Moving into the South African emerging market

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Date: 20 January 2012
Acknowledgements

This thesis is a conclusion to my Masters in International Marketing and Management at Copenhagen Business School.

Writing this thesis has been hard and enjoyable. It has definitely changed my view of institutions and their roles in society especially concerning emerging markets. Renewable energy is key to saving the planet and wind energy has a bright future.

Many people deserve to be thanked for their participation in my thesis. James White at Vestas, South Africa for his cooperation throughout the project. I would also like to thank Helge Rosenberg for sharing the experiences of Haldor Topsøe in South Africa. And finally my supervisor Søren Jeppesen who never lost faith in me and furthermore for his constant guidance and support from the start to finish of my thesis.

Copenhagen Business School, January 20, 2012

Jacob Chipe Brolund
Executive Summary

Multinational companies are increasingly focusing on emerging economies in the developing world for new growth opportunities as developed markets become more saturated and competitive.

The thesis evaluates the most appropriate strategy and entry mode for Vestas in South Africa with a focus on the formal institutional requirements. The paper focuses on the energy institutions in South Africa along with the degree of local resources required to manufacture wind turbines in South Africa at this present time. Considering these factors, the most suitable strategy and entry mode must be used.

The wind energy industry in South Africa is about to take off. The global wind players are in South Africa formulating contracts with local independent power producers to gain approval by the Department of Energy. Approximately 1850MW is to be produced via wind energy.

The wind energy industry for large-scale wind production is very underdeveloped with only one large-scale wind tower and blade manufacturer. Global wind energy suppliers will initially have to leverage their domestic market resources and capabilities in order to operate in South Africa.

According to affirmative action legislation, known as Broad Based Black Economic Empowerment at least 25% of a company’s employees should be black South Africans. The main purpose of the legislation is to increase the empowerment of black South Africans in the economy.

Vestas needs to maximise its local content value i.e. have the largest local portion of the total construction cost in South Africa. A joint venture mode of entry coupled with a network-based strategy should be implemented in order to access the necessary local resources. A network based strategy would enable Vestas to reach the goal of a fully green field operation as they would become more familiar with the relevant industries that have the capabilities but currently lack the know-how to manufacture wind turbines.
Abbreviations

The main terms used in this paper are; institutions, wind energy, broad based black economic empowerment, black economic empowerment, economic development, joint venture, network based strategy.

BBBEE Broad Based Black Economic Empowerment
BEE Black Economic Empowerment
CSIR Council for Scientific and Industrial Research, South Africa
CSR Corporate Social Responsibility
DOE Department of Energy, South Africa
DTI Department of Trade and Industry, South Africa
EBIT Earning Before Interest and Tax
EDC Economic Development Scorecard
EPC Engineering Procurement Construction Turnkey Solution
FDI Forward Direct Investment
GDP Gross Domestic Product
IFDI Inward Foreign Direct Investment
IRP Integrated Resource Plan
IPP Independent Power Producers
JV Joint Venture
MNC Multinational Corporations
MRPSA Main Stream Renewable Power South Africa
NERSA National Energy Regulator of South Africa
REFIT Renewable Energy Feed-in Tariff
RISO Risø Renewable Energy Institute
ROIC Return on Invested Capital
SAICE South African Institute for Civil Engineering
SANERI South African Energy Research Institute
SAWEA South African Wind Energy Association
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Wind energy in South Africa has been a hot topic in recent years coupled with and increases in foreign direct investment. Within the last year activity in the South African wind energy industry has significantly increased with the Department of Energy (DOE) listing the requirements expect for onshore wind procurement and independent power producers (IPP) to meet in order to receive permission to set up full-scale renewable energy facilities. Vestas will solely be contracting with IPPs and together they must work to present a renewable energy procurement proposal to the DOE.

South Africa is currently experiencing an energy crisis in terms of being unable to meet current as well as future forecasted energy demands. At the moment the demand for electricity in South Africa is 250TWh but the current installed capacity is only 44GW (Van der Merwe, 2010). The demand for electricity is expected to increase significantly over the next few years and furthermore the current institutional environment will struggle to meet the targeted economic growth rate of 6% in 2014 (Van der Merwe, 2010). South Africa is amongst the top 20 green house gas emitters in the world and without a proper sustainable renewable energy plan their contribution to green house gases will only increase (United Nations Environment Programme). At the COP15 climate change conference in Copenhagen Dec 2009, the president of South Africa announced South Africa’s plans to reduce green house emissions by 34% below “business as usual” levels by 2020 and 42% by 2025 signifying South Africa’s intention to move towards becoming a greener economy (Wiesegart, Dubois, Sommer, Weisheng, & Yang, 2011).

South Africa is in a post apartheid era, and subsequently there have been a lot institutional changes that are still on going with two main focus points being black economic empowerment (BEE) and economic development. Due to apartheid, social segregation has been a major issue and in an attempt to bring some wealth to the black community The Broad Based Black Economic Empowerment Act (BBBEE) was released in 2003. The South African Government with the aim of promoting corporate social responsibility (CSR) in South Africa with the focus of the historically underprivileged black community has developed regulations with the aim to persuade
companies and enterprises to distil the social segregation in South Africa through BBBEE. Companies must meet the requirements of the BBBEE scorecard i.e. a percentage of workforce must be from the black South African community, in order to score points and give them a better image in the industry. And increase their chances of support from the government e.g. get granted necessary contracts in the order for them to operate efficiently in South Africa. The point of BEE is clear, but it has its criticisms in terms of its effectiveness. Forcing companies to make their choice of employees based on colour primarily is proving to have its positive and negative effects on the country. Furthermore for multinational companies attempting to operate in South Africa, meeting the requirements of the BBBEE scorecard has been viewed as an extra challenge to deal with on top of South Africa’s weak institutional environment. Wind technology solutions can be a major factor in contributing to South Africa’s attempt to reduce green house gas emissions and stimulate economic growth.

South Africa has abundant wind and solar reserves and thus it is up to the government to transform wind into secure reliable energy that will in turn benefit the economy in terms of economic growth (Swarts, 2011). A report by Mainstream Renewable Power South Africa (MRPSA), has stated that, Eskom, the wholly owned state utility responsible for delivering electricity to the entire nation has received applications to supply wind energy to the national electricity grid in excess of 10500 MW. This is in part due to South Africa’s Renewable Energy Feed in Tariff (REFIT) implemented to encourage the application of renewable energy technologies, namely wind and solar energy, as well as other recent policies. Over the next 5 years it is believed according to a report by MRPSA, that 5GW of installed wind capacity can generate 13TWh amounting to 5% of South Africa’s energy demand. Furthermore MRPSA has stated that if South Africa remains committed to wind energy, 25% of the electricity generated could be from wind by 2025. These points are a clear indication of the potential of wind energy in South Africa. The resources are abundant and there are positive signs from private investors and institutions alike.

In 2003 the Department of Energy (DOE) published the Renewable Energy White Paper stating their renewable energy intentions and declaring a goal of 10,000GWh of renewable energy to be installed by 2013, namely from wind, solar, small-scale hydro
and biomass (Department of Energy (2), 2011). The main purpose of the White Paper was to encourage the implementation of renewable energy and integrating it into the existing energy portfolio (Department of Energy (2), 2011). Subsequently the National Energy Regulator of South Africa (NERSA) established the REFIT in 2009 with two main purposes in mind, developing the institutional framework pertaining to renewable energy in order to reach the goal of 10,000GWh by 2013, and making renewable energy developments sustainable in order to reach future targets (National Energy Regulator of South Africa, 2011).

Vestas has been present in Africa but mainly on the Northern coast, thus Vestas is not new to emerging markets in Africa. Vestas officially entered the South African market in June 2010 opening an office for enquiries concerning the Southern African region. South Africa is a very different market and for renewable energy multinational companies (MNCs) i.e. Vestas subsidiary ownership is limited in South Africa and a strict and harsh set of qualification and evaluation criteria is to be met if they are to establish themselves in the country.
Problem Formulation

Competition for market share in the wind energy market is aggressive. From 2007 to 2009 Vestas market share decreased from 28% to 14% (Reuters UK, 2010). Vestas has not been performing well financially in the wind energy market primarily due to recent slow growth in the global wind energy industry and increase in costs. However Vestas still is maintaining their position as global leaders in modern energy. The market share available for Vestas to acquire is limited but they believe that in the future the market will expand in South Africa and subsequently pave a way for other emerging economies to follow a road to a greener and a more sustainable future. South Africa’s institutions have been undergoing significant reforms pertaining to the wind energy industry. Furthermore facilities are limited for full-scale wind energy production due the industry being very young. Acquiring the desired human capital has its limitations in terms of available skilled workforce.

Emerging markets characteristically have weak institutions and the degree of the weakness of the institutions varies from context to context. Research in the area of institutions has shown that institutions play a large part in determining the strategy a firm can implement when entering a foreign market, and this is more apparent for foreign firms entering emerging markets. Additionally focus on foreign firms strategy has been on arranging resources and capabilities in manner that leads to a sustainable competitive advantage. However (Meyer K. E., Estrin, Bhaumik, & Peng, 2008) believe that the level of required resources is also very important in determining a foreign firms entry strategy. South Africa is an emerging economy and by definition has a weak institutional environment therefore making the analysis of the institutions relevant for this project.

Problem Statement

What is the most appropriate strategy and entry mode for Vestas in South Africa?
Sub Questions:

- What is the state of the institutional environment in South Africa concerning energy?
- What are Vestas main requirements in the South African market and level of industry development?
- Which is the most appropriate entry strategy for Vestas in the current South African wind energy market?

**Objectives**

The project will be an assessment of the South African energy industry with a focus on renewable energy reforms primarily focusing on wind energy. This will help wind energy multinational companies in terms of understanding policies and the considerations that must be taken when deciding which strategy to implement in South Africa and subsequently entry mode at this moment in time. The main aim of the project is to assess the challenges i.e. market inefficiencies Vestas will have to face when setting up a foreign subsidiary in the South African renewable wind energy market. I will be assessing the institutional environment focusing on institutions relating to the wind energy industry. Furthermore I will be assessing the degree to which resources are required by Vestas in the foreign market and their availability based on the development of the market and industry.

From the information gathered I will determine the most appropriate strategy for Vestas in South Africa i.e. network based or market based and advise which mode of entry i.e. greenfield, joint venture or acquisition is the most feasible.

**Masters Thesis Demarcations**

The project will primarily focus on Vestas in South Africa i.e. the South African renewable energy market. Thus the project will be limited to institutions in the South African economy that concern the South African wind energy market. Considering modes of market entry I will only be addressing equity modes of entry (Tse, Pan, & Au, 1997) and not, non-equity modes of entry because non-equity modes are not considered by Vestas.
The first chapter, which has just been covered, outlines the main overall objectives and areas that I plan on staying within during the course of this project.

The next two chapters, 2 – 3, will identify the method by which this project will be conducted and furthermore discuss the main theories that will be used and finally a framework will be developed based on the theoretical discussion to conduct the empirical analysis.

Next, section 4 will briefly look at Vestas situation in the global market to identify reasoning and motivations for expanding to South Africa.
Section 5 will concern analysing the South African and foreign direct investment in South Africa and furthermore address its economic and political stability and finally the level of infrastructure development.

Section 6 will take a look at the wind energy market and the energy situation in South Africa and overall the possibility of wind turbine manufacturing in South Africa.

Section 7 will concern a more in-depth analysis of the institutions pertaining to wind energy in South Africa, what the main constraints they impose on Vestas are, and possibly what can be done to alleviate them.

Section 8 will concern advising Vestas what would be the best strategic choice based on the information gathered in the project.

In section 9 I will then make an overall conclusion of the project and make possible recommendations Vestas might consider in the future in South Africa.

**Methodology**

I will be discussing and outlining the research tools and methods that will be considered for this project.

**Research Philosophy**

There are three types of research philosophies commonly utilised that are known as positivism, interpretivism and realism (Saunders, Lewis, & Thornhill, 2003).

I will be adopting the philosophy of positivism in this project. The view of positivism says, I the researcher is independent and viewing the social world objectively and moreover taking the role of an objective analyst (Blumberg, Cooper, & Schindler, 2008). A conclusion based on objective facts adds more strength. For me to advise Vestas on the most appropriate strategy and entry mode, facts should support my reasoning. From the view of positivism knowledge develops by investigating social reality through objective facts (Blumberg, Cooper, & Schindler, 2008). Institutions
represent social reality and the requirements they create are facts i.e. they cannot be
denied. Humans shape social reality and in this case institutions are formed by society
and represent social reality together forming a collective goal that is ultimately for the
benefit of society. I believe that information gathered could to a degree provide
Vestas with recommendations as to what is the best strategy for Vestas in South
Africa and ultimately the current most feasible entry strategy in South Africa.

I understand that research is based on reasoning (theory) and observations (data or
information) and how they relate to each other (Blumberg, Cooper, & Schindler,
2008). People will relate reasoning and observations differently and as a result
different conclusions will be drawn. Thus I will from my perspective and respecting
the philosophy as strictly as possible, draw a justifiable conclusion that I hope will
give insight in my chosen field of study.

**Research Approach**

There are two main research approaches that are to be used: to be deductive or
inductive.

Due the nature of my research I felt it was necessary to take a general approach in
order to explore many analytical scopes. This was necessary to conduct my research
in a more comprehensive manner Thus I choose to start off with a inductive angle as
to be inductive is to draw a conclusion from one or more particular facts or pieces of
evidence i.e. the conclusion explains the facts and the facts support the conclusion
(Blumberg, Cooper, & Schindler, 2008). Taking this approach will allow me to move
more organically throughout the research process as opposed to sticking to fixed
theoretical frameworks that would force me to make considerations that bear less
meaning to this project. Therefore the facts I will uncover will lead to explanations
that I shall explore further which will result in a more justifiable conclusion. I will be
assessing the wind energy industry which I know before hand is not very developed,
thus to assess explicitly, the levels of competition for example, would not bear much
meaning. It would be more important to assess the factors Vestas should know now
e.g. infrastructure level and capabilities that are necessary exist in the industry needed
for manufacturing. Furthermore being inductive would allow me to investigate institutions thoroughly.

Thus from the view presented above I will say my research is primarily inductive. Furthermore it will allow more freedom in my research.

**Research Strategy**

With the problem statement defined and objectives of the project outlined, I can now define the research strategy for this report. The research strategy defines the manner in which you will answer your research question. There are five main research strategies to choose from (Thomas A. B., 2004): - experimental, survey, case study, ethnography, and action research. The type of research study you implement depends on the association between disciplines, research strategies and research methods chosen. My research strategy is, the case study strategy, as the research methods that will be implemented will consist of interviews, and the analysis qualitative and quantitative information, which fall under this category. Hence I will be engaging in an explanatory case study (Thomas A. B., 2004). An explanatory case study according to (Yin, 1981) consists of a precise interpretation of the facts of the case as well as considering other explanations for the facts and finally a conclusion based on a single justification that seems to correspond with the facts. Hence, this strategy is perfect for answering my problem statement as I aim to use data to try to explain a situation (state of the wind energy industry in South Africa) and try to conclude on what is the most appropriate move for Vestas based on the information that I can harvest.

**Data Collection Methods**

Choosing the correct data collection methods is a fundamental step in planning a project. “Knowing which data-gathering methods or combinations of methods to use depends on a number of factors, such as organizational culture, environment, policies, and the, or the causality that drove the project” (McClelland, 1995). Thus I will consider these factors, namely the South African market, the wind energy industry, institutions, and an overview of Vestas to the degree that it aids this project.
**Primary Data**

The primary data consists of interviews with people concerning my report to compliment and confirm my findings.

The interviews will be open semi-structured interviews. The purpose of the interviews is to get more explicit insight into the market in question i.e. South Africa as well as finding the institutional constraints a Danish company might have to encounter in South Africa. An initial interview with Vestas Sales and Account Manger in South Africa, James White was carried out in order to find out what some of the issues Vestas is facing in South Africa are and what would be the main issues in the time to come. The following interviews were more explanatory in terms of trying to get more insight into the issues that Vestas would be facing, by talking to, Danish Companies who have been operating in South Africa. The rest of the interviews were carried out in order to find out how the institutions pertaining to the wind energy industry were functioning and the requirements of a MNC entering South Africa and the experiences from a Danish, MNC in order to learn from them and resultantly develop a more appropriate strategy.

Conducting the interviews was quite time consuming and thus planning in advance was quite important in order to get the most out of each interview. The interviews were all conducted via telephone. Contacting Vestas in South Africa was fine and James White was very cooperative. Contacting the necessary institutions namely the DOE in South Africa was an extremely daunting task. Representatives of the various institutions were reluctant to give very basic information and thus passed me onto more senior management who passed me onto other employees and in most cases resulted in nothing. Thus I was forced to contact relating institutions in the hope getting more insight in the workings of the institutions in South Africa.

The interviews I did manage to conduct are shown in the table on the next page. Most of the people interviewed were involved in operations concerning wind/renewable energy in South Africa and foreign MNCs conducting business in South Africa as well as a Vestas representative in South Africa.
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<th>Interviewee</th>
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<td>Vestas</td>
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<tr>
<td>James White</td>
<td>Sales and Account Manager</td>
<td>Vestas, South Africa (Pty)</td>
</tr>
<tr>
<td>Energy Institutions South Africa</td>
<td></td>
<td></td>
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<tr>
<td>Tamai Hore</td>
<td>Generation and Licensing Engineer</td>
<td>National Energy Regulator of South Africa</td>
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<td>Shanon Jacobs</td>
<td>Senior Energy Advisor</td>
<td>Eskom</td>
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<td>Danish Embassy</td>
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<td>Jacques Pretorius</td>
<td>Trade Officer</td>
<td>Danish Embassy, South Africa</td>
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<td>Danish Multinational Companies in South Africa</td>
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<td>Helge Rosenberg</td>
<td>Area Manager, (Africa)</td>
<td>Haldor Topsøe</td>
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**Secondary Data**

The data collection method that will primarily be used in my project will be secondary, considering the nature of my project, which includes both quantitative and qualitative data types. Secondary data will help give a more comprehensive understanding of the South African market in general as well as the wind and renewable energy industry and the institutional policies.

**Literature**

To give the report more credibility and reliability I aim to use information from trusted sources. There are two main categories of literature are namely primary and secondary sources (Blumberg, Cooper, & Schindler, 2008).

**Primary sources:** Full text publications of theoretical and empirical studies that will represent the original work i.e. conceptual literature.

**Secondary sources:** These are mainly compilations of information found in either printed or digital form i.e. trade literature and published statistics, institutional policies and company annual reports.
Both sources of data have been used in this project and the source of data used will depend upon the nature of the project. Considering the research approach outlined previously i.e. induction, I would be using both sources. The primary sources of information that will be used are from published articles and journals as well as textbooks concerning the relevant fields of study i.e. marketing and strategy. The secondary sources of information will primarily be found online in the form of annual reports and published statistics, websites concerning the relevant market and industry i.e. South African market (Government publications), wind energy industry and energy institutions (DOE). Secondary data will also be obtained via various contacts within the industry. It is important to be critical when choosing the data to be analysed in terms of strengths and weaknesses (Blumberg, Cooper, & Schindler, 2008) in order to select more significant information relating to the research question and subsequently strengthen the credibility and reliability of the project.

**Credibility of Research Findings**

When conducting research the issues of how reliable and valid the data used to support your conclusion is, relates to the method chosen to conduct the research (Blumberg, Cooper, & Schindler, 2008). Thus it is important that these possible issues are taken into account.

I conducted this project independently. The issue of determining the most appropriate strategy and entry mode for Vestas is expressed from my view and subsequently my findings. The data collected concerning Vestas and South African institutions is predominantly from the interviews carried out along with information provided by Vestas, and the various institutions as well as other secondary sources of data that I deemed reliable. Therefore how valid the information provided depends on the interviewee’s conception of the relevant institutions operations concerning the renewable energy market in South Africa and foreign MNCs in South Africa. Thus I chose to interview people who were involved in either area in order to justify the reasoning for interviewing them and increasing the credibility of the report. However from the feeling I got from interviewing the representative of the National Energy Regulator of South Africa (NERSA) i.e. being wary of providing information, their
response could be somewhat biased i.e. only disclosing information at a very inexplicit level.

However concerning the external validity you could argue that my finding could be, “generalising”. The findings are derived by following an analytical framework built on the knowledge of the relevant theories for the report. It was built with the objective of answering my research question that attempts to choose the most appropriate strategy and entry mode for Vestas in South Africa with the primary factors influencing the decision being institutions and Vestas, industry conditions and the context. The framework covers some factors that influence a firm’s strategy but certainly.

Research in African markets has its constraints concerning access to reliable and current data. Furthermore South Africa’s institutional framework has been going through a process of deconstruction and reconstruction since the end of apartheid in 1994. Post 1994 a few foreign multinationals entered which only signifies the importance of a focus on institutional analysis now, not just because it is an emerging market.

The finding of this project will provide insight into the renewable energy market and furthermore the South African governments, “commitment” to a greener future. Vestas would have probably covered most areas of this report but as an paper for Danish MNCs entering the renewable energy market I aim to highlight the main constraints and also provide insights into the current main institutional and market constraints for those that know nothing of the market. However the fact that must be remembered is that most of the findings are from a theoretical aspect. Vestas in South Africa thought it would be good to conduct a more current institutional analysis concerning the renewable energy market and were very cooperative and helped in whatever way they could.

The illustration on the next page is based on (Saunders, Lewis, & Thornhill, 2003), identifies the main methodological factors this report will embrace when being directed by the theoretical framework to answer the research question.
Theories and Models

The market being analysed is an emerging market so it essential that the right concepts and theories are used in order to analyse this market. The main theories that will be discussed and used in the report are institutional theory and the resource based view of the firm as well some of the most relevant entry modes for a firm attempting to enter an emerging economy. The institutional theory framework will be used to analyse the South African market and more particularly the renewable energy market focusing on wind energy. I will also be discussing the resource-based view and other models and theories that will be used in the analysis of the institutional framework and the resources and capabilities Vestas requires.
Emerging Markets

Before progressing further in the project I would like to clarify the definition of an emerging market in order to highlight the, “emerging market” factors that are most relevant for this project. By definition (Oglesby, 2007) an emerging market is, “a country that attempts to transform its economy by improving its operation to the levels of the world’s more advanced nations”. In other words emerging markets are countries that are making an effort to improve their institutional environment and most importantly are progressing positively.

One way of improving emerging markets is by implementing (Heakal, 2009) reform programs that open their market and resultantly the market can become more noticed on the global scene subsequently attracting more foreign investment. Hence signs of economic development and the increase in the level of inward foreign direct investment (IFDI) can be viewed as positive signs for an emerging market. Collectively emerging markets rank just below developed markets in terms of size, information availability and governance i.e. emerging markets institutions are weaker than developed market institutions. According to the International Finance Corporation (IFC) emerging markets vary in terms of market size and openness, broad market information, firm specific information, market transparency and market liquidity (Li & Hoyer-Ellefsen, 2008).

In short emerging markets differ immensely in terms of size, availability of information as well as governance systems. Size whereby developed markets tend to be much bigger economically. Availability of information whereby emerging markets tend to have limited access to rich, current and reliable information in comparison to developed markets. And finally the governance systems, that pertains to institutional framework and particularly how it is arranged in order to accommodate business transactions in the most efficient and legitimate manner.

Overall I will be focusing on the governance system i.e. institutional framework in South Africa but will consider the effects of limited information available and how these factors affect Vestas choice of entry strategy.
Theories and Models for Discussion

Reconstruction - Source: (Peng M. W., 2000; Meyer, Estrin, & Bhaumik, 2008)

In this section I will discuss the main theories and models that will be used in this report. There are three main areas that I will be analysing in this report. The model is based on (Peng M. W., 2000; Meyer, Estrin, & Bhaumik, 2008) and his main focus in the article in on how institutions drive strategy in emerging economies coupled with the analysis on resources and capabilities and industry conditions. Assessing industry condition and firms resources and capabilities is standard when deciding which is the best strategy to enter a market. But assessing institutional informal and formal constraints are fundamental when the market in question is an emerging market.

Research by (Peng M. W., 2002) has recognised the significance they play in shaping emerging market strategy. Additionally research by (Meyer K. E., Estrin, Bhaumik, & Peng, 2008) has recognised the significance the level of resources required i.e. tangible and tangible coupled with institutional constraints in determining strategy in an emerging context. Together assessing an organisation, industry and the institutional factors embedded in society to determine a strategy is quite interesting and relevant in emerging economies. South Africa is a unique market, which I believe even, makes investigating these factors more relevant. Multinational companies must embrace this fact in order to formulate an appropriate strategy in emerging markets. Strategies that have worked for MNCs, which meant focusing on the top of the economic pyramid has not, been successful in emerging economies justifying this angle of view strategy, even more so for this report.
Institutions: Informal and Formal Constraints

I mentioned previously that institutional analysis is more appropriate when the market in question is, an emerging market as opposed to a developing market as these two markets differ to a great degree (Meyer & Peng, 2005) in terms of institutional strength. The market in question is the South African market, therefore the use of an institutional framework for the analysis of this market was deemed appropriate.

Background

Institutions are fundamental because they provide the incentive structure of an economy, shaping the direction of the economy towards growth, stagnation or decline (North D. C., 1991). In South Africa it will be the institutions pertaining to energy that will influence the level of IFDI concerning wind energy and which energy technologies are favoured more than other e.g. wind or solar. (Peng M. W., 2002) Argues that since no organization can be immune from institutional frameworks it is clear that institutions matter. Looking at institutions from a more broad view. Institutions are, “the rules of the game” in the market being entered (North D. C., 1990). They influence firms significantly in terms of which strategy to implement when entering a foreign market (Peng M. W., 2003). Earlier research in the institutional environment focused on more mature and stable environments and little on more rapid and turbulent institutional environments (Chung & Beamish, 2005). Recent research in the field of institutional analysis has revealed that institutions are more than background conditions in an environment, but they actually determine, “what arrows a firm has in its quiver” as it battles to devise and apply strategy and create a competitive advantage (Ingram & Silverman, 2002). The purpose of institutions in a market economy is to ensure that and the market supporting institutions function effectively in order for firms and individuals to engage in market transactions without encountering uncalled-for costs or risks (North D. C., 1990).
Institutions involve legal systems, making sure they are properly administered. Property rights as well as regulatory administrations are examples of institutions that affect market transactions.

One of the main differences between institutions in developed and emerging markets is underdevelopment of institutions in emerging markets in comparison to developed markets (Meyer K. E., Estrin, Bhaumik, & Peng, 2008). In developed markets the market supporting institutions are strong and still very important, however due to them being highly efficient, are almost not noticed (Meyer K. E., Estrin, Bhaumik, & Peng, 2008) and subsequently need less attention. In emerging markets institutions are weak due to various constraints affecting the efficiency of the market supporting institutions. Thus institutions are strong if they encourage voluntary exchange, which is the basis for an effective market mechanism, while on the other hand institutions are weak if they fail to guarantee effective markets (Meyer, Estrin, & Bhaumik, 2008). Institutions are responsible for having knowledge of business partners concerning their behaviour in the market in order to reduce information asymmetries, which is one main sources of market failure (Arrow, 1971; Casson, 1997). Therefore weak institutions result in a shortage of transparent financial data and other information pertaining to firms as well as a limiting the amount of required specialized financial agents (Khanna, Palepu, & Sinha, 2005). Reinforcing institutional frameworks particularly in emerging economies reduces the cost of doing business (Bevan, Estrin, & Meyer, 2004) due to the reduction in transaction costs and increase in efficiency of market transactions.

The fact is that macro-level institutions affect transactions when looking at country level legal and regulatory frameworks (Meyer K. E., Estrin, Bhaumik, & Peng, 2008). Institutions are put in place in order to limit transaction costs and subsequently move in a direction that results in a strong institutional framework (Hoskisson, Eden, Lau, & Wright, 2000). Institutional research primarily focuses on institutions in developed nations and due to the strength of the market supporting institutions and how effective they were little attention was directed to the effects of institutions in emerging markets (Peng M. W., 2002). However numerous researchers have recognised the significance of institutional theory in emerging markets and how they affect organizations strategies and even entry mode (Hoskisson, Eden, Lau, & Wright,
Furthermore according to (Peng & Heath, 1996) it is the institutional framework in developing markets that leads western organizations to choose certain strategies and avoid choosing others.

**Three Pillars of Institutions**

According to (Scott, 1995) institutions are social structures that are made up of cultured-cognitive, normative and regulative elements coupled with various activities and resources that provide stability as well as meaning to social life. The three pillars of institutions collectively make up the formal and informal constraints that differ in terms of basis of compliance, mechanisms, logic, and indicators as well as basis of legitimacy (Scott, 1995). (North D. C., 1990) Views institutions as restrictions developed by man, in order to direct human interaction. As a result, institutions motivate human interaction from a political, social, or economical perspective. The institutional environment from the view of (Davis & North, 1971) is the set of essential political, social, as well as legal rules that make up the three pillars of institutions that are necessary for production, exchange and distribution.

**Formal and Informal Constraints**

The institutional framework consists of a complex mix of rules, enforcement and norms (North D. C., 1990) i.e. informal and formal constraints, which organizations must consider. According to (North D. C., 1990) institutional theory focuses on the role of the political, social and economic systems surrounding firms in shaping their behaviour. Formal constraints consist of political rules, judicial decisions, and economic contracts. While informal constraints consist of socially sanctioned norms of behaviour that are embedded in culture and ideology (Scott, 1995). Formal constraints determine the legitimate variety of entry choices, however informal constraints could also affect the entry mode (Meyer, Estrin, & Bhaumik, 2008). For example foreign firms might be restricted to hold a certain amount of equity stake due to legal boundaries (Delios & Beamish, 1999) however local firms who are more accustomed to the informal constraints may use bribery to get what they want and resultantly have the upper hand in the local context (Peng M. W., 2003). Subsequently firms respond by trying to formulate a strategy that allows them to avoid these transaction costs i.e. overcome these constraints (Meyer, Estrin, & Bhaumik, 2008). I mentioned previously that in the west, market supporting institutions are so strong
they are virtually invisible, because the formal constraints are so strong. (North D. C., 1990) Says that when formal constraints fail, then informal constraints will be triggered as the institutional framework attempts to reduced uncertainty and deliver stability to organizations, which is the case in emerging markets due to their weak institutional framework.

**Stability and Legitimacy and Efficiency**

Taking into account institutional pressures we assume organisations are interest driven. Their responses are a result of the environment they are in, as they attempt to respond to external demand and expectations, while attempting to obtain stability and legitimacy (Oliver, Strategic Responses to Institutional Processes, 1991). The institutional forces have both an economic aspect and a sociological (Powell & DiMaggio, 1991) aspect, focusing on efficiency and legitimacy (North D. C., 1990). The result is institutions influencing organizational strategy to the degree they deem appropriate for organizations that are able overcome the institutional pressures i.e. stability and legitimacy (Oliver, Strategic Responses to Institutional Processes, 1991).

Firms aim for stability and legitimacy while trying to fulfil the interests of the organization. Institutional frameworks try to direct organizations in this way by interacting with them, signalling which choices are acceptable and supportable and subsequently aiding the reduction of uncertainty (Peng M. W., 2002).

**Institutional Transitions**

Many scholars have respectively critiqued the institutional theory. The overall argument is that the institutional theory on its own could help give a better understanding of various strategies used by organizations (Meyer & Nguyen, 2005). Additionally institutional theory gives a more concise explanation concerning institutional frameworks and their effect on transaction costs (Meyer K. E., 2001) as well as how resources (Peng M. W., 2003) are managed due to the institutional constraints. The fact is that the study of institutional constraints and their effects on organisations should be able to help enlighten the reasoning behind organizational strategic choices and their differences (Tan, 2002) and how organizations adapt to a changing institutional framework.
Institutions are always changing and sometimes the periods of change are in greater flux than other periods. According to (Peng M. W., 2003) institutional transitions are important and extensive shifts affects the formal and informal constraints that organizations must respond to. Institutions do not remain idle over time, they are changing as a result of the environmental forces, which they are subject to and cannot avoid as they aim to improve the institutional framework. The environmental forces are unstable in developing countries and as a result institutional transitions are more rapid and bigger than in the west, putting more emphasis on why they need to be paid more attention to when dealing with emerging economies. Institutional transitions are normally a combination of incremental as well as discontinuous changes. The speed at which institutions are reformed, in some cases the reforms being more extravagant than others, is not very simple (Peng & Heath, 1996). It is expensive implementing new institutions and risky as new uncertainties come with the new developments.

**Organisation: Industry Conditions and Resources & Capabilities**

Much recent research has combined institutional theory and resource based view of the firm. The combination of the resource based view of the firm and the institutional theory strengthens both theories by filling the gaps left by the institutional theory and aiding the understanding of organizational strategic choices in the midst of a changing institutional environment.

**Background**

Resources and capabilities are important to market entry success and affect the strategy and entry mode of a firm entering a new market (Barney, 1991). The traditional method of deciding which strategy organisations chose was based on industry conditions and organizational resources and capabilities when trying to compete in the market (Peng M. W., 2000). Firms were focused on the resource-based view of the organization and paid less attention to the formal and informal constraints institutions pose. (Peng M. W., 2002) Developed the institution-based view of
business strategy to help explain the relationship between institutions, organizations and strategic choices as they interact. However I will not be looking at resources and capabilities in the orthodox manner, instead I will briefly discuss the key principles to have in mind below. I will be looking at how the need for resources in a foreign context influences a foreign firms strategy and entry mode.

**Industry Conditions**

Typical industry conditions look at the industry environment from a broad perspective, which looks at suppliers, competitors and customers and how they together are affected by the national/international economy, technology, government and politics, the natural environment, demographic structure and the social structure (Grant R. M., 2010). Thus in order to better understand the environment i.e. winds energy industry and South African market it is important to consider the environmental factors and how they could affect Vestas. What is key is to be able to differentiate the extremely important from the just important. Thus, theoretically it is important for the company in question to understand its customers in order to understand how to create, “value” for them. Next it must understand its suppliers in order to form an efficient relationship with them and finally the company must understand its competitors because it is the value creating activities that profitability stems from and as a result a factor that contributes to the level of competition in the market.

**Conventional Perspective of The Resource Based View of the Firm**

The resource-based view of an organization states that in order for an organization to develop a sustained competitive advantage the organizations resources must be valuable, inimitable, non-substitutable and scarce (Hitt, Freeman, & Harrison, 2001). These factors combined in a specific manner should make the organization exclusive in comparison to its competitors, hence making it difficult for the competitors to compete on their level as they are unable to replicate their strategy, and subsequently a sustained competitive advantage is achieved. Thus the resource based view of the firm claims that a firms’ competitive advantage depends on the firms’ collection of resources and capabilities available at its disposal. The resource based view of the firm states that a firm should be able to obtain a sustainable competitive advantage by
exploiting its internal strengths through responding to environmental opportunities while neutralizing external threats and avoiding internal weaknesses (Barney, 1991).

It is the combination of the resources and capabilities that yield a sustainable competitive advantage. Competing in terms of resources alone is not sufficient unless the resources are immobile and access to competitors is limited. From the view of (Barney, 1991) not all organizations have the potential to gain a sustained competitive advantage. He states four attributes are necessary for a firm to gain a sustained competitive advantage. Valuable resources are necessary in order to exploit opportunities as well as neutralize threats. The resources must be rare from the view of the competition in the market. The resources must be imperfectly imitable based on all or one of the following; unique historical conditions, causally ambiguous from the view of the competition, and the resource causing the advantage should be socially complex.

(Hoskisson, Eden, Lau, & Wright, 2000) States that in emerging economies resources that create a competitive advantage are most likely intangible, which can be hard to replicate as they can be for example special relationships with government official that other competitors do not have. (Ramamurti & Singh, 2008) State that for an organization to succeed abroad it must have compensating firm specific advantages that are valuable and inimitable and the organizations should be able to leverage its home country advantages. This will give larger companies in comparison to smaller domestic companies a bigger advantage in terms of capital as well as experience, as some organizations that been operating in other emerging markets can use that experience to compete in the market. In some cases the experience can be a competitive advantage i.e. first mover advantage.

**Contemporary Perspective of The Resource Based View of the Firm**

The contemporary approach to the Resource Based View of the firm presented by (Meyer K. E., Estrin, Bhaumik, & Peng, 2008) addresses the level of firms need for local resources, both intangible and tangible and how this level will affect the firm entry mode and subsequent strategy to operate in a foreign market. Foreign firms operating in emerging markets normally need context-specific resources in order to develop a competitive advantage (Delios & Beamish, 1999; Meyer & Peng, 2005).
Conventional strategic management research has concentrated on the characteristics of the resources to be transferred (Kogut & Zander, 1993) of the foreign firm as well as the characteristics of its capabilities.

**Context Specific Resources**

The context-specific resources pursued by firms in emerging markets occur in two main forms. Firstly concerning weak legal institutions responsible for contract law and the enforcement of property rights. Firms for instance would depend on network- and relationship based strategies (Meyer, Estrin, & Bhaumik, 2008), subsequently creating the capability to administer informal contracts through norms instead of litigation. Thus the argument that networks and relationships developed with firms and governmental departments are all in fact valuable assets when operating in emerging markets (Peng & Heath, 1996). Secondly considering context specific capabilities, for example strategic and organizational flexibility could improve competitiveness in the more unpredictable emerging market (Lane, Salk, & Lyles, 2001; Uhlenbruck, Meyer, & Hitt, 2003). Additional capabilities that can in fact prove to be very valuable in emerging economies are, for example connected to being able to deal with and manage sizeable local labour forces, as well as having efficient communication channels with government officials and being able to advance capabilities that will allow firms to develop and sustain networks and relationships (Kock & Guillen, 2000; Henisz, 2003; Van de Ven, 2004). Thus a foreign firm planning to operate in an emerging market, and will have a substantial need for local resources in order to be competitive in the market and thus might prefer to form a joint venture or an acquisition instead of greenfield (Meyer, Estrin, & Bhaumik, 2008).

Whether or not a firm is willing to enter a weak institutional environment and is able to compete depends on the type of resources they seek (Meyer, Estrin, & Bhaumik, 2008). There are two types of assets which firms address, tangible and intangible. Transaction cost theory focuses on entry strategies that are determined mainly by knowledge-based assets that a stakeholder would transfer to a new subsidiary (Anderson & Gatignon, 1986; Hennart & Park, 1993). Additionally a legal agreement would be favoured if the resources provided by a minimum of one partner can be traded in a sufficiently efficient market (Buckley & Carrson, 1998). This basically
means that various types of resources are not very appropriate for market exchanges. (Meyer, Estrin, & Bhaumik, 2008) Argue that traditional literature has concentrated on, “resources to be transferred” however they suggest that, “the logic of the argument equally applies to resources sought”.

Next I will look at three sources of market failure relating to types of assets i.e. tangible and intangible. It is necessary to know which types of assets/resources are needed and the possible market failure associated with them in order to determine the most appropriate strategy and entry mode for Vestas in South Africa. The points made will be more significant for intangible assets as opposed to tangible (Bruton, Dess, & Janney, 2007).

**Types of Assets and Market Failure**
A typical source of market failure is information asymmetry. Market failure is inevitable if the information needed by the buyers to prepare for exchange is of low quality i.e. it is harder to make a correct exchange based on bad information. Nevertheless if the information needed is available to both sides of a deal, the buyer will not have a real motive to show how much the information is really worth (Arrow, 1971; Akerlof, 1970). Furthermore the occurrence of information asymmetries between both parties i.e. buyer and seller, has been a motivating aspect for the internalisation of transactions (Buckley & Casson, 1976; Casson, 1997) inside firms and subsequently a motive to pursue entry via joint venture (Buckley & Carrson, 1998; Brouthers & Hennart, 2007) or acquisition (Hennart & Park, 1993).

The next source of market failure is asset specificity. Fundamentally, as firms increase their investment in various resources particular to a transaction, they consequently develop interdependencies making them more likely to behave opportunistically i.e. opportunistic behaviour (Brouthers & Hennart, 2007; Brouthers, Brouthers, & Werner, 2003). Such a threat could potentially constrain transactions or inspire firms to internalise operations (Meyer, Estrin, & Bhaumik, 2008).

Lastly I will look at the difficulties concerning the tacitness of knowledge. Tacit knowledge has to be transferred through direct learning and doing and due to its complexity it can be very hard and subsequently costly to transfer (Teece, 1977).
form of transferring knowledge is very personal and interactive and has consequently been harder to facilitate through markets and is more likely and effective inside firms (Kogut & Zander, 1993). Such an intangible asset is costly to transfer via markets favouring that it is kept within firms, thus supporting firms needing this sort of asset to acquire it via joint venture or acquisition as opposed to greenfield.

Concluding from the sources of market failure mentioned above, asset specificity technically can happen whether the resources in question are intangible or tangible. Information asymmetries and the price of dealing with tacit knowledge is expensive stemming from knowledge-components of resources, which are more probable to be higher for intangible assets (Meyer, Estrin, & Bhaumik, 2008). Thus a firm entering a foreign market might choose to acquire a local firm with access to the relevant resources i.e. considering intangible assets, however acquisitions may not seem very viable in weak institutional environments therefore making them more probable to entry via a joint venture.

**Strategic Choices**

Until now I have briefly mentioned the main entry modes this project will be assessing for Vestas. From the information deduced from the discussions concerning the institutional environment and resources and capabilities I will address the possible equity modes of entry more clearly and strategy Vestas should implement.

**Background**

MNCs have typically focused on the wealthy elite at the top of the economic pyramid and have not invested as much attention to the bottom of the economic pyramid (London & Stuart, 2004). The MNCs that have entered the emerging markets have focused on using products and business strategies adopted in the developed world (Arnold & Quelch, 1998; Prahalad & Lieberthal, The end of corporate imperialism ,
1998). Strategies that worked in the developed market are not as effect in emerging markets. But the fact is emerging markets offer remarkable opportunities and distinctive challenges and subsequently opportunities for future growth (London & Stuart, 2004) thus it is worth it to find out the most appropriate strategy. The worth of these emerging economies is seen due to the informal economies that are not recorded in the official gross national product statistics (Prahalad & Hart, 2002). The issue concerning entering emerging economies calls for a different strategic approach i.e. bridging the formal and the informal economies as these relationships are primarily grounded on social, not legal contracts (de Soto, 2000). To operate in such a business environment requires the capability to recognize and understand the benefits of existing social infrastructure (Chambers, 1997). Working with traditional partners may lack the needed experience in an emerging market. MNCs normally try to partner with a minority if companies in emerging markets that have some understanding of the formal economy as they try to protect proprietary technology and knowledge (de Soto, 2000). This understandable but tends to limits the MNCs view of what is appropriate and effective (Stiglitz, 2002). MNCs should connect with socially orientated institutions that can play an important role in business development. I will now address strategies that have been successful in emerging markets based on analysis of archival material, case studies and interviews MNC managers (London & Stuart, 2004) that Vestas could consider. After I will address network and market based strategies.

**Successful Emerging Market Strategies**

Collaborating with non-traditional partners: This allowed the MNCs to recognize the values of corporate and non-corporate partners. But establishing such partnerships the MNCs attained expertise on social infrastructure and local legitimacy.

Co-inventing custom solutions: MNCs linked with numerous distributors who advised on modifications of that product that would add value for the customer. Resultantly the product and business models design co-evolved, as the main focus on the product became functionality.

Building Local Capacity: MNCs learned to recognise existing local institutions instead of focusing on missing ones. Furthermore invested in training local workforce. Concerning infrastructural limitations, these were turned into potential opportunities.
**Network and Market Based Strategies**

I have established that the market institutional framework in developing countries is in flux and as a result, is turbulent and full of uncertainties and pressures. So it is important to implement a strategy that can adapt and prosper in the midst of these constraints. Constraints such as inadequate legal framework, an unstable political structure as well as inefficient strategic factor markets where informal constraints continue to be enforced, even more so in times of flux (Peng & Heath, 1996). I will be exploring two growth strategies. The network based strategy and the market based strategy. The strategies are particularly useful for economies in transition.

Network based strategies rely on the organizational relationships with other organizations as well as government authorities and other necessary agents to conduct business smoothly (Meyer K. E., Estrin, Bhaumik, & Peng, 2008). This sort of strategy is more appropriate where legal institutions are particularly weak such as contract law. This strategy is more appropriate for firms pursuing entry into a foreign market via joint venture or acquisitions as this strategy provides a means to access resources held by local firms (Delios & Beamish, 1999). Organizations may rely more on network as well as relationship based strategies in order to implement contracts, which are often informal and subsequently are finalised through norms in comparison to litigation. Such relationships are considered valuable assets in developing countries (Peng & Heath, 1996). A network-based strategy allows organizations the necessary adaptability in weak institutional environments as resources are pooled together and activities coordinated along the network.

Market based strategy is a more common approach organizations use. Instead of focusing on building networks in the market the organizations is operating in, the organization will base their strategy primarily on the organizations resources and capabilities as well as the resources the market in question provides i.e. market based competition.

**Entry Modes**

When deciding which entry mode to pick one of the most important questions is the level of institutional development and the extent to which the organization needs local resources and further more whether the resources needed are tangible or intangible.
assets (Meyer K. E., Estrin, Bhaumik, & Peng, 2008), advocating the integration between the institutional perspective and the resource based view (Peng M. W., 2003).

Theoretically there are three main equity modes of entry that can be used involving foreign direct investment (FDI): greenfield, acquisition and joint ventures. Firstly organizations that focus on a network based strategy will choose joint venture (JV) as an entry mode. If the institutional framework is weak the organization is likely to pick a joint venture mode of entry. Where the institutional framework is stronger organizations are more likely to choose acquisitions as an entry mode hence they may focus on a market based strategy. As the institutional framework strengthens further organizations are more likely to shift from joint ventures to acquisitions and even to greenfield i.e. wholly owned subsidiary, as an entry mode because there are fewer constraints in stronger institutional environments.

Entry mode also depends on the degree of resources required within the market in question. Joint Ventures and acquisitions both deliver access to resources held by firms in the context in question. Joint Ventures involve the integration of local resources from the local firm while acquisition involves the integration of both firms. Greenfield does not involve any level of integration but allows the foreign firm to purchase or contract resources/components that are available in the foreign market.

Research in this area has found that the choices are in fact sequential and bimodal: Joint Venture versus acquisition or acquisition versus greenfield (Anderson & Gatignon, 1986). It is firstly a question of the degree of ownership followed by which entry mode before deciding on which entry choice. However it is important to be aware of the challenge of joint ventures and acquisitions. Acquiring a firm can be hard because of the difficulties that can arise from managing the new business (Capron, Mitchell, & Swaminathan, 2001). Joint ventures can be lead to complex coordination challenges (Buckley & Carrson, Analysing foreign market entry strategies: extending the internalization approach, 1998). Hence firms, if possible may aim for a greenfield to try and avoid these issues. However this depends on the market strength i.e. how efficient the institutions are. Thus one should be aware that markets for acquisitions can be problematical in emerging countries (Peng & Heath, 1996)
acquire resources and even more so when the institutional environment is going through a major transition (North D. C., 1990; Peng M. , Making M&A fly in China, 2006). Acquisitions are especially perceptive to the efficiency of markets, mainly financial markets as well as the market for corporate control (Peng M. , 2009). Evaluating firms in emerging countries can be tricky, due to the fact that some of their resources and organizational structures are constructed across nonmarket procedures of transactions making it harder for foreign firms to acquire and evaluate local firms (Tong, Reuer, & Peng, 2008). Furthermore, transactions, particularly in financial markets are to high degree aided by an institutional framework that guarantees transparency, predictability as well as contract enforcement (Peng & Heath, 1996). Additionally the weakness of an institutional framework in an emerging economy could result in smaller, more volatile and less liquid stock markets subsequently making the possibility of an acquisition less viable for a firm (Lin, Peng, Yang, & Sun, 2008). Entry by acquisition gives the firm the possibility to restructure the acquired firm i.e. integrating the firms and keeping only the necessary parts of the acquired firm (Capron, Mitchell, & Swaminathan, 2001).

**Theoretical Concluding remarks**

They are many scholars that have researched the field of institutional theory but for this project the findings and the direction (Meyer, Estrin, & Bhaumik, 2008; Peng M. W., 2000) takes is the most appropriate direction for analysing the institutional framework of an emerging market and its effects on strategy and entry mode.

It is important for organizations to be aware that strategies will change as institutions change due to market pressures (Peng M. W., 2003). Organizations are more likely to shift from network-based strategies to market based strategies as competition increases and institutions strengthen. Institutions determine the performance of economies (North D. C., 1990). It is safe to say that costs and risks rise as institutional frameworks weaken (Meyer, Estrin, & Bhaumik, 2008).

The entry mode a foreign firm chooses to implement in a foreign market is influenced by the degree to which local resources are required. I have established that joint ventures and acquisitions are means of accessing local resources that would be harder to obtain through greenfield. However more research is emphasising the role that
particular characteristics’ in the context in which organizations operate will moderate organizational strategy i.e. the institutional framework constraints (Meyer K. E., Estrin, Bhaumik, & Peng, 2008).

The question about of which strategy and entry mode to use depends highly on the transparency and strength of the market supporting institutions. It is a question of networks and connections versus competitive resources and capabilities as these strategies are linked to the mode of entry into the market in question i.e. Joint Ventures and acquisitions are more concerned with the network based strategy to access resources while greenfield is related more to a market based strategy which is more common in a strong institutional environments as the company believes it will be able to access the resources it requires with relative ease. They are both important, however successful organizations will be able to adjust the ratio from network to capabilities correctly during institutional transitions as institutions gain strength (Peng M. W., 2003).

**Proposing an Analytical Framework**

The most appropriate way for me to conduct the research is first by making 3 main sections, which are the internal factors, the external factors and finally the strategic choice. The next step is to identify factors within each area that I believe need to be addressed. I will however introduce some relevant factors that were not covered in the theoretical discussion as I therein chose to focus on the main theories of the paper

**External Factors**

Emerging markets want to make their market attractive on a global scale and MNC companies seeking new growing markets will enter this markets and South Africa has been making its market more appealing on the global scene (Luiz & Charalambous, 2009). Thus factors such as FDI are indicators of activity in the market. Thus a look at FDI to South Africa and reasons for it current levels should be considered for an MNC entering the market in order to better time the entry into the market.

Next, when looking at literature concerning the main factors that affect MNCs entering South Africa and Africa in general, the level of economic stability and political stability as well as the state of the infrastructure are important factors for an
MNC to consider before entering (Luiz, 2006). For Vestas in this case, it seemed appropriate to address these factors and how they would affect Vestas strategy. For example the level of infrastructural development if the market has the appropriate level, certain operations can be carried out which would affect Vestas strategy and mode of entry.

Analysis of the wind energy industry was also deemed appropriate in order to assess the level of development of the industry and what resources and capabilities are available in order to assess the possibility of local manufacturing. This is an important factor that falls under industry conditions (Peng M. W., 2000). Looking at an industry and its competitive situation will expose its current condition and potential (Lasserre, 2003). This will directly affect Vestas entry mode and strategy.

When assessing emerging markets, a lot of attention has been paid to institutions and it has thus become an important factor to analyse when planning a strategy in an emerging market and even entry mode. More specifically assessing legal institutions (Meyer K. E., 2002). Institutions are, “the rules of the game” in the market being entered and determine, “which arrows a firm has in its quiver” (Peng M. W., 2002; North D. C., 1990). These facts signify the importance of analysing institution and how they affect strategy. Thus institutions play a highly significant part in determining Vestas strategy and entry mode in South Africa.

**Internal Factors**

MNC experience in emerging markets has been turned into a capability that MNC have been able to exploit in other emerging markets (Ramamurti & Singh, 2008). Thus I believe this is an important factor to at least address because if Vestas possess this capability it prove to be an advantage over it’s competitors with less experience in emerging markets.

Research in international business and in emerging markets concerning MNCs states that MNCs are able to use external existing resources and capabilities that they have attained and developed in other markets and use them to their advantage in other markets (Ramamurti & Singh, 2008). Therefore assessing Vestas current financial
health and factors have affected we an idea of the position Vestas are in on a global scale.

Taking these factors into account the framework for analysis concerning Vestas strategy and entry mode into the South African wind energy market is presented below.

**Framework for Analysis**

**Vestas Strategy in South Africa?**

Focus – Institutions and Resources Requirements

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<thead>
<tr>
<th>EXTERNAL FACTORS</th>
<th>INTERNAL FACTORS</th>
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<tr>
<td><strong>MARKET</strong></td>
<td><strong>EMERGING MARKET EXPERIENCE</strong></td>
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<tr>
<td>The degree of development of the market can influence can influence the ease of operating in the market and thus strategy.</td>
<td>Past success in emerging markets could be a capability turned into a competitive advantage</td>
</tr>
<tr>
<td><strong>INDUSTRY</strong></td>
<td><strong>VESTAS PERFORMANCE</strong></td>
</tr>
<tr>
<td>The level of development and the potential can directly influence current entry strategies and motivation for entering the market</td>
<td>How is Vestas performing and what are the main factors in the global market affecting Vestas performance</td>
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<tr>
<td><strong>INSTITUTIONS</strong></td>
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<tr>
<td>What is the current institutional framework and its demands</td>
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</table>

**STRATEGY**

What is the most appropriate strategy for Vestas to operate in South Africa?

- Primarily concerning local resource requirements and the institutional environment
Empirical Study

Now that I have the foundation of my project done I can begin the empirical analysis. I planning on using a funnel approach where I start of by explaining Vestas situation in South Africa and outlining the key factors that need to be considered. I then address the current company situation and then I will look at the market situation and the industry and finally the institutions before deciding which it the best strategy coupled with entry mode for Vestas. This will allow me to dig dipper into the main issues that need investigating.

CASE: Vestas Situation in South Africa

Vestas current situation in South Africa based on and interview with James White (White, 2011) who is the Sales & Account Manager at the Vestas office in Johannesburg. The purpose is to make sure only the most important considerations are made and furthermore to strengthen the finding of the report in terms of being realistic and applicable.

Vestas only officially entered the South African market in June 2010. Previously another subsidiary i.e. Vestas Mediterranean handled enquires regarding Vestas in Southern Africa. Four Vestas employees run the Vestas business unit in South Africa. Vestas has been involved in some minor projects but nothing note worthy as the wind industry is still in its early stages here. Many global wind energy MNC’s are present and are competing for contracts since the government released a tender stating the demand for 1150 MW of wind power to be installed by 2016 coupled with the development of the renewable energy feed in tariff (REFIT) which makes the cost of renewable energy more competitive in South Africa. The competition is fierce to land contracts. Government policies regarding wind energy companies is strict and harsh concerning the qualification and evaluation criteria for economic development that must be met if the government is grant the MNC permission to set up a full scale business in South Africa i.e. manufacturing, maintenance, sales and furthermore BEE.

Vestas hopes to have a full-scale office set up by January 2012 if Vestas and the government can reach an agreement. Negotiations are currently on going. However
Vestas could only own 80% of the business unit and 20% could be owned officially by the Vestas Empowerment Trust, which is partnered with the Black Economic Empowerment group. The reasoning for this dates back the end of apartheid in South Africa and attempt to return power to the native South African population through Broad Based Black Economic Empowerment Act (BBBEE) which was renewed in 2007 through the publication of the Codes of Good Practice published by the Department of Trade and Industry, South Africa (DTI). Assuming Vestas is granted permission their main customers will be independent power producers that will be working with South Africa’s national power supplier Eskom. Vestas has considered 3 entry modes, which will depend on the institutional requirements and the resources available in the industry and market in South Africa. Furthermore the key issues to address when working with the DOE concern BEE and economic development and how Vestas will address these issues will affect their chances of getting contracts to operate in South Africa. Before Vestas can set in South Africa they have to agree on a contract with an independent power producer in South Africa, which has to be approved by the DOE.

Vestas recognises the potential of wind power in South Africa and aims to take full advantage. However the market and the institutions are very demanding and the wind energy industry is still very underdeveloped coupled with the fact that the South Africa market is an emerging market make the task very daunting thus it is important that Vestas implement the right strategy and mode of entry.
**Vestas Overview**

*In this section I will briefly present the internal factors the framework outlines i.e. Vestas profile and furthermore how they have been performing in order to highlight their current issues and some of the benefits that emerging markets can present. I will also address certain considerations Vestas should make which will ultimately affect the strategy in South Africa.*

**Vestas**

Vestas only officially installed their first wind turbine in 1979. Thereafter Vestas advanced to become one of the dominant forces in the wind energy industry. Vestas currently employs over 20,000 people dispersed around the world. Vestas is officially the, “number 1” producer of wind turbines and wind power solutions. Vestas deals with development, manufacturing, sales, marketing and maintenance of wind energy systems.

**Vestas Performance**

Vestas over the last three years, particularly in 2009 and recently in 2011 has been experiencing low revenue and sharp fluctuations in order intake. Order intake represents the capacity that Vestas will manufacture and ship, which is a leading indicator of future revenue (Barcelona, 2011) and hence a key figure for investors. Vestas perceives shipments and order intake as the most important factors for cash flow generation (Vestas (4), 2012). The illustration on the next page shows the major fluctuations from 2006 to 2011 constructed using figures from Vestas annual report (Vestas (1), 2010) and official Vestas publications for investors (Vestas (4), 2012).

![Figure 1 - Vestas Order intake (MW)](image)
The major decline is partly due to the financial crisis. The most recent decline is partly due to the increase in costs as a result of delays due to weather, customer related delays and production delays in general and furthermore the high development costs of Vestas new turbines i.e. the V112-3.0 MW turbine, the GridStreamer technology for the 2 MW platform had higher-than-expected product costs (Vestas (3), 2012). The issue with order intake is the, “conversion rate” which is the rate at which orders are turned into results i.e. into profitable wind farms. With wind energy the average time is 2 – 3 years and this depends on investors and developers operating efficiently (Barcelona, 2011).

![Figure 2 - Income Statement (€m)](image)

Vestas nonetheless expects positive cash flows for 2011; the figures for 2011 will be published in the official annual report for 2011 in February i.e. revenue of approx. $2.2bn and an EBIT of approx. $85m (Vestas (3), 2012). Despite the 182% increase in order intakes from 2009 to 2010 (figure 1), EBIT only increased from $251m to $310m and then decreased to $85m in 2011 and furthermore profits for 2009 to 2011 only increased from €125m to €126m (values for 2011 have not been officially published). The decline of EBIT coupled with profits is a sign that a company is struggling. Subsequently there has been a decrease in investor confidence, which can be perceived by the fact that some of Vestas major investors being more reluctant to sign contracts with Vestas for 2011 to 2012 (Vestas (3), 2012).

However to understand if Vestas is in a suitable position to invest you must look at some key financial ratios i.e. earning before interest and taxes margin (EBIT margin),
return on invested capital (ROIC) and Gross margin which were obtained from Vestas 2010 annual report (Vestas (1), 2010). These figures despite Vestas decrease in cash flow will show how financially healthy Vestas is. These figures can give an indication of the resources Vestas will have its disposal i.e. could be potentially used in South Africa.

![Figure 3 - Financial Ratios (%)](image)

The key fact here is that the ratios give some indication of the revenue that Vestas will have to meet expenses once costs of production have been subtracted (Owen, 1998). The margins overall decreased from 2008 to 2010 and stabilized at their current level recently, EBIT margin 4.9% in 2009, 4.5% in 2010 and Gross margin 9.5% in 2009, 10.8% in 2010 (Vestas (3), 2012) and this can be perceived as a decrease in operating efficiency. The EBIT margin is expected to be at approximately 0% when the official figures come out. Thus the amount of funds Vestas could use possibly to invest and expand has been decreasing overall. The wind energy industry is a high growth industry and subsequently margins can hastily change which in turn can weaken investor confidence, which seems to be the current situation. The issue is that, as revenue rises and EBIT does not, the margin could resultantly fall further, which makes looking at financial ratios and changes in margins important. Furthermore figures showing the return on invested capital (ROIC) show a 33.9% decrease from 2008 to 2009 and only a 1.3% increase from 2009 to 2010 which is extremely low considering the fact that in 2008 ROIC was 43%. The narrowing margins are believed to be mainly due to subsidiary cuts in Europe and increasing competition from Asian turbine makers (Bakewell, 2012). These figures represent a significant decline in Vestas effectiveness to make thriving investment decisions.
Despite recent high order intake figures margins have still been low. Vestas in their interim financial report for Q3 of 2011 (Vestas (5), 2011) claims this has been a result of decreases in fossil fuel prices and demand as well as prices of wind turbine components rising as well as raw materials. Dealing with these issues has been quite challenging especially when finalizing new contracts. Thus Vestas has been making large-scale investments in order to diminish risk i.e. bottlenecks.

Overall Vestas has not been performing as they did in the past i.e. high positive cash flow. Vestas future has even mentioned to be in doubt with forecasts cut twice in 2 months, additionally Vestas share prices have dropped 92% since 2008 (Bakewell, 2012). Due to the decline in value Vestas, competitors are considering a takeover, in particular from the US (Bakewell, 2012) and investors possibly demanding the CEO to stand down. Thus investment opportunities cannot be conducted in the same fashion as the past. Vestas needs to be cautious when making new investments and think of new strategies and perhaps new markets to implement them in which takes me to the next section.

**Is it time for a business model transition?**

Reports from the energy industry do not see Vestas recent misfortune change anytime soon, said in a report by Ricardo Barcelona Managing Director, Barcino Capitas Limited (Barcelona, 2011). But this is not just the case for Vestas; other organizations that have experienced high growth and success in the past find themselves in the same situation. Industry forecasts predict that over the next 2 years competition and tight credit to be key tests. Vestas needs a to make a significant change or be burdened by their current business model i.e. cost cutting and increasing efficiency, which was more of a short term solution (Barcelona, 2011).

Vestas need to think in the long run. There are three main areas that Vestas can and should pay attention to (Barcelona, 2011). In terms of financing Vestas will to be more attractive to customers if they are able to facilitate their financing i.e. offer appealing financial deals coupled with their ability to supply turnkey solutions in order to gain market share. These will result in an increase in requirements for maintenance and relevant services for its customers that it is important that this area is
invested in appropriately. Finally Vestas should invest in technology i.e. revolutionize the wind turbine industry again. It is of course quite a request but some sort of break through technology can be pivotal to changing Vestas fortunes around, as for the other global wind energy players.

**Vestas in Emerging Markets**

Vestas main objective in emerging markets is to further strengthen their position in key emerging markets and develop new wind markets and finally develop relationships with key stakeholders in the markets (Vestas (7), 2010).

Vestas Mediterranean is a subsidiary of Vestas that overlooks operations in South Europe and emerging markets overall. Vestas experience in emerging markets is limited in comparison to the their experience in developed markets in Europe and the Americas but still a portion of their revenue come from northern Africa which is combined with the profit from Europe when figures are published. None the less there has been some activity. There are no official values showing the revenue generated from the region alone but the most recently published figures in terms of sales in MW Africa state an installed capacity of 132 MW in 2010 (Vestas (7), 2010). Approximately 67% of the projects are small to medium sized projects and 33% are large projects (Vestas (7), 2010). The main reason is mainly the fact that the markets are very underdeveloped and subsequently large projects are less viable.

Vestas strategy of consolidating their current position in key mature markets and strengthening their relationships with key players in the wind energy market (Vestas (7), 2010) worked well in the past but needs to be re-evaluated and perhaps look elsewhere i.e. other strategies. But why should Vestas invest in emerging markets? They certainly are pros and cons that must be considered (Vestas (7), 2010). There is one main pro which is the fact that emerging in most cases have abundant wind resources, as in the case of South Africa which I will elaborate on further later in the report. But cons certainty out number benefits. The emerging markets lack experience in the wind energy industry, there is a high pressure on capital costs as wind turbine industry is capital intensive, the market requirements for example from an institutional perspective can be very demanding and finally the ability to access necessary financial resources can also be challenging. But from a capabilities
perspective Vestas has the ability to find the most suitable sites to conduct the necessary operations and their vast know how from decades of experience in the industry allows them to be a source of knowledge for the local authorities and also Vestas ability to cut costs and manufacturing capabilities and access to financial resources are also advantageous (Vestas (7), 2010). However access to financial resources is certainly not the same case today as explained previously.

**Concluding Remarks**

Thus to conclude on Vestas overview in terms of overall performance the present is not looking as bright as the past. A drop in investor confidence is a clear indication that Vestas has been struggling. Emerging markets seem promising overall but have a number of challenges but the fact is that competition from Vestas competitors i.e. fossil fuel energy sources and other renewable energy suppliers, in developed markets is fierce which is confirmed by a drop in demand. Access to financial resources is also tough especially when company is not performing well. Vestas capabilities in emerging markets can be beneficial but access to finance is not as guaranteed as it once was and the lack of experience in emerging markets can be an issue. Overall Vestas needs to change its old business and adapt to more contemporary one.

**Market - South Africa**

*In this section I will be assessing some of the main factors that influence foreign direct investment, South Africa. I will assess the level of political and economic stability as well as the current state of the infrastructure. In the conclusion I will state the implications of the market condition on Vestas.*

**Foreign Direct Investment in South Africa and Sub Saharan Africa**

South Africa and Africa in general is opening up its market to international business on a large scale for companies seeking new growing emerging markets (Luiz & Charalambous, 2009). South Africa has been trying to make their market more inviting for foreign companies by developing their institutional business environment. Furthermore developed markets are quite saturated and debatably more competitive than emerging markets, which has lead MNCs to look to emerging markets for opportunities and Sub Saharan Africa has presented great possibility in terms of profitability (Luiz & Charalambous, 2009). But the issue that frightens most foreign
companies from entering is the risk relative to the returns and the location (Luiz, 2006). However the risk associated with doing business in Africa is declining as the institutional environment improves and becomes more familiar and predictable (Luiz, 2006). FDI in South Africa has been increasing¹ over the last 2 decades however there was a slow down in 2003 due to the global financial crisis but has picked up until 2008, overall an increase from an average of 18% to 21% in 2008 (UNCTAD, 2010). However recently FDI in Africa fell 19% in 2009 primarily due to a decline in global demand and a fall in commodity prices (UNCTAD, 2010). In South Africa FDI increased from less that 5% in the 1990’s to 22% in 2008 amounting to approximately $11 billion. So clearly there is a lot of interest in the South Africa market (UNCTAD, 2010). For renewable energy market in emerging economies FDI globally amounted to $90 billion which consisted overall of low-carbon emitting business areas such recycling, low-carbon emitting technology and renewables but in essence the market is much bigger when you consider the potential for cross border low carbon investment as the world shifts to a low-carbon economy (UNCTAD, 2010). Specifically looking at emerging economies such an investment carries it own economic and social risks.

**Economic Stability**

South Africa is country that has economic sovereignty on the African continent and is becoming the most favourable position for foreign companies to enter Africa and invest. In 2003 the African continent had a total gross domestic product (GDP) of $653,570 million with South Africa accounting for approximately 29% ($187,116 million) of that sum which is quite incredible considering they only have about 5% of the land surface coupled with population (Luiz, 2006). South Africa has population of 49.3 million people and a GDP (PPP) of $505.2 billion. Recently real GDP fell in 2009 to -1.7% but has recovered to 2.8% in 2010 (OECD, 2011) but decreased by 1.8% in 2011, which is below the predicted level of 3.4% (African Economic Outlook, 2011). The real GDP rose due to increasing consumer spending (UNCTAD, 2010). However towards the end of 2011 unemployment rates continued to rise to 24.6% and imports rose to 21% and exports declined to 19% and inflation rates continued to rise to 6% and 10.5% for consumer and producer prices which is about an increase of 3% annually. Thus South Africa is certainly not performing at its

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¹ Appendix 1 - Foreign assets of South Africa (1996–2005).  
² Appendix 2 - Codes of Good Practice Generic Scorecard with Compliance Target
potential. And from a global perspective with severe economic issues currently occurring, the effects can fundamentally alter the level of growth at any time, which was said by, Cees Bruggemans, a chief economist at First National Bank Africa, which is one of South Africa’s top 4 national Banks (International Man, 2011).

However my main interest is the energy industry. With only 31% of the population with access to electricity and the fact that the energy industry has been unable to meet current demand and the result has been a series of severe blackouts (Mathews, 2011), this has hammered productivity in the nation with industrial production at 5% in 2011, which has dropped nearly 3% from 2008 (OECD, 2011). I will elaborate further on this area when I discuss the energy industry in South Africa later in the report.

**Political Stability**

Now I will assess the political situation in South Africa. The president of South Africa is Jacob Zuma and the third officially elected president of South Africa in the post apartheid era. The current administration has shown a strong pledge to fight crime, which has plagued the country for decades (DATA MONITOR, 2011). Substantial improvements in areas such as crime prevention for example auto theft, murder etc. have been decreasing. However corruption, poverty and inequality remain (African Economic Outlook, 2011). Corruption is said to be persistent especially in the police department and home affairs and continues to increase according to the economic freedom index (The Herititage Foundation, 2012). The president has taken action and launched a investigation into the two largest cities in South Africa, however he is said to be just scratching the surface with the finance department claiming that corruption is costing about 1% of South Africa’s GDP (DATA MONITOR, 2011). The figure is believed to be much larger. Corruption is a serious issue and must be dealt with or it can severely damage a countries business image.

**Infrastructure**

South Africa’s level of infrastructure development is certainly not at a good enough level to support the growing economy. Based on the infrastructure report card for South Africa in 2011 carried out by the South African Institute for Civil Engineering (SAICE) overall infrastructure level of development has increased but on to a, “C-“
i.e. satisfactory degree but is not far from a high risk level i.e. D. I will now carry out an assessment based on SAICE report (SAICE, 2011).

There are many areas of infrastructure to assess but I will briefly address some of the most important areas for Vestas if they are to manufacture and operate in South Africa. Considering roads, the degree varies from area to area i.e. national roads are quite well maintained but in provincial areas they are extremely poor. Commercial ports are maintained very well and subsequently at an above average level as investment in developing new and maintaining old ports have been consistent since 2006. Railway line for heavy haul freight, which could be another option for Vestas to transport materials are also at an above average level and increased investment has meant good maintenance and increased development of the current networks. Considering electricity the level of infrastructure is at an average level but in serious need on investment, particularly over the next 5 five years to meet growing demand and to maintain existing grids which are in need of maintenance. Airports are also at quite a satisfactory level. Considering the rest of the infrastructure i.e. public schools, healthcare, solid waste management, sanitation and waste they need serious attention.

The investments in the infrastructure have resulted in more infrastructures being built and an upgrade for some of the standing assets overall. But infrastructure at a public level is still below an acceptable level. The main issue is a commitment to maintenance, as without this commitment current investments will not last long.

**Concluding remarks**

Thus to conclude South Africa definitely has been attracting a lot of attention on a global scale, which is supported by the figures i.e. an increase in FDI. And South Africa in particular is operating on a league of its own in Africa. For Vestas the main factors are firstly been able to legally set up in South Africa, which is positive with current legislation favouring of FDI. Next, does South Africa have the human and physical capital they will require to set a full-scale operation? From the market situation I can say that South Africa is lacking suitable educational institutions. This is an issue as wind energy development and implementation requires quite a high degree of skilled labour. Increasing unemployment is an even less encouraging sign of South Africa’s economic stability. Considering infrastructure for an emerging
economy it is quite efficient and from the research the infrastructure developed is invested in commercial side of South Africa and not the public. And finally the financial institutions are also quite efficient for an emerging economy (The Heritage Foundation, 2012) that is important for Vestas as mentioned before, because with out the appropriate finances Vestas operation can be hampered. But South Africa for a fact is encouraging FDI to help address issues of unemployment and also address the issues of insufficient infrastructure in particular at a municipal level, which can be addressed through economic development. Vestas can be part of the solution through job creation for example and more energy, which can help with the economic development or certainly push it in the right direction. But a serious issue concerns the workforce, but I will investigate this issue in more detail when I assess the wind energy industry next. Vestas and the government can both help each other achieve it goals from a market perspective. But the main challenge at hand is corruption and getting skilled labour.

But keeping in mind that South Africa is an emerging economy the economical indicators and political situation is not very alarming. The positives are that country has positive growth i.e. GDP, and an energy shortage, which Vestas can take advantage and a sufficient level of infrastructure development that Vestas should consider when deciding which strategy is most appropriate. Furthermore South Africa’s financial institutions are quite well developed thus accessing financial resources look promising.

**Wind Energy Industry in South Africa**

*In this section I will be explaining Vestas current situation in the South African wind energy industry before assessing the energy industry and situation briefly and then evaluating the wind energy industry overall i.e. how developed it is. That is I will be analysing the industry conditions.*

**Energy in South Africa**

South Africa is a country with a vast amount of coal (5th largest coal reserve in the world) and is subsequently a coal-based economy producing approximately 92.8% of its electricity via coal-fired power stations and other coal-based technologies (Frost &
However in terms of installed capacity figures from South Africa’s Electricity Industry Report in 2008 state that capacity generation was 43,601 MW and wind energy accounted for only (0.02%) i.e. 5MW. Looking at the total electricity supplied to the national grid, Eskom the wholly owned state utility is responsible for 94% and the rest if from municipalities (2.5%) and 3.4% from IPPs. Eskom produces 45% of all electricity generated in South Africa making it the undisputed, leading electricity company on the African continent.

South Africa has been experiencing serious power shortages leading to, serious blacks outs across the nation. The result was major economic losses. The response from the government was in 2008 to supplement the current national grid with 40,000MW of electricity from coal, gas and nuclear power plants as well as expand the grid by 2026 (Business Day, 2011). Additionally to relieve the stress on Eskom, the government commission 30% of the current grid to IPPs that is a major step, as these policy discussions have been on-going since 1998 (Business Day, 2011).

South Africa is one of the main electricity suppliers in Africa producing over two thirds of Africa’s electricity (Department of Energy (1), 2010; Department of Energy (1), 2010). The cost of electricity is one of the cheapest in world, top four to be exact. Due to the vast amount of coal South Africa has, we can expect coal to be one of the main electricity generation sources in the future.

Investors believe the task of getting renewable energy projects underway in Africa has been hard. Renewable energy investment has been low because it has been characterised as high start up capital and initial low rates of return in comparison to the more conventional sources of energy e.g. coal, hydro, subsequently perceiving renewable energy projects as high risk (Sonntag-O'Brien & Usher, 2004).
Wind energy in South Africa

Wind energy has been used in South Africa for a number of practical purposes, namely to mill wheat or pump water (Wiesegart, Dubois, Sommer, Weisheng, & Yang, 2011). It is now wind turbines are been designed to produce electricity.

The growth rate for the wind energy industry in Africa was only 20%, which is below the global average of 23.3% (Gsänger, 2011). The South African wind energy market only accounts for 2% of total wind energy market in Africa in terms of installed capacity (Ndawonde, 2010). The remaining 98% of the wind energy market accounts for Northern Africa. North Africa is dominating the wind energy industry and South Africa is extremely far behind. It is only recently that there has been a significant increase in plans to develop the wind energy industry in South Africa (White, 2011). However even though there has been no real visible development in the wind energy industry in South Africa competition is fierce. International players are in South Africa at the moment competing for contracts with IPP’s with the DOE through tenders, which are currently on going (White, 2011). The DOE has reported that already 400 bidder applications have been purchased but only 270 will be considered for tender documentation to compete for the total 3725MW of renewable energy capacity to be installed by 2016 where only 1850MW has been assigned for onshore wind energy that IPPs will compete for (Creamer, 2011). I will elaborate further on this issue when discussing the institutions.

However they are a number of projects underway in South Africa at different phases of completion adding up to a combined capacity of 14.6 GW. Some of which are connected to the national electricity grid. Some of the projects are mainly to investigate the wind energy potential (Wiesegart, Dubois, Sommer, Weisheng, & Yang, 2011). Regrettably the turbines installed have been placed in inappropriate locations, namely the Vestas V47 660kW and V66 1 750kW turbines installed in 2002. The Danish government funded a project to install four 1.3MW Fuhrlaender wind turbines at the Darling Wind Farm in 2002 and again the true potential was unrealised due to bad location and further technical issues between shareholders, supplier and operators of the facility. The most recent wind turbine installed in South Africa was a 1.8MW Vestas turbine in the Coega Industrial Zone 2010, in preparation
for the FIFA world cup, simply as message of Vestas intentions and to increase environmental awareness. This particular turbine was a donation and will be able to produce enough clean energy for 2400 families every year as well as reduce carbon emissions by 3,700 tonnes a year.

**Wind Energy Potential in South Africa**

South Africa has abundant wind energy resources, which I mentioned earlier however the capacity and best locations and such are still being investigated. At the moment wind energy potential in South Africa is said be approximately 70,000MW according to the South African Wind Energy Association SAWEA (SAWEA, 2011). This South Africa Wind Map project that is being developed in cooperation with the South African Energy Research Institute (SANERI) in partnership with the Risø Renewable Energy Laboratory in Denmark (RISØ), the Council for Scientific and Industrial Research (CSIR), South African Weather Services (SAWS) and the University of Cape Town (UCT) in order to communicate the potential of wind energy in South Africa, primarily targeted at potential investors (Wiesegart, Dubois, Sommer, Weisheng, & Yang, 2011). The most suitable areas for wind energy production are on the west and south coasts of South Africa and furthermore early indicators are in fact showing that South Africa does indeed have sufficient wind energy resources that can be exploited.

I mentioned before that the possibility of wind energy is even more favourable due to the current electricity shortages in South Africa and furthermore the pressure to reduce green house gas emissions from international institutions. Research has shown that the possibility of integrating wind energy into the current national grid owned and run by Eskom, responsibly for supplying electricity to South Africa is quite promising. Research by the, Deutsche Gesellschaft fur International Zusammenarbeit (GIZ) GmbH shows that the likelihood of integrating a minimal of 2.8 GW of wind energy into the current national electricity grid can be set up without the danger of disrupting the stability of the grid. The integration of wind energy can additionally reduce the strain on the grid.

The White Paper published by the DOE in 2003 stated that 10,000GWh of renewable energy should be integrated into the grid by 2013 (Department of Energy (2), 2011)
which could represent approximately 5% of the electricity mix (Wiesegart, Dubois, Sommer, Weisheng, & Yang, 2011).

**Vestas in the South African wind energy industry**

Vestas Southern Africa (Pty) Ltd is the only Vestas subsidiary that is not fully owned. Vestas only own 80% of the subsidiary and the remaining 20% belongs to an unnamed BEE Group made up of a consortium of companies. This means that the BEE group can vote for only one board member who will speak on behalf of them. I will elaborate further on BEE later in the report when I discuss institutions.

Vestas officially entered the South African market in June 2010. Vestas has been present in Southern Africa for many years but only recently opened an office in South Africa. Vestas had experience in other emerging markets namely on the northern coast and Kenya, which they could use to compete in South Africa (Rieks, 2010). The office will not only be serving the South African market but the Southern African market as well. Vestas sees the Southern African market and more particularly South Africa as key emerging markets for the wind energy industry. The purpose of the office is to serve as well as develop the Southern African wind energy market. Vestas set up their third wind turbine in South Africa just before the world cup. The turbine (Vestas V90-1.8 MW turbine) is one of Vestas newest developments.

Vestas has recognised South Africa’s commitment to developing a clean energy plan for the future. Vestas aims to develop productive relationships with customers, government and the energy industry as well as the sustainable development community in order to build a sustainable wind industry (Vestas (6), 2010). South Africa has one of the best landscapes to set up wind farms. Wind is in abundance, which one of the world cheapest and most predictable sources of energy in Africa.

**Vestas Product**

Vestas contracts exist in 3 main forms (Vestas (5), 2011), supply-only, supply and installation and finally turnkey. Revenue from supply only and supply installation orders is only achieved when the complete product is handed to the customer. Resultantly there is time delay regarding income recognition. However concerning revenue from turnkey wind energy solutions, is recognized based on the percentage of
completion method coupled with shipments. However the payment profiles (contract types) do not differ. Payments are normally attained when the orders are finalized thus physical shipments are effected.

In South Africa Vestas profits will come from being paid to supply full engineering, procurement and construction (EPC) i.e. turnkey, onshore wind energy solutions, to independent power producers (White, 2011). Thus Vestas will build all the necessary facilities e.g. roads and everything needed to run the wind turbines and then hand over the keys to the IPP (White, 2011). Vestas will also be responsible for operation and maintenance (O&M) for specified time agreed in the contract. The financial institutions that Vestas will be depending on to access their financial resources will only be granting funds to wind energy suppliers delivering turnkey solutions (White, 2011). The reasoning is linked to the financial crisis and banks being less willing to give funds.

**Competition**

The competition is low, only if you look at the industry for small wind energy turbines manufactures in South Africa. Only in June of 2011 South Africa’s first $12.8 million local large-scale wind manufacturing plant, Isivunguvungu Wind Energy Converters (I-WEC) was set up (Maritz, Jaco, 2011). It was only at the end of 2011 that regulation concerning the wind energy market was finalised which concerns bidding process for contracts with IPPs to supply wind (I will elaborate on this process later in the report). Other international wind players should be operating by June next year (White, 2011). Thus I will only be able to truly assess the competitive situation once the market takes off and other global and local players begin to leverage their capabilities to operate at a competitive level in South Africa. Thus Vestas must begin to position its self in the industry that will allow it exploit its resources that it will need to compete competitively. Thus manufacturing is an important factor to investigate in South Africa.

**Customers**

In South Africa Vestas cannot simply enter the country and contract with whom they please. The industry is not as free and certainly not that developed. Furthermore Vestas wants to focus on large scale operations which will in turn allow them avoid
certain risk as I mentioned before. Additionally Eskom the wholly stated owned utility will only be allowing access to the grid if the generated capacity was big enough, which was said in an interview with Shanon Jacobs a senior energy advisor at Eskom (Jacobs, 2011). The only way Vestas will be able to do this is contract with IPPs who the market is being prepared for (Jacobs, 2011). In the interview with James White (White, 2011) he stated that Vestas would be contracting only with IPPs, to be specific. However the details of who and to what degree was to be kept confidential. This means that Vestas is only 2 of the 270 other bidders competing for a share of 1850MWh of electricity to be produced via onshore wind. This is fact is a clear picture how high the competition is. Thus it is important that Vestas contracts with the right IPP and meets the qualification evaluation criteria as well to increase the chances of them being granted a contract.

Independent Power Producer (IPP) is an ownership option that falls under the category of Non Utility Generator (NUG). The IPPs will contract with energy producers to set up for example in the case of Vestas, turnkey wind energy solutions to their power station. In turn the IPPs will through a power purchasing agreement (PPA) contract with Eskom, which is a Public Owned Utility (POU) to supply power to their grid.

**Labour**

One of the main reasons for FDI into Africa and other emerging economies is the cost of labour. Labour costs are much lower allowing MNCs to be much profitable and competitive. But this is normally case when an operation that is moved to the emerging country requires unskilled labour. However in an industry like wind energy, which concerns manufacturing and procuring wind energy solutions a degree of skilled labour, is required at different stages of production i.e. manufacturing, construction and installation and operation and maintenance. For Vestas to operate in South Africa a portion of their workforce has to be from the black community i.e. BBBEE (will elaborate on when assessing institutions). South Africa already has poor public education and reports say South Africa lacks skilled workers in many sectors (Wiesegart, Dubois, Sommer, Weisheng, & Yang, 2011). A report concerning, “Skills for green jobs in South Africa” said South Africa is lacking approximately 12,600 industrial and mechanical engineers and technologists, 5000 electricians, 7000
specialist managers and approximately 24,000 experts in other fields (ILO, 2010) which is hampering South Africa’s development.

South Africa does have skills and top-level higher education institutions (Wiesegart, Dubois, Sommer, Weisheng, & Yang, 2011) that have what Vestas will need but Vestas will not be the only company trying to attract these skilled workers but will face competition from the other global and local players. Thus a strategy Vestas could implement is work with the institutions i.e. partner in order to attract and incentivise the skilled minds early on in order to increase their chances of securing their services.

**Technology**

South Africa already has a highly developed manufacturing industry due to the demand and the experience gained in the automotive and mining industry in South Africa (Wiesegart, Dubois, Sommer, Weisheng, & Yang, 2011). Thus South Africa has the capabilities to manufacture mechanical and electrical components for wind turbines, but the issue is the know-how. Thus depending on which degree of local manufacturing Vestas chooses, they will be a degree of technology transfer and the risks association with transferring intangible assets (will elaborate on this issue when discussing strategic choices).

**Manufacturing**

I now have an idea of infrastructure, technology, labour and raw materials (from developed mining industry) I can now assess the possibility of manufacturing. As of present South Africa only has one large-scale wind manufacturing plant. Reports in the market say that it will be too expensive for global wind energy suppliers to compete in South Africa by importing wind turbine blades and towers to South Africa and that companies will have to contract with local wind turbine and blade manufactures and import more technical components from abroad (West, 2011). Thus one possible strategy would be for Vestas to initially set up assembly plants in South Africa, contract with wind blade and tower manufacturers and import the rest of the necessary components from their home market in order to keep costs down.

However a more thorough and recent report on the wind energy industry in South Africa with a focus on the possibility of manufacturing in South Africa stated that in
the initial phases of the wind energy industry in South Africa the success would depend on the success of the global players in their own domestic market (Szewczuk & Clausen, 2011). It would depend moreover on how well they can use the turbines and components from their domestic market, which is subsequently influenced by scale and stability of that market (Szewczuk & Clausen, 2011). Another important factor is the supply chain and more specifically where the resources would come from. But that would depend on how much of the turbine comes from the local market and the domestic market. The illustration on the next pages shows fours situations in terms of manufacturing in South Africa and the degree to which it can be achieved and when they will be possible depending on the level of development in the industry according research conducted CSIR and RISØ in association with the worlds global wind energy players (Szewczuk & Clausen, 2011). This can give Vestas a possible idea of what local resources they should work on getting in South Africa, which will directly affect they strategy in South Africa.

<table>
<thead>
<tr>
<th>Situation</th>
<th>Conditions (Available)</th>
<th>Local cost %</th>
<th>When possible?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Low - industrial content.</td>
<td>Grid connection, civil works, other capital costs, fully imported wind turbines</td>
<td>29%</td>
<td>Now</td>
</tr>
<tr>
<td>2. Medium – low industrial content.</td>
<td>Grid connection, civil works, other capital costs, tower locally made, rest of turbine imported</td>
<td>47%</td>
<td>2015</td>
</tr>
<tr>
<td>3. Medium – high industrial content.</td>
<td>Grid connection, civil work, other capital costs, tower blades, generator and nacelle made locally, rest imported</td>
<td>66%</td>
<td>2020</td>
</tr>
<tr>
<td>4. High industrial content.</td>
<td>Grid connection, civil works, other capital costs, most of turbine made locally, except for specialised items such as gearbox, rotor bearing.</td>
<td>88%</td>
<td>2020</td>
</tr>
</tbody>
</table>

Figure 4 - Possible Manufacturing Situations and local cost%
Various researchers and reports of the industry have different ideas on what would be the most ideal strategy concerning local manufacturing but these suggestions would in turn depend on the MNCs resources and capabilities that can be leveraged i.e. Vestas. But Vestas does have the possibility to import blades and towers from their manufacturing plants abroad e.g. China. From the assessment of the infrastructure in South Africa I can confirm that South Africa is more than capable of handling that sort of freight.

However considering risk overall, the main issues from Vestas point of view (Vestas (5), 2011) concern quality, transportation costs as well as disturbances regarding production and wind installations and patent disputes exist. Regional production and procurement can diminish exchange rate risk.

**Concluding remarks**

The energy situation in South Africa is a problem that Vestas should view as an advantage. The power shortages has forced the government to take serious action in order to avoid further blackouts that lead to additional economic loss that is problem as the government strives for economic development. Wind energy can help in many areas i.e. unemployment and economic development. The blackouts and the aim of cutting down green house gas emissions have made the energy issue in South Africa a serious concern.

The response from the government was stronger and more favourable legislation (will elaborate when analysing institutions) regarding renewable energy. The result is IPPs being assigned 30% of the national grid. Vestas has a higher possibility of contracting with private IPPs to supply turnkey wind energy technologies in comparison to directly contracting with Eskom. Furthermore competition is limited to wind energy players as other renewable energy suppliers have been assigned their quotas i.e. wind energy has 1850MW assigned capacity to be installed by 2013. In the past applications to Eskom to add wind energy to the national grid have been hard due issues concerning reaching a power purchasing agreement (PPA) which was said by Mark Tanton, the deputy chairperson of the South African Wind Energy Association (Mainstream Renewable Power, 2009). It will still be a challenge contracting with
IPPs and furthermore I would expect Vestas to face tough competition from its other global counterparts.

Considering manufacturing capabilities the wind energy industry is young but there is promise and the engineering and technical capabilities do exist and infrastructure for commercial purposes is quite adequate. However the industry lacks the know-how and the experience of large-scale wind energy solutions. Technology transfer involves transferring tacit knowledge, which is costly to transfer, and in a weak institutional environment the risk of losing this knowledge is dangerous. The lack of skills is an issue and as I will highlight this in the next section. The possibilities are not as black and white as in developed markets i.e. acquiring skilled workers from the domestic or other markets. Vestas the strategy chosen will depend on the extent that they choose to use they home resources and the resources in the South Africa. Considering the scenarios I believe it is about finding the most appropriate level of efficiency, competitiveness and minimising the total risk. Once the institutional requirements have been assessed I will be able devise the most appropriate strategy for Vestas and entry mode.

I will conclude the section with a quote by David Chown, Director & Country GM at Mainstream Renewable Power South Africa, “South Africa is facing a serious economic and energy crisis and wind energy has a significant role to play in tackling both of these issues. As a nation, we can’t afford to ignore the potential of our vast wind energy resource. We need to introduce at least 36 GW of new energy capacity over the next 15 years and by using our own natural resources to plug this gap we will not only reduce our CO2 emissions by over 68 million tonnes each year, but we’ll create a whole new economic industry, particularly in rural areas, generating new jobs and empowering local communities through education, training and skills transfer.”
Focus - Wind Energy Institutional Environment

Overall I will look at the main stakeholders i.e. institutions and the policy changes that have been made over the years and the main policies that Vestas must abide by in order to operate in South Africa. Furthermore I will, based on experience of another Danish MNC in South Africa highlight some of the dos and don’ts in order for Vestas to be more cautious and effective in the South African market. Ultimately I will analyse the main institutional transitions South Africa has been going through and formal institutions concerning the wind energy industry.

Institutional Change in South Africa

It is the development of policies and more importantly its effects on the economy in terms of growth within the context of the institutions that are above all other factors that in turn define the economy as well as society (Faulkner & Loewald, 2008).

Before 1994 South Africa’s economy had been dominated by colonials and Apartheid, which consisted of radically restricted political as well as economic systems that where grounded on the exploitation of the countries natural resources. The nature of the economy discouraged competition within the country and furthermore was not a very attractive market for foreign investors. Subsequently public sector services namely electricity where heavily subsidised by the government, resultantly the sector was protected from competition and end product was poor quality service at low subsidised prices (Faulkner & Loewald, 2008). Furthermore poverty and equality are still two serious socio-economic issues facing South Africa in the post apartheid era.

South Africa’s economic growth was moving at a very low pace. In order to improve growth post 1994, when South Africa officially became a democracy the focus was on how to reintegrate the national economy with the world economy and furthermore enjoy the benefits of globalisation i.e. increasing foreign demand for South African products as well as enabling the inward flow of capital i.e. IFDI (Faulkner & Loewald, 2008). From 1994 – 2002 primarily due to the economic crisis South Africa had to adjust to the possibility of a decline in FDI and from 2002 to present South Africa has tried to develop macroeconomic policies to maintain stability and enhance growth rates.
From a microeconomic view of South Africa, some of the main issues South Africa must deal with in order to increase economic development are; increasing competitiveness, improving market structure and competition, productivity, tariffs and pricing issues (Faulkner & Loewald, 2008). Overall total factor production (TFT) has been the key accounting for 60% of post 1994 economic growth.

If you assess South Africa’s growth trends, you will see that they are linked to the political transition to a democracy and additionally change in institutional environment. Improved integration and synergy concerning flows of knowledge as well as encouraging competition have been detrimental to moving South Africa’s in a direction that leads to improved equality in society and economic development.

Thus from 1994 onwards the newly elected democratic government was faced with a daunting task of leading a nation through the transition from a country and a society with the bitter taste of apartheid still lingering i.e. a society that new only segregation, marginalisation and exclusion to a nation based on cohesion, inclusion and opportunity (Faulkner & Loewald, 2008).

To address all policy changes and their effects would be a lengthy task thus I will briefly address the main policy changes. However between 1994 and 2002 the main policy changes that could be said are very influential is firstly Reconstruction and Development Programme (RDP) implemented with the aim developing human resources and the society and furthermore the economy primarily through tax reform. However the intended level of progress in terms of developing public financial institutions was inadequate. The response from the government to develop and implement the Growth Employment and Redistribution strategy (GEAR) in order to increase macro-economic stability and be the foundation for economic growth. The main factors that the policy aimed for and that I am interested in was the aim to increase foreign direct invest (FDI) by further making the markets more attractive to invest in by additional tariff reform as well as public sector restructuring (Faulkner & Loewald, 2008).
South Africa is focused on economic growth and bringing society together. The government’s means of achieving these goals is by increasing the competitiveness of the market and attracting FDI. Institutions are extremely relevant when addressing these issues and even more so in South Africa and the main task of the institutions is to develop a framework that can convert resources into results. This fact is without a doubt influencing South Africa’s policies and are extremely visible when looking at the energy industry, and even more so when looking at the renewable energy industry which will be addressed later in the report. I have addressed the major policy changes between 1992 and 2002 that will set me up for the major policy changes for the energy industry in South Africa that primarily began in 2003.

**Key Institutional Stakeholders in South African Wind Energy Industry**

I will now focus on addressing the key institutional stakeholders and how they interact before addressing major policy changes concerning the wind energy industry in South Africa.

The main point of looking at the major stakeholders is making clear who they are and what their responsibilities are as they are reasonability for the overall functionality of the institutional framework concerning the wind energy market in terms of policy formation and furthermore how IPPs and wind energy suppliers can conduct business. There are four main stakeholders overall when looking at the wind energy market. It is important to keep in mind that this is a slime form of the stakeholders concerning the renewable energy market and they are in fact many more. However for this project I deemed the following stakeholders relevant for this project. An in-depth level of research should be conducted to get a full understanding of the entire industry.

I will start of by addressing governmental institution, The Department of Energy (DOE) followed by the systems regulator which is National Energy Regulator of South Africa (NERSA) followed by Eskom, the independent systems operator (ISO) and finally the Independent Power Producers (IPP’s). I will now address each stakeholder in turn.

At the top of hierarchy is the Department of Energy which is a ministry division formed by the Republic of South Africa. The DOE has the authorization to develop
policies as well as regulations that ultimately stimulate the energy sector in a manner that is beneficial for South Africa (Department of Energy (2), 2011). The DOE developed an agenda to solely address wind energy situation in South Africa, which was the South African Wind Energy Programme (SAWEP). SAWEP was developed in order to encourage the development of wind energy in the South Africa energy market.

The next stakeholder in the hierarchy is NERSA which is a division overlooked by the DoE. NERSA was established in 2005 in terms of the National Energy Regulator Act of 2004 and has the authority to regulate South Africa’s electricity (Department of Energy (2), 2011). NERSA overlooks electricity, piped gas and petroleum industry. The point of NERSA is to ensure a there is fair competition and no monopoly exploitation. Furthermore NERSA’s responsibilities involve issuing licenses and approving tariffs and mediating disputes under the National Energy Regulator Act, 2006 (Department of Energy (2), 2011). For this project I am particularly interested in how NERSA issues licences to IPPs and how this will influence Vestas, as Vestas will work with the IPPs to supply wind energy turnkey solutions. I will elaborate further on this issue wind assessing the IPPs.

Next is Eskom, which is the wholly state-owned utility that has a number of responsibilities concerning the wind energy market, thus I will only focus on the issues Vestas and IPPs consider as this relationship is one of the most important factors concerning Vestas entry strategy.

1st - Eskom is an electricity generator therefore technically making it a competitor for IPPs i.e. supplies approximately 94% of electricity to the national grid.

2nd – Expanding from the first point Eskom is also technically a systems operator at it owns the national electricity grid.

3rd – Therefore concerning an offtake agreement i.e. An agreement between a producer of a resource and a buyer of a resource to purchase/sell portions of the producer's future production (Investopedia, 2011), which is the agreement between an IPP and Eskom for example. Eskom stands as the, “off taker” for IPPs through the
very controversial Single Buyer Model (Lovei, 2000), which Eskom operates by. This model was implemented by NERSA under the REFIT Act (NERSA, 2009).

Eskom’s numerous responsibilities coupled with a very unclear understanding of how far its authority extends only create uncertainty for the potential investors i.e. IPPs and Vestas. It is clear that Eskom has vast influence in the energy sector further highlighted by the fact that it runs by the single buyer model which has good intentions but in an emerging market with a weak institutional framework can make potential investors uncertain of what is possible. The fact is that Eskom is the systems operator meaning in cooperation with the regulator as well as the energy planner when constructing the integrated resource plan (IRP) their opinion concerning wind energy solutions for example, can significantly influence the degree to which they are included in the IRP construction process (Department of Energy (3), 2009). My main concern considering Eskom is that they have the responsibility to supply the nation, which is already struggling to meet its current demand, to meet this demand they have to turned primarily to coal which is evident in the IRP as they invest in increasing capacity at existing coal stations (Gurzynski, 2010). From the view of an investor the fact that Eskom is relying on coal as opposed to modern renewable energy technologies could reduce investor confidence as Eskom could create additional barriers for the wind energy industry in South Africa. Thus it is wise to keep an eye on Eskom to avoid any unwanted surprises.

It is clear that South African energy institutions lack a clear structure of their roles and responsibilities. The stakeholders need to be arranged in structure that serves their purpose i.e. systems operator and a regulator. The relationship between the DOE, NERSA, Eskom and the IPPs is somewhat obscured when you ask who has the power to do what, and has the power been distributed in a manner that constitutes fair play?

**Institutional Policies in the South African Wind Energy Industry**

I have mentioned some of the legislative issues in the previous section but I will now look at the main legislative framework for the wind energy market in South Africa. I will begin by forming a timeline of the major energy reforms and policy changes in the South African wind energy industry. The timeline was constructed through research in the energy industry through government documents and media
publications from South Africa (Department of Energy (2), 2011; Wiesegart, Dubois, Sommer, Weisheng, & Yang, 2011). The timeline is showed in table 1 below. Additionally the reader must keep in mind that the policy and legislative documents I address below are relevant mainly to IPPs and Vestas. The reason being that Vestas will only be delivering turnkey solutions to the IPPs as their business model which I confirmed with the interview with James White (White, 2011), hence the requirements of the IPPs and Vestas are closely linked. The issue of Vestas setting up a manufacturing facility is less complicated but will be addressed and one of the main issues was the relationship with the IPPs and the South African institutions pertaining to the wind energy industry. I will elaborate further on this as I map the process of Vestas getting a contract to supply wind energy solutions.

Table 1: Main South African Legislation and Policies pertaining to Wind Energy

<table>
<thead>
<tr>
<th>Legislation/Policy</th>
<th>Date</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Energy Regulator Act, Act no. 40</td>
<td>2004</td>
<td>Department of Energy</td>
</tr>
<tr>
<td>Eskom Multi-Year Price Determination</td>
<td>02-2006</td>
<td>National Energy Regulator of South Africa</td>
</tr>
<tr>
<td>Electricity Regulation Act, Act no. 4</td>
<td>5-07-2006</td>
<td>Department of Energy</td>
</tr>
<tr>
<td>Electricity Regulations on New Generation Capacity (35(4) of Electricity Regulation Act, 2006)</td>
<td>05-08-2009</td>
<td>Department of Energy</td>
</tr>
<tr>
<td>Event</td>
<td>Date</td>
<td>Responsible Authority</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Renewable Energy Feed in Tariff Phase 1</td>
<td>31-03-2009</td>
<td>National Energy Regulator of South Africa</td>
</tr>
<tr>
<td>(included a proposed PPA for comment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renewable Energy Feed-in Tariff Phase II</td>
<td>02-11-2009</td>
<td>National Energy Regulator of South Africa</td>
</tr>
<tr>
<td>Integrated Resource Plan 1: Determination Regarding The Integrated</td>
<td>31-12-2009</td>
<td>Department of Energy</td>
</tr>
<tr>
<td>Resource Plan and New Generation Capacity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated Resource Plan 1 Approved</td>
<td>10-2010</td>
<td>Inter-Ministerial Committee on Energy</td>
</tr>
<tr>
<td>IPP Procurement Programme Economic Development Policy developed</td>
<td>15-03-2011</td>
<td>Department of Energy</td>
</tr>
<tr>
<td>Request for qualification and proposals for New Energy Capacity under</td>
<td>03-08-2011</td>
<td>Department of Energy</td>
</tr>
<tr>
<td>the IPP Procurement Programme</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The White Paper on the Energy Policy of the Republic of South Africa, 1998 (Department of Minerals and Energy (1), 1998) was issued by the DOE, which was previously known as the Department of Minerals and Energy, in order to set and bring
order to the policy framework pertaining to the electricity sector as well as the energy sector and an overall completeness. One of its main purposes was to stimulate competition within the energy industry, which had been dominated by Eskom, by including IPPs to contribute to electricity generation capacity. Additionally it included an independent systems operator as well as and independent regulator. The White Paper mentioned including a mix of modern energy into the countries electricity generation capacity. The idea of an independent systems operator and independent regulator was soon forgotten in 2004 and furthermore IPPs were not taken very seriously and the government abandoned it and Eskom’s power was re-confirmed and thus the focus on coal continued (Edkins, Marquard, & Winkler, 2010). However the seed concerning renewable energy was planted. The inclusion of IPPs was never officially discarded; it was just not addressed further. The fact was that there was no framework i.e. institutional policy in order to develop the idea of IPPs and encourage their development resultantly the DOEs effort to develop IPPs and include them in the energy sector failed in the year 2000 (Edkins, Marquard, & Winkler, 2010).

The White Paper on Renewable Energy, 2003 (Department of Minerals and Energy (2), 2003) was issued by the DOE stating a goal of 10000GWh of energy to be generated by renewable energy sources to the overall energy generated for consumption capacity by 2013. From my interview with James and looking at the White Paper on Renewable energy they two main concerns. The goal of reaching 10000GWh was vague because, firstly how would the goal be reached in terms of which technologies would be responsible for generating a share of the target. Furthermore, the incentives were unclear. Next, the period over which the goal would be reached was not clear i.e. would it be the aggregate for 2013 or did they mean the goal would be reach over the period stretching from issue of paper to 2013. These issues did create some uncertainty in the market. But it was from this target that NERSA found a reason to develop the Renewable Energy Feed-In Tariff (REFIT) which was approved in 2009 (NERSA, 2009). The White Paper on Renewable energy was vague which raised more uncertainty placing doubt on the DOEs intentions and commitment to renewable energy industry in South Africa and furthermore the future of IPPs which is linked to Vestas future in South Africa.
The development of the REFIT was the first real credible incentive pertaining to the renewable energy industry. The REFIT established under NERSA was developed through two processes i.e. Phase I and Phase II. The tariff set for wind energy was R1.25/kWh (DKK0.83) over 20 years for IPPs that managed to get an electricity generation license. The detailed method by which, REFIT would actually give the investors an incentive to enter the industry was still inexplicit. None the less it was a signal investors did recognise. This guarantee of the tariff and stated period of time were inviting facts. However REFIT lacking explicitness was not enough to investors to, “actually” invest in the industry, which was shown by the lack of activity at the time of the REFIT being published.

Next looking at the electricity regulations on new generation capacity and the Integrated Resource Plan, through 2009 and 2010 the criteria was stated which IPPs had to meet in order to be given electricity generation contracts. These two new regulations lead to more uncertainty between investors primarily in two ways. Firstly investors were uncertain as to how the selection process concerning IRP1 for wind energy did work. Secondly the lack of synergy between the DOE and NERSA obstructs their ability to carry out their objectives. It is problem of authority, which the DOE has a hard time giving which can be supported by my interview with Tamai Hore, a Generation and Licensing Engineer at NERSA, who said the DOE recently took back some of the authority concerning licensing IPPs electricity generation contracts as now they can only give their opinion with the DOE having the final word (Hore, 2011). The IRP initially gives NERSA the authority to license what is stated in the IRP. Normally feeds in tariffs are obliged to accept all projects that meet the qualification criteria, but now the DOE altered this process, making it more similar to process of getting a tender approved i.e. making the process more extensive. This leads to additional uncertainty for investors and furthermore financiers who need to fund the project for the IPPs i.e. get money to pay Vestas for the wind turbines and other necessary assets. The issue is that under a tender process and the qualification criteria to get a license the IPPs have to commit funds i.e. loans before they are even approved to meet the qualification criteria. The issue is that there is no guarantee that the project could gets approved due for example offering to produce smaller amount of wind energy than would be prepared by the DOE (White, 2011). Thus they could make IPPs reluctant to try to get a license and even more so make financiers less
likely to give out loans which would hinder Vestas activities in South Africa as they have no one, or fewer to contract with. Thus the problem is the DOE and NERSA’s incoherence in terms of policy intentions as the structure of the IRP seems to not work with the REFIT.

However the most recent developments in the renewable energy sector was the publication IPP Procurement Programme Economic Development Policy. Which was later finalized and issued buy the DOE which was the Request for qualification and proposals for New Energy Capacity under the IPP Procurement Programme (Department of Energy (5), 2011). Again stating the requirements for IPPs primarily in terms of the economic development scorecard for onshore wind procurement for IPPs and wind energy suppliers. This was an extensive evaluation and qualification criteria IPPs had to meet in order to be given an electricity generation and technology license. These requirements were quote, “stick and harsh” according to James White (White, 2011), the sales and account manager at Vestas South Africa. This was an attempt to clarify the requirements of IPPs but the issues still linger concerning financing. I will later in this section elaborate on the IPP Procurement Programme economic development policy and the requirements it explicitly presents.

Unresolved uncertainties in renewable energy industry

In 2010 renewable energy MNC’s stated that if South Africa does not do something about the uncertainty in the market i.e. commitment to improve the renewable energy sector and furthermore a clear understand of the market and the requirements to operate in the market, and if such requests were not met they would go elsewhere (Van der Merwe, 2010). The question is what has and has not been done since then? The IPP procurement plan is the most recent development in South Africa to answer these questions and try to reduce uncertainty and keep potential investors interested. But one issue that I discovered in an interview with Shanon Jacobs, a Senior Energy advisor at Eskom when I was trying to find out more about PPA between Eskom and the IPPS she said that IPPs will not be able to begin operation until a central office is built, and furthermore that it might be done by June 2012. Furthermore when speaking to James White he was hoping to start with operations in early 2012. Thus there still seem to be some loose ends that need to be tied concerning the renewable energy industry.
**Vestas institutional Requirements**

For Vestas the main issue in order to get support from the government and have a good image in the industry concerns a black economic empowerment. Which in short is an affirmative action regulation developed and implemented by the Republic of South Africa, Department of Industry and Trade (DTI) (Republic of South Africa, Department of Trade and Industry, 2011). This falls under the Broad-Based Black Economic Empowerment Act in 2003 which was published by the DTI in 2007 with the release of the Codes of Good Practice with the primary objective of clarifying and ensuring consistency in instigating socially responsible behaviour in one main area i.e. empowerment of historically disadvantaged black South Africans with in organizations in all industries in South Africa (Arya & Bassi, 2011). I will now look at Broad Based Black Economic Empowerment (BBBEE) and it main requirement that Vestas must address. For Vestas the DOE published in the evaluation and qualification criteria the requirements of wind energy procurers in terms of economic development. I will present an overview of the requirements focusing on the more fundamental ones. But first I will begin with the generic BBBEE empowerment criteria that Vestas is firstly assessed on.

**Broad Based Black Economic Empowerment**

The original Broad Based Black Economic Empowerment BBBEE scorecard is based on BBBEE Act (53/2003): Codes of Good Practice Generic Scorecard² on BEE (DTI, 2009). This assessment is for Generic enterprises³ which Vestas falls under because Vestas turnover is larger than $4.2 (35 million rand) i.e. depending on the size of the company in terms of turnover determines the extent of the application of the codes⁴ varies. The assessment is based on 7 pillars, which are based on the corresponding subsections of the Act. Summaries of the main factors concerning the pillars are presented on the next page.

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² Appendix 2 - Codes of Good Practice Generic Scorecard with Compliance Target
³ Appendix 3 - Enterprise Size and Application of Codes of Good Practice
⁴ Appendix 4 - Arrangement of Codes of Good Practice
Code 000: Framework for Measuring Broad-Based Black Economic Empowerment

Direct Empowerment: -
Code 100: Equity Ownership – 20%
Code 200: Management – 10%

Indirect Empowerment: -
Code 300: Employment Equity – 15%
Code 400: Skills Development – 15%
Code 500: Preferential Procurement – 20%
Code 600: Enterprise Development – 15%
Code 700: Socio-economic Development – 5%

Companies operating in South Africa are assessed in 3 performance areas overall with the respective weighting for each area, which are Commercial 40%, Technological 40% and BEE 20%. Each is given a level based on the score for each area but I will focus on the BBBEE scorecard\(^5\) (Arya & Bassi, 2011). The BEE score is from Non Compliant i.e. a score of less than 30 and then 8 and all the way to 1 i.e. 1 being that the company gets a BEE score of over 100 and get the highest BEE recognition level. Companies with a high BEE score are more recognised in the industry and public and private sector customer are more incentivised to conduct business with you. In your first year of operating you automatically begin with a score of 4 and are then re-evaluated at the end of the next year. Before looking at the specific requirements from the DOE for Vestas in terms of economic development that will determine whether or not Vestas gets a contract I will briefly discuss BEE.

**Discussing Black Economic Empowerment**

The main objectives of BEE is give more power to the black community in South Africa and subsequently increase the degree of black management, ownership and control in the South Africa economy as well as lessen the degree of income inequalities (Arya & Bassi, 2011). The key step in the South African government was the DTI developing the Codes of Good Practice that was supposed to be a step towards developing corporate social responsibility standards (CSR) in South Africa in many areas but instead focused on social issues related to the direct and indirect empowerment of the black community (Arya & Bassi, 2011). The Codes of Good

\(^5\) Appendix 5 - Codes of Good Practice – Enterprise BEE Status
Practice specify for all companies in all industries in South Africa transformation targets, specific targets, means of achieving these targets and performance measures with the purpose of regulating and improving the companies’ social responsibility and reaching their BEE targets. I mentioned before the development of BEE regulation started in 2003 and was only published in 2007, which was without finalising the Codes of Good Practice i.e. to be ready for implementation. Instead the response from the industry was to develop their own industry-specific, “transformation charters” to self regulate their conduct (Fig, 2005). The issue of self-regulation concerning industries has many different perspectives from scholars and economists (Campbell, 2007; Martin, 2003; Prakash, 2000) but overall the intersection of self regulation in association with the government and the legal institutions connected to it are fundamental factors that can determine the success of failure of industrial self-regulation systems (Karkkainen, Fung, & Sabel, 2000). In the case of South Africa, the government and the stakeholders in various industries such as labour and local communities have worked together to develop industry specific charters to revitalize the local economy (Fig, 2005). In other emerging economies this sort of collaboration i.e. negotiation between companies and relevant stakeholders in corresponding industries, has lead to new incompatible stakeholder interests (Campbell, 2007; Karkkainen, Fung, & Sabel, 2000). However as a result some companies in South Africa have become more inclined to perform more socially acceptable acts to help benefit the local economy (Arya & Bassi, 2011).

The DOE developed the economic development scorecard for onshore wind procurement as part of the IPP Procurement Programme Economic Development Policy.

**Qualification and Evaluation Criteria for Onshore Wind Procurement**

The DOE published IPP Procurement Programme Economic Development Policy, which consists of an Economic Development Scorecard⁶ (EDC) for onshore wind energy procurement. It states strict and harsh requirements as said by James White (White, 2011). Vestas and the IPPs agree on a contract together which the DOE must approve. There are four bidding stages via tender. NERSA is responsible for evaluating the cost effectiveness of the proposed project and makes recommendations.

⁶ Appendix 6 - Economic Development Scorecard for onshore Wind Procurement
DOE then outlines the areas that need to be improved and returns the contract to Vestas and the IPPs. This process occurs 4 times until an agreement can or cannot be reached. If approved the IPP contacts Eskom in order to be connect to the national grid. The value of local content Vestas plans on committing to should be stated on this scorecard. There are 7 main areas, which I will address briefly. The EDC consists of 7 obligations where each is described and measured based on x factors and has a threshold and target level that the DOE has chosen for each area and Vestas is required to respond in terms of how close they will be able to reach the target. The 7 areas are:

**Job Creation**: Vestas is required to state the required number of employees that should be employed based on citizenship, ethnicity, skill level and people from the area in which Vestas will set up operations. Each has its respective weightings.

**Local Content**: Vestas is required to state how much they plan on investing in the area they are going to operate in comparison the total project value.

**Ownership**: Vestas is required state the amount of shareholding of the company by black people concerning those that will be employed in the various areas i.e., project management, construction, operations and the local communities in comparison to the total shareholding value of the company. Each area has its respective weightings.

**Management Control**: Vestas is required to state the number of black people that will be employed in top management in terms of gender in comparison the total number of people employed in top management.

**Preferential procurement**: Vestas has to state the amount that will be invested in working with other suppliers with appropriate BBBEE recognition levels.

**Enterprise Development**: Vestas would have to state the amount they would investigate in enterprise development as percentage of the revenue they would generate in South Africa.
**Socio-Economic Development:** Vestas would have to state the amount they would invest in concerning socio-economic development contributions as a percentage of the revenue they generate.

This is quite an extensive list of requirements and that fact that all of these have to be predetermined before Vestas and the IPPs are given permission to begin to conduct business is quite demanding. But nonetheless Vestas have to meet theses demands to gain support from the government or at least offer better terms than their competitors if the contracts are to be given.

**Experience from Danish MNCs in South Africa**

In order to get a better idea of the implications of BEE in South Africa I spoke to Jacques Pretorius (Pretorius, 2012) a Trade Officer at the Danish Embassy in South Africa and Helge Rosenberg (Rosenberg, 2012) the Area Manager for Africa for Haldor Topsøe, which is chemical catalyst company in South Africa that develops technology for refining petroleum and various chemicals in South Africa. Both have extensive knowledge with dealing with BEE and its implications in the South African Market. The key points I gathered from the interview we as follows. I will begin with main issues I recorded from Helge Rosenberg (Rosenberg, 2012).

You contract will not be taken way if you do meet the BEE requirements but it will affect your business. Customers are more willing to do business with companies that have high BEE scores. Even if you do well in the Commercial and Technical aspects of the business and do not do well in the BEE score the customer can be more reluctant to contract with you. There definitely is a mental aspect to it. For example if company is not doing well in the technical and commercial aspects of the business but has a high BEE score they could still choose to contract with you. The economic development aspect is also very important. The government pays a lot of attention to this aspect but you must do as they see fit. In the area you are operating you may think that other areas need more developing than the government sees. However you must still do what they want if do not want trouble from them. That is why we also take the CSR requirements very seriously so in that aspect you must understand what is socially acceptable in South Africa to avoid creating unnecessary tensions. Another key issue concerns ownership. There are new regulations that are being developed.
The first is that ownership of 20% is not mandatory. The second concerns the level of influence by the 20% BEE ownership. On paper originally the 20% black ownership only gives them limited control in the company but that control is greater than first understood so it is important to be careful in this area.

In the interview with Jacques Pretorius (Pretorius, 2012) was brief but their was one main point. When dealing with BEE you must be aware that does not only affect you but you must look at your entire value chain. Companies are not only more inclined to do business with companies that have good BEE rating for them but also for those they are connected to. The issue of BEE is hard for companies to deal and has definitely discouraged some companies from entering South Africa. BEE is a fundamental part of the way business is done and it seems that this will be in South Africa for the foreseeable future.

**Concluding remarks**

Thus to conclude the numerous roles of Eskom cause some confusion. Furthermore the lack of synergy between the DOE and NERSA concerning policies and legislation and the overall absence of directorial policy in the electricity industry are some of the main sources of uncertainty for investors. Furthermore the strict and harsh requirements for wind energy procurers by the DOE will be hard to meet. But the market has potential but the risks are serious. One of the main risks was the possibility of a loss of control through a 20% ownership stake by black owners is quite daunting especially when such a possible is not explicitly explained in documentation. But the fact is that if these requirements are not met Vestas, business could be hampered. If Vestas is too succeed it should immediately start to associate itself within actors within its value chain that operate in South Africa with good BEE scores.

Vestas strategy should aim to increase BEE and economic development in South Africa if they are have a good image in the market which will directly affect their business. I think Vestas will find it difficult to have a high BEE score initially but Vestas can commit resources to economic development in the area they operate from the start. Thus I believe Vestas should focus on how this can be achieved and implement it into their strategy. Now that I have covered the main areas I will
Strategic Choices

I will discuss and assess the possible strategies outlined by James White (White, 2011) and based on the market, industry information and institutional requirements. End the section with an empirical conclusion on what is the best strategy and entry mode followed by a theoretical conclusion. However, I will begin by addressing the financial aspects for Vestas, in terms of funding.

Project Finance

Project finance is not a strategy but one of the main factors that will affect Vestas strategy. In the interview with James White (White, 2011) he said that the only way they would be able to receive funds from the relevant financial institutions in South Africa is through EPC turnkey solutions for onshore wind. Thus Vestas will have no choice but comply with the demands of the financial institutions if they are to have access the capital that they fundamentally need.

Which Strategy?

When discussing which strategy Vestas was likely to implement in South Africa it was a discussion of what resources they would have access to in South Africa and the main institutional requirements. The main aim is to increase local content value, which is an aspect of the economic development scorecard for onshore wind suppliers. This would be the main factor that would decide whether or not the global players in South Africa would be able to get a contract and thus support from the DOE (White, 2011). Therefore Vestas objective should be to increase local content and also economic development. BEE will take time but by increasing local content and their expenditure on economic development Vestas will raise their EDC scorecard value and as their subsidiary in South Africa expands and they gain more experience in the industry they will be able to increase the level of BEE within the company.

Wind energy companies with the highest local content value will receive contracts and full support from the DOE.
Local Content = Total construction cost – cost of imported good and services

In the interview with James White (White, 2011), he said they would have a full-scale office in South Africa to handle the bureaucratic side of things but uncertainty was surrounding the manufacturing and supplying of the wind turbines. James White and I discussed the possible entry modes and the three possibilities were Joint Venture, Knowledge Partner (JV) and finally Greenfield, which I will now discuss in turn.

**Joint Venture**

The joint venture strategy has a few possible combinations. The first scenario would concern Vestas importing various components and towers and blades for wind turbine set up. Vestas would then contract with a third party in South Africa to set up the wind turbines. Vestas would contract with local civil and electrical engineering companies and set up an assembly plant. This would involve a degree of knowledge transfer. However this would decrease the local content value. Vestas wants to increase the local content and this strategy would limit that possibility.

The second scenario would be for Vestas to buy the blades and towers locally and import the necessary components from a subsidiary abroad and contract with a local civil engineering company and set up an assembly plant, which would increase the local content value. South Africa has a highly developed automotive, steel and glass fibre companies that have the capability to build towers and blades but lacks the technological know-how and experience. There is the expectation that a few wind turbine tower and blade manufactures will set up in South Africa and supply the blades and turbines to the global players (White, 2011). In this case the overall costs for the wind turbine manufacturing from a local perspective would increase i.e. decrease the value of imported goods and services and thus increasing the local content value.

**Knowledge Partner**

Another possibility is that Vestas can form a consortium i.e. set up a central point and hire civil and electrical engineers with the required capabilities and be simply a knowledge partner directing what needs to be done and be less physically involved.
Either scenarios in terms of acquiring the necessary blades and components outlined before are possible. Ideally they would all have good BEE scores, which would reflect well on Vestas. The main factor in this strategy is that Vestas will be linked to companies with good BEE scores, which will give Vestas a good industry image. Additionally the local content value will be high due to the value of services imported being lower.

This scenario is more debatably and again the issue of tacit knowledge and Vestas transferring intangible assets can be problematic and expensive. I would have to question the level of ownership and the rights which return me to the interview with Helge Rosenberg (Rosenberg, 2012) where he stated that 20% mandatory black ownership actually gives them more power in the company that you actually think does. This fact identifies a lack of transparency in the contacts. I believe this strategy is very risky and highly improbable due the risks i.e. loosing valuable tacit knowledge. Vestas would need extensive experience in South Africa before comfortable enough to implement this strategy.

Greenfield

The final possibility is mode of entry via greenfield. Vestas would set up everything from scratch in all areas of the value chain and everything would be produced and manufactured locally i.e. market based strategy will be adopted.

The issue here is the development of the industry. Certainly some of the necessary adjoining industries from a vertical point of view are there but lacking know-how i.e. mining industry and fibreglass. And furthermore the automotive industry has the technical capabilities but requiring the know-how and experience. Another issue is the skilled labour, which South Africa is lacking and but is major factor when looking at the BBBEE scorecard. The government stated that Vestas should have to employ 25% to 40% black South African workforce. However this strategy would result in the highest local content value.

Greenfield is the entry mode Vestas is ultimately aiming for and it will alleviate the main risk which I believe lies in ownership which Helge Rosenberg (Rosenberg, 2012) also thought was one of their main issues and has finally sorted it out as Haldor
Topsøe is now fully greenfield in South Africa. But the positive aspect in terms of local content is that its percentage will be high which is what the government is pushing MNCs towards.

**Empirical concluding remarks**

The most feasible strategy concerns joint venture mode of entry, with the focus being to increase local content.

The second joint venture scenario is still uncertain, as there are a number of developments that are still on going in the wind energy industry in South Africa. Until they are officiated or at least there is conclusive evidence that local manufacturing is possible and i.e. can supply blades and towers to global players, I cannot propose it. I believe Vestas would need a sufficient amount of experience in the market and industry in order to confidently understand the institutions both formal and informal.

The first scenario seems most likely. The DOEs selection at the moment is mainly being affected by the local content factor. Thus Vestas strategy should be formulated to meet this objective i.e. network strategy. The one factor that can be changed is the cost of imported goods and services. Vestas needs to build networks with the relevant civil and electrical engineering companies. Concerning the level of industry development if Vestas wants to get an operation on the way as soon as possible, blades, towers and various components will have to be imported and assembled locally. But by hiring local services this will in turn increase the local content value. However I assume the other foreign wind energy suppliers will be adopting the same strategy. From this view Vestas I believe Vestas will have an advantage in terms of manufacturing on several locations around the world, namely China and the US (Webb, 2009). Vestas has in the past exported turbine components to the US, but due the market demand it was more logical to have a domestic manufacturing facility set up. Thus Vestas has extensive experience in this area and subsequently could give Vestas an advantage in terms leveraging its global market resources and capabilities. But I question the degree to which this can be done based on their current financial health. But this issue would have to be investigated further as the indicators I investigated earlier only tell part of the story.
Vestas ultimate goal is to have a fully functional greenfield operation in South Africa (White, 2011). Vestas main manufacturing facilities are in China and the US (Webb, 2009) as stated previously. Vestas wants to supply all it markets with domestic factors ideally and South Africa seems to be a market with promise but it is still early (Webb, 2009). Greenfield business will mean that Vestas will have maximum local content value, which the government is certainly pushing MNC operating in South Africa towards. According to the manufacturing scenarios outlined earlier this will only be possible around 2020 at the current forecasted rate of development in the industry. But in that time I believe Vestas should become more familiar with the context. Vestas needs to prepare for this and build networks with the steel, automotive and fibreglass industries in South Africa as they have the capabilities to manufacture wind turbines. Vestas can help with the technological expertise, know-how and experience. Furthermore considering the required workforce I believe Vestas should network with the relevant education institutions local communities to create training programmes develop the relevant skills. This is important as most of the workforce that Vestas must employee do have access to relevant educational institutions primarily due to poverty. The key is experience, which will be key to understand the institutions at a comprehensive level i.e. a full understanding of the informal institutions as well as the formal.

**Methodological and Theoretical concluding remarks**

Considering the methodological aspects of tackling the issue of which is the best strategic choice for Vestas from the view of positivism. I had to be objective when arriving at my conclusion. Taking the inductive approach meant my conclusion would have to be based on fact and evidence. Furthermore the facts had to support the conclusion and the conclusion supports the facts. The primary data i.e. the interviews, which was the bases for my case study and ultimately, directed me towards determining the most appropriate strategy for Vestas. I would have preferred to acquire more primary data but some of the institutions were not very willing to conduct interview with. Therefore I had to turn to secondary sources of data but fortunately they are some reliable sources concerning the South African market, which allowed me to inductively conduct research concerning the South African market, wind energy industry and institutions.
Theoretically joint venture is the ideal mode of entry into South Africa when you consider the strength of the institutions and the level of required local resources\textsuperscript{7} i.e. a weak institutional environment more prone to market failure and mostly a degree of tangible assets required. The intangible assets such as technical know-how, Vestas will initially source from elsewhere. But this will involve a degree of tacit knowledge transfer. This is risky as weak institutions, which can be ineffective i.e., ignore or circumvent official rules (Helmke & Levitsky, 2003) as Vestas would want to protect such assets. The transfer of tacit knowledge will take time and subsequently be quite costly. It will be harder for Vestas to get information on their competitors operations in South Africa because emerging markets with weak institutions characteristically lack explicit and current data on the market, which can lead to information asymmetries.

Strategically Vestas should consider what could be done in order to meet the formal institutional requirements, which mainly concern BBBEE and economic development. But initially Vestas should focus on increasing local content and ultimately attain a high as impossible BEE score. Vestas should invest in a network-based strategy initially in order to access to the local resources i.e. companies with necessary resources and capabilities. This will force Vestas to be become more accustomed to the local market and become more familiar with the informal factors in South Africa i.e. the social norms and more frankly the local way of doing business. A network based relationship will force you have to interact with various local entities. This is also important as BEE requires that you have 25% to 40% local black South Africans employed, therefor it is important that you understand them i.e. customs and norms.

But as the institutions strengthen and the industry develops Vestas should adjust to a more market based strategy and subsequently invest more in local facilities. This is an important factor as emerging market literature states i.e. the balance between network and market based strategies should shift as institutions strengthen. But an informal constraint i.e. corruption is something Vestas should be aware of. The formal institutions are in place to try to combat his issues but sources claim that corruption

\textsuperscript{7} Appendix 7 - Level of Required Resources vs. Strength of Institution
costs approximately 1% of the nations GDP is not very encouraging thus by coming more family with informal society I believe the informal regulations will come into play.

**Conclusion**

*I will now make my overall conclusion concerning my assessment of the South African market, industry, institutions and strategic choice.*

The developments in the wind energy industry give Vestas no choice but to invest in South Africa now. Vestas current situation with the company not being in the same financially healthy situation as is in the past technically I believe is sign that Vestas must peruse current opportunities especially in order to strengthen the position as the global leader at wind energy solutions. South Africa is an opportunity but will require a new set of skills. Vestas has some experience in Northern Africa but in comparison the contexts are different thus you should expect to encounter a different specific set of informal and formal constraints.

The wind energy market in South Africa is very underdeveloped but facts back up its potential. Great wind energy potential and relating industries already with the necessary resources and technological expertise is promising. But it is the know-how of the global wind energy players that industries should invest in and exploit which not only be beneficial to their industries i.e. steel and glass fibre, but to the South African economy.

The institutions have been going through a series of transitions post 1994. The formal institutions are dedicated to restoring equality to country and have subsequently taken serious measures to meet this goal. The Department of Energy, South Africa as well as other relating wind energy institutions have been developing but lack a degree of clarity. In terms of their responsibilities and contractual ownership rights. Such issues will frustrate renewable energy players in the industry. Furthermore economic development is another highly influencing factor. BEE and economic development are factors that MNCs must be dedicated to in South Africa if they are to receive the full support of the government and create an imagine that is acceptable in the industry
in question. Vestas must not learn to not only focus on the commercial aspect of the industry but the CSR and BBBEE aspects outlined in the Codes of Good Practice, that South Africa has quite vividly stated are as equally important if they are to succeed in South Africa. Vestas has to abide by the formal constraints with the primary constraint being BEE and the informal constraints that will require Vestas to develop a better understanding of the context.

The DOE has stated that wind energy companies that will be given contracts are the ones that initially commit to the highest local content value i.e. have most of total construction costs in South Africa compared to their competitors. Vestas will have enter South Africa via joint venture mode of entry and adopt a network based strategy. Initially Vestas will have to import various wind turbine components to South Africa because the wind energy industry is extremely undeveloped and hire civil and electrical engineers and build an assembly plant to start building the wind turbines. The best way to access local resources is via a network-based strategy. But Vestas is ultimately aiming to have fully greenfield operation in South Africa. Vestas should through the network-based strategy connect to the necessary automotive, steel and fibreglass industries in South Africa who have the necessary capabilities to manufacture wind turbines but lack the technological know-how and experience. By implementing this strategy Vestas will gain deeper insight of the context. Collaborating with non-traditional partners such smaller informal local institutions and investing in South Africa’s local capacity i.e. existing local institutions, will help add to their understanding of the local context. Network based strategy will also help Vestas in tackling their biggest challenge in South Africa, which is black economic empowerment. Vestas is required to hire local black South Africans but the majority do have access to the appropriate educational institutions coupled with South Africa’s rising unemployment rate, this will be a daunting issue. Thus an investment in local communities and training and skills programmes could be essential. Investing in these factors will give Vestas a good image in South Africa, which is factor that the not only the government considers but potential customers.
Recommendations

I will now make recommendations that I believe can consider in South Africa but are more likely once they have more experience in the market. I will outline the potential of rural energy and how it can benefit Vestas image and the potentially profitable side. However this will require an investment in research and development in South Africa.

Clearly the two main issues the government in South Africa is trying to deal with are, BEE and economic development. My recommendation will predominantly focus on economic development. Rural energy, I believe can address both of these issues. In South Africa a population of 49 million people, only 31% officially has access to electricity (Mathews, 2011). One of the main reasons is poverty and people being geographically located in areas that are out of reach of the national electricity grid (Winkler, 2006). It would to be too costly in most cases to have grids extended. Thus rural energy is one possibility. Rural energy is in short, off grid electrification (Energy for Development, 2010). The main commercial form of rural energy is through solar energy (Rural Energy Foundation, 2010). It will help with economic development and if made sustainable can help keep the development constant. Furthermore in rural areas burning of wood is the primary source of energy, which is very polluting. Thus the issue green house gas emissions i.e. pollution, can be addressed, which is also a major issue for South Africa.

Wind energy has been used as a source of rural energy (Kalytiak, 2010). I believe Vestas with their extensive knowledge of wind energy, if willing to invest in the R&D costs to develop a wind turbine that can be implemented in the impoverished areas of South Africa with no access to electricity, the result can hugely benefit their imagine. And if successfully implemented there is the commercially profitable aspect of it i.e. sell the idea or export to other emerging economies. South Africa is committing more to R&D expenditure, which it is aiming to be at least 1% of the countries GDP. So there is a commit, which can be perceived as a positive sign that South Africa is looking to innovate.
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Appendix

Appendix 1
Foreign assets in South Africa

<table>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Overall Direct investment</td>
<td>114,013</td>
<td>113,170</td>
<td>157,385</td>
<td>203,036</td>
<td>244,653</td>
<td>213,184</td>
<td>189,911</td>
<td>180,507</td>
<td>216,660</td>
<td>232,925</td>
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<tr>
<td>Total Banking FDI % of Total Overall FDI</td>
<td>1.77%</td>
<td>2.48%</td>
<td>4.2%</td>
<td>4.2%</td>
<td>5.8%</td>
<td>3.4%</td>
<td>1.8%</td>
<td>2.1%</td>
<td>1.3%</td>
<td>0.5%</td>
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<tr>
<td>Total African Banking FDI % of Total African FDI</td>
<td>4.7%</td>
<td>5.6%</td>
<td>5.8%</td>
<td>4.9%</td>
<td>5.0%</td>
<td>6.6%</td>
<td>7.5%</td>
<td>8.8%</td>
<td>10.9%</td>
<td>8.2%</td>
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<td>African Banking Equity Capital</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>323</td>
<td>1,051</td>
<td>3,211</td>
<td>2,705</td>
<td>1,993</td>
<td>1,280</td>
<td>656</td>
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<tr>
<td>African Banking Reinvested Earnings</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>0</td>
<td>346</td>
<td>1,888</td>
<td>1,406</td>
<td>631</td>
<td>384</td>
<td>255</td>
</tr>
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</table>

Source: (Luiz & Charalambous, 2009)

Appendix 2
Codes of Good Practice Generic Scorecard with Compliance Target

<table>
<thead>
<tr>
<th>Element</th>
<th>Weighting (points)</th>
<th>Compliance Target</th>
</tr>
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<tbody>
<tr>
<td>Ownership</td>
<td>20</td>
<td>25% + 1</td>
</tr>
<tr>
<td>Management control</td>
<td>10</td>
<td>40% to 50%</td>
</tr>
<tr>
<td>Employment equity</td>
<td>15</td>
<td>43% to 80%</td>
</tr>
<tr>
<td>Skills development</td>
<td>15</td>
<td>3% of payroll</td>
</tr>
<tr>
<td>Preferential procurement</td>
<td>20</td>
<td>70%</td>
</tr>
<tr>
<td>Enterprise development</td>
<td>15</td>
<td>3% (net profit after taxes)</td>
</tr>
<tr>
<td>Socioeconomic development</td>
<td>5</td>
<td>1% (net profit after taxes)</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Source: (Arya & Bassi, 2011)
Appendix 3
Enterprise Size and Application of Codes of Good Practice

<table>
<thead>
<tr>
<th>Company Size</th>
<th>Definition</th>
<th>Application of the Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Enterprises</td>
<td>Turnover greater than 35 million Rand</td>
<td>Generic Scorecard or Industry Charter applies</td>
</tr>
<tr>
<td>Qualifying Small Enterprises</td>
<td>Turnover between 5 million and 35 million Rand</td>
<td>Simplified Scorecard Applies</td>
</tr>
<tr>
<td>Exempt Micro Enterprises</td>
<td>Turnover less than 5 million Rand</td>
<td>Exempt from BEE and receive Level 4 Rating</td>
</tr>
</tbody>
</table>

Source: (Arya & Bassi, 2011)

Appendix 4
Arrangements of the Codes of Good Practice

<table>
<thead>
<tr>
<th>Code Number</th>
<th>BEE Indicator</th>
<th>Code Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>Conceptual framework of broad-based BEE</td>
<td>General principles and the generic scorecard</td>
</tr>
<tr>
<td>100</td>
<td>Ownership</td>
<td>Measures effective ownership of enterprises by Black people</td>
</tr>
<tr>
<td>200</td>
<td>Management control</td>
<td>Measures effective control of enterprises by Black people</td>
</tr>
<tr>
<td>300</td>
<td>Employment equity</td>
<td>Measures initiatives intended to achieve equity in the workplace</td>
</tr>
<tr>
<td>400</td>
<td>Skills development</td>
<td>Measures the extent that employers carry out initiatives designed to develop the competencies of Black employees</td>
</tr>
<tr>
<td>500</td>
<td>Preferential procurement</td>
<td>Measures the extent that enterprises buy goods and services from BEE-compliant suppliers as well as Black-owned entities</td>
</tr>
<tr>
<td>600</td>
<td>Enterprise development</td>
<td>Measures the extent to which enterprises carry out initiatives contributing to enterprise development</td>
</tr>
<tr>
<td>700</td>
<td>Socioeconomic development</td>
<td>Measures the extent to which enterprises carry out initiatives contributing to socioeconomic development</td>
</tr>
<tr>
<td>800</td>
<td>Qualifying small enterprises</td>
<td>Measures the extent to which enterprises carry out contributions made by qualifying small enterprises</td>
</tr>
</tbody>
</table>

Source: (Arya & Bassi, 2011)
Appendix 5
Codes of Good Practice – Enterprise BEE Status

<table>
<thead>
<tr>
<th>Rating Level</th>
<th>BEE Score</th>
<th>BEE Recognition Level (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&gt;100</td>
<td>135</td>
</tr>
<tr>
<td>2</td>
<td>85–100</td>
<td>125</td>
</tr>
<tr>
<td>3</td>
<td>75–85</td>
<td>110</td>
</tr>
<tr>
<td>4</td>
<td>65–75</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>55–65</td>
<td>80</td>
</tr>
<tr>
<td>6</td>
<td>45–55</td>
<td>60</td>
</tr>
<tr>
<td>7</td>
<td>40–45</td>
<td>50</td>
</tr>
<tr>
<td>8</td>
<td>30–40</td>
<td>10</td>
</tr>
<tr>
<td>Not compliant</td>
<td>&lt; 30</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: (Arya & Bassi, 2011)

Appendix 6
Economic Development Scorecard – Onshore Wind

Next page.

Source: (Department of Energy (5), 2011)

Appendix 7
Level of Required Resources vs. Strength of Institution

Source: (Meyer, Estrin, & Bhaumik, 2008)
<table>
<thead>
<tr>
<th>No.</th>
<th>Group Description</th>
<th>EDC Element Obligations</th>
<th>Reporting Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Job Creation</td>
<td>Economic Development Scorecard -onsoke Wind</td>
<td>Threshold Responses</td>
</tr>
<tr>
<td>2.</td>
<td>Local Content</td>
<td>Economic Development Scorecard -onsoke Wind</td>
<td>Measurement</td>
</tr>
<tr>
<td>3.</td>
<td>Ownership</td>
<td>Economic Development Scorecard -onsoke Wind</td>
<td>Description</td>
</tr>
<tr>
<td>4.</td>
<td>Management</td>
<td>Economic Development Scorecard -onsoke Wind</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Preference</td>
<td>Economic Development Scorecard -onsoke Wind</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Entrepreneurship</td>
<td>Economic Development Scorecard -onsoke Wind</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Development</td>
<td>Economic Development Scorecard -onsoke Wind</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Procurement</td>
<td>Economic Development Scorecard -onsoke Wind</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Program</td>
<td>Economic Development Scorecard -onsoke Wind</td>
<td></td>
</tr>
</tbody>
</table>

Note: 1 = nil, no obligation.