



Sustainable visioning: Re-framing strategic vision to enable a sustainable corporate transformation

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ABSTRACT

The United Nations Sustainable Development Goals (SDGs), adopted by all UN Member States in 2015, provide a global platform that is increasingly being used by organizations to work strategically and take action in line with social responsibility. This study examines the case of a multinational corporation (MNC) that has moved from sustainability as a standalone business function to sustainability as a strategic orienting principal, in order to better understand how and why this transformation was possible. The paper re-frames and integrates insights and concepts from literature on organizational vision and corporate sustainability. In so doing, *sustainable visioning* is introduced as the 'glue' that holds together organizational commitments that are centered on social, economic and environmental principals. The Danish MNC Ørsted serves to demonstrate how sustainable visioning has provided the essential means to strategically reinvent an energy company primarily based on fossil fuels into what is today one of the largest renewable energy companies (by capacity) in the world. More specifically, the study shows how sustainable visioning has been used to (i) spur innovation and new technologies that have substantially reduced the cost of offshore wind production, (ii) grow the business and investment portfolio, and (iii) attract financing and increase the competitive positioning within the growing ecosystem for sustainable development. To conclude, the implications of sustainable visioning are discussed along with the opportunities for future research on the topic.

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1. Introduction

There is little doubt among scientific experts that the natural environment is in crisis. Some call it a new geological era, the Anthropocene, in which humans have altered the earth's naturally occurring earth systems (Crutzen, 2006). No matter what label it is given, the main concern remains pervasive - that further man-made pressures on the Earth "could destabilize critical biophysical systems and trigger abrupt or irreversible environmental changes that would be deleterious or even catastrophic for human well-being" (Rockstrom et al., 2009, p.32). To correct this trend, it is argued that the grand challenge facing humanity today is how to succeed in creating a shared vision of a sustainable society allowing lasting prosperity within given biophysical constraints, while at the same time being fair and equitable (Costanza, 2000). Deliberately developing and/or adopting environmentally friendly activities,

such as green innovation practices, has become sine qua non to achieving such a goal (El-Kassar and Singh, 2018). This challenge is particularly relevant for organizations considering that the predominant business paradigm, revolving around social and economic growth, largely disregards these very eminent planetary warning signs (Stern, 2007).

However, the crisis of planetary wellbeing has not gone unnoticed in the scholarly literature. Holistic changes in the approach to human action are beginning to take shape as emerging opportunities for a wide range of societal actors and institutions (El-Kassar and Singh, 2018; Jones, 2012). For example, as a global response to human, climate and other sustainability threats, in September of 2015 the United Nations launched the Sustainable Development Goals (also known as the SDGs or Global Goals). The SDGs were adopted by all UN Member States with an action plan to be achieved by 2030.¹ The SDGs provide a global platform for taking

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¹ UN General Assembly (2015). Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1.

action to achieve sustainable development, recognizing that staying within our planetary boundaries and achieving sustainable development require global effort by civil society, from all governments and, importantly, across all business sectors. Today, the SDGs are increasingly being adopted by businesses to demonstrate a move towards a shared common purpose and abundant market opportunities that acting sustainably creates. A recent report estimates that the Sustainable Development Goals hold market opportunities worth up to 12 trillion USD a year by 2030.² One way that businesses are beginning to take advantage of these market opportunities is by linking company innovation to climate change and technology development. For example, smart cities (Gabrys, 2014), smart manufacturing (Mashhadi and Behdad, 2018), and big-data initiatives (Kumar et al., 2018) are being introduced to optimize data and make systems more efficient. In order to take advantage of opportunities, mitigate risks, and respond to looming planetary threats, an increasing number of MNEs are using sustainability as a strategic focal point. Early MNE examples of this trend have been identified (Ulhøi et al., 1996), signifying the major potential of moving away from sustainability as a separate “add-on” business function, and towards sustainability as a central orienting principle within organizations. A key question that therefore arises is, how is this being accomplished?

Strategic vision can provide some insight here, having long been acknowledged as an important strategic tool used by upper echelon management to establish new direction, increase employee understanding of multifaceted strategic objectives, and align behavior with these objectives (Wilson, 1992). The case study presented in this paper will show that by effectively linking strategic vision with long-term sustainability objectives, a “binding power” was produced, capable of attracting and sustaining the necessary support for corporate growth and innovation needed to ensure a successful transformation. We introduce *sustainable visioning* as a stable yet flexible orienting principal that can be used by organizations to stimulate ambitious and sustainable innovation, while securing cohesion for long-term commitment to social, environmental and economic sustainability principals. While there is much support of the idea that corporate sustainable changes are associated with innovation, there is less guidance as to how such innovative processes are handled (Seebode et al., 2012). This study will contribute to correcting this imbalance.

This study has two primary contributions. First, our research responds to a recent call for studies that go beyond the conceptual and/or normative level to shed light the practical processes associated with integrating strategic management and sustainability (Rauter et al., 2017), thus helping to close an existing gap in the literature. By examining the global energy company, Ørsted, we shed light on a long haul transformation that has been supported by governmental policy, effective leadership and innovation agency. Sustainable visioning is introduced as a managerial framework capable of directing profound organizational transformations, in this case, a strategic transformation from ‘black’ (non-renewable) to ‘green’ (renewable) energy provision. Second, the paper reveals how such sustainable visioning can be used as a (process) tool to (i) make decisions about new investments and innovative technologies towards significant cost reduction and business growth, and (ii) make it easier to secure financing and achieve a central position within the growing ecosystem for sustainable development. Sustainable visioning distinguishes itself from conventional approaches using vision as a static device towards which investment and agency are directed. Instead we show

how sustainable visioning serves as an urgent and evolving concept for realizing strategic, as well as global, sustainability goals.

The remainder of the paper is structured as follows. First, the theoretical underpinnings of sustainable visioning will be discussed. The next section will describe the research methods, including longitudinal data gathered from semi-structured interviews, and secondary data. Moreover, we have used the critical incident technique to gain an overview and focus on key decisions and events. This will be followed by a case study of Ørsted, examining how sustainable visioning has been used within the company. The following section will discuss the findings and how they link back to state-of-the-art knowledge in the field. To conclude, future implications and limitations of this research are briefly addressed. Further research on the topic of sustainable visioning is also proposed, which could usefully examine its role in facilitating organizational cohesiveness and innovation, centering on social, environmental and economic sustainability principals.

2. Sustainable visioning – driving business development and network innovation

From the mid-1980s, organizations have increasingly begun to focus on sustainability (Dresner, 2008). In many instances, where sustainability is discussed, innovation is also seen as playing a central role. A recent meta-study, for example, concluded that positive and significant relationship has been demonstrated between innovation and sustainability, corroborating findings in the literature (Kuzma et al., 2020; Tukker et al., 2017; Jin et al., 2018). Despite this fact, many examples of organizational sustainability have meant sustainability becoming the responsibility of one lonely individual or small group, with few resources at their disposal. When applied as a peripheral and add-on function, organizational sustainability focuses on internal processes serving to tell positive stories about an organization which executives and corporate communications officers can then use for promotional purposes. Baumgartner and Ebner (2010) describe this approach as ‘introverted and conservative.’ The problem with this conservative approach is that it is not conducive to “the holistic changes necessary to achieve long-term social and environmental sustainability” (Bocken et al., 2014, p.42). The good news, however, is that a more holistic approach is realizable, as will be evidenced from the longitudinal case-study presented in this paper.

Today, a fundamental shift can be observed in the way that an increasing number of organizations approach sustainability, moving away from ‘introverted and conservative’ approaches that tack sustainability onto existing business functions, and towards ‘extroverted and visionary’ approaches to sustainability within organizations (Baumgartner and Ebner, 2010). Visionary sustainability implies a holistic and strategic approach, addressing people, planet and prosperity, circular economy and sustainable development, in order to drive company innovation and evolve businesses and their business models in a fundamental way. Similarly, scholars (Schaltegger et al., 2012) identify business strategies for sustainability on a range from reactive to proactive, where proactive (like visionary) strategies impact sales and profits with products and services that are improved by “environmentally and socially outstanding products and services, leading to not yet available value propositions.” (2012, p.111). These proactive business strategies are also seen, by Schaltegger and colleagues, as leading to cost and efficiency-oriented measures, which are applied to support the new products and services.

A number of scholars (Smith and Leydesdorff, 2012; Etzkowitz and Zhou, 2006) identify sustainability and innovation as connected through the Triple Helix model, which includes industry, universities and government working together to achieve

² Business and Sustainable Development Commission (2017). Better business better world - The report of the Business & Sustainable Development.

transformational solutions. More recently, it has also been acknowledged that sustainability-oriented industry innovations offer possibilities for providing transformational solutions, yet only a few cases of environmentally sustainable transformations have been reported from the energy sector (Erzurumlu and Yu, 2018). This lack of cases is unfortunate, when taking the total environmental impact of the sector into consideration. In 2010, for example, energy production was responsible for 35% of direct greenhouse gas emissions worldwide (World Energy Council in Talbot and Boiral, 2018). Innovation can also be seen as extending beyond products and services. Pedersen et al. (2018) for example, examine the relationship between business model innovation and corporate sustainability, the mediating influence of organizational values, and the effect this has on corporate financial performance.

Let us now turn from concepts of innovation and sustainability to concepts of strategy and vision.

Strategic vision has been acknowledged as a means to help organizations become what they wish to evolve into. Strategy can broadly be defined as that which makes the corporate whole add up to more than the sum of its business unit parts (Porter, 1987). Strategy is a plan for attaining defined goals under conditions of uncertainty (Baumgartner and Rauter, 2017). It could be said that uncertainty in today's global economy is becoming the rule rather than the exception. Current global shifts changing the way we do business include climate change and resource scarcity, technological breakthroughs and rapid urbanization.³ In this environment, the vast majority of businesses today are confronted by significant and changing threats and opportunities.

Vision then provides "an intellectual framework for company strategy: it defines a strategic direction and presents a conceptual map of how a company moves from its current reality to a desired future state" (Mirvis et al., 2010, p.316) thus emphasizing a future-sharing power of the phenomenon (Dordrecht, 2013). Notable examples of corporate transformations have shown how a strong vision has been used to change firms from business-as-usual to highly dynamic firms (Finkelstein et al., 2008). Vision is also described as motivational, where a particularly ambitious and ambiguous vision can motivate and challenge employees, helping them to think creatively about how to achieve the desired strategic vision, spurring innovation (Gioia et al., 2012).

The very idea of imagining what *could be* is not an idea that has been 'invented' by modern management scholars. Rather, to envisage "a desirable future seems to be as old as humankind itself. The wishes, dreams, and positive visions a society shares are at the core of its identity. Visions direct planning, decisions, actions, and behavior." (Wiek and Iwaniec, 2014, 497). Visions, however, have sometimes been seen as a 'magical process' far away from business realities' (Finkelstein et al., 2008) thus implying that visionaries often have been characterized as impractical dreamers (Costanza, 2000). Decomposing vision, Wilson (1992) identifies four critical characteristics of strategic vision. First, a vision must be capable of integrating goals, strategies and plans into a wholeness representing where the company is heading. Second, an organization's vision must be sufficiently powerful to further commit and motivate performance. Third, it represents not what the organization is but what it *can be*. Fourth, Wilson emphasizes that a strategic vision should represent the values and aspirations of key stakeholders. Overall, strategic vision can serve as a critical integration mechanism within an organization – a means to empower its members and a trigger for new activities, thus having the potential for

reshaping the organization (Collins and Porras, 1994; Kouzes and Posner, 2002).

Interestingly, Stewart (1993) describes strategic visioning as a management process that can be used as a methodological tool by addressing the future before the present (p. 9, italics added). Stewart also underlines that strategic visioning (or future state visioning) can and should be learned at all levels of the organization. And although the concept of strategic vision has been written about in countless journals, and may be seen as a 'been there, done that' exercise, sustainability leaders in companies such as Novo Nordisk, Dow Chemical and many others are now being identified as having repurposed their companies by focusing precisely on these issues with relation to sustainability (Mirvis et al., 2010). The importance of a clear and long-term orientation for a successful sustainability transformation has also very recently been reported from the textile industry in Italy (García-Muñiá et al., 2020) and America (Rattalino, 2018). Finkelstein et al. (2008) single out three essential criteria, that must be met: (i) comprehensiveness, i.e. addressing all aspect of the business, (ii) inclusiveness, i.e. reaching both inside and outside the organization and (iii) dynamics, i.e. serving as a trajectory for change (p. 5). Adding to this, sticking to the vision while at the same time being flexible about the path tends to be the only way to find the path (Costanza, 2000, p.3.). Visioning has also been proposed as a means to reduce mental resistance towards sustainability-related changes, as it holds the potential for being communicated as shared ownership (Kim and Oki, 2011).

This leads us to the conceptual contribution of this paper, which is to connect insights from strategic vision to sustainability with sustainable visioning. Sustainable visioning appreciates the potential binding and innovation power of a strong corporate strategic vision, as well as acknowledging the necessity of committing more profoundly to people, planet and prosperity concerns. However, visioning goes beyond being a static phenomenon. We use the term 'visioning' to describe a process, one in which vision can support the transformations of well-laid strategies. In a special issue of the Journal of Organizational Change Management focusing on sustainability, it is stated that the best business leaders "not only transform their own businesses but will have the vision to change attitudes and mindsets in their industries. They will have an impact on their employees, their consumers, on policymakers and on society at large" (Millar et al., 2012, p. 492). We view sustainable visioning as being used in precisely this way, as a fundamental driver for business leaders that not only want to transform their own business, but also to make their industry and the world more sustainable. In short, when used during a long-term strategic transformational change process (as in the case presented here), it can serve as a processual binding tool committing all key organizational actors.

And while it has been identified that a significantly smaller number of firms are actually taking serious steps to reshape their businesses towards a high level of sustainability compared to those agreeing on its importance (Mirvis et al., 2010), a shift towards 'extroverted and visionary' approaches toward sustainability can still be observed. A growing number of multinational enterprises (MNEs), for example, are using sustainable visioning to reshape the foundation of their business, impacting their industries and ecosystems. It is one of these MNEs – Ørsted – that we will be using as the focal company for this case study.

3. Research design and methods

This research has been designed to provide an in-depth look at a single case study. Using a specific case or a single case has long been acknowledged as particularly important for generating theory that

³ Price Waterhouse Coopers (2019). Megatrends: 5 global shifts changing the way we live and do business. <https://www.pwc.co.uk/issues/megatrends.html>. Accessed: Feb. 11, 2019.

is novel and testable by leading scholars such as Eisenhart (1989); Yin (2003); Creswell and Poth (2017). The choice of focal case has been based on criterion sampling (Patton, 2001, p. 238). There were three criteria used to select the focal case, the first of which was that the case should be able to document major environmental changes. Considering the high environmental impact of the energy utility sector, our focal case Ørsted has met this criterion, further demonstrating a significant greenhouse gas reduction when moving from non-renewable to renewable energy production. Second, the case company should be a multi-national enterprise (MNE) able to demonstrate a significant amount of innovation. Ørsted has made large investments in the development of offshore wind, leading to progressively larger wind turbines in increasingly deep water. This has enabled Ørsted to produce a significantly higher amount of energy from this renewable source while at the same time reducing cost in key technology areas. Differently put, we have used what has been acknowledged as a critical case, i.e. a case “having strategic importance in relation to the general problem” (Flyvbjerg, 2006, p. 229). This case represents the most advanced level of corporate sustainability. Third, the case company should be willing to participate over a longer period of time, allowing for access to company specific data and company decision-makers. Ørsted participated in in-depth semi-structured interviews and interaction over a four-year period between March 17, 2010 and October 1, 2013. In addition, relevant company specific data was also obtained between 2000 and 2019, which further justified our choice of case.

It is generally acknowledged that case study design is bounded by time, space and activity and allows for using multiple sources of evidence (Palakshappa and Gordon, 2006; Harrison et al., 2017). To permit sequences of events to unfold over time (Pettigrew et al., 2001) a longitudinal design, including critical incident analysis, has been chosen. The inclusion of critical incident analysis was based on the fact that the organizational transformation examined took place during a period of about fifteen years. The critical incident technique is a methodology used primarily for exploratory research. It is a flexible technique used for the study of factors, variables, or behaviors that are critical (Mills et al., 2010). This study uses Critical Incident Analysis (Gogan et al., 2014) to identify and reconstruct a timeline from primary and secondary data analyzed. In essence, this methodology is used to identify incidents (major changes) that have significantly affected the outcome of the organizational changes.

For complex topics such as sustainability, the use of more than one method has distinct advantages over single method approaches and, as pointed out by Odendaal et al. (2016), their value lies not in the number of specific methods applied, but in how each method matches the questions and the scientific integrity with which the methods are applied. This research has applied specific methods rooted in the qualitative tradition (Collier and Elman, 2008), and involves the use of primary and secondary longitudinal data. Primary data has been collected between 2010 and 2013 as 40 semi-structured interviews with a key informants of the Carbon Trust Offshore Wind Accelerator (OWA) Program. Ørsted has been a primary actor in the Carbon Trust since 2008, and was the entry point for these interviews being conducted. Secondary data includes relevant documents from a wide range of sources including: internal company documents (primarily annual sustainability reports); press releases, interviews and articles; Danish Government and EU documents, and; documents from the Carbon Trust, International Energy Agency, European Commission, and Columbia Center on Sustainable Investment. Secondary data was gathered and analyzed for the time span of two decades, from 2000 to 2019. This secondary data has been used in combination with the primary interview data to create a more holistic understanding of events.

For primary data collection, key informants were also selected based on criterion sampling (Patton, 2001). This meant interviewing individuals at every level of the OWA Program (to form a deep and broad understanding of context), interviewing individuals with different technical competencies (to form a deep understanding of the innovation transformation), and conducting multiple interviews with members of Ørsted over time (to understand the evolving realities of one of the key actors in the OWA Program). Interviews lasted on average 60 min. Interviews have been transcribed in full length. During the qualitative process of data immersion and abstraction, each interview became more familiar allowing a deeper understanding of the process, its antecedents, and organizational goals for the future. The interview protocol was designed as a set of five semi-structured interview guides (depending on the type of position the respondent held), which served to discuss main themes, while at the same time allowing respondents personal stories and understandings to emerge (Brinkmann and Kvale, 2015). The themes discussed included (i) respondent background and work within the organization, (ii) social networks, and (iii) knowledge and innovation management within the organization (see Appendix for a sample interview guide).

With relation to timing, the primary interviews were collected at a time that can be considered a critical juncture, a point in time where there is a strong possibility of a significant organizational change from one state to another (Nkomo et al., 2019; Liu et al., 2014). In 2010, DONG (now Ørsted) had been having financial difficulty due to market liberalization and price volatility of the oil and gas sector. Innovation was seen as necessary to make renewable energy a viable alternative to oil and gas. This primary data was collected when these innovations were being developed and tested, and when the new strategy was just being launched, so that the decisions around the new strategy and sustainable visioning were also still fresh in everyone's mind. The below table depicts the primary data collection points (Table 1).

The information gathered during these interviews provides a relevant contribution of depth, openness and detail (blanche et al., 2006) to the research of this article, in order to understand Ørsted's complex transformation from black to green. The interviews were used to produce raw data (Bleakley, 2005), and these narratives enable the reader to gather meaning from respondent stories (Butina, 2015), which take the form of quotations in the following section. The primary data narratives provide a deep understanding of the situation and context, together with the relevant secondary data revealing key decisions and actions over time. Taken together, primary and secondary data sources provide all necessary data for this case study. It should also be noted that in drawing conclusions from an individual case, we “do not infer things “from” a case study; we impose a construction, a pattern of meaning, “onto” the case...” (Ruddin, 2006, p. 800), namely that of sustainable visioning in the present case.

Before moving on, let us also briefly touch upon the topic of quality. For qualitative research, closeness to the data is seen to provide “the discipline that mathematics does in formal analytic modeling” (Eisenhardt and Graebner, 2007, p.25). The deep understanding of specific context creates trustworthiness of data, which has been a well-accepted quality-criteria in qualitative research since the 1980s (Lincoln and Guba, 1985). In this study, trustworthiness was pursued in a number of ways. First, all interviews were transcribed to provide the fullest possible picture of respondent understanding. Follow-up questions were asked during interviews in order to validate responses and explore new avenues. Respondent validation has also helped to ensure that the credibility of the interpretations is addressed (Smith and McGannon, 2018). Key concepts were then coded using the qualitative analysis tool

Table 1
Primary data collection points for the carbon trust offshore wind accelerator program.

Event/Action ^a	Interview Number
Preliminary interview conducted with a Steering Committee member 1 regarding Carbon Trust OWA program collaboration (Interview time: 1hr. 27min.)	1
Non-disclosure agreements have been signed by all parties and first formal interview is conducted with a Foundations Technical Working Group member 2 (Interview time: 1hr. 42min.)	2
Interview conducted with Steering Committee member 1 (Interview time: 1hr. 5min.)	3
Interview conducted with Wake Effects Sub-contractor (Interview time: 1hr.)	4
Interview conducted with Foundations Technical Working Group member (Interview time: 1hr. 22min.)	5
Interview conducted with Wake Effects Technical Working Group member (Interview time: 1hr. 46 min.)	6
Interview conducted with Wake Effects Technical Delivery Consultant (Interview time: 1hr. 35 min.)	7
Interview conducted with the head of the Carbon Trust OWA program (Interview time: 1hr. 39min.)	8
Interview conducted with Carbon Trust OWA management team member (Interview time: 1hr. 53min.)	9
Observation of conference call between Carbon Trust OWA management team and Wake Effects Technical Delivery Consultant regarding upcoming workshop preparation	10
Observation of Conference call between Carbon Trust OWA management team and Technical Delivery Consultants from each of the work streams	11
Interview conducted with Foundation Sub-contractor, Drafting Supervisor (Interview time: 56min.)	12
Lunch meeting with Foundation Sub-contractor, Assistant to the General Manager for Offshore Renewables	13
Interview conducted with Foundation Sub-contractor, General Manager for Offshore Renewables (Total interview time: 1hr. 36min.)	14
Lunch meeting with Foundation Sub-contractor, Managing Principal and General Manager for Offshore Renewables	15
Interview conducted with Foundation Sub-contractor, Structural Engineer 1 (Interview time: 1hr. 26min.)	16
Interview conducted with Foundation Sub-contractor, Structural Engineer 2 (Interview time: 1hr. 45min.)	17
Interview conducted with Foundation Sub-contractor, Managing Principal (Total interview time: 3hr. 1min.)	18
Interview conducted with Foundation Sub-contractor, Resource Manager (Interview time: 1hr. 1min.)	19
Dinner Meeting with Foundation Sub-contractor, Structural Engineer 2 and Engineer in the Offshore Renewables group not having worked on the OWA 20 Foundation project	20
Discussion with representative from the same organization as the Wake Effects Technical Delivery Consultant at the European Wind Energy Association (EWEA) conference, Copenhagen	21
Observation of presentation from the head of the Carbon Trust OWA program at the EWEA conference, regarding program structure and foundation design	22
Joint interview conducted with two Steering Committee members 2 & 3 from the same organization (Interview time: 1hr.)	23
Interview conducted with Foundations Technical Working Group member (Interview time: 47min.)	24
Interview conducted with Steering Committee member 4 (Interview time: 46min.)	25
Lunch with Steering Committee members in-between their Steering Committee meeting	26
Interview conducted with Steering Committee member 5 (Interview time: 43min.)	27
Interview conducted with Steering Committee member 6 (Interview time: 1 h)	28
After-hours drink and feedback session with Carbon Trust OWA management team member	29
Interview conducted with Foundations Technical Working Group member (Interview time: 1hr. 41min.)	30
Interview conducted with Foundations Technical Working Group member (Interview time: 1hr.)	31
Interview conducted with Steering Committee member 7 (Interview time: 1hr. 3min.)	32
Interview conducted with Steering Committee member 8 (Interview time: 1hr. 9min.)	33
Interview conducted with Foundations Technical Working Group member (Interview time: 1hr. 17min.)	34
Interview conducted with Foundations Technical Working Group member (Interview time: 1hr. 36min.)	35
Interview conducted with Steering Committee member 1 (Interview time: 1hr. 25min.)	36
Interview conducted with Foundations Technical Working Group member (Interview time: 1hr)	37
Presentation and discussion of first Executive Summary report with two of the Carbon Trust OWA management team members (Discussion time: 41min.)	38
Presentation and discussion of second Executive Summary report with Carbon Trust OWA management team member (Discussion time: 1hr.)	39
Observation of presentation from Carbon Trust OWA management team member at the Offshore Operations and Maintenance Forum, regarding Access 40 System design development, along with a presentation and following discussion of findings	40

^a All primary data was collected between March 17, 2010 and October 1, 2013.

NVivo, and each key construct identified above in section 2 has been systematically covered below in section 4. We have also identified a critical incident timeline in order to keep key information clear and in chronological order (Mills et al., 2010; Gogan et al., 2014). Having gone through the data several times, it can also be concluded that no competing interpretations were identified. What has emerged from this process is a 'pattern of meaning' that we have identified as *sustainable visioning* – a concept that links the key theoretical concepts of sustainability and strategic vision, and which may serve as a concept for realizing strategic, as well as global, sustainability goals.

4. Results and analysis

To begin, we will provide a brief outline of the case company, an energy company that switched from energy production primarily based on fossil fuels, to energy production based primarily on renewable and clean energy production. This pervasive and transformative change describes the Danish energy company Ørsted, a

MNE that has completely reinvented its portfolio, moving from black to green energy.

During the process, the focal case also changed its name. DONG (now Ørsted) was the world's first energy company to build offshore wind farms, with the first demonstration project in 1991 (Ørsted.dk). Ørsted later went on to build the world's first commercial offshore wind farm in 2000. After hiring new CEO Anders Eldrup in 2001, the company formulated, and later launched the 85/15 strategy in 2009, with the goal of moving from 15% renewable energy in 2006, to 85% renewable energy by 2040 (in one generation), and the target of reducing CO₂ emissions 50% by 2020.⁴ This goal was then realized over twenty years before schedule. The following critical incident timeline (see: Table 2) displays events in the company's history that contributed to its transition from black

⁴ Ørsted (2009). *Responsible energy 2009*. Available at: https://www.unglobalcompact.org/system/attachments/4647/original/Responsible_Energy_2009.pdf?1268309882. Accessed: Feb. 11, 2019.

Table 2

Ørsted: Critical incident timeline from its origin.

Date (year)	Milestone Event/Action
1972	Danish government founded the state owned company Dansk Naturgas A/S to trade and import gas nationally ^b
1979	Dansk Naturgas A/S changed its name to DONG, and received an expanded mission to manage Denmark's gas transmission and distribution system, as well as participate in exploitation of North Sea gas and oil fields ^c
1991	DONG (later Ørsted) builds the world's first offshore wind farm named 'Vindeby' with a total height of 54m ^d
2000	Offshore wind farm 'Middelgrunden' was completed with a total height of 102m ^e
2000s	DONG hired CEO Anders Eldrup in 2001, and Denmark went through a liberalization of the electricity and gas sectors, and all electricity and gas customers were free to choose their own supplier, putting extreme financial pressure on DONG ^f
2005	DONG acquired full ownership of power generation company Elsam, as well as electricity distribution companies Københavns Energi, Frederiksberg Forsyning and Energi E2, which were all merged into DONG Energy in 2006 ^g
–2006	
2007	DONG Energy sold parts of the company that had facilities outside of the Nordics (Spain, Portugal, Greece) to focus their efforts in the region ^h
–2008	
2008	Global Financial Crisis hits the world
2008	European Commission agrees on 2020 climate & Energy package with three key targets: 1) 20% cut in greenhouse gas emissions (from 1990 levels), 2) 20% of EU energy from renewables, 3) 20% improvement in energy efficiency ⁱ
2008	Danish government announced aggressive strategy ^j and policy ^k to focus on renewable energy towards 2020
2008	DONG Energy signed participation agreement with the Carbon Trust Offshore Wind Accelerator (OWA) Program (currently together with eight other large energy companies) to develop technologies that would drive down the cost of offshore wind by 10%, with 1/3 financing from the British Government ^l
2008	Dong Energy and Denmark's Technical University (DTU) signed a new collaboration agreement and donated 30 M DKK to the university, reflecting 25 years of collaboration ^m
2009	Danish Government provided subsidy schemes for both onshore and offshore wind projects ⁿ
2009 ^a	DONG announces new 85/15 strategy – to reduce the use of fossil fuels from 85% to 15% of electricity and heat production, and by 2020 reduce CO2 (per kWh) by 50% compared to 2006
2011	Danish Government published a new strategy to become fossil free before 2050 ^p
2011	UK government agrees on new system of subsidies (feed-in tariffs) similar to Denmark's, making it easier for DONG Energy to attract investment partners for development of offshore wind in UK ^q
–2012	
2012	CEO Anders Eldrup was replaced by CEO Henrik Poulsen.
2013	Offshore wind farm 'London Array' was completed with a total height of 147m ^r
2015	The United Nations launch of the Sustainable Development Goals (SDGs), adopted by all member states with The 2030 Agenda for Sustainable Development ^s
2016	Incorporation of SDGs into Ørsted's (DONG Energy's) annual Sustainability Report ^t , and SDGs set in focus in Ørsted's Sustainability Commitment ^u
2017	DONG Energy changes its name to Ørsted ^v
2017	Offshore wind farm 'Burbo Bank Extension' was completed with a total height of 195m ^w
2017	Innovations in newly built offshore wind make it cheaper than black energy for the first time in history, as demonstrated by auctions for offshore wind in Germany and the UK ^x
2017	Ørsted's complete divestment of upstream oil and gas & 100% green power to Danish residential customers ^y , as well as entering the Green Bond market ^z
2018	In Ørsted's Green Bonds Investor Letter, the UN Sustainable Development Goals (SDGs) are linked directly to company vision ^l
2018	A close partner of Ørsted in the Carbon Trust OWA Program Statoil changes its name to Equinor, to signal their 'high value low carbon strategy' ^l
2019	Ørsted ranks fourth out of more than 7500 international, billion-dollar companies in the Corporate Knights' 2019 index of the Global 100 Most Sustainable Corporations in the World, making Ørsted the most sustainable energy company in the index ^j
2020	Ørsted ranks number 1 of more than 7500 international, billion-dollar companies in the Corporate Knights' 2020 index of the Global 100 Most Sustainable Corporations in the World, making Ørsted the most sustainable energy company in the Global 100 index ^j

{ Ørsted, Our sustainability reports, 2017, Green Bonds Investor Letter <https://orsted.com/en/Sustainability/Our-reporting/Reporting#1> accessed: June 2019.

| Equinor: Statoil to change name to Equinor (2018) <https://www.equinor.com/en/news/15mar2018-statoil.html> accessed: July 2020.

} Corporate Knights, 2019 Global 100 results <https://www.corporateknights.com/reports/2019-global-100/2019-global-100-results-15481153/> accessed: June 2019.

~ Corporate Knights, 2019 Global 100 results <https://www.corporateknights.com/reports/2019-global-100/2019-global-100-results-15481153/> accessed: June 2019.

^a Beginning of the period primarily considered for this study.

^b Denmark's History (Aarhus University), DONG Energy A/S (formerly DONG A/S). <https://danmarkshistorien.dk/leksikon-og-kilder/vis/materiale/dong-energy-as-tidligere-dong-as/> accessed: June 2019.

^c Denmark's History (Aarhus University), DONG Energy A/S (formerly DONG A/S). <https://danmarkshistorien.dk/leksikon-og-kilder/vis/materiale/dong-energy-as-tidligere-dong-as/> accessed: June 2019.

^d Ørsted, How the offshore wind energy industry matured. <https://orsted.com/en/Explore/Making-green-energy-affordable> accessed: June 2019.

^e Ørsted, How the offshore wind energy industry matured. <https://orsted.com/en/Explore/Making-green-energy-affordable> accessed: June 2019.

^f Nord Pool Spot, "History," Nord Pool Spot website, at: <http://www.nordpoolspot.com/About-us/History/> accessed: June 2019.

^g Denmark's History (Aarhus University), DONG Energy A/S (formerly DONG A/S) <https://danmarkshistorien.dk/leksikon-og-kilder/vis/materiale/dong-energy-as-tidligere-dong-as/> accessed: June 2019.

^h DONG Energy sells its Iberian renewables business to E.ON <https://orsted.com/en/Company-Announcement-List/2007/08/782795> accessed: June 2019.

ⁱ European Commission, 2020 climate & energy package https://ec.europa.eu/clima/policies/strategies/2020_en accessed: June 2019.

^j Danish strategy for adaptation to a changing climate, The Danish Government, 2008. https://en.klimatilpasning.dk/media/5322/klimatilpasningsstrategi_uk_web.pdf accessed: June 2019.

^k Danish Energy Agreement for 2008–2011 <https://www.iea.org/policiesandmeasures/pams/denmark/name-24487-en.php> accessed: June 2019.

^l Carbon Trust, The offshore wind accelerator (OWA) program <https://www.carbontrust.com/offshore-wind/owa/> accessed: June 2019.

^m Dong energy og DTU i millionsamarbejde. <https://www.dtu.dk/nyheder/2008/02/dong-energy-og-dtu-i-millionsamarbejde?id=451cc5b9-e4df-4068-a2c5-4cfcae4c6a6a> accessed: July 2020.

ⁿ IEA, Feed-in premium tariffs for renewable power (promotion of Renewable Energy Act) <https://www.iea.org/policiesandmeasures/pams/denmark/name-24650-en.php> accessed: June 2019.

^p European Commission, 2020 Climate & Energy Package https://ec.europa.eu/clima/policies/strategies/2020_en.

^q Kitzing, L., Mitchell, C., Morthorst, P. E., 2012. Renewable Energy Policies in Europe: Converging or Diverging? Energy Policy, 51, pp. 192–201. <https://doi.org/10.1016/j.enpol.2012.08.064> accessed: June 2019.

^r Ørsted, How the offshore wind energy industry matured. <https://orsted.com/en/Explore/Making-green-energy-affordable> accessed: June 2019.

^s United Nations, Sustainable Development Goals <https://sustainabledevelopment.un.org/sdgs> accessed: June 2019.

^t Ørsted, Our Sustainability Reports, 2016 <https://orsted.com/en/Sustainability/Our-reporting/Reporting#2> accessed: June 2019.

^u Ørsted, Sustainability Commitment <https://orsted.com/-/media/WWW/Docs/Corp/COM/Sustainability/Sustainability-Commitment-UK-021117.ashx?la=en&hash=AB02D4A62A1D09406AD29A3279529B4D7242B331&hash=AB02D4A62A1D09406AD29A3279529B4D7242B331> accessed: June 2016.

^v Ørsted, A New Beginning <https://orsted.com/en/Explore/About-our-name-change> accessed: June 2019.

^w Ørsted, How the offshore wind energy industry matured. <https://orsted.com/en/Explore/Making-green-energy-affordable> accessed: June 2019.

^x Ørsted, Our sustainability reports, 2017 <https://orsted.com/en/Sustainability/Our-reporting/Reporting#1> accessed: June 2019.

^y Ørsted, Our sustainability reports, 2017 <https://orsted.com/en/Sustainability/Our-reporting/Reporting#1> accessed: June 2019.

^z Ørsted, Our sustainability reports, 2017 <https://orsted.com/en/Sustainability/Our-reporting/Reporting#1> accessed: June 2019.

to green, and its current status as the world's most sustainable energy company in the world according to the Global 100 ranking.

The 2000s marked some critical changes within the company (Christensen and Bak, 2012). In 2000, Ørsted's Offshore wind farm 'Middelgrunden' was completed with a total height of 102m,⁵ which was a height almost double that of the first offshore wind farm completed a decade prior. The early 2000s also saw the energy market become much more competitive when Denmark liberalized the electricity and gas sectors, putting financial pressure on the company. It was also at this time that Ørsted recruited a new CEO, Anders Eldrup. Eldrup was the former Danish Secretary of State, and as such had a documented track-record in dealing with both political and financial mechanisms. With an emerging political demand for climate action, new EU targets and a number of countries implementing policies to accelerate the development of offshore wind, Ørsted began focusing an increasing number of innovation resources on offshore wind and renewable energy,⁶ while the primary business of the company remained oil and gas.

This time period was also significant for a number of other reasons. It was also in 2007 that Ørsted was approached by the British Carbon Trust regarding the formation of the Offshore Wind Accelerator (OWA), a program that would bring together eight major offshore wind developers with the goal of reducing the cost of offshore wind by 10%. The OWA program focused on technology development in the areas of foundations, wake effects, access systems and cables, and brought the added incentive of co-financing from the British Government.⁷ As stated by Ørsted's Technology Partnership Manager, and OWA Steering Committee Member:

"I was approached by a guy from the Carbon Trust at the offshore wind conference in Berlin, in 2007. I was actually the first that the Carbon Trust talked to on this ... he asked me at the conference – if costs for offshore wind were to be reduced, what I thought the focus should be on. And I am not quite sure what I said to him at the conference, but I think I mentioned foundations as one area, and definitely access systems in high waves as another one. And some other issues as well..."⁸

Here, Ørsted can be seen as playing a strategic role in the OWA program, spurring innovation in key areas to achieve offshore wind cost reduction goals. Ørsted also hosted the first workshop for those companies interested in joining the OWA program, and a contract with the Carbon Trust was signed in 2008. 2008 was also the year that the EU signed the 20-20-20 climate and energy package. The Danish government followed suit by signing an

aggressive strategy and policy to focus on renewable energy towards 2020, and in 2009 provided subsidy schemes for both onshore and offshore wind, providing further financial incentive for the company to invest in wind energy.

For Ørsted, these events culminated in the launch of their new 85/15 strategy. To understand a bit about where the strategy came from, Jakob Askou Bøss, Head of Strategy and Communication at Ørsted, identified the strategic analysis of CEO Anders Eldrup as "The driving force behind formulating the new vision of the company."⁹ As Bøss put it "This got everything started. We saw a commercial opportunity in renewable energy and challenges ahead for fossil fuels."¹⁰ CEO Eldrup spelled out in short what this new strategy and vision entailed in 2009, explaining it simply by saying "Around 85 percent of the power production we stand for is produced from fossil fuel, mainly coal, but also gas ... Our target, my target is within one generation, to change the equation so that 85 percent comes from renewables and 15 percent from the fossils."¹¹ Practically speaking, this meant that the entire organization would need to be re-designed to focus on what, until then, had been a not-yet-profitable, peripheral business area, containing a large degree of research and development. It is from this point on with which we are primarily interested, seeking to understand the decisions that were made in order to transform the organization and reach their goal.

One important stepping-stone in achieving this goal was Ørsted's participation in the Carbon Trust OWA program. In ambition, the OWA program was aligned directly with Ørsted's then new strategy, a connection that was well stated by Ørsted's Technology Partnership Manager, and Carbon Trust OWA Steering Committee member, when he said:

"we have a strategy at DONG Energy that's called 85/15 which is to transform our company from a situation of 15% of renewable energy and 85% of fossil-fuel based energy, to the opposite. And wind energy plays a very big role in that transition ... And the problem with offshore wind is that it's very expensive, so we want costs to come down ... it's very simple, it [the Carbon Trust OWA program] fits very well with our overall strategy. And it's very obvious to me, very straight forward."¹²

In 2010 the global economic crisis was also in full force, which made innovation and technology advancement even more relevant

⁵ Ørsted, How the offshore wind energy industry matured. <https://orsted.com/en/Explore/Making-green-energy-affordable> accessed: June 2019.

⁶ Ørsted, How the offshore wind energy industry matured. <https://orsted.com/en/Explore/Making-green-energy-affordable> accessed: June 2019.

⁷ Carbon Trust Offshore Wind Accelerator, Ørsted Steering Committee member, March 17th 2010, Recording time: 22:35.

⁸ Carbon Trust Offshore Wind Accelerator, Ørsted Steering Committee member, March 17th 2010, Recording time: 23:45.

⁹ Maennling, N. (2019) Columbia Center on Sustainable Investment, Lessons Learned from an Energy Company's Green Transformation <http://ccsi.columbia.edu/2019/04/15/lessons-learned-from-an-energy-companys-green-transformation/> accessed June 2019.

¹⁰ Maennling, N. (2019) Columbia Center on Sustainable Investment, Lessons learned from an energy company's green transformation <http://ccsi.columbia.edu/2019/04/15/lessons-learned-from-an-energy-companys-green-transformation/> accessed June 2019.

¹¹ Brancaccio, David (2009) PBS.org Transcript: Electric Car Dreams. <https://www.pbs.org/shows/544/transcript.html> accessed: June 2019.

¹² Carbon Trust Offshore Wind Accelerator, Ørsted Steering Committee member, March 17th 2010, Recording time: 27:55.

for Ørsted, because the crisis was seen as “putting even more pressure on cost reductions.”¹³ The OWA program provided the opportunity for new offshore wind technology to be developed and tested rapidly, while restructuring continued within Ørsted. As stated by Ørsted’s OWA Technical Delivery Consultant “you have to remember the end goal ... you know (tapping the table for emphasis) build stuff or learn something – practical things.”¹⁴ By developing and adapting technologies that were better suited to the newly forming offshore wind energy market, costs reductions were being identified, and the business case for offshore wind was improving rapidly. As stated by Ørsted’s Carbon Trust OWA Steering Committee member “it’s obvious that the better the business case, the easier it is to get projects through [financed].”¹⁵

Another important stepping-stone in achieving Ørsted’s 85/15 strategy was a 30 million DKK agreement with Denmark’s Technical University (DTU). Eldrup identified this plan for the future as being important because:

“We have plans of dramatic expansion in the coming years, including the development of large international projects to develop future energy solutions. Therefore, we have a need for highly educated employees who can deliver on technically demanding challenges. With this agreement we are guaranteed that in the future, we will have better opportunities for developing technical and scientific insights in the area of technical energy research.”¹⁶

Both the Carbon Trust OWA program and the agreement with DTU can be seen as steps to support the 85/15 strategy of Ørsted, by taking concrete measures to plan and execute on the innovative technology that was needed in the moment (with the OWA program), and the resources that would be needed in the future (through the DTU collaboration).

2010 was also the year that New Bio Solutions were added to Ørsted’s portfolio, focusing on the commercialization technology for biomass for energy purposes, and the number of coal-fired power plants was reduced by 50%. (Ørsted.dk) CEO Eldrup stated in their Annual Report that the aim of the company was to ramp up renewable ‘green’ energy, in order to drastically “reduce pollution with CO₂,” identifying this transition from black to green as “the core of our business strategy.”¹⁷ With this statement, Eldrup can be seen as linking the ‘core of the business’ not only to economic concerns, but also to long-term environmental sustainability principals.

In the political arena, the Danish government published their own new strategy in 2011, to be fossil fuel free before 2050, and in 2012 the UK government agreed on new subsidies which meant that it would be easier for Ørsted to attract investors. It was also in 2012 that Anders Eldrup was fired for allegedly paying exorbitant bonuses to four employees, and was then awarded a 1.2 million EUR

settlement the following year, with a court ruling that “Eldrup acted in the best interests of the company in awarding the bonuses in order to hold on to valuable members of staff in the wind division.”¹⁸ This may suggest that Eldrup was so dedicated to his vision that he was willing to risk his own position at the company to achieve it. Eldrup’s successor, Henrik Poulsen, can be seen as starting his tenure as CEO by supporting Eldrup’s sustainable visioning with statements like the following: “In the world of energy, the fundamental challenge we face is to transform our energy systems so that more and more of the energy we generate comes from renewable sources such as wind power, biomass and solar energy.”¹⁹ In his first year, Poulsen also set very specific targets for the company including “quadrupling our offshore wind capacity, from 1.7 GW in 2012 to 6.5 GW in 2020.”²⁰ This goal was also beginning to look increasingly possible, as in 2013 wind turbine heights had jumped again, when Offshore wind farm ‘London Array’ was completed with a total height of 147m.²¹

On a global level, 2015 brought about the United Nations Sustainable Development Goals (SDGs or Global Goals). The SDGs were adopted by all 193 UN member states, and provided, for the first time, a global platform for governments, public institutions and private sector businesses to focus their efforts on a set of 17 common Goals to achieve by 2030. These goals, backed by 169 Targets, were seen as a way to make Ørsted’s vision even more tangible, and in 2016 the company began incorporating the SDGs into their Sustainability and Annual Reports. In 2017, the company identified their primary Global Goals as Clean Energy (SDG 7) and Climate Action (SDG 13).

2017 also brought about a change in company name from DONG Energy to Ørsted, reflecting their new, green profile, at the same time that newly built offshore wind became cheaper than fossil fuel. By 2017, yet another offshore wind farm ‘Burbo Bank Extension’ was completed, this time with a staggering total height of 195m.²² It was also in 2017 that Ørsted completely divested all upstream oil and gas, began distributing 100% green power to all Danish residential customers, and entered the Green Bond market. In 2018, Ørsted’s Green Bonds Investor Letter highlighted some of the rapid progress that was being made in the technology development of offshore wind, as well as linking this activity directly to the UN SDGs, saying:

“By the end of 2017, we had constructed a total of 3.9GW of offshore wind capacity. We expect to more than double this to 8.9GW in 2022. It is our ambition to reach a total of 11–12GW by 2025, which equals the annual power consumption of around 30 million people. Our offshore wind activities increase the share of renewable energy in the global energy mix and create progress towards Sustainable Development Goal (SDG) #7 on affordable and clean energy.”²³

It is also important to note that Ørsted was not the only member of the Carbon Trust OWA program to change their name. Another

¹³ Carbon Trust Offshore Wind Accelerator, Ørsted Steering Committee member, March 17th 2010, Recording time: 31:35.

¹⁴ Carbon Trust Offshore Wind Accelerator, Ørsted Foundations Technical Working Group Member, December 12th 2011, Recording time: 49:20.

¹⁵ Carbon Trust Offshore Wind Accelerator, Ørsted Steering Committee member, March 17th 2010, Recording time: 32:25.

¹⁶ Dong energy og DTU i millionsamarbejde. <https://www.dtu.dk/nyheder/2008/02/dong-energy-og-dtu-i-millionsamarbejde?id=451cc5b9-e4df-4068-a2c5-4cfae4c6a6a> accessed: July 2020.

¹⁷ Ørsted (2010). Annual report 2010. Available at: <https://orsted.com/en/Sustainability/Our-reporting/Reporting#8>. Accessed: February 11, 2019.

¹⁸ Smith, P., 2013. DENMARK: Former Dong Energy chief executive Anders Eldrup has been awarded DKK 8.7 million (EUR 1.2 million) in a wrongful-dismissal case brought against the firm, the Danish media has reported. Wind Power Monthly. accessed: July 2020.

¹⁹ Ørsted, Our sustainability reports, 2012, DONG Energy’s GRI Reporting 2012 <https://orsted.com/en/sustainability/esg-ratings-and-reporting#7> accessed: July 2020.

²⁰ Ørsted, Our sustainability reports, 2012, DONG Energy’s GRI Reporting 2012 <https://orsted.com/en/sustainability/esg-ratings-and-reporting#7> accessed: July 2020.

²¹ Ørsted, How the offshore wind energy industry matured. <https://orsted.com/en/Explore/Making-green-energy-affordable> accessed: June 2019.

²² Ørsted, How the offshore wind energy industry matured. <https://orsted.com/en/Explore/Making-green-energy-affordable> accessed: June 2019.

²³ Ørsted, Our sustainability reports, 2017, Green Bonds Investor Letter <https://orsted.com/en/Sustainability/Our-reporting/Reporting#1> accessed: June 2019.

prominent company in the OWA program, the Norwegian Statoil, followed suit the following year in 2018, changing their name from Statoil to Equinor. And why did the company do this? As stated by Jon Erik Reinhardsen “Our strategy remains firm. The name Equinor reflects ongoing changes and supports the always safe, high value and low carbon strategy we outlined last year,” and the CEO Eldar Sætre further iterated that “The name Equinor captures our heritage and values, and what we aim to be in the future.”²⁴ These statements would seem to indicate that for the company, who established a new strategy in 2017 that included a ‘low carbon’ future, the new ‘low carbon’ mindset could likely have been influenced by Ørsted, who was a close neighbor, close collaborator in the Carbon Trust, and who had also changed their name just the year prior.

In 2019 Ørsted ranked as the most sustainable energy company in Corporate Knights’ index of the Global 100 most sustainable corporations in the world. And it is not just sustainability recognition that the company is attracting. As stated by Bøss, Ørsted’s Head of Strategy and Communication, “Since our Initial Public Offering in 2016 our market cap has doubled. Shareholders see that our investments generate a solid return on capital invested, with a spread on top of our cost of capital. We have also received a lot of interest from environmental, social and governance (ESG) conscious investors.”²⁵ For Bøss “The biggest driver for change towards renewable energy will be the economic argument. Renewables today are cheaper than fossil-fuel based energy sources ... We may be on the front end of this trend, but the fundamentals are all pointing in that direction.”²⁶ From these statements it would seem reasonable to conclude that substantial financing is being secured by the company both because of the innovative technology developments, as well as the potential to achieve not only economic returns, but social and environmental returns as well.

5. Discussion

Ørsted was a first mover in terms of pursuing a commercial exploitation of offshore wind technologies. However, prior to 2009, the primary business of the company was still firmly anchored in oil and gas. What happened after Anders Eldrup became CEO and the 85/15 strategy was launched, however, seems to have far exceeded the expectations of even the strategy itself, as it was achieved over 20 years ahead of schedule. But what effect, if any, did this 85/15 strategy have on the outcome of the company’s dramatic transformation? Let us now take a more direct look at the way in which the case links to the theory of sustainable visioning presented above.

Far from a conservative approach, Ørsted can be seen as having taken what have been termed as a proactive and visionary approach to sustainability (Ludeke-Freund and Hansen, 2012; Baumgartner and Ebner, 2010), where transformational solutions (Erzurumlu and Yu, 2018) for reducing CO₂ are seen as “the core of the business”. What we can observe with Ørsted’s transition “from black to green” also adds further corroboration for the link between sustainability and innovation (in line with Kuzma et al., 2020; Jin

et al., 2018). In this process, programs like the Carbon Trust OWA were able to participate in ‘future-sharing’ (Dordrecht, 2013), by sharing a “very aligned” vision of the future. The OWA program then quickly and efficiently executed stages of planning, decisions and actions (Wiek and Iwaniec, 2014) where the goal was to “build stuff” and “learn something – practical things” in order to achieve the common visionary outcome.

Ørsted’s sustainable visioning also seems to comply with Wilson’s (1992) characteristics of strategic vision. For example, Wilson identifies that it is important for goals, strategies and plans to be integrated into a whole. Our results and analysis identify this in at least two areas. First, Ørsted invested in rapid innovation technology development through their participation in the OWA program, which aimed at using innovation development to “reduce the cost of offshore wind by 10%”. Second, the company also invested in University partnerships like the one with DTU, where a long-term plan was laid as a “guarantee for the future”, to develop resources needed for the green energy sector (García-Muñ̃a et al., 2020; Rattalino, 2018). Both of these agreements in addition provide what Kouzes and Posner (2002) call a ‘trigger for new activates’, and what Stewart (1993) identifies as ‘addressing the future before the present’.

This study also adds further corroboration for the link between sustainability and innovation (in line with Kuzma et al., 2020), where innovative wind technologies were leap-frogging pre-existing wind turbine heights (see Table 2: 2013 and 2017) and making substantial cost reductions in offshore wind farms. This innovative technology development can also be seen as what is referred to as the triple helix twin between innovation and sustainability (Etzkowitz and Zhou, 2006). Our case shows that involved partners from universities (such as the DTU partnership established in 2008), industry (Ørsted and the seven other industry partners in the OWA program), and government (British government through subsidies provided by the OWA program, and Danish government in terms of subsidies in 2009) coming together to drive down the cost of offshore wind.

Our conceptualization of Sustainable visioning has also proposed the concept as one that communicates shared ownership (Kim and Oki, 2011) that is able to transgress a company’s own boundaries, and contribute to transforming their industry towards becoming more sustainable as well (Millar et al., 2012). In our analysis, the company Statoil, who changed its name to Equinor, is a good example of this. This is particularly true as it was their CEO, Eldar Sætre, who linked the name change to the country’s heritage, values, and what the company “aims to be in the future”, including a low carbon future. Both Equinor and Ørsted’s CEOs also represent key company stakeholders (Wilson, 1992), whose values and aspirations were able to be translated into action thorough sustainable visioning.

This case also provides a number of signs that Sustainable Visioning was a vision not only connected to ideals of wealth and prosperity, but also to planetary concerns. One prominent example of this can be found in the company’s vision “creating a world that runs entirely on green energy”,²⁷ showing the desire to reach outside of the organization (Finkelstein et al., 2008) with their “green” aspirations. Ørsted also directly incorporated the Sustainable Development Goals (also called Global Goals) into their communication with their investors in 2018, the year after they joined the Green Bond Market. These moves by Ørsted demonstrate the incorporation of people, planet and prosperity concerns on a fundamental and integrative manor, where economic aspects of the

²⁴ Equinor: Statoil to change name to Equinor (2018) <https://www.equinor.com/en/news/15mar2018-statoil.html> accessed: July 2020.

²⁵ Maennling, N. (2019) Columbia Center on Sustainable Investment, Lessons learned from an energy company’s green transformation <http://ccsi.columbia.edu/2019/04/15/lessons-learned-from-an-energy-companys-green-transformation/> accessed: July 2020.

²⁶ Maennling, N. (2019) Columbia Center on Sustainable Investment, Lessons learned from an energy company’s green transformation <http://ccsi.columbia.edu/2019/04/15/lessons-learned-from-an-energy-companys-green-transformation/> accessed June 2019.

²⁷ Ørsted, About our name. <https://orsted.com/en/about-us/about-orsted/about-our-name> accessed June.

company are necessarily connected to social and environmental concerns.

6. Conclusion

This paper has responded to a recent call for research on topics that can shed more light the processes through which firms actually navigate the multiple change requirements to identify, experiment with, and eventually realize more sustainable models of the enterprise (Rauter et al., 2017). This study offers evidence that sustainable visioning can serve the critical role of providing urgency and direction towards strategic sustainability goals during long processes of innovation and transformation. More specifically, we have demonstrated how sustainable visioning has served as an inseparable part of a transformation enabling a complete overhaul of the Danish energy company Ørsted, moving it from black to green energy production in less than fifteen years. In this study, strategic visioning can be seen as a catalyst for ramping up innovation and new technology within Ørsted, as well as growing their business and investment portfolio in the area of renewable energy. Once proven, these renewable energy technologies, and offshore wind technologies in particular, also helped Ørsted to attract financing and position themselves in the center of the growing ecosystem for sustainable development.

Several limitations also apply to this study. First, being a single case study excludes the possibility of broad, verifiable generalizations. Instead, this study of the energy company Ørsted offers depth, openness and detail (Blanche et al., 2006) in order to understand the company's complex transformation from black to green. The researchers also sought to collect a second wave of primary data, which proved not to be possible due to ongoing proprietary matters. The primary data collected for this study provides an understanding of events at a critical juncture for Ørsted, when tough social, environmental and economic decisions were being made about the future direction of the company. The collected narratives provide deeper insights into the transformational decisions taken around this time. In addition, being located in a region of the world that has a long history of strict environmental regulation and an already strong positioning within wind technology provided favorable conditions in the form of regulatory support and access to cutting-edge technology. Indeed, if the focal case company involved had been located elsewhere, the context surrounding the case would be different, and this type of transformation may have been more difficult, or at least would have taken a different form. This evidence-supported and narrative presentation (Stake, 2005) provides readers with the opportunity to learn more about the way in which sustainable visioning played out in a very specific context. In this case, sustainable visioning can be seen in the context of favorable governmental policy in Denmark, UK and the EU, effective leadership in the form of CEO Anders Eldrup and later (from 2012) Henrik Poulsen, and a large degree of innovation intent, providing reinforcing feedback loops for Ørsted's strategy and sustainable visioning.

This study also points towards some interesting avenues for future research. To be sure, further studies are needed in order to examine the role of sustainable visioning in other contexts. Do the same principles apply for sustainable transformations in other regions of the world? For other sectors? For small and medium sized enterprises? The case examined in this paper also took place during a period of global financial crisis. Recent research in the financial sector has indicated that responsible practices seem to be less constrained by the financial climate, and instead are influenced by factors such as public scrutiny from regulators and the media (Chalmers and van den Broek, 2019). Indeed, for Ørsted the government regulations seemed to have had a major impact on the

direction of their strategy and innovation intent, making sustainable visioning attractive from a long-term financial perspective as well.

Although the specific case presented here is not generalizable with relation to how specific events unfold, the concepts linked to sustainable visioning may indeed be observed in other contexts. To the extent that sustainable visioning is observable in other contexts, future research could study whether companies who employ sustainable visioning are more resilient than other companies in the face of financial volatility. Future research could also usefully test the hypothesis that a strong commitment to sustainable visioning has a positive effect on the outcome of company transformations, such as business model change and innovation, portfolio and investment growth, and financing opportunities.

CRedit authorship contribution statement

Heather Louise Madsen: Conceptualization, Methodology, Data curation, Data collection, Writing - original draft, Writing - review & editing. **John Parm Ulhøi:** Conceptualization, Methodology, Data curation, Writing - original draft, Writing - review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Discussion Questions Regarding Knowledge and Innovation Management within the Carbon Trust OWA project

Orientation regarding your work with the OWA project

- 1) Please explain how you came to be part of the Carbon Trust OWA project. How would you describe your primary responsibilities to the CT? With regard to the OWA project? What percentage of your work load is devoted to this project?
- 2) What is your understanding of the way in which the CT got formed the way it is today? Does this structure work well (benefits and drawbacks)? Is it likely to change in the future (how and why)?
- 3) How is ownership divided in the OWA project? Are there specific products or services that are 'owned' by the CT or its partners?
- 4) What are the most important elements of the OWA project for the partners to manage or understand? How are (or should) these things be managed or understood?
- 5) How do you measure success with the OWA project? How is performance evaluated? Is there a particular framework that you work with? How do you keep track of what is done over time?
- 6) How do you coordinate with so many actors in this project (eg. Time, resources, knowledge that contributes to the project)?
- 7) Are there any gaps between the way things were meant to be carried out, and the way they are actually being carried out? How do you adapt to things working differently that you had planned?

- 8) How do you deal with the high degree of uncertainty in the OWA project? Can you think of any ways that the OWA project has pre-emptive measures built into it (measures to decrease risk?) In what ways is flexibility built into the process?
- 9) What IT tools do you utilize in your activities with the CT partners? With the CT generally? Have any new codification systems been developed by the CT or its members to better understand the OWA project's development?
- 10) What IT tools might be added at the CT to help you do your job better?

Social Network Analysis

- 1) Can you please place each of the other partners (as well as the carbon trust) at a distance from your company in terms of relative closeness (this could be in terms of how well you know them, how much you trust them, how often you have worked together before, etc.)
- 2) Can you please explain why you have placed the companies in the positions that you have?
- 3) Can you please explain your company's role in the OWA project? Do any of the other partners play the same role?
- 4) Can you please name any other organizations or individuals that are vital to the OWA project? Specific to your company's work with the OWA?
- 5) To what degree do you think that goals and understandings are shared among the CT partners? Can you give an example of an instance when you felt that all the partners were on the same page? Is this typical for the CT partners?
- 6) What do you see as the end goal of the OWA project? Do you think that all the necessary steps to getting there are being taken? What do you think needs to stay the same to achieve this goal? What do you think needs to change (if anything)?

Knowledge & Innovation

- 1) What does the word knowledge mean to you? What about innovation? What do these words include? What do they exclude?
- 2) How do the partners share knowledge with individuals coming into the organization (ex. new partners)? If you think back to when a new partner has joined the CT, can you explain how you got to know the new partner? How did they become aware of the working processes of the CT?
- 3) How is information or innovation shared among the partners generally (typical forms of communication)? With other members of the OWA project? With parties outside the CT?
- 4) How do the CT partners view failure? How do the CT partners deal with things that do not go as planned?
- 5) What pre-determined milestones were established for the Foundations project? Can you describe how the process unfolded?
 - a) Where were successes achieved?
 - b) Where did obstacles arise, and how were they dealt with?
- 6) What pre-determined milestones have been established for the Wake Effects project? Can you describe this process thus far?
 - a) Where have successes been achieved?
 - b) Where have there been obstacles, or where are you anticipating them in the future?
- 7) Is there any area of the OWA project where you feel that you are lacking information?

- 8) How do you support your TDC's in their work?
- 9) To what extent do the OWA Partners form a team working together towards the same goal?
- 10) Do you conduct post-project reviews? If yes, do you think this process has helped in the work that you are doing now?
- 11) What are the guidelines for holding Partner meetings?
- 12) Do you make use of any specialists not directly involved in the project? (asking for their input, etc.)? Can you give an example?
- 13) What is the main motivation for you sharing knowledge and innovation with other energy companies in the OWA project?
- 14) If you think about knowledge and innovation generally with relation to the OWA project, have we discussed all of the important elements? Do I have the right picture, or am I missing something?

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