AALBORG UNIVERSITY

A cognitive mess: Mixed feelings about wind farms on the Danish coast and the emotions of energy infrastructure opposition

Upham, Paul ; Johansen, Katinka

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Abstract

The majority of local respondents in a large-scale survey were in favour of planned local wind farms on the Danish coast, despite these wind farm plans being the source of wider public and political contestation and opposition. Here we discuss results from the open-ended questions in the survey, specifically focusing on comments expressing how some respondents felt split in their views of these wind farms, accepting the need for renewable energy while at the same time being concerned about the potential local impact of the wind farms. Building on previous theoretical propositions relating to energy infrastructure opposition, here we apply the concept of cognitive polyphasia in some depth, providing a socio-cognitive account of the internal contradiction of being positively disposed to renewable energy in principle, but concerned about or opposed to specific developments in localities. We distinguish a cognitive polyphasic account of such mixed feelings from cognitive dissonance accounts, and we identify several types of polyphasic representations, providing a basis for further work in other cases.

Highlights

- Moscovici's concept of cognitive polyphasia is applied to public perceptions of wind-power.
- The theory implies that people commonly have mixed feelings and views on a specific topic.
- Four polyphasic themes are identified in Danish opinion survey data relating to near-shore wind.
- The perspective implies a view of acceptance and opposition as multi-faceted and fluid.

Contents

1. Introduction

Opinion surveys in Europe repeatedly indicate that public attitudes towards renewable energy technologies (RETs) are strongly positive. Hence in 2018, of 11 options relating to energy futures suggested by the EU, the objective of 'developing renewable energy' commanded the largest fraction of support among most members of the EU public [1]. At the same time, public opposition to specific renewable energy development proposals is common [2]. This apparent contradiction has been the object of considerable study from a variety of perspectives. Explanations include the characteristics of particular renewable energy technologies (RETs), including associated risk perceptions [3]; perceptions of planning and development processes, particularly their perceived unfairness in terms of procedural, distributive justice [4][5][6] and trust issues connected with developers and public authorities [7,8]; specific psychological processes such as place attachment, place identity and associated threat perception [9–11]; and 'centre' versus 'periphery' conflicts [12]. For these and other reasons, plans for the deployment of local RETs often results in social and political controversy [11,13]. As a result, a 'gap' between public acceptance of RETs as documented in national opinion polls and local acceptance of particular RETs often remains [14,15].

Here, we examine a particular aspect of public objection in the case of a proposal for Danish offshore coastal wind farms, nationally referred to as near-shore wind farms.[1] These planned near-shore wind farms, and their potential local impacts, were intensely debated at national and at local levels both during and after the environmental impact assessments (EIAs) [13,16–18]. Interestingly, despite these wind farm proposals being the source of wider public and political contestation and opposition, empirical evidence suggests that the majority of people living permanently in the local areas potentially facing the planned RETs actually supported them [19]. Empirically, we draw upon the qualitative data from a survey of local perceptions of - and attitudes towards - these near-shore wind farms (see section 3). The study adds to the emerging sub-literature on public perceptions and related valuation of offshore wind (e.g. [20][21][22–24][25,26][27,28]). Cognitive polyphasia is by definition common and is likely common in cases of RET objection. For example, some degree of cognitive polyphasia can arguably be seen in at least one other study of public perceptions of offshore wind, where opponents and supporters of a specific development express views that might be considered counter-intuitive [29][2].

Conceptually, the paper builds on observations regarding the value of social representations theory for understanding renewable energy technology (RET) related controversies [30]. That is, that such controversy can be viewed as centred on alternative, shared, communicative ideas of the same phenomena (e.g. renewable energy or wind-power), as well as on alternative types of knowledge or considerations (e.g. those that are scientific, affective, moral, or in some other way non-scientific in the usual sense of the word). Moreover, these alternative representations tend to co-exist not only in any given society, but may also co-exist within the same individuals [31]. It is the latter case of cognitive polyphasia that we focus on here, rather than notions of attitudes, risk perceptions or social practices that have come to be more commonly used in studies of public perceptions and experience

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[1] For more information on this tender, see [18,90,91].
[2] Table 4 in [29] shows that above-zero percentages of opponents in two locations perceive the turbines as "impressive" and "symbolic of progress towards clean energy"; while above-zero percentages of turbine supporters perceive these turbines as "too big", „unattractive,“ detracting from the island/coastal character" and „causing the loss of something intangible".

of energy infrastructure and technology [32]. As *cognitive dissonance* [33] is an extensively studied psychological account intended to address the same issue of inner conflict, we also refer to some of the differences between cognitive polyphasia and cognitive dissonance as theoretical accounts.

As has been argued before [34], the theory of cognitive polyphasia highlights, characterises and explains a feature of wind energy controversy that has previously been given little attention: namely, that local residents may have mixed feelings about a proposal or development, which they may also express differently in different social contexts. This arguably has implications for how developers and authorities might make a case for RES proposals, as well as for how researchers investigate such cases, given the thesis that the views expressed may be socially situated. Understanding that people can move readily between different types of rationality, knowledge bases and forms of knowledge – including knowledge relating to aesthetics and emotions – adds to the case for making appeals that are broader and affective, as well as more narrowly cognitive, when communicating in relation to RES proposals. Indeed, social representations theory, including multiple or polyphasic representations, should be understood as a cognitive-emotional theory, in which representations are evaluated, accepted or rejected emotionally as well as according to verbally reasoned (logical) evidence [35]. This adds to the complexity of messaging and underscores a view that RET planning and deployment is not a context in which objection can (or necessarily always should) be 'managed away'.

In terms of the structure of the paper, we first explain the theoretical framing - cognitive polyphasia - including in relation to cognitive dissonance (section 2). A description of the methods and data analysis follows (section 3). The results (section 4) include illustrative examples of respondent comments that may be characterized as polyphasic. Finally, we discuss the case-specific and wider relevance of the empirical findings and the concept of cognitive polyphasia for understanding energy siting controversies (section 5). As mentioned, the paper builds on previous work that attests to the value of social representations theory for understanding energy siting controversies [36–39].

2. Theoretical context

2.1 Cognitive polyphasia and cognitive dissonance

The concept of cognitive polyphasia comes from social representations theory [40] and connects to longstanding debates concerning the relationships between society and knowledge, including arguments relating to the special nature of science and associated logic as means of knowing [41]. One of the key applications of social representations theory is for the study of the way in which societies and individuals often simultaneously hold beliefs or views based on very different grounds, including their emotional responses. This perspective helps to explain why individuals may give weight to different types of values at different times and may implicitly move between types of reasoning or moral principle. This is firstly because social representations are posited as theories or networks of ideas that can include emotions, attitudes and judgements as well as knowledge derived from various sources: that is, they are complex and multi-dimensional [42]. Secondly, within the field of social psychology, social representations is one of the more 'social' theories, being conceived of as taking place both individually and socially. That is, the social is viewed as constitutive of the psychological, and the focus is on how meaning and action emerge from inter-subject relations, particularly communicative relations. In this social psychological paradigm there is no stark distinction between the social and the individual [43]: context and relations are not viewed as external variables relative

to individuals. The net result is that individuals and their views are seen as relatively fluid, changing and multifaceted.

Previous applications of the cognitive polyphasia concept have focused on other situations in which people have experienced logical, scientific or affective internal contradictions: for example, parental attitudes to vaccination with the MMR (mumps, measles and rubella) vaccine [44], having young adult children in military service [45] and meat-eating by those who profess to love animals [46]. In the first of these examples, some individuals experience an inner conflict relating to concerns about received, contradictory information on the effects of the MMR vaccination. Although the large majority of medical professionals consider the MMR vaccination to be safe, media debate worried some of the parents questioned. This inner conflict is founded on contradictory scientific (or perceived scientific) findings. In the military service example, parents worried about their young adult children in military service but were also proud of them: a more mixed, affective contradiction. In the third example, meat-eating of specific types of animals is typically culturally sanctioned, while other animals are excluded from being eaten, despite their being edible. Hence in the above case those questioned did not experience inner conflict, despite there being a degree of arbitrariness to the cultural definition of an edible animal. That said, cognitive polyphasia need not involve contradiction per se. The theory primarily seeks to explain individuals' movement between qualitatively different bases of sense making, including different reasoning principles, different beliefs derived from different sources and emotions.

Cognitive polyphasia is not the only psychological concept that addresses subjective experience of inner conflict: better known is the concept and theory of cognitive dissonance. Theories of cognitive dissonance aim to understand the ways in which individuals reduce and manage cognitive and affective unease that can be induced through exposure to information or experience that challenges one's behaviour, beliefs or attitudes [33]: for example, with respect to climate change [47]. The main ways of managing cognitive dissonance include: a change in individuals' behaviour, a change in their environment, or a change in their beliefs or attitudes. More recent variations on this theme include the role of self-perception, self-consistency and self-affirmation and the need to keep these consistent and positive [46]. Forms of denial include denial of consequences, denial of responsibility, denial of control, downwards comparison, other compensation mechanisms and viewing one's situation as exceptional, all of which people may use to reduce the experience of dissonance without resolving the underlying inconsistency [48][49].

The key difference between cognitive polyphasia and cognitive dissonance is that cognitive polyphasia explains how and why individuals may *continue* to hold perspectives of phenomena that are based on different rationalities, why this is normal and why this may not induce a level of discomfort or dissonance sufficient to lead to a change in behaviour, attitude or belief. To a significant extent, the theory of cognitive polyphasia achieves this through its emphasis on the role of social context. Here, the social context includes both the origin of the ideas held by the individual; i.e. these ideas arise from exposure to ideas circulating in society, but also the socially normative aspect of the ideas. That is, individuals may feel socially obliged to give credence to particular ideas that circulate in society, even if these ideas somehow conflict with their own preferences and inclinations [46].

2.2 Coping with conflicting societal ideas
It is this emphasis on socio-cognitive competition; the idea that competition among circulating ideas or social representations is normal - and that individuals are capable of living with this [50] - that

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underlies the thesis of cognitive polyphasia. Whereas cognitive dissonance posits that people may respond to an attitudinal or belief challenge in such a way as to minimise the discomfort of any inconsistency, cognitive polyphasia holds that people do not *necessarily* need to take such dissonance-avoiding steps: that people are used to living in a social environment of competing ideas and that this does not threaten their integrity or necessarily lead to discomfort [51]; [52]; [53]. Cognitive polyphasia asserts that the human mind is polyphasic by nature, and that people may hold differing and multiple, simultaneous representations of the same phenomena, also in the form of differing knowledge systems. This can be seen as a reflection of the almost inevitable plurality of social life (e.g. [45]; [54]).

From this perspective, social controversy may be viewed as a site of contradictions that reflect and expose differing values and ideas within a society. Social controversy been said to hold within it the potential for generating reflection and novelty [55]. At the same time, however, it is clear that most individuals do not enjoy frequent contradiction, nor do they feel comfortable in the company of those who persistently disagree with them: rather, we seek the company of like-minded others [56]. Viewed in this way, cognitive dissonance and cognitive polyphasic accounts may be said to emphasise different aspects of the human experience of exposure to contradictory or conflicting feelings, views or behavioural propensities. Where an uncomfortable degree of dissonance occurs, individuals may well respond to this through change or avoidance, as cognitive dissonance holds, but equally this degree of dissonance may not arise and cognitive polyphasia provides an account of why.

2.3 Cognitive polyphasia and implications for RES related controversies

This section presents further insights from the theory of cognitive polyphasia and then explains their relevance for the context of RET deployment. Firstly, social representations theory is fundamentally about meaning, and the cognitive polyphasia literature distinguishes between meanings that are immanent or transcendent with respect to practices [34]. That is, the cognitive polyphasia literature distinguishes between meaning that is enacted and made real in practice, for example the actual following of a law, principle or policy, and meaning that exists but is *not* implemented in practice, i.e. transcendent not immanent. That is, a law, principle or policy that exists 'in name only' and is not practised [57]. In an RET context, despite legislated policy and other support for large-scale renewable energy technology deployment, not everyone accepts the formal policy or its physical manifestation [34]. In our case, for example, despite the formal, cross-party political agreement that supported near-shore wind farms rather than offshore wind farms further from the coast (in order to reduce the costs), in the end not all political parties involved continuously supported the agreement [58,59].

Secondly, competing, polyphasic representations of any phenomena may be perceived as more or less hegemonic or emancipatory by those who hold them; they may also be polemical [60]. Hegemonic representations incorporate elements intended to be difficult to disagree with: they refer and appeal to values that are widely considered to be fundamental and universal (e.g. ideas of 'truth', 'natural', 'the people' etc.). Through the inclusion of such references, a message is rhetorically empowered [61]. By contrast, emancipated representations are typically more specific and are not intended to be mutually exclusive of other representations, but rather may simply reflect the diversity of individual experience [62]; [31]. Polemical representations reflect the different positions of social sub-groups who are not able to displace each other's versions or visions. Cognitive polyphasia is an outcome and expression of the co-existence of these different types of representation [31].

Pro-RET policy and discourse, particularly in conjunction with appeals to climate change, may be perceived by some as an attempt at discursive hegemony [63]; as an attempt to impose a partisan perspective on climate change that suppresses climate scepticism and protection of local vistas (landscapes or seascapes). In such contested contexts, different parties may each pursue hegemonic strategies – playing to win – as stakes may be high and compromise difficult or unrealistic. The dynamic and differentiated nature of polyphasic representations of phenomena leads to change over time, as peripheral representations move in and out of the core meaning of a concept [64]. Thus RETs may at one point in time or in one context be seen as problematic, while at other times and in other contexts they may be seen as useful, cognitively anchored to representations with positive associations (e.g. RET-related employment as a substitute for a declining oil and gas sector). Different representations of RETs may be held by different individuals and social groups: dissenters, RET advocates, regional and national authorities, beneficiary companies and so on. People are often aware of this, and thus also hold 'alternative representations', which are representations of how they believe *other* social groups see the world [51].

Particularly where energy-related controversies relate to livelihoods or highly valued local environments, negative emotions are likely to be involved and may range from feelings of concern through to despair [65]. Hence, a third aspect of cognitive polyphasia of relevance here is their role as cognitive-emotional processes [66] [67] [68]. The way in which emotions may be connected to social representations are referred to in the literature in several ways: Emotions: (i) as way of knowing; (ii) as part of cognition, not separate from it; (iii) and as a part of practice or action. In each, emotions play different roles. In (i), emotions are treated as a knowledge system, with different validity in different contexts; for example, social emotions mediate the social sphere. In (ii) and (iii) emotions mediate cognition and action [68]. As with all social representations, individuals use different types of knowledge depending on the social context and circumstances: hence cognitive polyphasia [40].

A fourth application of social representations is to provide an understanding of the roles of social representations in association with *moral* emotions, a form of emotion also evident in the present case study (see section 4). Hence study of the discursive mechanisms used by Europeans to construct notions of themselves as ethical, despite knowledge of dire African poverty [69]. In the latter study, the authors contrast a social representations of moral responses approach to this divergence with a more rationalist account of the emotional reactions associated with moral judgments and reasoning. They argue that social representations provide a better account of the way judgments and behaviours may be formed automatically, with little intention, awareness or effort [70]. Others have argued that the automated nature of moral responses should not be overstated [71]. The main and relevant point here is that it is difficult to conceive of representations as not being involved in moral responses, be these automatic or deliberated.

To sum up: the concept of cognitive polyphasia asserts that individuals may simultaneously hold different, socially-originating and mediating representations of the same phenomenon. The perspective places the psychological in its social context. Individual objection or acceptance of energy transition processes is seen as having both individual and social dimensions, whereby the co-existence of more or less contradictory or conflicting motivations, attitudes, emotions and types of knowledge within both individuals and wider society are seen as both common and normal. This in turn means that such internal contradictions do not necessarily lead to the types of dissonance that motivate pursuing internal consistency, for example via attitudinal or behavioural change.

In Table 1 below we bring together some of the key characteristics of cognitive polyphasia for subsequent use, contrasting these with the characteristics of cognitive dissonance as generally understood (for a relatively impartial discussion of cognitive dissonance theory, see e.g. [72]). Table 1 comprises not a comprehensive summary of the elements of either theory, but dimensions selected for relevance to the case. We then turn to the methods used in data collection and analysis.

Table 1 Some characteristics of cognitive dissonance and cognitive polyphasia

	Cognitive dissonance	Cognitive polyphasia
Underpinning perspective	Individual experience subject to external influences	Individual experience as deeply social
Approach to dissonance	Individuals take measures to minimise dissonance arising from inconsistency	Multiple (polyphasic) representations are inescapable, reflecting social plurality and the polarities inherent in all ideas
Corresponding mechanisms	Individuals engage in denial; avoidance; changing behaviour, attitudes, beliefs etc.	Individuals move between qualitatively different forms of knowledge and rationalities, depending on social context and circumstance
Exemplar theory development	Dissonance arising from belief contradiction, as well as attitude-behaviour contradiction [49]	Representations as hegemonic, emancipatory and/or polemical [62]

3. Method

3.1. Case study, data collection and sample characteristics

The data examined here are from a large-scale questionnaire survey on public/stakeholder perceptions of and attitudes towards planned local near-shore wind farms in Denmark. More specifically, the data were collected during the 2015-16 Danish near-shore wind farm tender process headed by the Danish Energy Agency (DEA) in the period of time between the preliminary wind farm bids for tender and the final tender specifications [18]. Our sample frame was designed to target those local residents and second home owners potentially facing the near-shore wind farms; it targeted people and residents with property interests close to planned wind farm sites – arguably those with the most at stake. Thus, the randomised cross-sectional sample was evenly distributed in the vicinities of the five mainland near-shore wind farm sites selected for the DEA multisite wind farm tender and within relative proximity to the near-shore wind farm site-adjacent Danish coastline. The sample frame consisted of the Danish Building Registry (BBR) property information on properties within these selected geographical areas, and it was stratified in the sense that it targeted both the second home owners (SHOs) and the permanent area residents (PRs) who lived in and/or owned properties within these areas.

Survey respondents received postal invitation letters at their permanent residency addresses, and this contained within it personalised access information to the online survey platform. A total of 1983

respondents answered the survey. This final survey sample comprised 39% SHOs and 55% PRs, while 6% owned a permanent residency and a second home in the same municipality.[3] More details on – and discussions of – the case, the data collection method and sample demographics are available in [13,19,73].

The tender process was contested, controversial and characterised by active engagement and opposition from multiple stakeholder groups. However, empirical survey evidence shows that 56% of the permanent area residents, i.e. those people living permanently in the local areas potentially hosting the wind farms, *supported* the planned near-shore wind farms. Only 29% of the second home owners in those same local areas supported the wind farm plans [19].

In this paper, we focus on the qualitative data generated via the open-ended survey question/response opportunity: "*Feel free to elaborate on what you think about the possibility of near-shore wind farms in your local area*" (see Table 2). 880 respondents in total answered this survey question. As Table 2 illustrates, respondents with negative attitudes towards the planned near-shore wind farms provided open-ended comments at almost twice the rate as those with neutral or positive attitudes ((b) in Table 2). This means that the 880 responses are skewed towards negative attitudes to the planned near-shore wind farms, a tendency that is even more prevalent in the polyphasic comments ((c) in Table 2).[4]

Table 2. Attitudes towards the planned near-shore wind farms, split by response category.

	Negative	Neutral	Positive	Total*
a) Full sample	41%	16%	44%	100%
b) Respondents who answered qualitatively	69%	32%	37%	49%
c) Qualitative comments coded as cognitive polyphasic	62%	15%	23%	9%

Note: Table 2 shows respondent-indicated attitude towards the planned local near-shore wind farms, split by the attitude categories negative, neutral and positive. The Total * is the total percentage of the full dataset with the sample specifics a, b, and c respectively. For this purpose, the category "I do not know" is coded as missing. To clarify further: Table 2 shows the frequency of the attitude categories negative, neutral and positive, split by: (a) the full survey sample, (b) those respondents who answered the open-ended question offering an opportunity to elaborate on what they think about potential local near-shore wind farms, and finally (c) those respondents whose open-ended answers to this question were coded as polyphasic.

Many of the open-ended responses are long, elaborate and rich in detail and passion. Selecting from within the larger amount of data generated, our focus here is on the comments (or sections of comments) where respondents specifically express dilemmas or mixed feelings that relate to the planned local near-shore wind farms. A key reason for focusing on these dilemmas is that they reiterate the theme of public objection to renewable energy deployment as being far from simple and far from adequately characterised as NIMBYism [74]. While negative attitudes towards the planned RETs are often paired with reflections on their physical proximity, in general, proximity itself sheds little light on the psycho-social and/or governance factors involved [6].

3.2 Coding

The survey responses have all been through a rigorous process of content analysis [75]. With an inductive and exploratory coding approach [76], initially approximately 200 survey responses were coded and recoded multiple times while developing, re-iterating and selecting the final coding categories. The final codes are mostly descriptive, but also thematic. Many of the survey responses are complex and very long, and hence most responses cover multiple codes. For publishing purposes the survey responses have been translated from Danish to English, and this translation strives to capture the tone of language (and the grammar) of the original qualitative responses.

Of the original 880 responses to the open-ended survey question, the subgroup of responses that reflect some degree of cognitive polyphasia vis-à-vis the planned local near-shore wind farms comprises 75 comments (8.5% of the question responses).[3] These comments have been sub-coded into categories reflecting the most prevalent cognitive polyphasic themes[4]. The coding represents tendencies rather than mutually exclusive categories.

The polyphasic themes themselves were coded in MaxQDA qualitative data analysis software, with the codes chosen to reflect thematically the key, polyphasic features of each comment. Below we briefly show the presence of the overarching themes in the full dataset, to set the polyphasic themes in context; Figure 1 provides a count of thematic references. We then provide more detail the incidence of the four main polyphasic themes identified through the coding (see Figure 2) and discuss illustrative examples of the phenomenon.

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[3] This may be perceived as a rather small sample from within the survey. However, given: 1) that the more open-ended questions were not compulsory for completing the survey participation; and 2) the complexity of describing such mixed feelings or dilemmas in words, the prevalence of this theme within the context of a voluntary survey may also be seen as highly notable.

[4] Here only open-ended survey comments comprising clear cognitive polyphasic trends and tendencies have been coded as cognitive polyphasia. However, respondents who wrote comments categorized in the broad category "… I don't really favour wind farms here …" may well also experience some level of cognitive polyphasia. Cognitive polyphasia in the sense of multiple co-existing ways of thinking and knowing is theorised as highly prevalent and here we only discuss that which we can directly evidence.

Figure 1: Reflections on anticipated local wind farm impact among survey respondents
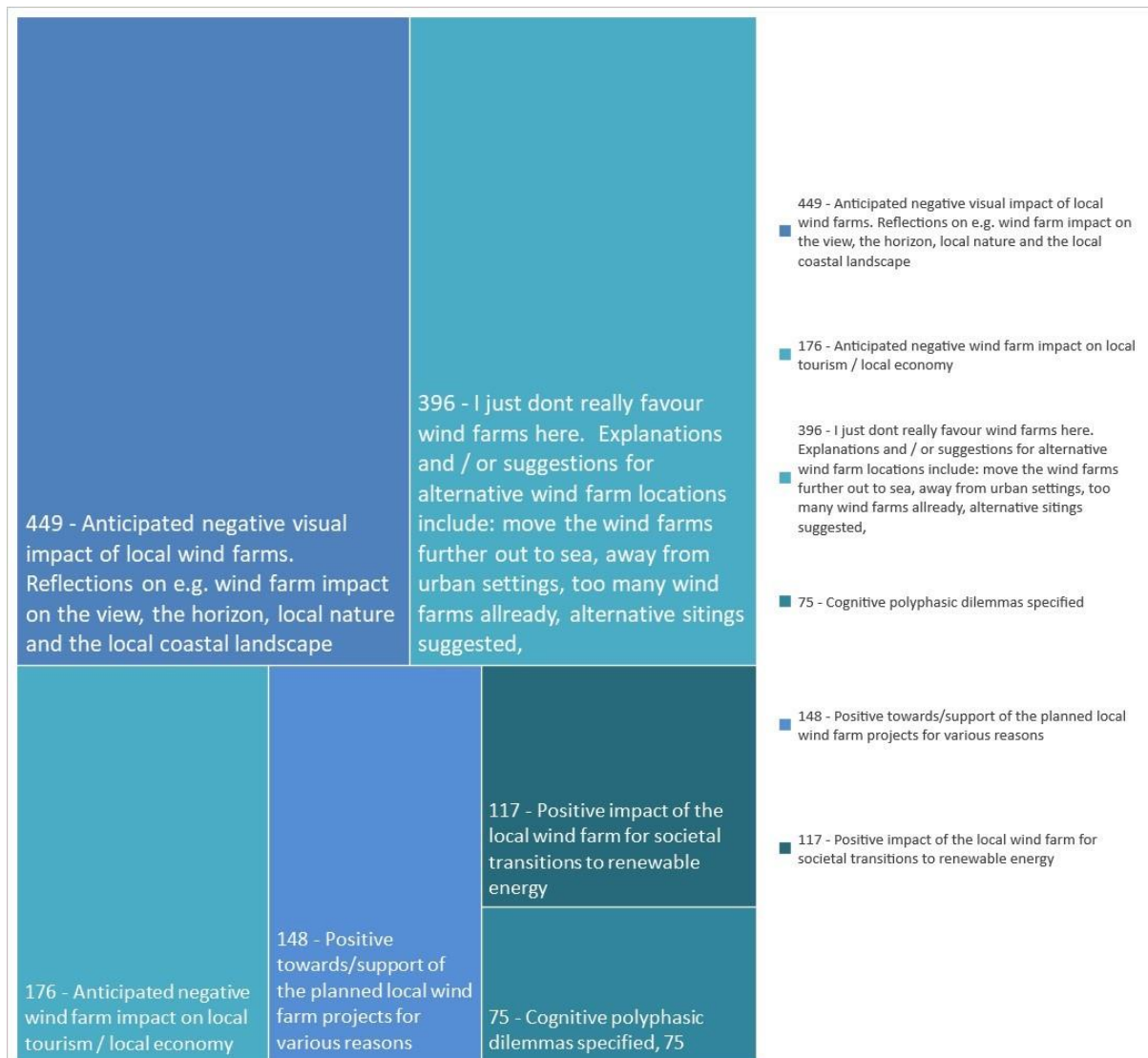

Figure 1 - note: This figure shows the aggregated results of the themes/topics that emerged in the qualitative survey data via the inductive content analysis. The numbers are counts of comments referring to the stated themes. As stated, comments may be coded as referring to more than one theme and were made by 880 people in a specific coastal area of Denmark.

4. Results

The polyphasic themes identified throughout the inductive content analysis were extracted from within the broader context of coding themes illustrated in Figure 1. The polyphasic themes identified are in general accordance with the wider prevailing themes of wind farm opposition and acceptance found within the dataset, but with the additional and explicit attribute of internal contradiction or conflict (see Figure 2).

The four main polyphasic themes identified here (Figure 2) each contain a degree of internal contradiction and are as follows: (1) *Positive about wind farms, but relocate them*. Here people state that they are in favour of wind farms, but they want them relocated, for example from near-shore to further offshore. (2) *Renewable energy a necessity: must accept location despite concerns*. Here people state that they are concerned about the local and often personal impact of the wind farms, but they are willing to accept this in return for the wider environmental benefits of the technologies. (3) *In principle positive about wind farms but in practice concerned or opposed*. Here people state that they are in favour of wind energy, but they are concerned about the local impacts of the local wind farms. (4) *Positive about renewable energy but negative about aesthetic loss*. Here people state that they are in favour of renewable energy, but that they are concerned about the loss of natural local beauty.

Figure 2: Polyphasic themes in Danish responses to proposed near-shore wind farms (*n*= 75)
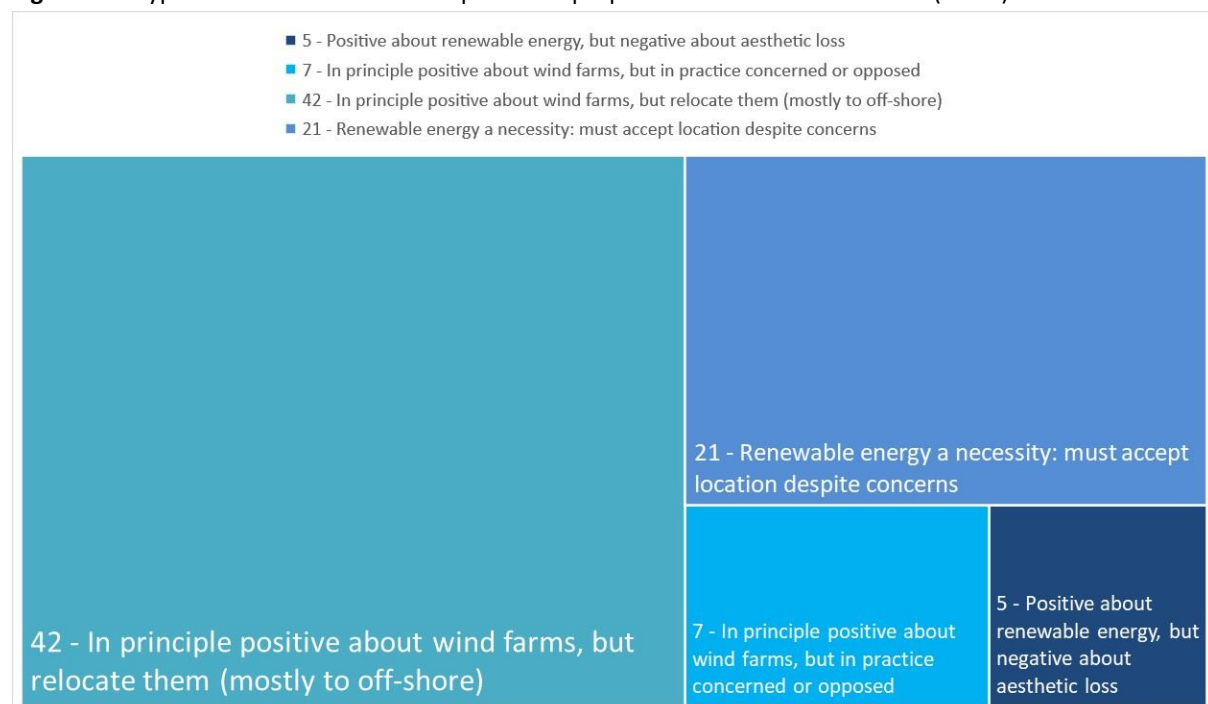
For those familiar with the literature of energy siting controversies, these themes will be somewhat familiar. Conflicting local-global values [77] and differing attitudes to RET in principle and in local practice [14] are well-known, recurrent findings. Below we provide quotations illustrative of the themes, with accompanying description. We follow this with further detail on the affective aspects of the polyphasic comments.

4.1.1 Positive about wind farms but relocate them

This set of comments reflects approval of the wind farms per se, but this positive perception of the wind farms is coupled with the explicit wish to relocate them. The first comment, for example, displays an uncomfortable level of dissonance.

> *I am very much at odds. Wind turbines are good. Just not right here in my view. Can't you build them a little further out?*

> *On the one hand, I think wind turbines are good, but would be sorry if they're right there in front of our little patch of beach. Watching the sunset would be different then.*

> *Know that in Denmark we should invest in wind energy, and I want to support that, but I am not particularly happy about the location. And hope with all my heart that the turbines aren't noisy.*

> *We come here to watch and enjoy the view and the open ocean, gaze across the endless horizons - and don't place any wind turbines there. Wind turbines "Yes please," but pay the price and place them further out to sea so they can't even be seen from land - or wait until new technology is cheaper.*

4.1.2 Renewable energy a necessity: must accept location despite concerns

This last category has moral overtones of necessity. The situation is viewed as one of conflicting personal values, moral, climate related knowledge - and the consequent rational conclusion that renewable energy technologies are necessary. In this respect the proposed near-shore wind farms may be understood as posing a personal moral dilemma [78] for some of the respondents. For example:

> *Everyone would rather that wind farms are not in our backyards. But the initiative is really good, and they have to be somewhere. It is a compromise, but it would be too narrow-minded to support renewable energy and not be willing to back som of the drawbacks that come with it.*

> *They have to be somewhere, and they will get over it all in the end. One has to show the way and the good will.*

> *I don´t think I live close enough to be directly affected by offshore wind turbines. Of course it would be something that I would notice on my walks, but then again we have to think about energy that is environmentally friendly.*

> *I don't like wind turbines so close to our house, but in the world and different times we are in now, we must also have to expect something negative to come to our place.*

> *You can't support saving CO_2 and then have the attitude that it just can't influence me, that it's done as long as those things don't harm you physically.*

> *I am pro wind energy and I thougt that the sea is suitable for wind farms. They are not pretty, but then you can't have your cake and eat it.[5]*

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[5] The original Danish phrase: "man kan jo ikke få i pose og sæk"

4.1.3 In principle positive about wind farms but in practice concerned or opposed

This group of comments refer to wind farms more specifically. They express concerns that do not relate primarily to asthetics, but also to other considerations of possible wind farm impacts. Again, they all contain internal contradictions.

Overall, I am postive towards wind power - but find it difficult to assess what impact it [the wind farm] will have on the local area and on the people whose homes are in the areas where the wind farms will be placed.

From the point of view that the wind turbines will contribute positively to the energy supplies I am positive, and I imagine that they [the wind farms] will be an asset for the island, but at the same time not fond of a view with offshore wind farms that I believe will have a negative impact on the value of my home.

4.1.4 Positive about renewable energy but negative about aesthetic loss

This theme is distinguished by: (a) the clash of emotional intuitions/reactions and rational reasoning.

I support green energy but quite annoyed that it spoils the most amazing sunset by the sea.

In my opinion we compromise natural values, but then it is positive to increase the use of renewable energy. Doubtful as to wether offshore wind farms are the right choice. I am thinking about the impact of salt water and the maintenance that comes with it.

The idea itself is positive, but very negative that it will ruin the experience of the open space by the coast and the landscape surrounding it.

I don't like the sight of the wind farms, but I do support the idea of wind energy.

Each of these respondent quotations express an internal contradiction. Here, this clash is between what may be described as emotional-aesthetic values, i.e. valuing the beauty of the landscape or seascape as it is, and the rational understanding that renewable energy technologies or "green energy" is beneficial for combating climate change.

4.2 Affective aspects of the representations

Some social representations theorists refer to the process of *emotional anchoring*, whereby new phenomena are anchored to strong emotions – something that communicative media often amplify [79] [80]. The comments in Table 2 illustrate how emotions, attitudes and knowledge are combined – or anchored - to each other. The comments are considered polyphasic in that these aspects (cognitive elements) are qualitatively different in nature, yet juxtaposed and freely combined. Thus Table 2 reflects the proposition that social representations are networks of ideas that may include emotions, imagery, attitudes and judgements, as well as knowledge derived from different belief systems [50]. This perspective differs from that of variable-based psychology, which decomposes this integrated whole into its component parts (such as attitudes) and then looks for consistent patterns among those parts.

In Table 2, the bullet points indicate the relevance of different cognitive elements for each illustrative quotation. In the first quotation in Table 2, the respondent describes their reaction to the professional visualisations of the nearshore turbines and their preference for siting the turbines further offshore

(many of the qualitative comments of other respondents also express this preference). The reaction combines knowledge, aesthetic concern and a pro-wind attitude. The second quotation in Table 2 adds explicit concern about aesthetic and ecological loss. Indeed the two quotations make it clear that the representations of near-shore and offshore wind are anchored to different ideas of consequence and hence different emotions. The third quotation in Table 2 is not explicitly emotionally anchored, but rather emphasizes scientific knowledge and thinking. The final quotation expresses a feeling of shame for being concerned about aesthetic loss, arguably implying that the individual has a conflicted representation of themselves, as a pro-environmental citizen but also with 'selfish' concerns. This in part echoes the theme of guilt that others have identified as prominent in news media reporting of environmental issues [81]

Table 2 Emotionally anchore polyphasic representations

Illustrative Quotation	Scientific knowledge	Loss	Aesthetic concern	Ecological concern	Shame	Fear	Pro- offshore wind attitude
1. The advantage of offshore wind turbines is that they are often located so far out that they do not bother anyone, neither visually nor in terms of noise. I am very pro wind energy, but I think that the provided visualisations are frightening.	●		●			●	●
2. I am generally in favour of wind turbines, but they must be located at sea and not be close to the coast anywhere in Denmark. And consequently, not in my local area either, as it will be a disruptive element in every way for both humans and animals. The tranquillity, beauty and view will also be lost and it will no longer be the place I want to be.		●	●	●			●
3. I am very PRO wind turbines, especially offshore wind turbines. Coastal wind turbines in the local area here, has not been properly clarified yet, in regard to the extent of damage to especially birds that breed here. As far as I understand it, this also applies to the population of porpoises that live here.	●			●			●
4. I'm sorry that it's going to disfigure the countryside and my views which I enjoy. At the same time I am ashamed about feeling this way.		●	●		●		

5. Discussion

What does the theory of cognitive polyphasia offer in this context? It is already clear in the RET siting controversy literature that there is often a marked difference between support for renewables in principle and support for specific, local developments; that local opinion tends to be shaped or informed by local conditions; that there may be more support for RET siting in already-developed areas, rather than undeveloped areas; that imposition of a development without genuine consideration of alternative siting options is likely to engender resistance; and that, overall, the NIMBY moniker is of little explanatory value, ignoring frequent perceptions of an inequitable distribution of impacts [6]. It is also clear that there is a distinction between public acceptance and support [36] and that emotional responses are an important (if perhaps under-researched) aspect of this context [82]. Yet, valuable as this understanding is, there is more to say about the psychology of the publics involved, most notably, regarding the variety of views that a particular individual may have on a given RET proposal. Just as it is over-simplistic to regard RET objection as selfish [6], so is it also over-simplistic to assume that individuals have simple, mono-dimensional views on RET developments – that is, views of unqualified support, acceptance or opposition [83].

This issue may also be framed in terms of a general understanding of the need for trade-offs (choices between at least partly mutually exclusive options) in most spheres of life. While people generally fail to deal with these adequately in strictly logical terms under experimental conditions, they nonetheless navigate lives full of such trade-offs, without paralysis, deploying a variety of discursive and cognitive strategies that minimize perception of inconsistency [84]. The theory of cognitive polyphasia similarly recognizes the normality of the experience of degrees of contradiction, dilemmas and mixed feelings. Both perspectives, however, complicate the task of political communication in pluralist societies, where simplified messaging that denies the ubiquity of trade-offs is often less attractive than the converse [84].

The way in which polyphasic representations are amenable to categorization or typology in terms of a wide variety dimensions is inherently flexible on both a case-specific and cross-case basis. That is, the concept lends itself to widespread application in RET and other contexts. Other categorizations may incorporate other themes and topics relevant to RES siting controversies: for example, some of the themes and topics captured in the full content analysis (see Figure 1), or other themes and topics known to preoccupy members of local populations facing RET development projects [11]. These may include different emotions (e.g. guilt, shame, anger, fear, hope), different types of values (e.g. aesthetic, amenity, biodiversity, financial etc.); value poles relating to sociality, or individuality [85] and different ideas of what justice constitutes [86]. All of these themes may be referred to or packaged via different argument bases (e.g. emotional, moral, financial etc.). In other words, cognitive polyphasia is a framework-type of concept that is inherently flexible, a flexibility that partly follows from its ontology of individual psychology as both social and fluid, as well as its rather general theory of ideation (social representations theory [40]).

The theory of cognitive polyphasia allows not only for competing representations between and within individuals, but also allows for the possibility of cognitive *monophasia*. In the latter case, social individuals rely exclusively on one type of knowledge or unequivocally and strongly hold one point of view, and thus do not feel split between alternative accounts [87]. Monophasia is likely to apply in cases of strongly held moral values. In an RES context, a typical example would be the prioritisation of the current aesthetic value and state of e.g. a coastal region and the local coastal landscape (as in this

case) *without* any significant climate or energy related concerns. From our data, we have specifically selected polyphasic representations related to a specific near-shore wind farm project, and consequently the polyphasic representations identified mirror that specific case and context. In other particular contexts, the bodies of knowledge that people rely on may relate more to another specific field of science, religion, emotion or logic.

6. Conclusion

Faced with the prospect of renewable energy (or other) infrastructure projects in valued local environments, publics may readily resist associated changes and may do so for a variety of reasons [11,88]. Indeed opposition tends to capture much of the attention in wider RET-related debates [13]. Perhaps surprisingly, research of the present case found that the majority of those people living permanently in the local areas close to the selected near-shore wind farm sites *supported* the planned RET projects [19]. Yet drawing upon the same survey, the qualitative data illustrate that even people (perhaps tacitly) supportive of the projects can be at the same time split internally, with some also experiencing mixed feelings of emotional resistance.

The theory of cognitive polyphasia is based in the theory of social representations [89] and provides a way of explaining and characterising internal contradictions and embodied feelings of moral and other dilemmas: here, how individuals may be supportive of RETs in principle but may object to specific RET developments. While there is a general debate among psychologists as to whether people seek cognitive consistency and experience dissonance when this is challenged [72], cognitive polyphasia is at one end of this debate and emphatically does not assume that an uncomfortable degree of dissonance will necessarily arise when people are faced with contradiction or inner conflict.

Overall, the cognitive polyphasia literature helps to characterise the inner conflicts documented. It does so by complementing individualistic forms of cognitive psychology, viewing individual attitudes and broader perceptions of specific phenomena as firmly embedded in multiple social contexts. The social context is understood as all societal and social influences on individuals. In the case of RET planning and development, such influences may include exposure to dominant societal ideas about the aesthetics and values of nature versus technologies on the one hand, and values and rationales associated with renewable energy technologies and climate mitigation measures on the other hand. As such, the idea of cognitive polyphasia applied in contexts of RET controversies lends itself to discursive and nuanced accounts of objection and acceptance. This approach does not implicitly seek to uncover universal, individual-level psychological principles relating to public or social acceptance and objection, but starts with the premise that objection is – more or less indirectly – socially conditioned by the ideas that people are exposed to. Cognitive polyphasia thus adds to the environmental social science 'armoury' of concepts, drawing attention to the conditionality of our knowledge.

Finally, on a methodological note, the survey data that we present here have illustrated and highlighted the presence of polyphasic tendencies and moral dilemmas via open-ended survey questions designed to enable respondents to reflect freely upon their experiences and feelings associated with potential local RET related change. However, cognitive polyphasia comprises a much more complex conception of human cognition than can be adequately captured in any experimental methods or survey questions. While in-depth, qualitative studies are needed to capture the rich, intricate empirical details and dynamics of such psychosocial phenomena, we hope here to have

strengthened the developing empirical base of an aspect of social representations theory that merits further application in the context of public responses to energy technology deployment.

References

[1] Eurobarometer, The views of Europeans on the European Union's priorities. Standard Eurobarometer 89 Spring 2018, Brussels, 2018. http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/ResultDoc/download/DocumentKy/83551.

[2] B.K. Sovacool, ENERGY AND ETHICS. Justice and the Global Energy Challenge, palgrave macmillan, New York, 2013.

[3] D. Venables, N. Pidgeon, P. Simmons, K. Henwood, K. Parkhill, Living with nuclear power: A q-method study of local community perceptions, Risk Anal. 29 (2009) 1089–1104. https://doi.org/10.1111/j.1539-6924.2009.01259.x.

[4] M. Wolsink, Planning of renewables schemes: Deliberative and fair decision-making on landscape issues instead of reproachful accusations of non-cooperation, Energy Policy. 35 (2007) 2692–2704. https://doi.org/10.1016/j.enpol.2006.12.002.

[5] M. Aitken, Why we still don't understand the social aspects of wind power: A critique of key assumptions within the literature, Energy Policy. 38 (2010) 1834–1841. https://doi.org/10.1016/j.enpol.2009.11.060.

[6] M. Wolsink, Wind power implementation: The nature of public attitudes: Equity and fairness instead of "backyard motives," Renew. Sustain. Energy Rev. 11 (2007) 1188–1207. https://doi.org/10.1016/j.rser.2005.10.005.

[7] P. Upham, S. Shackley, The case of a proposed 21.5 MWe biomass gasifier in Winkleigh, Devon: Implications for governance of renewable energy planning, Energy Policy. 34 (2006) 2161–2172. https://doi.org/10.1016/j.enpol.2005.04.001.

[8] N. Cass, G. Walker, P. Devine-Wright, Good neighbours, public relations and bribes: The politics and perceptions of community benefit provision in renewable energy development in the UK, J. Environ. Policy Plan. 12 (2010) 255–275. https://doi.org/10.1080/1523908x.2010.509558.

[9] P. Devine-Wright, Beyond NIMBYism: towards an integrated framework for understanding public perceptions of wind energy, Wind Energy. 8 (2009) 125–139. https://doi.org/10.1002/casp.1004.

[10] M. Pasqualetti, Opposing Wind Energy Landscapes: A Search for Common Cause, Ann. Assoc. Am. Geogr. 101 (2011) 907–917. https://doi.org/10.1080/00045608.2011.568879.

[11] G. Ellis, G. Ferraro, The social acceptance of wind energy: Where we stand and the path ahead, Belfast, 2017. https://doi.org/10.2789/696070.

[12] C. Zografos, J. Martínez-Alier, The Politics of Landscape Value: A Case Study of Wind Farm Conflict in Rural Catalonia, Environ. Plan. A Econ. Sp. 41 (2009) 1726–1744. https://doi.org/10.1068/a41208.

[13] K. Johansen, P. Upham, The post-normal politics and science of wind power planning: Evidence from a Danish near-shore wind farm tender, Energy Res. Soc. Sci. 53 (2019) 182–193. https://doi.org/10.1016/j.erss.2019.02.007.

[14] D. Bell, T. Gray, C. Haggett, The "social gap" in wind farm siting decisions: Explanations and policy responses, Env. Polit. 14 (2005) 460–477. http://www.informaworld.com/10.1080/09644010500175833.

[15] D. Bell, T. Gray, C. Haggett, J. Swaffield, Re-visiting the 'social gap': public opinion and

relations of power in the local politics of wind energy, Env. Polit. 22 (2013) 115–135. https://doi.org/10.1080/09644016.2013.755793.

[16]   F. Hvelplund, P.A. Østergaard, N.I. Meyer, Incentives and barriers for wind power expansion and system integration in Denmark, Energy Policy. 107 (2017) 573–584. https://doi.org/10.1016/j.enpol.2017.05.009.

[17]   A.-M. Skaanning, Lilleholt: Mine børnebørn skal ikke se på kystnære havmøller, Dagbladet Ringkøbing Skjern. (2016).

[18]   Danish Energy Agency, Nyhedsarkiv om kystnære havvindmølleudbud, News Arch. (2017). https://ens.dk/ansvarsomraader/vindenergi/udbud-paa-havvindmoelleomraadet/nyhedsarkiv-om-kystnaere.

[19]   K. Johansen, Local support for renewable energy technologies? Attitudes towards local near-shore wind farms among second home owners and permanent area residents on the Danish coast, Energy Policy. 132 (2019) 691–701. https://doi.org/10.1016/j.enpol.2019.04.027.

[20]   D.M. Hall, E.D. Lazarus, Deep waters: Lessons from community meetings about offshore wind resource development in the U.S., Mar. Policy. 57 (2015) 9–17. https://doi.org/https://doi.org/10.1016/j.marpol.2015.03.004.

[21]   J. Ladenburg, Attitudes towards offshore wind farms — The role of beach visits on attitude and demographic and attitude relations, Energy Policy. 38 (2010) 1297–1304. https://doi.org/10.1016/j.enpol.2009.11.005.

[22]   J. Ladenburg, A. Dubgaard, L. Martinsen, J. Tranberg, Economic valuation of the visual externalities of off-shore wind farms, (2005) 185. http://www.foi.life.ku.dk/English/Publications/FOI.

[23]   J. Ladenburg, S. Lutzeyer, The economics of visual disamenity reductions of offshore wind farms - Review and suggestions from an emerging field, Renew. Sustain. Energy Rev. 16 (2012) 6793–6802. https://doi.org/10.1016/j.rser.2012.08.017.

[24]   A.D. Krueger, G. Parsons R., J. Firestone, Valuing the visual Disamenity of Offshore Wind Power Projects at Varying Distances from the Shore: An Application on the Delaware Shoreline, Land Econ. 87 (2011) 268–283. file:///C:/Users/kajoha/AppData/Local/Mendeley.

[25]   P. Devine-Wright, B. Wiersma, Understanding community acceptance of a potential offshore wind energy project in different locations: An island-based analysis of 'place-technology fit,' Energy Policy. (2019) 111086. https://doi.org/https://doi.org/10.1016/j.enpol.2019.111086.

[26]   B. Wiersma, P. Devine-Wright, Public engagement with offshore renewable energy: A critical review, Wiley Interdiscip. Rev. Clim. Chang. 5 (2014) 493–507. https://doi.org/10.1002/wcc.282.

[27]   J. Firestone, W. Kempton, Public opinion about large offshore wind power: Underlying factors, Energy Policy. 35 (2007) 1584–1598. https://doi.org/10.1016/j.enpol.2006.04.010.

[28]   C. Page, R. Hall, Public Acceptance of Offshore Wind Power across Regions and through Time Firestone , J ., Kempton , W ., Lilley , M . B ., and Samoteskul , K ., 4665 (n.d.) 1–43. file:///C:/Users/kajoha/AppData/Local/Mendeley.

[29]   J. Firestone, D. Bidwell, M. Gardner, L. Knapp, Wind in the sails or choppy seas?: People-place relations, aesthetics and public support for the United States' first offshore wind project, Energy Res. Soc. Sci. 40 (2018) 232–243. https://doi.org/https://doi.org/10.1016/j.erss.2018.02.017.

[30]   S. Batel, P. Devine-Wright, Towards a better understanding of people's responses to renewable energy technologies: Insights from Social Representations Theory, Public Underst. Sci. 24 (2014) 1–15. https://doi.org/10.1177/0963662513514165.

[31]   S. Jovchelovitch, J. Priego-HernÁndez, Cognitive polyphasia, knowledge encounters and public spheres, in: Cambridge Handb. Soc. Represent., 2015. https://doi.org/10.1017/CBO9781107323650.014.

[32]   P. Upham, C. Oltra, À. Boso, Towards a cross-paradigmatic framework of the social acceptance of energy systems, Energy Res. Soc. Sci. 8 (2015) 100–112. https://doi.org/10.1016/j.erss.2015.05.003.

[33]   L. Festinger, A theory of cognitive dissonance, Stanford University Press, Stanford, CA, 1957.

[34]   P. Castro, S. Batel, Social Representation, Change and Resistance: On the Difficulties of Generalizing New Norms, Cult. Psychol. 14 (2008) 475–497. https://doi.org/10.1177/1354067X08096512.

[35]   A. de-Graft Aikins, Familiarising the unfamiliar: cognitive polyphasia, emotions and the creation of social representations, Pap. Soc. Represent. (2012).

[36]   S. Batel, P. Devine-Wright, T. Tangeland, Social acceptance of low carbon energy and associated infrastructures: A critical discussion, Energy Policy. 58 (2013) 1–5. https://doi.org/10.1016/j.enpol.2013.03.018.

[37]   S. Batel, P. Devine-Wright, Towards a better understanding of people's responses to renewable energy technologies: Insights from Social Representations Theory, Public Underst. Sci. 24 (2015) 311–325. https://doi.org/10.1177/0963662513514165.

[38]   S. Batel, A critical discussion of research on the social acceptance of renewable energy generation and associated infrastructures and an agenda for the future, J. Environ. Policy Plan. 20 (2018). https://doi.org/10.1080/1523908X.2017.1417120.

[39]   P. Castro, Applying social psychology to the study of environmental concern and environmental worldviews: Contributions from the social representations approach, J. Community Appl. Soc. Psychol. 16 (2006) 247–266.

[40]   S. Moscovici, Notes towards a description of social representations, Eur. J. Soc. Psychol. 18 (1988) 211–250.

[41]   S. Jovchelovitch, Re-thinking the diversity of knowledge: cognitive polyphasia, belief and representation, Psychol. Société. 5 (2002) 121–138.

[42]   B. Höijer, Social representations theory: A new theory for media research, Nord. Rev. (2011).

[43]   J.D. Greenwood, The Social in Social Psychology, Soc. Personal. Psychol. Compass. 8 (2014) 303–313. https://doi.org/10.1111/spc3.12113.

[44]   C. Provencher, Cognitive polyphasia in the MMR controversy: A theoretical and empirical investigation, (2007).

[45]   D. Friling, "Having It All": Cognitive Polyphasia as Preserving a Complex Reality: The Israeli Case, Pap. Soc. Represent. 21 (2012) 1–2.

[46]   E. Panagiotou, I. Kadianaki, From cognitive dissonance to cognitive Polyphasia: A sociocultural approach to understanding meat-paradox, J. Theory Soc. Behav. (2019). https://doi.org/10.1111/jtsb.12201.

[47] S. Walter, M. Brüggemann, S. Engesser, Echo Chambers of Denial: Explaining User Comments on Climate Change, Environ. Commun. 12 (2018) 204–217. https://doi.org/10.1080/17524032.2017.1394893.

[48] E. Juvan, S. Dolnicar, The attitude–behaviour gap in sustainable tourism, Ann. Tour. Res. 48 (2014) 76–95. https://econpapers.repec.org/RePEc:eee:anture:v:48:y:2014:i:c:p:76-95.

[49] B. Gawronski, S.M. Brannon, What is cognitive consistency and why does it matter, in: E. Harmon-Jones (Ed.), Cogn. Dissonance Prog. a Pivotal Theory Soc. Psychol., 2nd ed., American Psychological Association, Washington, DC, 2019: pp. 1–16.

[50] S. Moscovici, Social Representations, Polity Press, Cambridge, 2000.

[51] A. Gillespie, Social representations, alternative representations and semantic barriers, J. Theory Soc. Behav. 38 (2008) 375–391. https://doi.org/10.1111/j.1468-5914.2008.00376.x.

[52] S. Jovchelovitch, Knowledge in context: Representations, community and culture, Routledge, 2007.

[53] I. Marková, Dialogicality and social representations: The dynamics of mind., Dialogicality Soc. Represent. Dyn. Mind. (2003) xviii, 224–xviii, 224.

[54] S. Jovchelovitch, The Rehabilitation of Common Sense: Social Representations, Science and Cognitive Polyphasia, J. Theory Soc. Behav. (2008).

[55] M. Billig, Rhetorical and historical aspects of attitudes: The case of the British monarchy, Philos. Psychol. 1 (1988) 83–103. https://doi.org/10.1080/09515088808572927.

[56] A.J. Bahns, C.S. Crandall, O. Gillath, K.J. Preacher, Similarity in relationships as niche construction: Choice, stability, and influence within dyads in a free choice environment., J. Pers. Soc. Psychol. 112 (2017) 329.

[57] E. Jensen, B. Wagoner, Continuing Commentary: A Cyclical Model of Social Change, Cult. Psychol. 15 (2009) 217–228. https://doi.org/10.1177/1354067X08099624.

[58] K. Johansen, P. Upham, The post-normal politics and science of wind power planning: Evidence from a Danish near-shore wind farm tender, Energy Res. Soc. Sci. 53 (2019) 182–193. https://doi.org/https://doi.org/10.1016/j.erss.2019.02.007.

[59] D. Government, Agreement about Danish Energy policy 2012-2020. Aftale mellem regeringen (Socialdemokraterne, Det Radikale Venstre, Socialistisk Folkeparti) og Venstre, Dansk Folkeparti, Enhedslisten og Det Konservative Folkeparti om den danske energipolitik 2012-2020, (2012) 1–16. http://www.ens.dk/sites/ens.dk/files/politik/dansk-klima-energipolitik/politiske-aftaler-paa-energiomraadet/energiaftalen-22-marts-2012/Aftale_22-03-2012_FINAL_ren.doc.pdf.

[60] I. Farsari, A structural approach to social representations of destination collaboration in Idre, Sweden, Ann. Tour. Res. 71 (2018) 1–12. https://doi.org/https://doi.org/10.1016/j.annals.2018.02.006.

[61] G. Baumann, Collective representations, discourses of power, and personal agency: three incommensurate histories of a collaborator's rebellion in the colonial Sudan, Etnogr. e Ric. Qual. (2012) 393–422.

[62] S. Ben-Asher, Hegemonic, emancipated and polemic social representations: Parental dialogue regarding Israeli naval commandos training in polluted water, Pap. Soc. Represent. 12 (2003) 1–6.

[63]   F. Weber, C. Jenal, A. Rossmeier, O. Kühne, Conflicts around Germany's Energiewende: Discourse patterns of citizens' initiatives, Quaest. Geogr. 36 (2017) 117–130. https://doi.org/https://doi.org/10.1515/quageo-2017-0040.

[64]   C.J.P. Quenza, On the Structural Approach to Social Representations, Theory Psychol. 15 (2005) 77–100. https://doi.org/10.1177/0959354305049746.

[65]   S.K. Olson-Hazboun, "Why are we being punished and they are being rewarded?" views on renewable energy in fossil fuels-based communities of the U.S. west, Extr. Ind. Soc. 5 (2018) 366–374. https://doi.org/https://doi.org/10.1016/j.exis.2018.05.001.

[66]   I. Markova, P. Wilkie, Representations, concepts and social change: The phenomenon of AIDS, J. Theory Soc. Behav. 17 (1987).

[67]   N. Kalampalikis, V. Haas, More than a Theory: A New Map of Social Thought, J. Theory Soc. Behav. 38 (2008) 449–459. https://doi.org/10.1111/j.1468-5914.2008.00381.x.

[68]   A.M.A.D.-G. Aikins, Familiarising the Unfamiliar: Cognitive Polyphasia, Emotions and the Creation of Social Representations., Pap. Soc. Represent. (2012).

[69]   E. Park, M. Sklad, Global Citizenship and The Notion of Moral Emotions: Cognitive Polyphasia in Processes of Self-Other Constructions, J. Soc. Sci. Res. (2019). https://doi.org/10.24297/jssr.v8i1.3611.

[70]   J. Haidt, The emotional dog and its rational tail: a social intuitionist approach to moral judgment., Psychol. Rev. 108 (2001) 814.

[71]   D.A. Pizarro, P. Bloom, The intelligence of the moral intuitions: A comment on Haidt (2001)., (2003).

[72]   D. Simon, S.J. Read, Neither Cognitive Nor Consistency: A Comment on "Cognitive Consistency Theory in Social Psychology: A Paradigm Reconsidered," Psychol. Inq. 29 (2018) 97–108. https://doi.org/10.1080/1047840X.2018.1480683.

[73]   K. Johansen, J. Emborg, Wind farm acceptance for sale? Evidence from the Danish wind farm co-ownership scheme, Energy Policy. 117 (2018) 413–422. https://doi.org/10.1016/j.enpol.2018.01.038.

[74]   P. Devine-Wright, Rethinking NIMBYism: The Role of Place Attachment and Place Identity in Explaning Place-protective Action, J. Community Appl. Soc. Psychol. 19 (2009) 426–441. https://doi.org/10.1002/casp.

[75]   A. Bryman, E. Bell, Business Research Methods, Third edit, Oxford University Press, Oxford, 2011.

[76]   J. Saldana, The coding manual for qualitative researchers, 2016.

[77]   P. Devine-Wright, S. Batel, My neighbourhood, my country or my planet? The influence of multiple place attachments and climate change concern on social acceptance of energy infrastructure, Glob. Environ. Chang. 47 (2017) 110–120. https://doi.org/10.1016/j.gloenvcha.2017.08.003.

[78]   J.D. Greene, L.E. Nystrom, A.D. Engell, J.M. Darley, J.D. Cohen, The Neural Bases of Cognitive Conflict and Control in Moral Judgment, Neuron. 44 (2004) 389–400. https://doi.org/https://doi.org/10.1016/j.neuron.2004.09.027.

[79]   H. Joffe, Social Representations and Health Psychology, Soc. Sci. Inf. 41 (2002) 559–580. https://doi.org/10.1177/0539018402041004004.

[80] B. Höijer, Social Representations Theory, Nord. Rev. 32 (2011) 3–16. file:///C:/Users/Upham-Admin/Dropbox/Master Thesis_Lisa Eberhardt/Citavi Attachments/Social Representations Theory A New Theory for Media Research.pdf T4 - A New Theory for Media Research M4 - Citavi.

[81] B. Höijer, Emotional anchoring and objectification in the media reporting on climate change, Public Underst. Sci. 19 (2010) 717–731. https://doi.org/10.1177/0963662509348863 PM - 21560545 M4 - Citavi.

[82] H.B. Truelove, Energy source perceptions and policy support: Image associations, emotional evaluations, and cognitive beliefs, Energy Policy. 45 (2012) 478–489. https://doi.org/https://doi.org/10.1016/j.enpol.2012.02.059.

[83] D. Bell, T. Gray, C. Haggett, J. Swaffield, Re-visiting the 'social gap'': public opinion and relations of power in the local politics of wind energy,' Env. Polit. 22 (2013) 115–135. https://doi.org/10.1080/09644016.2013.755793.

[84] P.E. Tetlock, Coping with Trade-Offs: Psychological Constraints and Political Implications, in: A. Lupia, M.D. McCubbins, S.L. Popkin (Eds.), Elem. Reason Cogn. Choice, Bounds Ration., Cambridge University Press, Cambridge, 2000: pp. 239–263. https://doi.org/DOI: 10.1017/CBO9780511805813.011.

[85] S.H. Schwartz, Normative Influences on Altruism, in: L. Berkowitz (Ed.), Adv. Exp. Soc. Psychol., Volume 10, Academic Press, 1977: pp. 221–279. file:///C:/Users/kajoha/AppData/Local/Mendeley.

[86] G.R. Laczniak, P.E. Murphy, Distributive Justice: Pressing Questions, Emerging Directions, and the Promise of Rawlsian Analysis, J. Macromarketing. 28 (2008) 5–11. https://doi.org/10.1177/0276146707312214.

[87] C. Provencher, Towards A Better Understanding of Cognitive Polyphasia, J. Theory Soc. Behav. 41 (2011) 377–395. https://doi.org/10.1111/j.1468-5914.2011.00468.x.

[88] P. Upham, K. Johansen, P.M. Bögel, S. Axon, J. Garard, S. Carney, Harnessing place attachment for local climate mitigation? Hypothesising connections between broadening representations of place and readiness for change, Local Environ. (2018) 1–8. https://doi.org/10.1080/13549839.2018.1488824.

[89] S. Moscovici, Social representations: Explorations in social psychology, Polity Press, London, 2000.

[90] Danish Energy Agency, Om udbud af de kystnære havvindmølleparker i Danmark, Baggrund Om Kystnære Havvindmøller. (2017).

[91] Danish Energy Agency, 450 MW kystnære havmøller. Nyt dansk udbud, Copenhagen, 2013. https://doi.org/ISBN 978-87-93071-26-1.