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Drivers of Environmental Pro-activity in Danish Electricity Industry

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Abstract

Over the last years, both students and practitioners recognized that organizational and societal survival and development depend upon effective, sustainable interactions and relationships with the natural environment. The Organizations and Natural Environment field of research is currently questioning whatever this merger could be also profitable and under which conditions. Based on the review of the theoretical contributions in this field, the paper elaborates a conceptual framework for understanding the factors that affect firms' environment responsibility and its consideration at strategic level. In order to respond to the paper research question, an empirical research on Danish power generation firms has be conducted. Energy industry is chosen as a set of the study, since it is the most liable for environmental damage but, in the same time, it represents a key industry for the development of best practices at organizational level and suitable regulations at institutional level. Environmental regulation and ethical attitude represent the starting drivers that push firms to go green. Organizations translate natural environment into a strategic tool if this engagement could improve firm's competitiveness through cost reduction or product differentiation and already hold complementary resources and capabilities.

Keywords: *Corporate Strategy, Organizations and Natural Environment, Energy industry, Competitiveness.*

Introduction

Environmental and Climate Change issues are still crossing both political and economic agenda. Since Brundtland Commission in 80s, in which for the first time a widely definition of sustainable development has been provided, an heated debate about the role covered by company to ensure environmental targets has been prompted.

It is supposed that companies are replacing their previous role of environmental polluter and/or abuser and -through the adoption of responsible behavior- they are able to minimize ecological damages.
In particular the Organizations and Natural Environment (ONE) stream of literature focalizes the attention on the complex relationship existing between companies and the natural environment. They focus the attention on the causes and effects of corporate environmental engagement aiming at identifying- if and under which conditions- firms could find profitable to develop an environmental-oriented strategies.
Despite a clear linkage between firm performance and environmental engagement hasn't been found yet, it is recognized that the introduction of environmental protection can be used to develop successful strategy to reach a competitive advantage.
According some researchers (Hass, 1996; Kolk & Mauser, 2002) this attitude can increase by the time, following an ideal path toward sustainability (Hunt & Auster, 1990; Roome 1992; Hart, 1995; Ghobadian et al.,1998), according others, company's environmental attitude could be classified using discrete categories presented by models or matrix (Hass, 1996). Proactive environmental strategy, defined as the one that seeks

to reduce the environmental impact and to manage the interface between business and the nature beyond imposed compliance (Sharma, 2000; Aragon - Correa & Sharma, 2003), ideally represents the last stage of environmental effort into management practices (Hunt & Aster, 1990).

Several and varied factors are able to push firms' strategy toward ecological engagement. The aim of the paper is to analyze the role of these drivers on a specific industry in order to verify the validity of current theories and to develop a conceptual model able to explain the empirical findings. This paper responds to research questions by analyzing the behavior of three Danish power companies.

There are many reasons why power generation firms are particularly relevant in this context: power industry is the one with the highest environmental impact, it has been subject to increasing pressure from new economic, energy saving and environmental issues (Majumdar & Marcus, 2001) and its management has become an important topic in governments, institution and firms' agenda (Banerjee and Bonnefous, 2011). Moreover, it represents a key sector for the development of best practices at organizational level and suitable regulation at institutional level.
The paper is articulated as follow: the first part presents the theoretical background highlighting the main literature on the topic; the second part describes the environmental strategy of three power Danish companies; in the third part theoretical hypotheses are compared with empirical results in order to verify and revise traditional theories.

Theoretical background: The Drivers Toward The Environmental Responsibility

Over the last years, both students and practitioners are involved into the study of the firms engagement on environmental issue and its assimilation into corporate strategy. Researcher from Organizations and Natural Environment are currently questioning whatever it could be profitable and under which conditions.
According some researchers (Hass, 1996; Kolk & Mauser, 2002) company's environmental attitude can increase by the time, following an ideal path toward sustainability (Hunt & Auster, 1990; Roome 1992; Hart, 1995; Ghobadian et al.,1998), according others, company's environmental attitude could be classified using discrete categories presented by models or matrix (Hass, 1996).

Proactive environmental strategy ideally represents the last stage of environmental effort into management practices (Hunt & Aster, 1990). It is defined as the one that seeks to reduce the environmental impact and to manage the interface between business and the nature beyond imposed compliance (Sharma, 2000; Aragon - Correa & Sharma, 2003). A Proactive Environmental Strategy it is characterised by the presence of four basic elements (Delmas et al., 2011): a. environmental reporting; b. operational improvements; c. organisational changes; d. regulatory proactivity.

Despite environmental management literature does not emphasize the role of profit into definition of proactive environmental strategy, it is important to highlight that the environmental engagement is taken into account only if environmental issues result into "growth opportunity" (Banerjee & Bonnefous, 2011).
In particular, consistent with anthropocentric paradigm (Shrivastava, 1995; Backer,2009) that assumes the centrality of human interest over nature, competitiveness is considered the strongest and embedded driver toward environmental engagement. Firm motivated by competitiveness actively gets innovations to enhance its position in the market and develops the resource and capability to build a long term profit potential (Bansal & Roth, 2000).

The capability to visualize and exploit the opportunity to translate the environmental emergency into a source for competitiveness is influenced by several drivers. The study of these factors is considered a critical issue (Bansal & Roth, 2000) as it could help theorist to predict environmental efforts, practitioners to understand and forecast competitors' strategy and policy maker to determine the efficacy of their environmental measures. Previous studies envisage that several and mixed motivation push toward environmental engagement; these drivers might influence, with different extent, company's behaviour.

The need to comply with legislation is definitively the most obvious (Paulraj, 2009) factor able to affect firm's green strategy (Rugman & Verbeke, 1998; Ambec & Barla, 2006; Delmas et al., 2007; Majumdar & Marcus,,2001). Taxation, legal costs or penalties give high incentives for companies to comply with legislation (Bansal & Roth, 2000) and act as a coercive force to the endorsement of environmental practice. In the same time, environmental regulations could trigger innovation that may help to increase firm's competitiveness (Porter & Van Der Linde, 1995).

Environmental laws define the 'rules of the game' of companies that belong the same industry. In order to survive in the competitive scenario, other firms tend to imitate these attitude: the need of legitimization is recognized as a driving factor (Bansal & Rooth,2000) and in the same time allows the isomorphic behaviour in a specific industry (Di Maggio & Powell, 1983). Following these considerations, it is possible to formulate the first hypothesis.
H1: Regulation acts as a starting driver to the consideration of environmental issues and represents a direction for legitimization.

Another important driver of environmental responsibility is the ethical attitude that promotes "right thing to do": in a presence of a strong ethical motivation, environmental issues become an important matter into organizations. Ethics could vary among different organizations because of different circumstance; in particular ethical values are strictly embedded to culture.
At first level, national culture (Park et al. 2007; Husted, 2005) – due to different type of norm and degree of community inclusion (Bailey & Spicer,2007) - is able to stress these divergence; at latest level, both organization and individual culture are able to affect the importance put on environmental values (Waldman et al., 2006).

Ethical attitude influences not only consumer behavior and stakeholder's expectations but also manager and entrepreneur's orientation. Moreover, ethics could affect the strength of regulations and in the same time the individual consideration to act in compliance with such rules.
The presence of strong ethical motives represents a direction for social responsibility and in the same time eases the finding of economic opportunities from the adoption of environmental proactivity. Thus, it is possible to formulate the second hypothesis
H2: Ethical attitude represents a starting driver for the consideration of environmental issue. It is a direction for responsible behaviour and influences the capability to consider environmental proactivity as a strategic issue.

Environmental proactivity is also studied in the light of Stakeholder theory as it is widely recognized that stakeholder represents a force on the greening of industry (Bansal & Roth, 2000; Madsen & Ulhøi, 2001; Buysse & Verbake,2003 Benito & Benito, 2006). Several studies have focused on the influence played by different typology of stakeholder on firms' environmental strategy (Henriques & Sadorsky, 1999; Buysse & Verbeke, 2003) coming to different and contrasting results. Madsen & Uløi (2003) tried to develop a model for stakeholders analysis, despite they recognize that it's not easy to come to a generalized classification.

Despite the relevance of these studies, the pressure exerted by different stakeholder is primarily affected by other variable, first of all by environmental regulation, that pushes to an isomorphic behavior and set the rules of the game. In addition, ethical attitude would also affect stakeholder's consideration about environmental issues, beyond their typology and transient classification. Notwithstanding stakeholder pressure does not represent a direct (or starting) factor to the development of Proactive Environmental Strategy, even if it could push firms to a stronger environmental commitment. It is then possible to formulate the following hypothesis:
H3: Stakeholder pressure represents a factor toward environmental proactivity.

Besides the pressure exerted by these external factor to environmental proactivity(Claver et al., 2007a), other studies envisage the importance of firms' structural characteristics such as company ownership structure (Darnall & Edward, 2006), corporate governance mechanism (Berrone & Gomez- Meja,2009;

Kock et al., 2011), the industry that company belongs (Claver et al, 2007a) and the company size (Benito & Benito, 2006).

A critical role is also covered by resource, such as physical assets or capital availability (Benito & Benito, 2006) and environmental-related capabilities, path dependents and strictly embedded one to the others (Hart, 1995). In a resource-based point of view (Aragon-Correa and Sharma, 2003), intangible resources (Surroca et al.,2010), absorptive capabilities (Delmas et al., 2011), complementary assets (Christmann, 2000), best practices (Russo and Fouts, 1997), intellectual capital (Claver et al.,2007b) affect the capability to detect economic opportunity from environmental engagement and the effectiveness of proactive environmental strategy's implementation.

This emphasis placed on key resources and capabilities suggests the strong linkage among organizational features and the capability to translate environmental issues into strategic tool. The presence of specific capabilities is the key factor that helps company to find and establish an effective Proactive Environmental Strategy. With the implementation of environmental strategy, as in a virtuous circle, a new bundle of resource and environmental-related capabilities could be collected, potentially preparatory to the development of more proactive and effective strategies. According these consideration, the following hypothesis can be formilated:
H4: Company's structural features have a moderating influence on business environmental strategy
H5: Environmental- related capabilities mediate the establishment of Proactive Environmental Strategy as help company to visualize the opportunity opened by other drivers.

Methodology and Data Collection

In order to answer to paper research questions this research adopted a multiple case study. Case studies are well suited for understanding the how and why of phenomena in their natural settings (Yin, 2003). Furthermore, case studies are most suitable when the object under study is difficult to quantify, as in this case. The average interview took about 30 minutes and are conduced face-to-face. Before the interview, a questionnaire was sent to the interviewee for him or her to prepare for the interview. Semi-structured interviews were used to probe deeper into the how and why of their perceptions of the factors that affected firm's environmental engagement. Data from both external (company's financial and institutional data, press releases and other relevant information) and internal source (semi structured interview, internal report) has been gathered and combined to develop the analysis.

In particular this paper analyse the strategic behaviour of three Danish power generation firms. To build data sample, three Danish utility companies that are a member of the Danish Energy Association (power generation subsidiaries) has been considered. The companies represent three different realities in Danish power market, as they present different ownership structure, dimension and market. Some companies' data are presented in Figure 1.

Denmark is well known as eco-friendly country: sustainability is an integrated part of daily life of individuals, institution and firms. Looking at Hofstede (2001) cultural dimensions, in Danish culture - but more in general Scandinavian countries- as a feminine society, everyone search for the work-life balance. In the same time, the high level of Individualism and low degree of Uncertainty Avoidance scores explain Danish attitude to invest into innovation and creative activities. These dimensions, linked with Long term orientation (LTO), could explain entrepreneurship and management attitude to promote and invest into environmental activity, in which payback period is quite long and uncertain.

There are several specific reasons why power industry is one of the most interesting to analyze. Many other studies in this field already performed empirical analysis in the energy sector. It is the industry with the highest environmental impact: it has been subject to increasing pressure from new economic, energy saving and environmental issues (Majumdar & Marcus, 2001) and has become an important topic in governments,

institution and firms' agenda (Banerjee and Bonnefous, 2011). Moreover, it represents a key sector for the development of best practices at organizational level and suitable regulation at institutional level.
During the last years, European electricity market is radically changed. At the first, the introduction of Electricity Directive EU 96/92 allows the liberalization and the unbundling the power company's activities within member states. This directive (along with other regulations) encouraged the privatization of many national electricity companies. The main goal of this legislation was to reduce inefficiencies within these markets: it allowed to reconstruct the energy industry, historically characterized by the monopolistic power of few companies, especially in the upstream activity of value chain. Secondly, a green shift into this industry is taking place: Directive 2009/72/EC, that introduces common rules for the activities on electricity industry, requires from each member states the contribution towards the Commission "20-20-20 objectives". With 2020 packet, European Union set some important goals: the reduction by 20% of carbon dioxide emissions, the increase to 20 % the renewable energy share of the energy mix and the improvement of energy efficiency by 20%. European targets exerted a strong pressure on every company that belong this sector.

Danish electric market has been completely open to competition in January 2003. Consistent with liberalization and unbundling rules, Directive 2001/77/EC heads the targets for the proportion of electricity produced from RES: national target of 12% of gross domestic energy consumption in 2010 and with the indicative share of 22,1% of electricity of the total electricity consumption of the community for the same year (Datamonitor, 2010).

In particular, Danish energy sector could be considered a microcosm of many firms in the major European energy industry. Despite its small size[1], Danish energy system is robust, flexible and oriented towards competitive international markets.The internal market is characterized by the presence of three big operators, fully integrated into the value chain and a thousand of local but competitive local firms.
In order to identify the drivers of power companies' environmental management, three Danish power companies will be analyzed: Dong Energy A/S the national leading company that operates also beyond Danish borders, Verdo A/S the multi-utility of the Randers surroundings and Silkeborg Forsyning, the multi-utility of Sikeborg municipality.

Figure 1- Three danish power generation companies

	Silkeborg Kraftvarmevark A/S	**Verdo Produktion A/S**	**DONG Energy Power A/S**
Employees Year 2009	10	29	2286
Revenues (th.€) Year 2009	49.066 €	41.761 €	1.424.627 €
Ultimate Shareholders	Sikeborg Kommune	Mutual Fund	76% Danish Government
Main market	Silkeborg surrounding	Denmark	Scandinavian countries, Germany & UK
Co2 Emission	6760 tonn.	48300 tonn.	12000000 tonn.
% Renewable	0,10%		14,40%
	Biofuel	Biomass	Wind

1 In 2009, the Danish electricity market reaches a volume of 34.4 Twh (Terawatt-hour) that represented the 1% of EU-27 electricity market volume.

Case studies and results

Dong Energy A/S

Dansk Naturgas A/S was founded on 1972 in order to manage Danish fossil fuels- oil and gas- in the North Sea. In 2006, six power firms merged with Dansk Energy; the new company was renamed Dong Energy and since that day started to operate mainly into power sector. The multi business corporation is totally integrated covering various activities of the electric value chain: oil and gas exploration and energy consulting.

In particular, thanks to the merger with Elsam and Energi E2, Dong Energy acquired physical assets and the related embedded know how to generate electricity exploiting renewable resource, namely the wind power.
During the 70s, two merged companies already eco-converted their production process and facilities introducing the world's most efficient coal- fired process, recycling residual products from the process, developing technological innovation in wind power and other technology related to the exploitation of other renewable resource, such as waste and straw. Dong Energy inherited from Elsam and Enegi E2 key capabilities and know how required to successfully compete into renewable business.

During the same years, as effect of deregulation, the company enlarged its market share beyond national border, not just on Scandinavian area, but also in Germany, UK and Netherland. Environmental protection has always been one of the key value of the firm's mission: climate change and environment are continuously integrated as a part of group activities and decision making process. The objective is to create competitive and reliable energy supplies reducing the emission of greenhouse gases and environmental impact. Long term objectives are clearly defined: to create added value for owners, to face market threats keeping economic opportunities and to contribute for environmental improvement.

Actually just 20% of generated energy come from wind (or other renewable) plants, coal and gas still remain the main generation source. During the company presentation, a manager explain that for 2015 company wishes even to invert this trend, generating the 85% of energy from renewable resource and reducing to 15% the fossil fuel consumption. Huge projects on new plant are programmed especially beyond national borders: the ambitious target is to triple production capability before 2020, as current leaders within project design, construction and operation of wind farms. Furthermore, in order to reduce the environmental impact of transportation activities, particularly the impact of supply chain, the company is looking to replace coal with more CO_2-neutral biomass. A joint project with Betterplace, the world's leading mobility operator, has been established to develop a network of electric car charging points. With this project, Dong Energy have the chance to explore new market opportunities contemporarily supporting the diffusion of the eco-friendly mobility Other R&D project has been developed in order to enhance innovation technology of biomass and waste recycling, offshore wind power, flexible customer solution to improve energy efficiency.

In particular, a strong efforts are spent to foster the development smart grid technology with the aim to provide a more reliable service to the customers. Smart grid are also important to integrate power production from wind mills to the network and reduce the network losses.
Danish universities and research centres continuously collaborate within the company in order to produce cutting edge innovation.
Dong Energy shows a strong responsibility toward its stakeholder in the market in which operates. The company collaborates with its stakeholder ensuring an open dialogue and active engagement: their involvement into company's operation can be useful to explore a common ground on more sustainable solution.

In particular, since 2007 the company requires that suppliers follow and comply with the ethical code of conduct that defines social, environmental and ethical requirements for firm's procurement.

Regarding employees, despite the presence of structured career plan that promotes healthy and safety workplace, any mention about specific environmental training or rewards is made.
Environmental reporting is assured thanks to a specific section of annual report; it follows the world's most prevalent standards for sustainability, the Global Reporting Initiatives (GRI).
Ultimately, Dong's overall mission is to provide clean and reliable energy, with four strategic focus: growth in clean and reliable energy production, development of innovative energy solutions, commercial optimization of energy portfolio and continuous operational efficiencies. Climate challenge represents a core value of business strategy: the motto "the safe way or no way" fully explains the responsible company's direction.

Verdo I/S

Verdo Group is a diversified multi-utility holding, with its 15 subsidiaries, the corporation operates in different businesses: along the entire electricity value chain, the fuel wholesale, heating, water supply, pallet production and telecommunication. As a mutual fund, costumers represent the basic shareholders of the company.

Verdo has always shown a strong ethical attitude, the attention toward the environmental problems has always been deeply-rooted into corporate values. Since the 1982 Energi Randers[2] invested into green innovation: it developed a reversible plant able to produce energy indifferently from coal or biomass. The huge investment gave to company the possibility to reduce coal shortage's risk and price volatility. In the same time allowed the development of advanced know how, related to biomass exploitation and renewable energy production in general. The interviewee manager stressed that when company bought the plant based on the use of biomass, to be green was not a trend. An impressive long term orientation showed by entrepreneur envisaged company's concern for sustainability.

Again, the interviewee highlights that this plant still represents the firm's flagship, Verdo is able to generate carbon free electricity, allowing the emission into the EMS market.
In order to improve the amount of power and heat generation and to reduce network losses, the company has scheduled to build a new eco-pipeline, demonstrating the economic effectiveness of such eco-friendly technology innovations.

Verdo's green orientation was not used as a marketing tools for product differentiation, but has been always deeply rooted into organizational culture. When top management recognized the importance of green wave into market trend, Verdo begin to exploit the strong and rooted image of environmental sensible company, built year after year. The former Energi Randers changed its name, so since January 2010 the group is called Verdo – from the latin *greenish*. The umbrella branding is used to cover all the different subsidiaries and to communicate to the market the overall vision of the corporation
.
According to the interviewee manager, the firm's ethical attitude is affected by Scandinavian culture and by a strong environmental regulation. On the contrary, according the manager, the different secondary stakeholders don't play a key role into proactive environmental strategy definition. In particular, customers are more interesd into service's prices rather than eco-friendly differentiation. The past green products offered to the retail market with an higher price have been a failure.

Instead a different pressure is exerted by shareholder. Representing the main recipient of company's strategy, they ask for organization's economic competitiveness, rather than environmental performance. The growth opportunity derived from the establishment of Environmental Proactivity allows the real involvement into ecologic matters at strategic level.

[2] Company's original name because firm started to operate as a municipal company of Randers, Midtjylland.

Regarding the employees, ongoing education, internal and external environmental reporting, green routines and practices show that environmental orientation is more than just a "low hanging fruit". Proactive environmental strategy come from a rooted consciousness that through eco-friendly orientation is possible to build a competitive advantage.

The manager interviewed has underlined that the company doesn't pretend to be green: "Verdo is green". Into national market, environmental issue is a prerequisite to be competitive as the ethical requirement standard are really high. But the definition of corporate mission and the establishment of the new name show the firm willing to enlarge its market. New international opportunity are drawn by the exploitation of environmental friendly know how developed year by year.

Silkeborg Forsyning A/S

Silkeborg Forsyning is a multiutility organization that mainly operates in Silkeborg surroundings. Silkeborg Kommune is the one and only owner of the company that provides water, warm, waste disposal and power generation in the lake's area in Midtjylland. In Silkeborg Forsyning environmental protection is a core value of each daughter companies: as the interviewee stressed with pride "everyone sit here is looking for the best environmental solution".

Silkeborg Kommune, as local regulator heads the environmental target that the company have to reach. Firm's environmental engagement is specifically focused to improve the energy efficiency: technical staff continuously looks for the best solution to reduce network grid loss in order to reduce both environmental and economic damage.

Every year Silkeborg Forsyning publishes two environmental reports: a document that contains the information to accomplish with Kommune's requirements, and another one, published also on website, in which firm disclose with more detail the imposed and voluntary targets reached and the efforts spent to reach them.

Considering the monopoly in which the organization operates, Silkeborg Forsyining does not care about its product differentiation based on ecological characteristics: costumers are primarily interested into receive a good service at good price.

Firms' supplier are properly selected: only the companies that satisfy certification and quality standards- for example ISO 4001- can collaborate with the organization. But as stressed by the interviewee engineer, the real *core* resource environmental related is represented by human capital. Employees, managers and technicians at every levels are involved into environmental training programs that aim to improve people's capability and, in the same time, endorse company's environmental culture.

Discussion

The first step of this analysis is to verify the degree of environmental engagement of the three sample companies. Based on the definition provided by Delmas et al. (2011) the proactive environmental strategy, defined as the one that seek to reduce environmental impacts of operations beyond regulatory requirements (Sharma,2000), is based on four constituting elements: environmental reporting, operational improvements, organizational changes and regulatory proactivity. The three sample companies present all the four constituting elements: they provide internal and external environmental reports; they insert environment care into every business operation, since they look for the best operations to reduce pollution and resource depletion. Furthermore, an organizational change is taking place, green values are basic elements of each corporate vision, and last but not least, they cooperate- at different level with regulatory institutions.

The energy industry – in which the three firms operate-represents a strong factor able to shape firms strategic behavior. In particular, the European environmental target and the pressing national regulations act as coercive forces to energy companies to the consideration of environmental problems. Power companies should not underestimate the effect of their operations on natural environment and should consider the effective solutions to act in compliance with current regulations. The overall ethical attitude that characterizes Scandinavian culture has been reinforced by a strong environmental regulation. European and international environmental law are highly filtered by local regulator, they determine the ambitious environmental target[3] that represents a strong incentive to ecological behavior.
The implementation of Proactive Environmental Strategy in sample companies– as highlighted by interviewee – is rooted on the research of competitive advantage, especially if it allow a tool for a market differentiation. Empirical analysis also shows that the second key driver needed to the establishment and the effectiveness of such strategy is represented by firm's environmental- related capabilities.

In example, Verdo uses the rooted environmental image and reputation to change its brand and to build a new strategy based on the environmental responsibility. Moreover the strong capabilities into energy management practices allowed the growth of energy management consulting business. Verdo is recently entering into UK market, since British operators are recently seemed to be interested into development of renewable energy production. Again, the continuous environmental training programs developed in Silkeborg Forsyning is a key activity to improve employees' awareness on ecological issue.

An important role into the effective implementation of such strategy is covered by company's resource and structure availability. Energi Randers bought the expensive plant in '80s: it allows carbon free power generation and constitutes the milestone of Energi Randers/Verdo environmental strategy. Such investment is pushed also by entrepreneur's ethics that pushes to invest on a technology with a very long payback period. National culture variable: high value of Long Term Orientation, low degree of Uncertainty Avoidance and high level of Individualism are able to explain such attitude.

Also Dong converted its business during 2000th: the merger with the national power producers allowed to the company to become the "national champion". In particular, the acquisition of Elsam and Energie E2 helped Dong to develop the wind power technology, making it become the European leader in the use of this renewable resource.

On the contrary, different role is played by other structural characteristics, such as ownership structure: sample companies shown different ownership but in the same time – even if with different extent- implement a similar Proactive Environmental Strategy.

A different role is then played by stakeholder. According interviewed managers, costumers does not cover an important role into shaping the establishment of Proactive Environmental Strategy. They requires that environmental responsibility should be embedded in every single business activity, but does not require more attention to the natural environment. In the same way suppliers do not prompt toward sustainability. On the contrary, if they exert a weak power market, they are subjected to environmental policy implemented by companies. Silkeborg requires its supplier to have ISO 14001 certification, Dong energy asks for the compliance with internal duty code.
In other words, power companies are sharing the eco-friendly best practices to their partners.

Discussion and conclusion

Firms' willing to go green is affected by several drivers.

[3] In addition to the overall National environmental policy, "Climate Action Plan 2030" of Randers forces to bring down the CO2 emission of the municipality by 75% before 2030 and give the security that 75% of energy supply come from renewable energy, providing the measures taken into the different areas. To reach these ambitious objective it provides a number of specific initiatives.

European regulation – moderated by internal law and associations- prompted toward the consideration of environmental issues. Firms operating in the same business segment are subjected to the same regulative framework that design the 'rules of the game'. In particular, unbundling and deregulation regulation in power industry helped to reduce national boundaries among companies: Europe became a single and larger market in which firms use similar strategic behavior.

Legislation represented the first driver to the consideration of environmental issues.
In the same time, ethical attitude influences the capability to catch economic opportunities for going green.
In particular, in Denmark , where the presence of green values is widely recognized, the ecological culture has played an important role on the environmental engagement of sample companies. But considering the European dimension of these firms, national culture gives up to be more than a constituent factor in environmental proactivity. The effect of national culture on strategic behaviour when firms compete in the same geographic context is quite weak. Moreover, in a global market, ethics becomes an imperatives and acts just as a direction to the development of stronger responsible behavior, that primarily depends on individuals and organizational culture. On the other hand, stakeholder role is considered quite important, even if empirical analysis shows that stakeholder are more influenced by firms to develop the *best practices* rather than the contrary. Sample companies chosen for the analysis present different structural characteristics- they compete in the same industry, but present different corporate ownership and different size (in terms of revenues and number of employees). Despite these differences, companies present the same involvement into environmental matters, even if implemented in very different way.

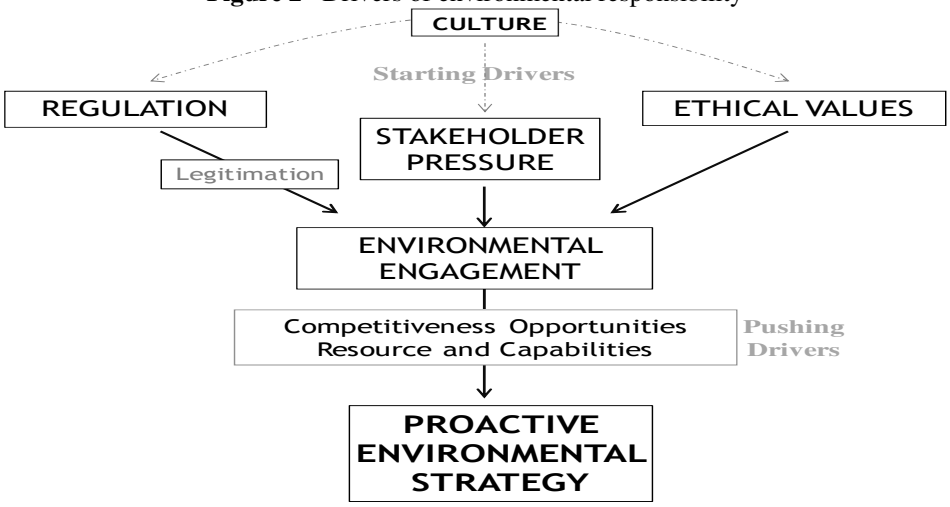
Consistent with the starting propositions, organizational features could modify the extent to which the firm considers environment as a strategic priority but their pressure does not influence the adoption of environmental proactive strategy that is clear in all the three sample companies. Definitively the most important factor that pushed toward the establishment of a Proactive Environmental Strategy, that is the translation of environmental engagement into strategic tool, is the possibility to increase competitiveness through cost reduction or market differentiation.
The possibility to enhance cost reduction could be based for example on the use of renewable energy, because even if it is still quite expensive, looking at long term, it could be the solution against fuel shortage or importation dependency; or on the improvement of energy efficiency that could help to reduce operational inefficiencies. The implementation of a Proactive Environmental strategy can also help to build a differentiation advantage over competitors, based on strong eco-friendly image.

Moreover, the implementation of Proactive Environmental Strategy is strictly related with the resource and capabilities that firm control. For example, Dong Energy operated into oil and gas business, just after the acquisition of Elsam and Energy E2 started to operate into electricity market and visualize the opportunity to compete within wind power. In consideration of acquired company's core business, it developed important capability and know how into wind power generation. Moreover the implementation of green strategy allows the collection of new bundle of resources and capabilities that might help to make environmental strategy sustainable and not just related to low hanging fruit opportunities.

Is it possible to conclude that the presence of tighten regulation and ethical attitude push to the consideration of environmental related issue (H1 and H2). The implementation of Proactive Environmental strategy is rather related to the capability to exploit long term competitive advantage due to the presence of environmental-related capabilities and financial availability(H5). Entrepreneur motivation, affected by context ethical attitude, drives toward a stronger consideration of ecological matters. Primary stakeholder such as costumers and suppliers drive technological engagement depending on their contractual power; while secondary stakeholder pressure is quite weak in a strengthened responsible context (H3).

Corporare ownership, position in the value chain and company size don't affect the capability to implement environmental proactive strategy in power industry (H4). The graphical representation of the conceptual model is presented in figure 2.

Figure 2 –Drivers of environmental responsibility



Limitations, implications and future research agenda

As already highlighted by Bansal and Roth (2000), who conduct a similar task, the creation of generalizable model about environmental responsiveness could lack to take into account some specific driver or the relations among them. In particular, considering just companies that operate the same industry in a specific national context, the study misses to deeper highlight the effect of environmental regulation and national culture on environmental responsibility. Rather, it could be interesting to study the relationship among different determinants, trying to provide quantitative measures able to explain the different role exerted into the implementation of green activities and the Proactive Environmental Strategy.

In the same time, in order to make this stream of research more reliable, a stronger effort is required to find a clear and measurable relationship between environmental engagement and economic or financial performances.

Nevertheless the paper presents some important theoretical and practical implications. At first, it tries to synthesize the fragmented and contrasting literature about the drivers of environmental strategy, developing a conceptual model to apply in other industries and contexts. As a matter of fact, it offers a point of departure for deeper consideration about the development of a broader theoretical model of environmental proactivity suitable for every industry.

Practical implication is manifolds it gives suggestion to policy makers to determine which policies implement to improve firms environmental engagement; to practitioners to understand and forecast companies' competitive behavior based on environmentalism.

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