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## Perspective

## Beyond energy justice: Ethics of care as a new approach in the energy system

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## ABSTRACT

Social science research has raised questions of energy justice, including issues pertaining to affordable energy, the right to be involved in decisions and the negative impacts of energy production. However, the justice perspective involves problems in balancing human needs and planetary boundaries, including understanding human needs as sociotechnical constructions. From a feminist perspective, the ethics of care was proposed decades ago and has since then been reformulated and expanded from primarily including the care for humans to also include care for nature, other species, and even technologies. Unlike the concept of justice, ethics of care are context-based and relational. This paper will compare and discuss the ethics of care versus justice in relation to a future energy system that is expected to be renewable and built on smart technologies to control and align energy production and consumption.

## 1. Introduction

The future energy system will be renewable and include fluctuating energy production from wind and sun. At the same time, consumption of energy will continue to follow societal rhythms. When balancing production and consumption, there is a widespread belief in policy and industry that smart technology and flexible pricing will play a major role in demand shifts [1,2]. However, flexible pricing and smart technology have been shown to impact energy justice, especially related to affordable energy [3].

Energy justice was first formulated in 2010, building on ideas from the US civil rights movement, [4] and therefore with strong focus on anti-discrimination. Energy justice is generally regarded as being reliant on three pillars; distributional, procedural and recognition justice [5–7]. Distributional justice addresses the distribution of costs and benefits of energy production and consumption between various groups in society. Procedural justice addresses how decisions should be made and whether these processes are fair, whereas recognition justice considers who is included and what their special needs may be. These ideas have also been formulated into a tool for energy professionals [7]. This reformulation is inspired by classical ethical thinking including both utilitarian and virtue ethics. Utilitarian ethics argues that the most ethical actions are those that result in the greatest amount of good for the greatest number of people. In contrast, virtue ethic, argues that every act should be judged on its own virtue. Based on such classical ethical

understandings, Sovacool and Dworkin warn against seeing good and bad in relation to specific cultural contexts, even though they admit these are culturally dependent. Furthermore, Sovacool and Dworkin, speak in favour of a universal ethics, or justice, for all humans and argue that responsibility for safeguarding these rests at the national level [7].

However, ideas of energy justice includes potential internal controversies in that it argues for an intra- and intergenerational perspective of leaving the world habitable for both present and future generations, while arguing that everyone is entitled to the energy they need [8]. The question of what energy is needed has been discussed by using a deliberative process, where citizens are invited to define basic necessities [9]. Based on such a minimum standard living in a UK context, it has been shown that even if all UK residents were living on a minimum budget, their CO<sub>2</sub> emissions would still exceed planetary limits [10]. Consequently, from a planetary point of view, the needs among even the poorest in the western part of the world must be questioned. An issue which has thus far not been part of the energy justice agenda.

Thus, energy justice is based on human rights to energy, and argues that the authorities and organisations are responsible for delivering this. On the other hand, the ethics of care challenge this individualist approach and instead address the interdependencies and caring responsibilities of organisations, authorities *and* consumers [11]. Ethics of care was developed by feminist philosophers [12,13] as an alternative to the abstract and rational approach to the object and subject of ethical concern, which was seen in both utilitarian and virtue ethics. In its

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original approach, this ethics of care was about humans caring for humans, although later scholars have examined how technology takes part in the caring processes [14] and how nature in its broadest sense can be included in caring ethics [15].

Based on this introduction, the following research question is raised: In comparison with energy justice, what new can an ethics of care contribute to the development of a future renewable energy system? To answer this question, the paper first provides a review of literature linking the ethics of care to energy and the environment. The paper then explores how nature and non-human beings can be included in ethics. Finally, the discussion brings various perspectives together to discuss the advantages and disadvantages of applying ethics of care to the energy system.

## 2. Ethics of care as an alternative approach within energy and environment

Ethics of care was first developed by Gilligan [12] to give women a voice in ethics, and was later further developed by other feminists. Care can be seen as a

“...species activity that includes everything that we do to maintain, continue, and repair our ‘world’ so that we can live in it as well as possible. That world includes our bodies, ourselves, and our environment, all of which we seek to interweave in a complex, life-sustaining web” (original in Ficher and Tronto 1990, here from [13]).

This is a very broad definition of care, which can include almost everything, but that can also work in more specific, narrower contexts. Tronto and Ficher developed a framework with different phases, including noticing the need for care, meeting these needs, doing the actual caregiving, and following how the care is received. Later, Tronto added a fifth phase that is “caring with”, describing how, in democratic societies, caring is also a collective responsibility. Tronto also added different ethical qualities related to each of the five phases [13]. Table 1 presents these phases and qualities. The first column represents the ideas of Tronto, whereas the second column contains examples of my own to show how this could relate to caring in the energy system, developed from the literature bringing ethics of care into the dialogue with questions of energy and environment.

Studies that bring care ethics into energy and the environment indicate that the language people use when talking about energy

systems, including their situations and needs in relation to energy, is a language of relations and dependencies that correlates well with the ethics of care [11,16]. More generally, it has been underlined how consumption can be seen as an act of care [17] and that domestic consumption specifically is strongly related to caring [18]. Bringing care and consumption in relation to each other also implies that the market place for consumption and therefore also for care is relevant [18], and care can be placed at the intersection of consumption and production [17].

Looking at sustainable consumption and markets, neoliberal approaches have been criticised for assigning all the responsibility on consumers, whereas energy justice has been criticised for its failure to theorise on consumers’ responsibility [11]. Proposing a third path may therefore be fruitful. Therefore, Tronto’s “caring with” concept (see Table 1) is suggested, as it can be used to include the production system and its relation to everyday and domestic care [18]. The ethics of care explain connections, mutual obligations and relations of trust, and concern for inclusion, and not only something performed within the walls of the home. The ethics of care have rather been developed at care institutions and within the institutions and politics of welfare society [19]. It may therefore also be relevant to link the ethics of care to the provision aspects in the energy system. The modes of care include both community and market modes [20].

In making the link between care and consumption, it is important to include gender because most care work is done by women. Gender and sustainable consumption are interrelated, to the extent that there is a risk that more sustainable consumption, which may be more time-consuming, may also have an impact on the division of work between the sexes within the home, including how downshifting often implies that women stay at home to do more care work [18,21]. Bringing sustainable consumption, care and gender together, there is a theoretical risk of essentialising women, i.e. implying that women, by nature, have a closer connection with caring and nature. Even if we do not emphasise gender differences, there is an implicit risk of ignoring how energy and environmental policy can have negative consequences for gender equality [22]. Specifically, related to energy and smart homes, studies have revealed how new technology is never gender-blind (e.g. special issues [23]).

Central to care ethics is vulnerability, which is also within the bounds of the energy justice approach, although in care ethics, interdependence and responsibility are also focal points [18]. Rather than discussing what level of consumption is adequate in relation to

**Table 1**  
Listing the phases of care and their moral qualities as developed in [13] and exemplifying them with energy-related caring practices.

| Phases of care and their moral qualities | Energy-related caring practices   |
|--|---|
| Caring about, based on attentiveness     | Recognition of a human need for care which includes the use of energy, e.g., to heat a room or cook a meal, but also recognition of a technical need for the energy system to work                                  |
| Caring for, based on responsibility      | Taking responsibility to ensure that the need for heating, food and other energy-consuming needs are met, and responsibility for the technical systems that provide the energy                                      |
| Caregiving, based on competences         | Giving care to humans and systems, based on relevant competences  |
| Care receiving, based on responsiveness  | Evaluating the care for humans in forms of services provided as well as the energy used for this caregiving. Also care needed to ensure that the energy system works, including evaluating its environmental impact |
| Caring with, based on solidarity         | Providing care related to energy consumption and production with other actors and organisations   |

vulnerability, it has been proposed to focus on the capability to take care of oneself and others under the given socio-material conditions [16]. Ethics of care, with its focus on relationality and dependency, is relevant when seeking to understand how the energy system works to support the capabilities of people and examining the differences in power and dependency [16]. It is important to note that while need and care are culturally defined, the need for care is universal, and good care relies on having access to resources, such as material goods, time and skills [18]. Thus, the infrastructures of the energy system become important in relation to care. Human and other (non-human) beings can be regarded as care givers and receivers in the energy system [20]. Following this is also how people care about technologies and systems, and Trontos theory can be used to understand this [20].

### 3. Expanding ethics to also include non-humans

Philosophers have dealt with ethics since ancient times, asking what is right and wrong in relation to human beings. In the 1970s, scholars started to question this anthropocentric view and raised questions of not only treating animals, landscapes, and nature as means to fulfil human ends but also as having intrinsic value [24,25]. From a utilitarian approach, Peter Singer argued that animals also feel pain and suffer and thus argued for their inclusion [26] while Norwegian philosopher Arne Næss argued for biocentric equality, where all species and creatures have rights of their own [25]. Ethics were developed to include individual animal species and conserve landscapes, ecosystems and nature as a whole [24,25], as shown in Fig. 1.

We see the same type of expansion in the ethics of care, whose origin was also ethnocentric. In recent years, the ethics of care have thus been expanded to include nature, inanimate objects, technology and non-human systems. However, within the ethics of care, expansion is related not only to the recipient(s) of care, but also to who, or what, takes part in the caregiving. Care can be between humans and animals [27], caring to and from nature in its totality [15] and caring for technologies and materiality as well as receiving care from these non-human entities [20]. This is illustrated in Fig. 2, where the concentric circles from Fig. 1 on the left-hand side are expanded to include technologies and systems. This side of the figure is mirrored on the right side which then also includes the issue of who or what takes part in caregiving. In this way, ethics of care proceed from the STS (science and technology studies) approach of transgressing the dichotomy of humans and non-humans [28].

Combining the concentric circles in Fig. 2 with the juxtaposed ethics of justice and ethics of care, can help in organising parts of the presented literature (see Table 2). The large volume of literature on energy justice produced in recent years has taken a purely anthropocentric view of ethical questions where nature and climate are only included as means towards achieving human justice. It is reasonable to ask if the energy justice approach could learn from environmental ethics by raising questions of including nature, also in its own right. Within the ethics of care, the vast majority also have maintained an ethnocentric focus, e.g. as in healthcare systems. In recent years, there have, however, been many interesting approaches that include non-humans. However, a more systematic approach to what is included as a care receiver and care giver may encourage further development of the ethics of care in relation to the energy system.

### 4. Potential and difficulties associated with using ethics of care in guiding the energy system?

The future energy system is renewable and network-orientated, with different types of actors, including households that act as consumers, producers and flexibility generators. This new system may imply injustice for different types of vulnerable consumers, which is important to be aware of [3]. However, applying a justice perspective that includes householder rights but none of their responsibilities may hamper the

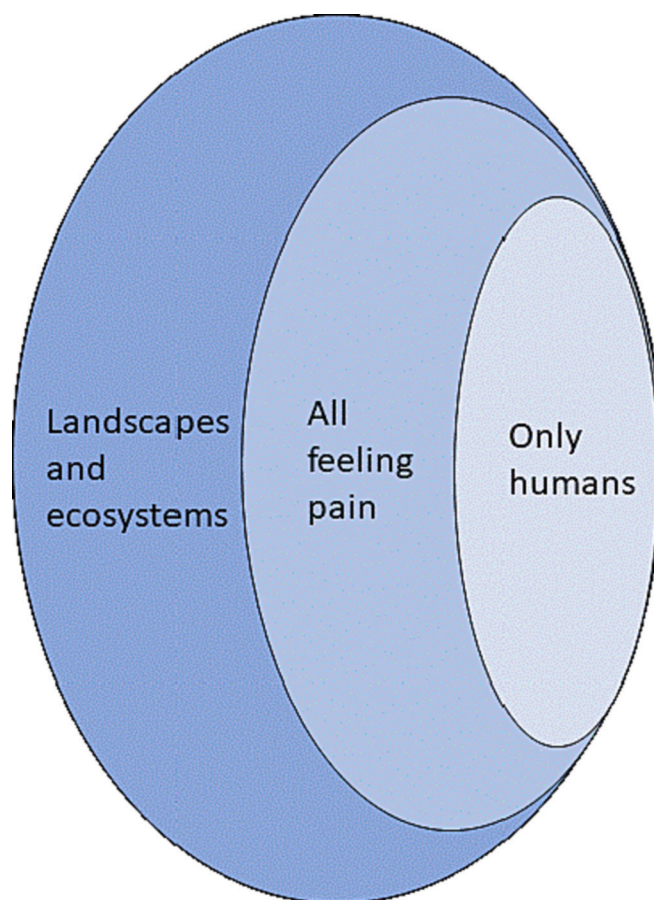


Fig. 1. This figure illustrates what is included in ethics as having intrinsic value, and how these and environmental ethics have expanded in concentric circles, moving from the human sphere to also include animals and ultimately all of nature. Simplified figure based on [25].

fruitful development of such a system. Energy communities, energy districts and other types of locally organized entities have been put forward as parts of this future energy system [29]. To make such local systems work, I will argue that we need to include householders' social responsibility, relations and dependencies as well as their needs and vulnerability. I will also argue that technological development, including PVs, EVs and smart home technology to help facilitate time shifting of consumption, charging and storing of energy, are vital to the caring processes for which energy is used in households. Finally, I will argue that, in raising debate and questioning existing demands for energy, we must also include views of nature other than the one relying on nature being there only to fulfil human needs.

Summarizing the energy justice perspective, it sees energy as a universal and basic human right, and it works to establish minimum standards and is not willing to accept lower or varying standards. It puts the responsibility for the energy systems and infrastructures on nations and organisations rather than households. In contrast, the ethics of care within an energy system perspective focus on energy as a means of caring for oneself and others, and it equates the right to energy with responsibilities and relations to others and to the energy system itself. In this way, the ethics of care weigh up needs and different types of goods, acknowledge the social construction of needs and see vulnerability as part of all caring relationships, and human beings as part of the energy system together with non-humans. This is summarised and listed in Table 3.

I would argue that the concept of energy justice may fit better into an old, nationally based energy system with few large power plants always responding to any demand. On the other hand, I will argue that a future

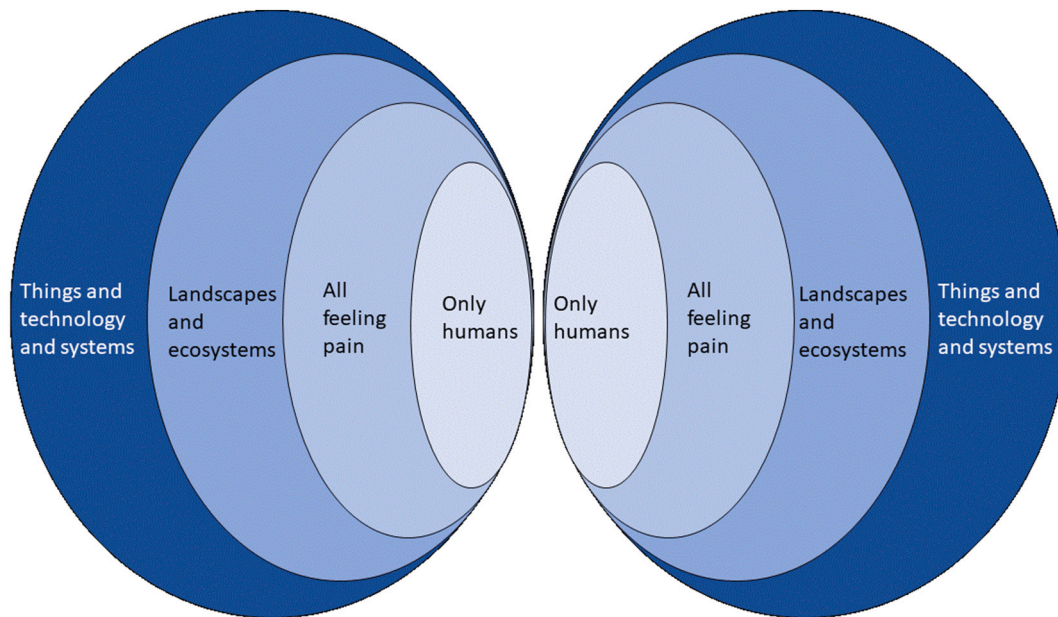


Fig. 2. What/who is giving and receiving care. The left side of the figure shows how receivers of care can be expanded from including only humans to also including animals, landscapes and infrastructural systems. The right side of the figure is a mirror image of the left to indicate that both humans and non-humans take part in providing care.

Table 2

Comparing literary references about the ethics of justice with those of the ethics of care, with reference to who/what is regarded as the ethical object.

| Ethics of justice  | Who/what are included as care receiver  | Ethics of care   |
|--|---|--|
| Energy justice – including: (Sovacool and Dworkin, 2015) (Jenkins et al 2016) (Galvin, 2019) | Only humans included in the ethics – nature may be included as a resource for human wellbeing | The original feminist approaches, including: (Gilligan, 1982) (Tronto, 2013)                 |
| Animal rights philosophy – e.g., Peter Singer  | All who can feel pain – including animals in their own right                                  | STS- approaches to ethics of care including: (Mol et al., 2010) (Puig de la Bellacasa, 2017) |
| Deep ecology – Arne Næss   | Natural landscapes and ecosystems in their own right  |  |
| None – so far  | Things, technologies and systems  |  |

Table 3

Summarizing views from the two different ethical approaches related to the energy system.

| Ethics of justice related to energy systems  | Ethics of care related to energy systems  |
|--|---|
| <ul style="list-style-type: none"> <li>- Energy as a universal and basic human right for all individuals</li> <li>- Seeking to establish minimum standards and not accepting culture as an argument for lower or varying standards</li> <li>- Energy systems and infrastructures as the responsibility of nations and organizations</li> <li>- Clean and efficient technologies as means to prevent vulnerability</li> </ul> | <ul style="list-style-type: none"> <li>- Rights to energy coupled with responsibilities and relations to others and to the energy system</li> <li>- Energy as part of caring for oneself and others</li> <li>- Balancing needs and different types of goods, acknowledging the social construction of needs</li> <li>- Vulnerability as part of all caring relations</li> <li>- Humans as part of the energy system together with non-humans</li> </ul> |

energy system based on microgrids and local prosumption, where production and consumption are constantly aligned with each other, may better match understandings derived from the ethics of care. It has been argued that energy justice and ethics of care should be brought together and regarded as complementary perspectives, based on the argument that care ethics do not adequately incorporate issues regarding power [21]. With reference to Tronto, all relations involving care also imply power relationships and inequalities because these are implicit to the care concept [13]. Thus, power should not in itself be raised as an argument for the limitations of an ethics of care approach.

However, other issues raised in the ethics of care literature do point to certain problems and limitations. One problem is the question of how far we can care [19]. If consumption is care and the market place where consumption meets production needs is to be understood as a caring relationship, then what happens in a long-distance relationship or when there is no direct relationship between anonymous consumers and an equally anonymous producer [17]? This holds true with regard to energy market, and even more so with regard to the consequences for the climate and future generation, where today's energy consumer has only limited and abstract opportunities to understand the consequences of their energy consumption. Ethics of care may not be the answer to all ethical questions regarding the future energy system, but it surely has important insights and merits, which should be further developed together with a transition to a renewable energy system. Furthermore, I will argue that, as concepts, both ethics of care and energy justice may benefit from a clearer discussion of a) the theoretical differences between them and b) a clearer discussion of who and what to include in the ethics as having intrinsic value, i.e. the role of non-humans.

In the further development of ethics of care within the energy system I will, based on issues raised in this perspective, specifically suggest focusing on the following four questions:

First is the issue of the long-distance relationships in a globalized environment. How to manage the caring relationship, including determining the extent and limits of such care, given the intrinsic complexity of the global dependencies related to resource use and climate impact?

Second, even staying within a national context, the energy system is based on interaction between anonymous consumers and producers of energy. How can assignment of responsibilities and the construction of care bonds be established in such situations which lack a personal component?

Third, the conceptual development of who and what to include in the ethical considerations, besides from humans, are pressing in order to be able to implement these principles in the energy system.

Fourth and last, ethics of care was developed from a feministic perspective in a human world. However, how would the questions of gender be dealt with if expanding the ethics of care into the non-human world, both when it comes to care-givers and care-receivers?

#### CRediT authorship contribution statement

**Kirsten Gram-Hanssen:** Writing – review & editing, Writing – original draft, Project administration, Investigation, Funding acquisition, Formal analysis, Conceptualization.

#### Declaration of competing interest

I declare that I have no conflict of interest related to this Perspective.

#### Data availability

No data was used for the research described in the article.

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#### References

- [1] T.M. Skjølsvold, M. Ryghaug, T. Berker, A traveler's guide to smart grids and the social sciences, *Energy Res. Soc. Sci.* 1 (9) (2015) 1–8. Sep.
- [2] R. Smale, B. van Vliet, G. Spaargaren, When social practices meet smart grids: flexibility, grid management, and domestic consumption in the Netherlands, *Energy Res. Soc. Sci.* 34 (2017) 132–140. Dec 1.
- [3] P. Calver, N. Simcock, Demand response and energy justice: a critical overview of ethical risks and opportunities within digital, decentralised, and decarbonised futures, *Energy Policy* 151 (2021) 112198. Apr 1.
- [4] R. Galvin, What does it mean to make a moral claim? A Wittgensteinian approach to energy justice, *Energy Res. Soc. Sci.* 54 (2019) 176–184. Aug 1.
- [5] K. Jenkins, D. McCauley, R. Heffron, H. Stephan, R. Rehner, Energy justice: a conceptual review, *Energy Res. Soc. Sci.* 1 (11) (2016) 174–182. Jan.
- [6] D. McCauley, V. Ramasar, R.J. Heffron, B.K. Sovacool, D. Mebratu, L. Mundaca, Energy justice in the transition to low carbon energy systems: exploring key themes in interdisciplinary research, *Appl. Energy* 1 (233–234) (2019) 916–921. Jan.
- [7] B.K. Sovacool, M.H. Dworkin, Energy justice: conceptual insights and practical applications, *Appl. Energy* 142 (2015) 435–444. Mar 15.
- [8] K. Gram-Hanssen, S. Bonderup, L.K. Aagaard, A.S.M. Askholm, Energy justice in heat metering: findings from a Danish experiment of metering and distribution in residential apartment buildings, *Energy Res. Soc. Sci.* 104 (2023) 103250. Oct 1.
- [9] G. Walker, N. Simcock, R. Day, Necessary energy uses and a minimum standard of living in the United Kingdom: energy justice or escalating expectations? *Energy Res. Soc. Sci.* 18 (2016) 129–138. Aug 1.
- [10] I. Gough, Heat, Greed and Human Need: Climate Change, Capitalism and Sustainable Wellbeing, Edward Elgar Publishing, Cheltenham, UK, 2017.
- [11] C.S. Damgaard, D. McCauley, L. Reid, Towards energy care ethics: exploring ethical implications of relationality within energy systems in transition, *Energy Res. Soc. Sci.* 84 (2022) 102356. Feb 1.
- [12] C. Gilligan, In a Different Voice: Psychological Theory and Womens Development, 27. printing, Harvard University Press, Cambridge, Mass, 1982.
- [13] J.C. Tronto, *Caring Democracy: Markets, Equality, and Justice* [Internet], NYU Press, 2013 [cited 2023 Jul 25]. Available from: <https://www.jstor.org/stable/j.ctt9qgfvf>.
- [14] S. Gherardi, G. Rodeschini, Caring as a collective knowledgeable doing: about concern and being concerned, *Manag. Learn.* 47 (3) (2016) 266–284. Jul 1.
- [15] M. Puig de la Bellacasa, *Matters of Care Speculative Ethics in More than Human Worlds*, University of Minnesota Press, Minneapolis, 2017 (Posthumanities).
- [16] C. Groves, F. Shirani, N. Pidgeon, C. Cherry, G. Thomas, E. Roberts, et al., A missing link? Capabilities, the ethics of Care and the relational context of energy justice, *J Hum Dev Capab.* 22 (2) (2021) 249–269. Apr 3.
- [17] D. Shaw, R. McMaster, C. Longo, N. Özçaglar-Toulouse, Ethical qualities in consumption: towards a theory of care, *Mark. Theory* 17 (4) (2017) 415–433. Dec 1.
- [18] Godin L, Langlois J. Care, Gender, and change in the study of sustainable consumption: a critical review of the literature. *Front Sustain* [Internet]. 2021 [cited 2022 Jan 14];2. Available from: <https://doi.org/10.3389/frsus.2021.725753>.
- [19] J. Popke, Geography and ethics: everyday mediations through Care and consumption, *Prog. Hum. Geogr.* 30 (4) (2006) 504–512. Aug 1.
- [20] K. Lucas-Healey, H. Ransan-Cooper, H. Temby, A.W. Russell, Who cares? How care practices uphold the decentralised energy order, *Build Cities* 3 (1) (2022) 448–463. Jul 4.
- [21] A. Wågström, K. Michael, Caring for energy, energy to care: exploring the energy-care nexus through examples from Sweden and India, *Energy Res. Soc. Sci.* (2023) 99.
- [22] K. Gram-Hanssen, M. Mechlenborg, L.V. Madsen, A.R. Hansen, Gender and ethical consumption in smart homes, *J Consum Ethics.* 1 (2) (2017) 111–119.
- [23] Y. Strengers, K. Gram-hanssen, K. Dahlgren, L. Aagaard, kryger., Energy, emerging technologies and gender in homes, *Build Cities* 3 (1) (2022) 842–853. Oct 27.
- [24] A. Brennan, N.Y.S. Lo, Environmental ethics, in: E.N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* [Internet]. Summer 2022, Metaphysics Research Lab, Stanford University, 2022 [cited 2023 Jul 28]. Available from: <https://plato.stanford.edu/archives/sum2022/entries/ethics-environmental/>.
- [25] Cafaro P, Primack R. Ethical Issues in Biodiversity Protection 2013. p. 309–18.
- [26] Singer P. *Animal Liberation: A New Ethics for our Treatment of Animals* / Peter Singer. New York: Distributed by Random House; 1975. xvii+301. (A New York review book).
- [27] A. Mol, I. Moser, A.J. Pols, *Care in Practice., On Tinkering in Clinics, Homes and Farms*, Transcript publishing, Bielefeld, 2010.
- [28] B. Latour, *We Have Never Been Modern*, Harvard University Press, Cambridge, Massachusetts, 1993.
- [29] JPI Urban Europe / SET Plan Action 3.2. White Paper on PED Reference Framework for Positive Energy Districts and Neighbourhood. <https://jpi-urban.eu/ped/>; 2020.