>3.055.483</u>



GECONSOLIDEERDE WINST-EN-VERLIESREKENING OVER 2012					
		2012		2011	
		€	€	€	€
Netto-omzet	(13)	6.320.868		7.894.886	
Kostprijs van de omzet	(14)	3.235.001		4.558.602	
Bruto-omzetresultaat			3.085.867		3.236.284
Lonen en salarissen	(15)	1.379.804		1.583.241	
Sociale lasten	(16)	192.764		217.757	
Pensioenlasten	(17)	103.560		108.426	
Overige personeelskosten	(18)	87.615		86.172	
Afschrijvingen	(19)	151.238		195.304	
Huisvestingskosten	(20)	332.207		393.952	
Exploitatiekosten	(21)	25.857		23.116	
Kantoorkosten	(22)	186.177		197.988	
Autokosten	(23)	144.985		177.383	
Verkoopkosten	(24)	101.728		122.612	
Algemene kosten	(25)	61.654		186.944	
Diverse baten en lasten	(26)	28.059		121.224	
Som der bedrijfslasten			2.815.648		3.414.119
Bedrijfsresultaat			270.219		-177.835
Rentebaten en soortgelijke opbrengsten	(27)	21.938		4.311	
Rentelasten en soortgelijke kosten	(28)	-115.045		-94.595	
Financiële baten en lasten			-93.107		-90.284
Groepsresultaat uit gewone bedrijfsuitoefening voor belastingen			177.112		-268.119
Belastingen resultaat uit gewone bedrijfsuitoefening	(29)		103		33.835
			177.215		-234.284
Aandeel in resultaat deelnemingen			-		-101.469
Groepsresultaat na belastingen			177.215		-335.753



Attachment XIX Executive Order on a technical certification scheme for wind turbines

While this translation was carried out by a professional translation agency, the text is to be regarded as an unofficial translation based on the latest official Executive Order no. 73 of 25 January 2013. Only the Danish document has legal validity.

March 2013, GlobalDenmark Translations

Executive Order on a technical certification scheme for wind turbines¹⁾

Executive Order no. 73 of 25 January 2013

The following shall be laid down pursuant to section 33, section 60, section 68(1), no. 1, and section 73(1) of the Promotion of Renewable Energy Act, cf. Consolidating Act no. 1074 of 8 November 2011:

Purpose and scope, etc.

1.-(1) The purpose of this Executive Order is to ensure that wind turbines erected onshore, in Danish territorial waters and in the Exclusive Economic Zone, and which are used for the purpose of energy production, meet the requirements set out for energy production, safety and the environment, and that the wind turbines are serviced and maintained as prescribed.

(2) This Executive Order shall cover the individual wind turbine, including the tower, foundations, electro-technical installations, and transformers, up to and including turbine connection terminals to the electricity supply grid, including components for leading cables away from the wind turbine.

2. For the purpose of this Executive Order:

1) "Energy production" shall mean: Electricity which can fulfil other purposes than the wind turbine's own energy needs.

2) "Safety" shall mean: Safety as defined in nos. 3 and 4.

3) "Safety and health" shall mean: Conditions related to the design and manufacture of the wind turbine that may pose a risk to property and to the safety and health of persons and livestock during the installation, maintenance or use of the wind turbine.

4) "Structural safety" shall mean: The level of safety to which the wind turbine has been designed and dimensioned in order to withstand the loads to which it is likely to be subject and to function throughout its expected operational life.

3.-(1) Before the wind turbine is placed on the market or put into service, the producer or the supplier of the wind turbine shall carry out CE marking, as well as ensure that the wind turbine comes with an EC statement of compliance upon delivery in order to meet the requirements for safety and health, cf. the Executive Order on the design of technical equipment. The producer or the supplier shall be able to document to the Danish Working Environment Authority compliance with this Executive Order, as mentioned in the 1st clause.

(2) Documentation of compliance with requirements for wind turbines under other legislation, including the Building Act and the Environmental Protection Act, the Electricity Supply Act and the High Voltage Executive Order, shall be submitted to the competent authorities before the erection of the wind turbine.

1) This Executive Order has been notified in draft form in accordance with European Parliament and Council Directive 98/34/EC (the Information Procedure Directive), as amended by Directive 98/48/EC.

4.-(1) The use of a wind turbine shall be on the condition that the owner of the wind turbine

can document that the requirements set out in sections 3 and 5-10 for the erected wind turbine have been met.

(2) The owner of a wind turbine which has been erected on the basis of a temporary approval for testing and demonstration in accordance with previous executive orders, or on the basis of prototype certification pursuant to this Executive Order, shall be responsible for decommissioning the wind turbine after expiry of the approval or certificate, or for the provision of a new certificate in accordance with section 8.

(3) The Danish Energy Agency may, within the purpose of this Executive Order, stipulate that specified wind turbines that are covered by this Executive Order shall be exempted in full or in part from the provisions of this Executive Order, cf. however section 3.

Certification of the wind turbine

5.-(1) Certification of wind turbines with a rotor area of more than 40m² shall, as a minimum,

include requirements corresponding to the mandatory modules and requirements for type or prototype certification stipulated in European standard DS/EN 61400-22, including specified DS/EN, IEC and ISO standards, cf. however, subsection (2). If the standards mentioned above contain requirements for safety and health, such requirements shall not be subject to the requirement for certification pursuant to this Executive Order, cf. section 3.

(2) Certification of wind turbines with a rotor area of more than 5 m² and up to 40 m² shall,

as a minimum, include requirements corresponding to the requirements mentioned in Annex 1, point 1.

(3) Certification as mentioned in subsections (1) and (2) shall also include a source noise measurement pursuant to the current Executive Order on noise from wind turbines.

(4) Following a recommendation from the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme, the Danish Energy Agency may exempt wind turbines with a rotor area of 40 m²

or less from certification, if they

1) are used for teaching purposes, research, or tests on specially demarcated areas allocated for the purpose;

2) are designed and built by the owner for own use on specially demarcated areas;

3) exclusively and without electricity production supply mechanical energy for heat pumping, heating, etc.; or

4) on the basis of a concrete assessment can be considered safe, including certain drag-type wind turbines.

(5) Wind turbines with a rotor area of 40 m² or less shall be exempted from certification, if they

1) are erected in Danish territorial waters and in the Exclusive Economic Zone; or

2) are erected on ships.

(6) Wind turbines with a rotor area of more than 1 m² and up to 5 m²

shall be exempted from

certification pursuant to subsections (1)-(5). The producer or the supplier may, however, choose to register the wind turbine with the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme. This registration shall, as a minimum, include the information



stated in Annex 1, point 2.

6. Applications for certification, including type and prototype certificates, shall be submitted to a certifying company, with the required documentation material. Type and prototype certificates for wind turbines may be issued to the producer or the supplier of the wind turbine. A prototype certificate shall be issued for a fixed period of no more than three years.

7.-(1) Wind turbines with a rotor area of more than 200 m²

shall be project certified upon installation. Project certification shall, as a minimum, include requirements corresponding to the mandatory modules and requirements for project certification stipulated in European standard DS/EN 61400-22, including specified DS/EN, IEC and ISO standards. If the standards mentioned above contain requirements for safety and health, such requirements shall not be subject to the requirement for certification pursuant to this Executive Order, cf. section 3.

(2) Application for project certificates shall be submitted to a certifying company. Project certificates shall be issued to the owner of a wind turbine or a wind turbine project for a specified location. The owner shall be responsible for ensuring that a valid project certificate has been obtained before the wind turbine is put into service.

Certification for modification etc.

8.-(1) Wind turbines with a rotor area of more than 40 m²

that have been certified, cf. sections 5 and 6, or which have obtained approval under previous executive orders, shall be certified on the basis of the requirements in subsections (2) and (3) in connection with modification, conversion into testing and demonstration, relocation and use after testing and demonstration, or following expiry of a prototype certificate. The same shall apply to wind turbines with a rotor area of 40 m²

or less that have been certified pursuant to sections 5 and 6, or which have been approved for testing pursuant to previous executive orders.

(2) This certification shall be carried out on the basis of documentation from the previous certification or approval, functional and safety testing, and a technical report on the wind turbine's safety status including planned changes.

(3) The technical report mentioned in subsection (2) shall, as a minimum, include a

- 1) review of available technical documentation for the wind turbine;
- 2) assessment of the propriety of possible modification, relocation and continued use;
- 3) safety assessment of any new conditions following from relocation;
- 4) report on a functional and safety test of the wind turbine; and
- 5) assessment of whether the modification may have noise-related implications.

(4) For wind turbines that have been prototype-certified or approved for testing and demonstration pursuant to previous executive orders, the certification shall also include an evaluation of loads and the operational life of the turbine on the specific site.

(5) As documentation for source noise, cf. subsection (3), no. 5, the measurement and calculation methods set out in the Executive Order on noise from wind turbines shall be applied.

(6) Applications for certification for modification, relocation and continued use after expiry of a prototype certificate, cf. sections 5 and 6, or after testing and demonstration approved pursuant to previous executive orders, shall be submitted to a certifying company, with the required documentation material. Furthermore, for wind turbines that are to be converted into turbines for testing and demonstration, there shall be a test plan for the period for which the certificate is issued. The certificate shall be issued to the owner of the wind turbine. The



certificate for conversion to testing and demonstration shall be issued for a fixed period of no more than three years. The owner of the wind turbine shall be responsible for ensuring that a valid certificate has been obtained before the wind turbine is put into service.

Maintenance, service and major damage

9.-(1) The owner of a wind turbine shall be responsible for ensuring that the wind turbine is maintained and serviced on a regular basis for as long as it is in operation. Maintenance and service of the wind turbine shall be performed on the basis of fixed specifications and time intervals for regular service of the turbine pursuant to the certificate issued or service

manuals. Furthermore, a wind turbine which has been in operation for longer than its design lifetime, as stated in the manufacturer's documentation or in the certificate issued pursuant to section 5(1) and (2), shall be subject to extended service, cf. Annex 2, point 4.

(2) For wind turbines with a rotor area of more than 40 m², maintenance and service shall be performed by a certified or approved company, cf. section 11(1), cf. however, subsection (3).

(3) In exceptional circumstances, the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme may approve that maintenance and service are performed by the owner of a wind turbine or by a company or a person who has not been approved to carry out maintenance and service as stated in section 11(1), no. 4, and who can document compliance with the requirements set out in Annex 2, point 3.

(4) Approval pursuant to subsection (3) shall be granted for up to three years. The approval may be renewed on the basis of an application with documentation for the maintenance and service performed on wind turbines in the most recent approval period and documentation for compliance with the requirements in subsection (3).

10.-(1) The producer or the supplier shall deliver the necessary service manuals to the owner of the wind turbine upon delivery of the wind turbine itself. The producer or the supplier shall forward any updates that affect the safety of the wind turbine. Furthermore, upon request by the wind turbine owner, the producer or the supplier shall forward any updates that affect the operation of the wind turbine.

(2) For wind turbines that are assumed to operate with special noise reduction arrangements, the company that has been certified or approved to carry out maintenance and service on wind turbines, or the person that has been approved to carry out maintenance and service on a specific wind turbine, cf. section 9(3), shall read the noise setting of the wind turbine upon each service visit. The company mentioned in the 1st clause shall record the reading in the service report, cf. subsection (3).

(3) A service report shall be prepared at each service visit which shall be submitted to the owner of the wind turbine immediately after each service visit. The owner of the wind turbine shall store the service reports for as long as the wind turbine is in service. Furthermore, the owner of the wind turbine shall be responsible for reporting about the service completed and about the date of the next service to Energinet.dk, cf. Annex 2, point 5.

(4) In the event of major damage or damage affecting safety, the owner of the wind turbine shall immediately submit information about the event to the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme.

Certifying and approved companies

11.-(1) Companies that certify wind turbines and wind turbine projects, including quality management systems for manufacture, erection, maintenance and service pursuant to this Executive Order shall be

1) accredited by the Danish Accreditation and Metrology Fund (DANAK);

2) accredited by a similar, recognised foreign accreditation company which is a signatory to



the EA MLA (Multilateral Agreement of the European co-operation for Accreditation);
 3) approved by the Danish Energy Agency pursuant to Annex 3 to carry out certain tasks as mentioned in subsection (3); or
 4) approved by the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme pursuant to Annex 2, point 2, to carry out maintenance and service of wind turbines as mentioned in subsection (4).

(2) It shall appear from the accreditation documentation for certifying companies that this Executive Order has been covered by the accreditation. Similarly, it shall appear from

certificates to companies that carry out maintenance and service that this Executive Order has been covered by the certification.

(3) Companies that have been approved by the Danish Energy Agency on the basis of documentation for the required qualifications may carry out

1) type and prototype certification of wind turbines with a rotor area of 200m² or less, cf.

sections 5 and 6 and Annex 1;

2) project certification of wind turbines onshore with a rotor area of more than 200 m², cf.

section 7; and

3) certification for modification, relocation and use for testing and demonstration of wind turbines onshore, cf. section 8.

(4) Companies that have been approved by the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme may carry out maintenance and service on stall-controlled wind turbines with an installed capacity of up to 600 kW, cf. sections 10 and 11.

(5) Approvals issued by the Danish Energy Agency to carry out certification as mentioned in subsection (3), nos. 1-3, shall be granted for up to three years on the basis of an application with documentation for knowledge about the certification of wind turbines, cf. Annex 3, after which time they may be renewed on the basis of an application with documentation for certifications carried out in the most recent approval period. Approvals issued to carry out maintenance and service as mentioned in subsection (4), shall also be granted for up to three years on the basis of documentation as stipulated in Annex 2, points 2 and 3, after which time they may be renewed on the basis of an application with documentation for maintenance and service carried out on wind turbines in the most recent approval period.

(6) All companies that perform wind turbine certifications and maintenance and service, and wind turbine owners that have been approved to carry out maintenance and service on their own wind turbine pursuant to this Executive Order, shall be registered with the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme. For accredited and certified companies, valid documentation for certification and renewal of certification shall be enclosed with the registration request.

(7) If the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme has not received a copy of the certification renewal, cf. subsection (6), or an application for renewal of the approval, cf. section 9(4) or (5), 2nd clause, before expiry of the certification or the approval issued, access to register service and maintenance shall be denied, cf. Annex 2, point 5, and approval to carry out service and maintenance will have to be applied for anew.

12.-(1) Certificates issued pursuant to this Executive Order shall contain references to assessments and testing carried out.

(2) The certifying company shall



- 1) withdraw a certificate issued pursuant to this Executive Order if it is observed that the erected wind turbine or the wind turbine project, or the maintenance and service performed, are seriously flawed, or if it is observed that the prerequisites for certification have not been met;
- 2) regularly submit copies of certificates issued with associated certification reports and notifications on withdrawals of certificates to the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme;
- 3) after each audit by a certified service company, sign and forward documentation for completion to the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme, cf. Annex 2, point 1; and
- 4) store documentation for certificates issued, cf. sections 5, 7 and 8, throughout the wind turbine's design lifetime, as stated in the certificate.

(3) Approved companies that carry out maintenance and service shall, at least once a year, submit an updated list of wind turbine types that are being serviced to the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme.

(4) Certified and approved companies that carry out maintenance and service shall store service reports, cf. section 10(3), for at least five years.

(5) The Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme shall update and publish a list of valid certifications, cf. sections 5-8, and registrations of wind turbines, cf. Annex 1, point 2.

Administrative provisions, supervision and control etc.

13.-(1) The Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme has been established by the Danish Energy Agency to administrate this Executive Order, including supervise compliance with the provisions of this Executive Order. Furthermore, the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme is responsible for the technical certification basis, including coordination of standardisation work. The Secretariat also acts as the Danish Energy Agency's information and knowledge centre for the technical certification scheme.

(2) To assist with ongoing evaluation of the technical content and administration of the scheme, the Danish Energy Agency has appointed an advisory committee, the members of which include representatives of the wind turbine industry, wind turbine owners, Energinet.dk, grid and electricity supply companies, insurance companies, certifying companies and standardisation and research institutes etc. The Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme manages the practical tasks in connection with the meetings of the advisory committee.

(3) The Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme submits a report on its activities to the Danish Energy Agency once a year.

14.-(1) The Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme shall carry out ongoing supervision of the approvals issued pursuant to section 9(3), section 11(1), nos. 3 and 4. Furthermore, the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme shall carry out supervision of the performance of maintenance and service, cf. sections 9 and 10.

(2) The Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme may, independently of accrediting companies' inspections of certifying companies, collect information from the certifying companies, the certified and approved companies, the manufacturers and suppliers of wind turbines, and the owners of wind turbines, for use in its administration of the technical certification scheme.



(3) If the prescribed interval for maintenance and service has been exceeded by more than three months, or if there are other matters which conflict with this Executive Order, the Danish Energy Agency may order that such matters be rectified immediately or within a given time limit. The Danish Energy Agency shall notify the accrediting company of orders that relate to the certifications of accredited certifying companies.

(4) If the owner of a wind turbine fails to comply with an order concerning a missing certification or missing service and maintenance within the time limit set out in the order pursuant to subsection (3), upon recommendation by the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme, the Danish Energy Agency may order the owner of the wind turbine to stop operation of the wind turbine until matters have been rectified.

15.-(1) Costs of certification of wind turbines, including the related certification of quality management systems, necessary surveys, tests and inspections performed as part of the certification process shall be paid by the applicant.

(2) Costs of certification or approval of quality management systems for maintenance and service shall also be paid by the applicant.

Appeals

16.-(1) Appeals about decisions made by a certifying company and by the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme pursuant to the provisions of this Executive Order may be lodged with the Danish Energy Agency. Appeals shall be lodged in writing within four weeks of notification of the decision.

(2) Decisions by the Danish Energy Agency pursuant to this Executive Order may not be appealed to the Energy Board of Appeal.

Penalties

17.-(1) Unless a more severe penalty is due under other legislation, fines shall be imposed on any person who:

1) gives incorrect or misleading information to a certifying company, a company carrying out maintenance and service, or the Danish Energy Agency, or fails to give information if so requested; or

2) fails to comply with an order, cf. section 14(3) and (4).

(2) Companies etc. (legal persons) may be subject to criminal liability in pursuance of the regulations in Chapter 5 of the Criminal Code.

Entry into force etc.

18.-(1) This Executive Order shall enter into force on 1 February 2013.

(2) Executive Order no. 651 of 26 June 2008 on the technical certification scheme for the design, manufacture, installation, maintenance and service of wind turbines shall be repealed, and the notification from the Danish Energy Agency of 19 March 2010 on approvals of wind turbines with an electricity output of 25kW or less and a rotor area of 200 m² or less shall elapse.

(3) The final processing of applications for approval to carry out service and maintenance on wind turbines received by the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme before entry into force of this Executive Order shall be pursuant to this Executive Order.

(4) Certificates and approvals that have been issued pursuant to previous executive orders shall be valid until the expiry of these.



(5) The international standards mentioned in section 5(1), section 7(1) and Annexes 2 and 3 have not been announced in the Danish Legal Gazette but will be available for review at the Danish Energy Agency.

Ministry of Climate, Energy and Building, 25 January 2013

Martin Lidegaard
/ Ib Larsen

Annex 1
Certification of wind turbines with a rotor area of 40 m²
or less

1. Certification of wind turbines with a rotor area of more than 5 m²
and up to
40 m²

For wind turbines with a rotor area of more than 5 m²
and up to 40 m²
, as an
alternative to certification pursuant to section 5(1), the producer or the supplier can
opt for certification pursuant to the requirements below or similar requirements, cf.
section 5(2).

A certificate for testing and demonstration, including prototype certificates, may be
issued on the basis of an assessment of the structural safety of the wind turbine, cf.
section 2, however, such certificate does not cover quality, performance and service.
That is, the certification must cover the requirements mentioned in point 1.1, nos. 1-
3, or similar requirements.

1.1

The certification must, as a minimum, comprise testing of the strength of the tower
and rotor components (blades) and subsequent functional and operational testing. In
addition, a calculation of rotors and tower using the loads used in the testing must be
verified. The testing must, as a minimum, comprise:

- 1) Testing of the strength of an erected wind turbine tower subjected to a
horizontal thrust of at least 300 Newton/m²
rotor area at hub height.
- 2) Static testing of the individual rotor components mounted in a test stand with at
least 300 Newton/m²
rotor area/number of rotor components. The rotor
components must be subjected to flapwise loads in a 2/3 radius from the root.
For vertical axle wind turbines, the individual rotor components must be
subjected to similar loads relative to the attachment point(s) of the blades on
the axle, including the centrifugal force calculated for the rotor component.
- 3) Testing of the wind turbine device preventing runaway operation. This device
must be tested at a wind speed of at least 25% above nominal wind speed,
however, at least 12 m/s.
- 4) Guidelines must be drawn up informing users of the way the device works, and
how ongoing inspection and testing are performed, cf. no. 3.
- 5) Operational testing of a single wind turbine example until electricity production
has been achieved corresponding to at least 500 peak-load hours. However, the



testing period must be of at least three months' duration under Danish wind conditions or similar foreign wind conditions, and it must include at least two occasions with mean wind speeds above 12 m/s for a period of six consecutive hours. As a minimum, wind speed, output and energy production must be measured.

1.2.

The certification must comprise a source noise measurement, cf. section 5(3) of this Executive Order.

1.3.

For use when erecting the wind turbine, the turbine's structural safety must be assessed relative to the desired foundation design.

2. Certification of wind turbines with a rotor area of 5 m² or less

Wind turbines with a rotor area of 5 m² or less are exempted from certification, however, they may be registered with the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme, cf. section 5(6).

The registration must, as a minimum, comprise:

- 1) The name, postal address, telephone number and e-mail address of the manufacturer and possibly of the supplier.
- 2) A technical description of the turbine.
- 3) Technical data, including noise emission data.
- 4) A description of the turbine's safety systems.
- 5) Instructions for use and installation.
- 6) An operations manual.
- 7) Maintenance and service data.
- 8) Information about expected energy production.

Annex 2

Certification and approval of service companies, approval of owners to carry out maintenance and service of own wind turbines, and performance of maintenance and service.

Certification and approval of companies that carry out wind turbine maintenance and service, and approval of owners to carry out maintenance and service of own wind turbines, must be based on the requirements and procedures specified in points 1 or 2.

Point 3 specifies requirements and procedures for approval of the owner of a wind turbine to maintain and service his own wind turbine.

Point 4 specifies requirements for service inspections of wind turbines that have been in operation for longer than their design lifetime.

Finally, point 5 specifies requirements and procedures for reporting service inspections to Energinet.dk.



1. Certification of service companies by accredited companies

The certification of a service company must, as a minimum, provide documentation that the company has adequate experience and expertise within the field of wind turbine maintenance and service and has implemented a quality management system according to DS/EN ISO 9001:2008 or similar.

It must appear from the certificate that the requirements for maintenance and service of this Executive Order have been covered by the certification. Furthermore, a list of the wind turbine types and wind turbine sizes on which the company can perform maintenance and service must be specified in an annex to the certificate.

In connection with the certification, it must be ensured that the company has:

- 1) Service manuals for the relevant turbine types, as well as updates that affect the operation of the wind turbine. For existing wind turbines for which no specifications and service manuals prepared by the manufacturer are available, maintenance and service may be performed on the basis of a service manual prepared by the service company on the basis of the service performed so far on the relevant wind turbine type.
- 2) The required tools.
- 3) Personnel qualifying for the task at hand and according to the service manual.

1.1 Audits by the certifying company

In connection with each audit, the certifying company must ensure that the conditions for certification pursuant to the quality assurance standard used have been met.

Furthermore, at each audit, the certifying company must ensure that:

- 1) the company has up-to-date service manuals for all of the wind turbine types on which the company performs services;
- 2) service reports for each service visit are available in accordance with the service agreement entered into between the owner of the wind turbine and the service

company;

- 3) maintenance and service are performed by qualified personnel in accordance with the up-to-date manuals and the specified intervals for maintenance and service;
- 4) as required, a completed check list is available with documentation for the operational conditions of the wind turbine in accordance with the manuals for maintenance and service; and
- 5) any repairs and changes to, and replacements of, components have been performed in accordance with current service manuals.

Finally, the certifying company must

- 6) submit documentation for completed audits to the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme, which must include a list of the wind turbine types being serviced and the versions of relevant service manuals, dated and signed by the certifying company; and
- 7) perform random controls to check that maintenance and service of the turbine have been performed as described in the service reports.



2. Approval of service companies, cf. section 11(4)

An approval pursuant to section 11(4) of this Executive Order is granted to service companies that are able to document expertise in maintenance and service of wind turbines, including that they have personnel with documented experience.

The approval may also be granted on the basis of an application forwarded to the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme.

The application must, as a minimum, include:

- 1) a list of the types of wind turbine for which the company wishes an approval to carry out service;
- 2) a list of the relevant manuals for maintenance and service of the individual turbine types, and necessary updates, including version no./name of the manual;
- 3) documentation for previous experience with maintenance and service of the wind turbine types concerned;
- 4) list of the training and formal qualifications of personnel;
- 5) documentation for an implemented quality management system for maintenance and service of the relevant turbine types with a rotor area of more than 200 m².

The Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme may request supplementary material for use in case processing.

3. Approval in exceptional circumstances to carry out service and maintenance

An approval pursuant to section 9(3) of this Executive Order is granted to the owners of wind turbines with a rotor area of 200m² or less, if the owner can provide documentation for relevant training and adequate knowledge of maintenance and service of the turbine in question.

Furthermore, an approval may be granted to owners of certain older wind turbines with a rotor area of more than 200 m² which the owner has been servicing himself since its erection.

Similarly, a company which does not meet the conditions under section 11(4), or a

person, may be approved pursuant to section 9(3) to carry out maintenance and service on a specific wind turbine with a rotor area of 200m² or less, if the company or the person can provide documentation for relevant training and adequate knowledge of maintenance and service of the turbine in question.

The approval may also be granted on the basis of an application forwarded to the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme.

The application must, as a minimum, include:

- 1) The name, postal address, telephone number and possibly e-mail address of the owner.



- 2) Concrete information about the turbine to be serviced. Type (manufacture, size, etc.), location (siting), date of erection.
- 3) The GSRN registration number with Energinet.dk.
- 4) A detailed reason for applying to perform the service personally.
- 5) Documentation for training and knowledge about the relevant wind turbine.
- 6) A description of the scope and content of the regular maintenance (check lists), including information about the required service manuals.

The Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme may request supplementary material for use in case processing.

The approval elapses if the turbine is dismantled or sold.

4. Service inspection of wind turbines that have been in operation for longer than their design lifetime

Service inspection of wind turbines that have been in operation for longer than their design lifetime must, in addition to the service inspection performed in accordance with the service manual, as a minimum, cover an inspection and assessment of the wind turbine's structural parts in relation to the turbine's continued operation.

The extended inspection is explained in more detail in the guidelines to this Executive Order, including examples of the scope of the service inspection, as service inspection on wind turbines older than their design lifetime depends on the condition and design of the individual wind turbine.

5. Reporting of service

Pursuant to section 10(3), the owner of the wind turbine is responsible for reporting about the service completed and about the date of the next service to the master data register for wind turbines at Energinet.dk.

Reporting of regular maintenance and service must include the following for each wind turbine:

- 1) The date of the completed service visit.
- 2) The name of the company or person that has been certified or approved to carry out service and maintenance on the wind turbine.
- 3) The date for the next, regular service visit.

The date for the next service visit must be in accordance with the requirements of the service manual, however, no more than two years after the most recently completed service.

Certified and approved service companies must have access to register via

Energinet.dk's self-service system. Energinet.dk has prepared guidelines and a template for the reporting, which Energinet.dk will send to the certified or approved company.

Owners of wind turbines that have been approved to carry out service and maintenance of their own wind turbine, or persons that have been approved to carry out service and maintenance of a specific wind turbine, will receive a form from Energinet.dk for use when reporting about services completed.



Annex 3

Approval of companies that carry out certification of wind turbines

Points 1-3 specify requirements and procedures for approval of non-accredited companies and persons to carry out certification of wind turbines with a rotor area of 200 m²

or less, project certification of wind turbines onshore with a rotor area of more than 200 m²

, and certification for modifications etc., cf. section 11(3), nos. 1-3.

The approval may also be granted on the basis of an application forwarded to the Energy Agency's Secretariat for the Danish Wind Turbine Certification Scheme.

1. Approval by the Danish Energy Agency of companies to carry out certification of wind turbines with a rotor area of 200 m²

or less, cf. section

11(3), no. 1

An approval is granted to companies that are able to document their expertise in design and certification of wind turbines, including that they have personnel with documented experience.

The application must, as a minimum, include documentation of knowledge of:

1) Wind turbine types below 200 m²

.

2) The control and safety systems of wind turbines.

3) Wind turbine loads and specified load cases.

4) Structural, mechanical and electrical components.

5) Tower and foundation designs.

6) Static testing of blades and tower.

7) Testing safety systems.

8) Measurements of electricity output and energy production.

9) Measurement of loads.

10) Current standards for wind turbines below 200 m²

, including, in particular,

DS/EN 61400-2.

2. Approval by the Danish Energy Agency of companies to carry out project certification of wind turbines onshore with a rotor area of more than 40 m²

,

cf. section 11(3), no. 2

Approval is granted to companies that are able to document qualifications regarding project certification of wind turbines.

The application must, as a minimum, include:

1) Documentation for knowledge of, and experience with, project certification.

2) Instructions for project certification in accordance with DS/EN 61400-22.

3) Documentation for having implemented a quality management system in accordance with DS/EN ISO 9001:2008, or similar, for the delivery and erection of wind turbines.



3. Approval by the Danish Energy Agency of companies for modification, relocation and use after testing of wind turbines onshore, cf. section 11(3), no. 3

Approval is granted to companies that are able to document qualifications regarding modification and relocation of wind turbines.

The application must, as a minimum, include documentation of knowledge of:

- 1) Wind turbine designs.
- 2) Type and prototype approvals.
- 3) The operational life of wind turbines and wind turbine components.
- 4) Conditions linked to the erection of wind turbines in Denmark.
- 5) Foundation design.
- 6) Erection and putting into service of wind turbines onshore.
- 7) Testing safety systems.



6. Sources

Literature

- P.DE BOER, M.P. BROUWERS, W.KOETZIER – (2008) Basisboek Bedrijfseconomie, Achtste druk, Houten
- ALSEM, K.J. – (2005) Strategisch Marketingplanning, Vierde druk, Groningen
- KOTLER.P, KEVIN, L.K- (2006) Marketing Management, 12e druk, New Jersey
- MASCULL, BILL – (2010) second edition, Cambridge, Business Vocabulary in Use Advanced

Online resources

(n.d.).

AIG. (2013, September 1). *AIG*. Retrieved September 29, 2013, from Denmark risk ratings: http://www.aig.com/_2590_377115.html

Danish Energy Agency. (2012, Oktober 1). *Energy Efficiency Policies and Measures in Denmark*. Retrieved December 4, 2013, from Energy Efficiency Policies and Measures in Denmark : <http://www.ens.dk/sites/ens.dk/files/info/tal-kort/statistik-noegletal/indikatorer-energieffektivitet/Structure%20National%20Report%20ODYSEE%202012.pdf>

Danish Energy Agency. (2012, December 1). *ENERGY STATISTICS 2011*. Retrieved December 4, 2013, from ENERGY STATISTICS 2011: <http://www.ens.dk/sites/ens.dk/files/info/facts-figures/energy-statistics-indicators-energy-efficiency/annual-energy-statistics//Energy%20Statistics%202011.pdf>

Danish Energy Agency. (2013, December 1). *Danish Energy Agency*. Retrieved December 3, 2013, from Danish Energy Agency: <http://www.ens.dk/en/info/facts-figures/energy-statistics-indicators-energy-efficiency/annual-energy-statistics>

Danish Wind Industry Association. (2013, December 1). *Danish Wind Industry Association*. Retrieved December 1, 2013, from Danish Wind Industry Association: http://www.windpower.org/en/knowledge/statistics/industry_statistics.html

Danish Wind Industry Association. (2013, December 1). *Danish Wind Industry Association*. Retrieved December 2, 2013, from Danish Wind Industry Association: http://www.windpower.org/en/knowledge/statistics/industry_statistics.html

Danish Wind Industry Association. (2013, December 1). *Danish Wind Industry Association*. Retrieved December 2, 2013, from Danish Wind Industry Association: http://www.windpower.org/en/knowledge/statistics/the_danish_market.html

DKVIND. (2013, December 20). *DKVIND*. Retrieved Maart 6, 2014, from Priser: <http://www.dkvind.dk/html/konsulenter/priser.html>

Drukkerij Rotterdam. (2014, Februari 26). *Drukkerij Rotterdam*. Retrieved Februari 27, 2014, from Folders drukken of printen: <http://www.drukkerij-rotterdam.nl/folders.html>



- Heritage. (2013, November 1). *Heritage*. Retrieved November 20, 2013, from Denmark, Index of Economic Freedom: <http://www.heritage.org/index/country/denmark>
- INC. (2012, December 1). *INC*. Retrieved December 6, 2013, from Industry Life Cycle: <http://www.inc.com/encyclopedia/industry-life-cycle.html>
- Leonardo Energy. (2012, Oktober 12). *Leonardo Energy*. Retrieved November 1, 2013, from Denmark: Community Wind Power in Retreat: <http://www.leonardo-energy.org/sites/leonardo-energy/files/documents-and-links/0217%20Turbine%201200V2%20pixels.jpg>
- Naturlig Energi. (2013, December 1). *Naturlig Energi*. Retrieved Maart 6, 2014, from Annoncer: <http://www.naturlig-energi.dk/cms/annoncer>
- Rabobank. (2013, September 19). *Economics Rabobank*. Retrieved November 5, 2013, from Country Report Curacao: <https://economics.rabobank.com/publications/2013/september/country-report-curacao/>
- The Economist Intelligence Unit Limited. (2013, November 20). *The Economist Intelligence Unit Limited*. Retrieved November 20, 2013, from Risk ratings Ireland: http://viewswire.eiu.com/index.asp?layout=RKCountryVW3&country_id=1380000138
- Trading economics. (2013, September 1). *Trading Economics*. Retrieved November 2, 2013, from GDP Growth Denmark: <http://www.tradingeconomics.com/denmark/gdp-growth>
- Trading Economics. (2013, September 1). *Trading Economics*. Retrieved November 3, 2013, from Terms of trade Denmark: <http://www.tradingeconomics.com/denmark/terms-of-trade>
- Trading Economics. (2013, September 1). *Trading Economics*. Retrieved November 10, 2013, from Interest Rate Denmark: <http://www.tradingeconomics.com/denmark/interest-rate>
- Trading Economics. (2013, November 1). *Trading Economics*. Retrieved November 15, 2013, from Inflation Denmark: <http://www.tradingeconomics.com/denmark/inflation-cpi>
- X Rates. (2013, November 1). *X Rates*. Retrieved November 10, 2013, from DKK: <http://www.x-rates.com/table/?from=DKK&amount=1>
- Zeevrachtcator. (2013, December 1). *Zeevrachtcator*. Retrieved Februari 9, 2014, from Zeevrachtcator: <http://www.zeevrachtcator.nl/>

