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Summary

This deliverable describes the conceptual framework on energy citizenship. It lays down the key definitions, theoretical underpinnings and social constructions of the required systematic energy citizenship understanding. The conceptual framework discloses the diversity of more and less 'active' energy citizenship forms, identifying the main distinctions brought forward in the state-of-the-art of social innovation and transitions, political science, sociology, energy studies, social psychology, geography and critical social theory. This also involves elaboration of the different understandings of the energy systems that energy citizenship can be taken to refer to.

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Contents

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101022492.

Table of Figures:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101022492.

1 Introduction: Conceptualising 'energy citizenship'

The ongoing energy transition calls not only for technological innovations, as often discussed in accounts of sustainable energy pathways, but also for various social-institutional transformations. The development of energy citizenship is an important part of the latter. It is widely believed to hold potentials for transforming towards more sustainable and just societies. Therefore, the EnergyPROSPECTS project aims to disclose the societal conditions conducive to the thriving of engaged, sustainability-oriented, democratic or otherwise *desirable* forms of energy citizenship.

The work package WP2 contributes to this mission by clarifying the different forms of energy citizenship (ENCI) that can be distinguished, the contextual factors that shape them and the tensions underlying the concept. This calls for a critical social-theoretical approach, i.e., an approach that clarifies the societal developments, contextual factors, and prevailing assumptions that are an expression of ENCI. Just like surrounding notions of 'social innovation', 'transition', 'energy democracy' and 'energy communities', it is a social construction of how future energy systems should look like, and how the transformation processes towards those futures should be governed. Our critical, SSH-based (Social Sciences and Humanities) approach is not aimed to deconstruct these ideals. Rather it serves to unpack, deepen and explore the ideals and the conditions under which they could be realised. Considerable gaps may exist between abstract ideals and concrete practices across the European Union.

Rather than aiming for an exhaustive literature overview, this deliverable synthesises the current state-of-the-art. Unpacking ENCI critically, it provides a first overview of different 'energy citizenship' constructions as they have emerged across the European Union. Identifying the main analytical distinctions and the main tensions that characterise it, our analysis provides a provisional definition which lays the groundwork for an extensive interplay between conceptual and empirical unpacking of energy citizenship. The conceptual unpacking informs the extensive comparative case analyses undertaken in WP3. It also starts a series of methodological considerations (elaboration of a conceptual typology, case demarcation and sampling). The later phases of WP2 will involve further interplay with the thematic empirical analyses of WP4 and WP5. It is through these deepened empirical analyses that the conceptual insights can be translated into policy advice and practices of empowerment. Most importantly, the developed conceptual distinctions are key inputs for immediate follow-up activities such as the typology development (**D2.2**), the workshops on regional ENCI translations (**D2.3**) and the inventory of more and less exemplary, manifest and latent, cases of energy citizenship (**WP3**).

The deliverable is structured along a dialectical approach i.e., it follows the three-step model of thesis-antithesis-synthesis. The first step is to introduce the 'energy

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citizenship' as a social construction, an imaginary of the role of the public in ongoing processes of energy transition. It is reconstructed from where the notion of energy citizenship is originating, and the various which political ideals and policy objectives it is carrying. Teasing out the various connotations, interpretations, appropriations and local translations of the concept, this also brings out the variety of viewpoints on ENCI that exist within the EnergyPROSPECTS consortium. This reconstruction of ENCI interpretations clarifies that the concept may be vague, but it is certainly not empty. Thus, this 'thesis' phase provides a positive, substantive starting point for more precise conceptualisation (Chapter 2). The next chapter unpacks ENCI by developing several antitheses. The ENCI ideals as described are easy to endorse, especially as far as they are general and unspecific about the political choices through which they could be realised. As such they raise a series of further questions: ENCI practice is more chequered and complex than the ideals suggest. Therefore, consideration Is given to which relatively 'latent' forms of energy citizenship can be distinguished beyond the manifest ones. Combining several social science and humanities perspectives, we open up the ENCI concept along seven contested distinctions (**Chapter 3**). The synthesis chapter summarises these distinctions and formulates an ENCI working definition. Chapter 4 draws out the key implications for subsequent conceptual and empirical work.

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2 The social construction of 'energy citizenship'

This chapter clarifies the 'energy citizenship' concept that has set the context for the EnergyPROSPECTS project. A first observation is that it is not a purely scientific category: ENCI is an imaginary that is co-produced by academic and political actors (**section 2.1**). After a brief account of its introduction as a political ideal by academics (**section 2.2**) it is reconstructed how ENCI is emerging as a political ideal. Advocated, espoused and appropriated by policy-makers and policy visions on European Union and national levels (**section 2.3**), it is also promoted as a transformative and sometimes counter-hegemonic narrative of change by various non-state actors (**section 2.4**). Meanwhile, ENCI discourse is also developing visually, through artistic expressions and cultural representations (**section 2.5**). The chapter concludes with a summary exposition of the key contents and normative commitments that the 'energy citizenship' notion is carrying (**section 2.6**). ENCI may be a vague and complex concept, but empty it is not.

2.1 A co-produced category

> 'Energy citizenship refers to people's active participation in energy systems: engaging in energy-related discourse and making conscious decisions related to energy. Energy citizens are one step beyond traditional energy customers. Empowered by ubiquitous digitalisation, energy citizens monitor and optimise their energy consumption and are aware of their ability to influence the environment. Before we can actively contribute as energy citizens, we need to understand what it means and what we need to do.' (LUT 2021)

> 'Energy citizenship offers a background to approach different ways in which citizens are becoming actively involved in the energy transition, and engaging politically, either as consumers and users, by participating in protest and support movements and, most relevant to this paper, as prosumers.' (Campos & Marín-González 2020:1)

The EnergyPROSPECTS research project seeks to support energy citizenship – *but what is it?* The above fragments suggest it is a kind of active involvement in the energy transition – *but still, what does that mean?* The LUT (2021) expresses it very well – we are in the confusing situation of trying to promote something of which we don't know what it is and what it is good for: '*Before we can actively contribute as energy citizens, we need to understand what it means and what we need to do.'* The blog post asks pertinent questions*: 'Are you an active energy citizen? What does it mean and why is it important?'*

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The vagueness of the energy citizenship concept could easily lead us into a sequence of confusion, deconstruction, ridicule and rejection – followed by proposals of new concepts. These are familiar processes of deconstruction and reframing: ENCI forms part of a conceptual genealogy, comprising amongst other 'energy communities', 'grassroots innovations', 'social innovation', and 'energy prosumerism'. Before those concepts came up, energy citizenship had been considered as a matter of 'public acceptance' of certain energy technologies.

Each of these discussions has evoked similar confusion – and controversy – over the appropriate analytical dimensions, normative assumptions, and empirical references of these concepts. They also display the typical critiques and suspicions evoked by the new 'happy concepts'. They tend to be vulnerable to ideological appropriation, 'capture' or 'greenwash'. Like the 'Circular Economy' concept (Kovacic *et al.,* 2019), ENCI could be one of those ideals that is as attractive as it is impossible to attain. It could similarly be dismissed as a misleading fiction. As a rather vague ideal, it somewhat obscures the concrete conditions that would allow it to thrive. If leading to a lack of scientific progress and practically useful insight, the concept is bound to harvest disappointment. After a few rounds of further concept-bashing (cf. social innovation discussions), it is well conceivable that ENCI itself may soon fade away as a meaningful concept.

It is imperative that the conceptualisation of ENCI does not fall into the hype-and-disillusionment cycles outlined above. Therefore, it is important to avoid over-promising. Rather than blaming 'energy citizenship' for failing to operate as a sharp scientific category, it should be taken as a social construction. ENCI is a way for policy-makers, activists, consultants, researchers and other societal actors to make sense of the transition towards future energy systems. It is a co-produced, co-performed scientific category (Jasanoff, 2004; Voß, 2014; Chilvers and Longhurst, 2016). Just like 'transition', it is a research object and a policy concept at the same time. It forms part of current 'imaginaries' of energy systems that are somehow more sustainable and horizontally organised. Underlining the particular political role of citizens and questioning common social representations about individuals in energy systems (Devine-Wright 2006:64; Rodhouse *et al.,* 2021), it displays a narrative of change that can be found across social innovation initiatives (Wittmayer *et al.,* 2019). Not specifying any particular strategy or policy instrument, ENCI can be considered a general and, as yet, not very clearly defined 'knowing of governance' (Voß and Freeman, 2016) that expresses certain ideas about the responsibilities and roles of citizens in energy system transformation. Like the abstract notion of the 'Green Deal for Europe', it is a way for politicians to communicate more or less fresh ideas, new visions, and adjusted directions for policy[1].

Expressing – *in abstracto* – that energy systems involve not only consumers but citizens as well, ENCI indicates a certain governance philosophy in longstanding debates on

1. See the concluding section 4.3: One of the practical applications of our conceptual framework is the insertion of appealing and elaborated ENCI visions into the policy process.

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de-centralisation and re-centralisation. Taken as a social construction that emerged at the edges of science, policy, and innovation, it is also striking how ENCI bears promises of contributing to – by certain standards[2] – 'sustainable' energy systems. It is often constructed as something that is instrumental to achieving sustainable energy objectives, which as such would merit support. In this sense, it is similar to concepts like 'social innovation', which also has been promoted as an 'instrument' that would help to address various 'major societal challenges'. However, it has been questioned whether social innovation could be considered simply as an instrument towards certain policy goals (Wittmayer *et al.,* 2020), or as a set of social 'bolt-on' modules for technological innovations (Moulaert *et al.,* 2017). These debates may flare up regarding ENCI as well, as it is a similarly layered concept. On the other hand, ENCI is not yet very current in societal debates. It is still less controversial, and relatively open to interpretations. This will become clearer throughout this research report.

2.2 ENCI as a political ideal: scientific origins

Though our focus is and remains *energy* citizenship, a brief overview of its scientific origins requires making a short detour into the notions of citizenship, and environmental/ecological citizenship. As discussed in abundant literature for centuries, citizenship has been traditionally envisioned as the membership of a political community – consolidated by a more or less explicit social contract. Beyond the various existing typologies of citizenship, two main types are likely to be identified: the 'liberal citizenship' defined as entitlement of members to fundamental rights, and the 'civic republican citizenship' based on duties and responsibilities (Dobson, 2003; Seyfang, 2005).

Dobson draws his ecological citizenship based on fundamental differences with the liberal and civic republican framings of citizenship, thus identifying a 'post-cosmopolitan' citizenship (see Table 1). This post-cosmopolitan citizenship includes part of the private sphere (since private acts can have public implications), and consequently a more 'feminised' virtue, further combined with a non-territorialised anchorage of citizenship (i.e., relying on the relationships between citizens within the 'thick' community of 'historical obligation' (Dobson, 2003: 99)). What is particularly striking in Dobson's approach, and potentially fruitful for the understanding of ENCI, is notably the fact that these three types of citizenship and their environmental declinations are not exclusive pathways: they rather contextually combine and co-exist, and each of them can contribute to environmental good (by granting of rights within the liberal citizenship frame, or by being considered as a 'common good' within the civic republican one).

2. In line with our constructivist approach, 'sustainability' is similarly taken as a layered and contested concept.

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Type of citizenship	Liberal	Civic republican	Post-cosmopolitan
Core Principle	Rights/entitlements (contractual)	Duties/responsibilities (contractual)	Duties/responsibilities (non-contractual)
Ambit	Public sphere	Public sphere	Public and private spheres
Virtue	Virtue-free	'Masculine' virtue	'Feminine' virtue
Territoriality	Territorial (discriminatory)	Territorial (discriminatory)	Non-territorial (non-discriminatory)
Environmental extension Perspective	Environmental citizenship grounded on 'natural rights'	Environmental citizenship grounded on 'common good'	Ecological citizenship ('action at a distance')

Table 1: Three types of citizenship following Dobson (2003: 39)

Energy citizenship is somehow part of the proposals to widen the traditional notion of citizenship, and notably those arguing for a citizenship that is more sensitive to ecological and environmental concerns. And indeed, one of the authoritative scientific sources, Patrick Devine-Wright (2007: 71-72) builds his definition of energy citizenship on the basis of the main features of environmental citizenship: *Energy citizenship is a view of the public that emphasises awareness of responsibility for climate change, equity and justice in relation to siting controversies as well as fuel poverty and, finally, the potential for (collective) energy actions, including acts of consumption and the setting up of community renewable energy projects such as energy cooperatives.*

Energy citizenship is not just an analytical category – the term has been coined to indicate a certain normative ideal of 'enlightened', broadened citizenship. Devine-Wright (2007) posited ENCI as a concept that challenges the dominant idea of energy as a commodity. It is a way to re-frame energy matters as matters of collective decision-making about the public good, public engagement and participation in processes of policy-making and planning. The emergence of sustainable development as a policy goal in the 1990s has seen a new facet of the '*'energy as social necessity' representation emerge, which I describe as 'energy citizenship''* (Devine-Wright, 2007: 67).

This notion of energy citizenship challenges received beliefs and conventional 'imagined publics' (Rodhouse *et al.,* 2021), and particularly those that assume the necessarily passive and 'deficient' role of the public in energy systems. These received

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beliefs may have become outdated, but still, they are difficult to break loose from[3] as they become ingrained in politics, innovation and management of energy systems.

In sum, it is suggested that centralised, politically hierarchical energy systems are embedded within, and have helped produce, a social representation of the 'energy public' that is overwhelmingly characterised by deficits: of interest, knowledge, rationality and environmental and social responsibility. Moreover, it is argued that this is a self-fulfilling prophecy. The more the representation is assumed to be common sense by decision makers, the more it is likely to lead to 'out of sight, out of mind' energy policies that leave citizens in passive roles, and to institutions and technologies that foster its continuity – limiting the scope for public engagement with the energy system (Devine-Wright, 2007: 69).

Almost fifteen years later, the Devine-Wright depiction/critique of the deficient role of the 'energy public' (as perceived mostly by decision-makers) seems to coexist with another version inspired from Science and Technology Studies (STS) literature. It looks for the existing 'energy publics' in an attempt to overcome the presumption of deficiency (Chilvers and Longhurst, 2016; Pallett *et al.,* 2019). They provide a counter-version of the 'publics' that is grounded on specific energy issues and the related actions that make a *concerned* and *active* public emerge. Such approaches could fruitfully inform renewed policy-making processes based on effective participation – even if the deficient representation remains for now the predominant one. Compared to these analytical terms of 'energy publics' or 'participation', ENCI stands out as a more normatively pronounced concept: It introduces 'citizenship' in a context (energy consumption/production) where this has become an odd notion. It introduces various ethical concerns often associated with citizenship, such as a plurality of possible attachments (to a group, a community, a territory or even a nation) or responsibilities (more or less in Jonas' sense[4]). This makes citizenship a more normatively pronounced concept than notions like 'participation' (more situated) and 'the public' (as connected to specific issues).

Reversely, from the presumed deficiency of the public, a clearer view on the possible pathways towards energy citizenship has emerged in the last decade. For instance, Radtke (2016) identifies an ideal-typical 'climate citoyen', here again conceived as a translation of the 'green citizen':

> 'A special concept in this context is that of energy citizenship in the sense of a 'climate citoyen' who is actively engaged both on the individual level, where the citizen focuses on energy efficiency in the household or workplace, and on the

3. This idea of the 'deficient' citizen is a key element of socio-technical energy 'regimes'. Meanwhile, the process of 'regime' transition has gone into the next transition phases of 'take off' and 'acceleration' (see section 3.8).
4. In *The Imperative of Responsibility – In Search of an Ethics for the Technological Age* (1984), Jonas underlines the extent to which technological development has enhanced the reach of human actions. This requires new responsibility principles, such as: 'Act so that the effects of your action are compatible with the permanence of genuine human life' (chapter 1)

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> political level, where he or she engages in local, national or international activities related to climate policies, and further makes commitments to action groups, organisations or energy cooperatives that strive for environmentally friendly energy usage.' (Radtke, 2016)

These insights into its scientific origins show that the further articulation of ENCI is still an ongoing process. The debate on this updated form of citizenship is intensifying, though. In recent years it appears to be endorsed more and more as a political vision.

2.3 ENCI as an emerging political ideal: Policy discourse in the EU

The scholarly accounts of Devine-Wright and others help to understand what ENCI is and how it differs from other, hitherto common but problematic, ways of being implicated in the energy system. Some of these distinctions stem from classic political-philosophical debates at some academic distance from energy transition processes. Yet, some of these discussions of ENCI contain ideas that have become quite familiar in European energy policies, research programmes and political debate. ENCI, and various adjacent concepts like energy democracy and energy justice, are increasingly prominent in the discourses of politicians, policies, NGOs, and activists. As Devine-Wright (2007: 71) indicated, ENCI is not necessarily a new move in thinking about sustainable development. What is particularly new is its growing relevance in policy and policy discourse:

> 'Energy citizenship is not a new idea. Traces can be identified in writings on the virtues of alternative technology and 'small-scale' development, for example, the seminal work of Schumacher (1974). What is novel is the degree to which it appears to be becoming an integral, conventional element of UK government energy policy, informed by wider policy on sustainable development, including the negative impacts of globalisation and the benefits of 'localisation' (e.g., Hines, 2000) in relation to food production and consumption, travel, water, waste and energy, and emerging ideas about sustainable consumption (Jackson, 2004).'

As usual with such general policy concepts, political actors have different interpretations of what they mean and different ideas about how the ideals can be realised. Some ENCI accounts tend towards shallow hints at increased participation; others use the concept as a more radical narrative of change, i.e., as a counter-hegemonic concept. As indicated by Lennon *et al.* (2020:6), ENCI is a concept that is subject to political appropriation: *'Some of these movements may seek to appropriate the language of energy citizenship and revitalise its democratic potential; others may create new discourses to legitimate and rationalise the vision of an energy system radically (re)shaped by ordinary citizens.'* An interesting point is the suggestion to 'revitalise the democratic potential' of ENCI – this reflects how democracy is one of its key aspects. The following list gives further insight into the political interpretations that are being ascribed to ENCI, and identifies some of the political ideals perceived to be associated with ENCI:

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- **'Citizen' used as a synonym for consumer.** Given the historical emphasis of EU policies on building a common EU market, n the context of the EU energy policy, the word 'citizen' started to be used regularly by the European Commission (EC) around the year 2015, which coincided with the project of an EU Energy Union *'with citizens at its core'*. Yet, when looking at EC policy documents, the term 'citizen' is often used to mean 'consumer'. For instance, this is the case in the internal electricity market directive (EU 2019/944) and other policy documents that focus on lowering electricity bills and providing demand-side flexibility. The clearest example comes from the so-called 'Citizens Energy Forum' that was created in 2008. The Forum's first programme did not mention ENCI but approached the role of citizens in the energy transition only as specific kinds of market players: active consumers who, for instance, should make more use of smart meters.
- **'Citizens' as producers of energy.** Another focus is on the role of citizens as other types of market players: energy producers, as evidenced by the 2018 revised renewable energy Directive (2018/2001/EU), especially its section pertaining to renewable energy communities and prosumers.
- **'Citizens' as obstacles to the deployment of renewable energy.** EU policy discourse also focuses on the issue of social acceptability/public acceptance of Renewable Energy (RE) projects. This is especially frequent when looking at Horizon 2020 calls focusing on technological development, as those calls often ask applicants to draft a proposal that includes work to ensure the public acceptance of the developed technology.
- **Energy communities.** While ENCI does not yet appear to be used widely in public discourse across Europe, within the policy arena ENCI is referenced in connection to energy prosumerism and energy communities. Energy citizenship has not yet been defined in EU law, in which the arguably closest concepts are energy communities. This occurs through the mention of 'citizen energy communities' in the Directive on common rules for the internal electricity market and 'renewable energy communities' in the revised Renewable energy directive. Energy communities are mostly centred on prosumerism[5].
- A clear sense of **'active citizenship'** is manifest in some, politically relatively marginal, EU policy interpretations of ENCI. This is evidenced in the following quote introducing the 2018 European Technology and Innovation Platform Smart Networks for Energy Transition (ETIP SNET) *Vision 2050* strategy: *'While policy makers, industry and researchers need to lead the way and lay down the foundations for the transition towards a cleaner energy system, the citizen is the fundamental player that will make this transition possible. It is citizens that have*

5. https://ec.europa.eu/energy/topics/markets-and-consumers/energy-communities_en

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the potential to play a key role in Europe's energy transition and change the course of current climate change trends.'[6] Many policies at the national and regional levels reflect this dominant framing with many energy initiatives across Europe adopting an emphasis on individual energy behaviour change. In Ireland, for example, citizens have been encouraged to play their part by making 'more informed' choices and using energy more efficiently (Department of Communications Climate Action and Environment, 2015).

- **Mission-oriented innovation/H2020.** Within the European H2020 funding programme, calls for research on Energy Citizenship in 2020 were contained within the cross-cutting theme: LC-SC3-CC-1-2018-2019-2020: Social Sciences and Humanities (SSH) aspects of the Clean-Energy Transition. Reflecting the EU policy framing outlined above, the specific challenge was articulated as: '*The clean-energy transition doesn't just pose technological and scientific challenges; it also requires a better understanding of cross-cutting issues related to socioeconomic, gender, sociocultural, and socio-political issues. Addressing these issues will help to devise more effective ways of involving citizens and to better understand energy related views and attitudes, ultimately leading to greater social acceptability as well as more durable governance arrangements and socioeconomic benefits.*' This focus on the role of citizens seems to be a recent phenomenon. A keyword search of the last FP7, H2020 and HEU work programmes pertaining to energy show the increasing occurrence of the word 'citizen'. Indeed, under FP7 (2007-2013), the key word 'citizen' appeared on average only once in the entire energy work programme. It appeared around 12 times in both the two first H2020 work programmes, before reaching an occurrence of 44 times in the 2018-2020 H2020 work programme, and 96 times in the first Horizon Europe work programme (2021-2022).
- **ENCI as political-ideological strategy.** While the European Commission is increasingly employing the term Energy Citizenship, and clamouring for more ENCI at the EU level, ENCI was not an integral part of early EU energy policy, as pointed out within several critical analyses of the 'ideology' (Lennon *et al.,* 2019). ENCI can be considered to be an emerging political ideal. Yet, ENCI (as promoted by the EU) can also be taken to indicate a somewhat less principled and wholehearted political concession, made in reaction to a certain (and rather unexpected) evolution of the energy field conveyed by energy communities and cooperative movements. Alternatively, it may also serve as a political strategy for EU-level policymakers. The discourse on grassroot activities could be used as a lever to push for an agenda that National Government may be reluctant to support. The suspicion of hidden political-ideological motives is supported by the observation that it took at least 15 years before the expression 'Energy

6. https://www.etip-snet.eu/etip-snet-energy-stories/

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Citizen' emerged in the EU energy policy initiated in the late 90s with the liberalisation process. As yet, – and in line with the spill-over doctrine and that of ecological modernisation – EU energy policy is still centred around the political project of the energy *market*, rather than around the EU energy citizen. From this point of view, the European Commission vision of ENCI could be taken as an ideology-driven political technique and/or instrument towards a more acceptable energy transition. This calls into question whether the emerging ENCI discourse is truly reflecting commitments to radical societal transformation in current centralised energy systems (Cf. further discussion in section 3.7).

- **Green Deal and the 'new social contract'.** Commenting on the Green Deal in a personal interview (13/07/2021), EC Vice-President Frans Timmermans expressed the need for a 'new social contract' (*le Soir*, 2021a). This reflects a broader concern amongst several EU political leaders about the political support for EU-wide, ambitious policies of energy transition. ENCI could be considered one of the concepts through which to further articulate this 'new social contract' in the years to come. If articulated further, it could eventually guide the translation of the new social contract into procedures for political participation and criteria for programmes of public investment.

2.4 ENCI as normative commitments of non-state actors

The following normative commitments of non-state actors are mentioned in the literature on energy citizenship: Environmental responsibility (especially the prevention of dangerous climate change), deepening of democracy, community benefits, autarky and opposition to corporate power and corporate irresponsibility (which includes the private appropriation of value).

Energy citizenship is a label not, or seldom, used by those who are said to practise it: energy cooperatives, communities and citizen initiatives to foster renewable energy use and protest for climate action. This implies that we should handle the concept with some nuance and care. Is energy citizenship a projected post hoc label, or a useful abstraction? Citizens and citizen associations prefer to speak of energy democracy, energy justice, energy poverty, energy autarky, as normative ideals. Citizens' rights have already been established by the democratic changes in the 19th and 20th century. Today, citizenship suffers from a bourgeois connotation, which is perhaps why labels other than energy citizenship are used. Nevertheless, the latter categories have much in common with professed ENCI visions, i.e., they are different labels and different interpretations of roughly similar normative commitments.

In France, which is not very well known for its participatory decision-making because of its top-down (hierarchical) political tradition, there are some local initiatives fostering energy citizenship. For example, energy citizens' committees were used to steer

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the local energy transition in Grenoble where people were selected randomly to ensure inclusiveness. Here, we see **ENCI as a vision of roll-back of centralised political structures** by opening up to more democratic governance in Member States, regions, or the Energy Union. In France, such initiatives are rare and not particularly favoured by governmental actors on regional and national levels[7].

In the middle and eastern European countries, the history of citizenship as performing duties (rather than having rights) works against the use of citizenship as a label. It makes it more difficult for people to become engaged through citizen action. In Hungary, there is the tendency to encapsulate citizen initiatives in a way that reinforces the autocratic system. This points to the potential significance of **ENCI as an emancipation struggle**. In the aforementioned countries, citizens do not see the state as an ally, but rather as a force of oppression – despite the democratic changes that have occurred over the last decades.

ENCI is also often promoted as a form of **active citizenship**. According to van Veelen *et al.* (2019), Devine-Wright (2007, p.71) portrays energy citizens as active participants rather than passive stakeholders in the energy system, who *'... can feel positive and excited about new energy technologies rather than apathetic and disinterested [...]'. This is a citizenship that is to be enacted through active participation rather than a citizenship conferred by a set of legal obligations and entitlements 'from above' (Mohan and Hickey, 2004; Biesta, 2009).'* Normative issues feature next to other issues, such as technology enthusiasm. Establishing and running an energy cooperative involves many activities (setting up a legal form, dealing with finance, management, and communication). People who join an energy cooperative as members at a later stage are far less active than those who were involved in the creation. Unfortunately, we lack systematic analysis on the time efforts and the concrete activities of different members.

7. Governmental bodies' openness to, and attitudes towards, citizen participation (and ENCI) differs across Europe. These salient differences will be explored further in Task 2.3, i.e., the regional workshops 'translating ENCI'.

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Figure 1: Energy citizenship according to non-state actors: Greta Thunberg (Credit: Getty)

Dreams of autarky. ENCI, in the interpretations of non-state-actors, is also tied up with political ideals of autarky. This is particularly evident in the aspirations towards living 'off the grid' through self-generated energy (self-consumption). Historically, this off-grid existence of renewable energy initiatives was just a basic starting point for the pioneers – solar panels or micro-wind turbines were, of course, off-grid since any grid connection was impossible by the late 70s/early 80s. There are certain libertarian ideals that ENCI resonates with, but energy autarky and electricity autarky can also be pursued[8] in communitarian ways. Considerations of justice play a role too: *'self-sufficiency, autonomous energy users and communities often aim to create energy systems that treat different stakeholders as equals, with a balanced distribution of costs and benefits'* (Juntunen and Martiskainen, 2021).

Renewable energy communities: Mixed motivations. The research on renewable energy communities (REC) addresses only certain forms of ENCI. Still, the phenomenon of REC is closely related to ENCI, and it sheds light on the broad range of motivations and effects. Hicks and Ison (2018) found motivations to be wide-ranging and overlapping.

8. The pursuit of autarky does not imply that actors envision entire independence and disconnection from the energy system, or that they disavow any reliance on resources from elsewhere.

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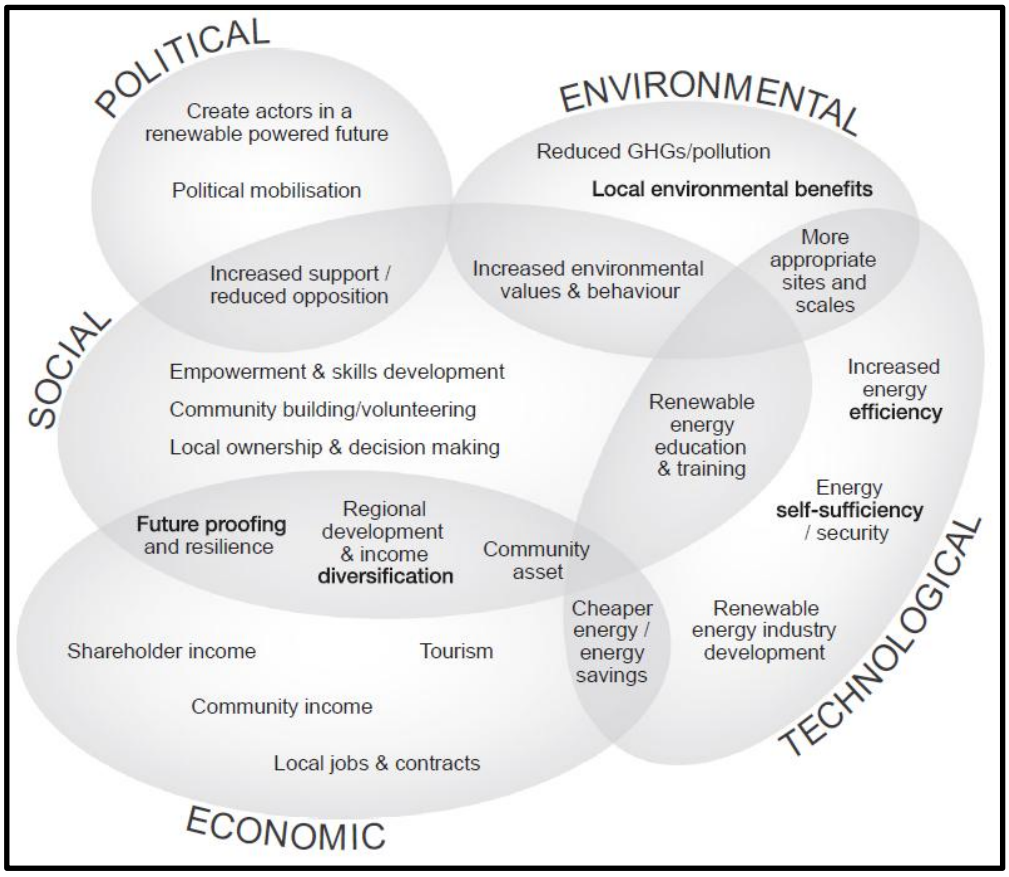

Figure 2: Motivations in community renewable energy projects (Hicks & Ison, 2018: 527).

The article found that actual effects may differ from the motivations: certain motivations could not be materialised, and certain effects were unplanned. Regarding the intended effects, 'Local ownership and decision-making' and 'greenhouse gas emissions reduction' were prominent as a motivator and benefit for most cases. In contrast to this, 'creating actors in an RE powered future' was a motivator for nine groups but obtained in only five groups [of the 25 cases]. Regarding other effects, financial benefit for shareholders and/or the community (via cheap energy costs, shareholder benefits and community income) is identified as a leading motivation for the case studies. This points to the importance of economic goals next to political and social ones. Voting rights, involvement of non-local organisations, political aims of transforming existing institutions, and community orientation were found to differ greatly across the cases.

The above discussion shows that citizenship in relation to energy is about many issues[9]: democracy, assuming responsibility for climate mitigation and sustainability more widely, joint ownership, changing democracy, anti-capitalism, justice, autarky, and

9. This is in line with the idea of people as 'evaluative beings', with normative views that inform their thinking and actions, as consumers, workers, capital owners and citizens. According to Andrew Sayer, people should be understood as sentient, evaluative beings whose relation to the world is one of concern (Sayer, 2011, p. 1). 'Concepts such as "preferences", "self-interest" or "values" fail to do justice to such matters, particularly with regard to their social character and connection to events and social relations, and their emotional force' (p. 2).

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resilience. This fits with the finding of Lee (2019) that 'applying a particular perspective (usually energy citizenship) provides a useful viewpoint regarding citizens' actions in relation to energy issues – **framing citizens' actions with just one category risks limiting our knowledge'.**

2.5 ENCI: Artistic expressions and cultural representations

Energy citizenship has certain scientific origins that have coined it as an emancipating concept (**section 2.2**). Several of these political ideals can be found back, literally or through adjacent terms, in political life (**sections 2.3 and 2.4**). Meanwhile, there is the constant sense-making that occurs through cultural representations and artistic expressions. The following visualisations sketch how ENCI discourse is currently circulating through a range of visual elements. The recurring clichés and the familiar imagery, in particular, tell us something about the understandings of ENCI that have silently become popularised.

Figure 3: Representation of energy citizenship (ULB Actualités, 2021)

The ENCI representation above was chosen by the ULB online magazine editors to accompany our EnergyPROSPECTS press release, translated into French: Le rôle des citoyens dans la transition énergétique – Actualités de l'ULB. The picture, of unknown origin, exemplifies how certain familiar visual elements tend to assert themselves:

- The **benign technology** (solar and wind energy installations).
- The green elements and promise of a **green future.**
- The **bright perspective** (the sunny sky and the overall bright colours).
- The **inventive, visionary**, creative view of citizens (the pointing finger).

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- The **collaborative-collective** agency (the two people appear to be in dialogue).
- ENCI is represented, somehow, as a **political ideal** (a future emerging before our eyes, and the person on the right of the picture seems to persuade the person on the left to take part in it).

Anna Zaretskaya 'Energy Transition Needs to be Done Together and with Great Passion'

Fion-Jasper Hoppmann 'We are Shaping the Energy Transition – Responsible & Participating'

Lia Ho 'Courage to Shape the Future'

Matthias Preti 'With Power and Dedication and Motion for a Berlin Worth Living in: Connected – Intelligent – Efficient.'

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Maria Reinisch – Presentation of the 'Energy and Art Project'

'We need to learn to consume electricity exactly when there is enough supply. We can do this! But everybody needs to join in and share the same vision and goal for the future. Only then can the energy transition – the central project of our generation – will become a success. So, it is of utmost importance to address both the emotion as well as the mind.

We need to win over the hearts and minds and better engage the public. This is where art comes into the picture: art makes the topic emotionally accessible and inspires thinking and engagement. In short, art can address every part of a human being. The artworks presented here prove this: each one is based on three different perspectives. After presentations various ideas were discussed and combined in small groups.

In the end, the artist concerted the result of these discussions into a picture – and added his or her own personal touch.

This creative process activates different brain areas rather than merely a rational approach – leading to concrete visions and pictures of a desirable future. A whole gallery of visions was created – and this gallery can change views, not only of the direct participants. The visual approach makes the abstract topic "energy transition" accessible for a broader audience. It provides an additional aesthetic dimension and offers visitors food for thought and inspires them to come up with their own inner pictures – just like in Goethe's insight: "Art is the mediator of the inexpressible."' *https://energie-und-kunst.de/en/the-project/*

Figure 4: Energy and Art Project

The Energy and Art project (of which we selected four particularly representative pictures) shows a co-creative process in which artists are becoming part of the energy transition. It also shows the circulation of ideal visions aimed at fostering emotions, thinking and engagement, through 'concrete visions and pictures of a desirable future'. This project is simultaneously enacting ENCI and seeking for its widespread realisation. Taking a closer look, these pictures tend to underline some key ideas:

- A **human-centred and collective** (for 3 of them) **process** through the flow of energy of the crowd moving in one direction, the 'hand-in-hand' circle, the representation of everyday life, or the little girl carrying another possible future.
- Shaping a **green and bright future** (thanks to the dominant green colour and the rather flashy colour schemes).
- A desirable pathway, putting a new light on the world, which requires **courage, dedication, passion, and power to the people.**
- A necessary participative process, **engaging (groups of) individuals as well as the un-distinct crowd.**
- **Grey colours that stand for the past energy system** (nuclear power plant in the background), to be replaced by a more colourful and liveable world.

The visual expressions form part of an intensive visual debate, i.e., competing images of reformist or transformative ideas about social change and empowerment (Cf.

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section 3.7). ENCI can for example be communicated through the conventional images of technological innovation, ecological modernisation, ambitious Green Deal visions and new frontiers for innovation policy (**Figure 5** highlights the innovation icon of the lightbulb).

Figure 5: ENCI as innovation policy-guided futures

On the other hand, ENCI discourse (in its interpretations leaning towards energy democracy, energy justice, energy autarky, etc. – Cf. **section 2.4**) also develops as part of the representations of social transformation and empowerment. The wall painting by Banksy is a particularly well-known and influential example (**Figure 6**).

Figure 6: Visual discourses of change and empowerment (Source: Banksy)

Another example of transformation-oriented ENCI representations is the documentary 'The 4th Revolution – Energy Autonomy' by the German filmmaker Carl-A. Fechner. It presents a sweeping vision: a global community whose energy supply is 100 percent renewable sources – accessible, affordable, and clean for everyone.

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Figure 7: ENCI in cultural representations: Energy Autonomy (Carl Fechner)

2.6 Contents and ethical commitments of a contested ideal

We have described ENCI as a social construction that involves (engaged) scholarship (**section 2.2**), various political actors (**sections 2.3** and **2.4**), as well as the visual discourse formation through artistic expression and cultural representations (**section 2.5**). These are interlinked processes of social construction. One of our visualisations came from a press release introducing our research project. In turn, this project was funded through a research programme that is guided by certain ENCI-related ideals and policy objectives. The other visualisations can similarly be retraced to visions upheld by various political actors.

The above accounts of ENCI show how it carries various ethical considerations and political commitments. It is a contested concept that is subject to all kinds of appropriations. The happy visualisations cannot hide that there are many discussions on what ENCI should achieve, and on what would be impactful and transformative enough to qualify as ENCI. As indicated, there are good reasons to consider how the political ideals may operate as ideology – as a strategically deployed narrative of empowerment (Cf. **section 2.4**).

However, this critical awareness should not lead us to simply discard the ENCI concept. It is not an empty 'buzzword' concept – not in the analytical sense, and certainly not in the normative sense. It is a malleable concept, but not too indeterminate to guide any particular action in the energy transition. After all, there is at least some broad consensus that ENCI comprises more than a formal, *de facto* implication in the energy system, that it involves a certain empowerment and inclusion, and that it – somehow – plays a part in the pursuit of energy democracy and energy justice. It is important to articulate the positive associations with the concept, the ethical commitments that it expresses, the visions and desired futures associated with it, the searches for empowerment that it is guiding, the

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social critiques that inform it, the narratives of transformative change of which it forms a part. Naturally, this also includes the contestations of the concept, the critiques of its possible ideological operation and the disempowering implications of certain limited ENCI interpretations. Furthermore, it encompasses the attempts to reinvigorate and radicalise ENCI, and the preference of various actors to deploy different but intimately related notions such as energy democracy and community energy. This articulation of ENCI contents may not produce a clear-cut definition of its essence, but it does show the ways in which ENCI is a very meaningful concept.

As indicated, this reconstruction of ENCI ideals serves as the thesis that starts a dialectical process. It provides a certain focus for the critical analyses and antitheses of ENCI in the following chapter. It has been clarified how ENCI is understood and communicated, what it can be taken to refer to empirically, and which actors are promoting and appropriating it. Importantly, this chapter provides a certain normative orientation. The subsequent conceptual explorations and critiques will be guided by the ethical commitments and normative yardsticks identified here.

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3 Unpacking ENCI: distinctions and latent forms

Energy citizenship is a political ideal, a 'socio-technical imaginary', or a 'knowing of governance' that expresses various concerns and insights about the ongoing energy transition (**Chapter 2**). However, it raises a range of questions regarding various apparent deviations from the ideal form, certain shadow sides and ambiguities, and the representativeness of the recurring depictions of ENCI. *Which are the under-represented, less visible or even entirely latent forms of energy citizenship that we may be overlooking in our searches for relevant cases? Which kinds of agency can it be taken to refer to?* (**section 3.1**). It is important to unpack this layered and ambiguous concept. This unpacking proceeds along seven key distinctions (**sections 3.2-3.8**). Each of them is developed through different combinations of theoretical perspectives. This includes both the longstanding political-theoretical discussions on citizenship as well as various more recent research strands on matters of energy system transformation.

3.1 Energy citizenship: Beyond the political ideal

Section 2 has clarified the key visions, assumptions and normative commitments that give substance to ENCI. Common empirical examples of it – across scholarship, political discourse and cultural representations – are the politically engaged citizens, the environmentally conscious consumers, and the citizens collaborating and associating in energy communities. In normative terms, these recurring examples show us the somehow advanced citizens, and not so much those struggling to meet the ENCI ideals. The celebrated examples tend to narrow down the understanding, similar to the ideological narrowing down signalled by Lennon *et al.* (2020:3): They point out a *'…wider shift politically towards narrow, prescriptive definitions of citizenship and the elision of what it means to be a citizen and/or a consumer.'*

In analytical terms, these recurring examples probably constitute only the visible tip of the iceberg. They may be the relatively most 'advanced' energy citizens and countries, by certain standards. But, leaving this sensitive – What precisely constitutes 'advanced'? – matter aside for a while, there is also the basic research desire to go beyond the tip of the iceberg, and to investigate what lies behind the first-sight impressions: *How to disclose the broader range of energy citizenship, and gain a better view on the full variety of empirical ENCI cases?* There is also an important temporal aspect to this. The recurring examples are arguably only a subset of the energy citizenship as it exists in 2021, and in the near and distant future this picture will change further. ENCI, or the societal context for it, has evolved significantly since the early formulations of Devine-Wright (2007). It develops in the context of an energy transition that has moved well beyond its initial stages. As discussed in transitions research and as underlined in recent announcements of the EU

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Green Deal package, this next phase of climate transition will be impacting everybody (NRC, 2021). In other words, ENCI is arguably becoming less of an elevated ideal or an identity of certain leaders in social change. It arguably will become more of a widely spread, somehow 'mainstream', mode of living. And this normally entails a degree of diversification. Over the course of the transition, the ideal forms are likely to become surrounded by a more variegated set of ENCI variations.

This chapter will proceed along the basic idea developed in Pel and Kemp (2020), namely that there are 'manifest' and 'latent' forms of social innovation that both merit analytical attention (Shove 2012). In the same vein, we can consider the recurring ENCI examples as the most conspicuous, manifest subset of energy citizenship. The various images of 'active', engaged, 'sustainable' or otherwise desirable energy citizenship – or of 'climate citoyens' as Radtke (2016) described them with reverence in **section 2.2** – can be thought of as a quadrant in a broader typology. Due to the widespread preoccupations with certain celebrated, idealised examples, this typology is – as yet[10] – largely unknown and under-defined. Next to the very prominent, easy to visualise, intuitive, common-sensical, desirable, fashionable, idealised forms of ENCI, there must be a range of less prominent counterparts.

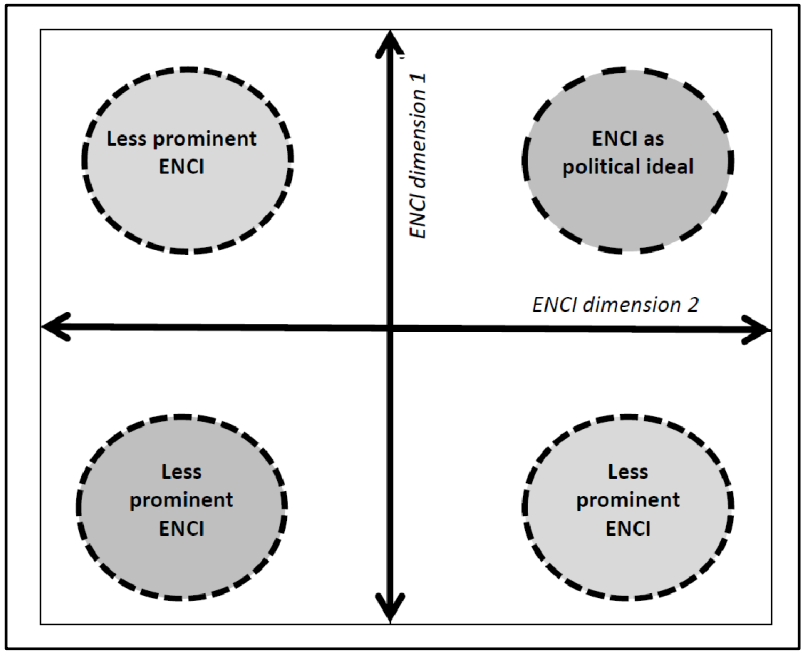

Figure 8: Idealised/prominent forms of ENCI and their as yet unknown counterparts

Which could be the other – perhaps less visible, less exciting, and less desirable – types of energy citizenship that we might be overlooking?

These relatively latent forms will be systematically explored through a kind of theoretical triangulation. Energy citizenship will be considered through a wide variety of

10. Chapter 4 describes in more detail how our critical conceptualisation will be elaborated into an ENCI typology. The typology will support systematic empirical research of it.

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mutually complementing theoretical perspectives. The choice of perspectives reflects the fact that the ENCI neologism is a composite term. It can be taken as a derivative of 'citizenship', but also as a branch of energy (transitions) research. Various Social Science and Humanities angles are complemented by insights on energy systems and energy transitions. The latter bring not only important domain-specific knowledge on the energy aspect of ENCI, but also elicit the particular kinds, functions and challenges of citizenship as it develops in large socio-technical systems like energy. Thus, the analysis rests on theoretical perspectives such as:

- **Political science and political philosophy.** This contextualises ENCI in longstanding debates about citizenship and community.
- **Sociology.** This contextualises ENCI in scholarship on communities, individualisation and collective action.
- **Institutional theory and Third sector studies.** These angles highlight how citizenship and ENCI are shaped by different institutional logics.
- **Science and Technology Studies**. These insights highlight how ENCI develops within a changing social-material context, and notably of socio-technical energy systems.
- **Critical social theory.** This places ENCI – and the contestation of the concept – in the longer scholarly tradition analysing ideals and ideologies of citizenship, individuality, and empowerment. Critical-theoretical concepts like alienation, discipline, commoditisation and reification clarify the problematic aspects of individuals' implication in societal (energy) systems.
- **Environmental psychology.** This clarifies how the ENCI ideals correspond with different kinds of relations that individuals may have with the environment. This angle also helps to probe the ENCI promises of contributing to environmentally sustainable energy.
- **Social psychology.** This perspective clarifies how ENCI ideals are presupposing certain processes of (dis-)empowerment and identity formation.
- **Socio-technical transitions and innovation theory.** This highlights how ENCI amounts to a set of social-institutional innovations, co-evolving with many other technological changes and innovations. These angles also highlight how ENCI develops in the context of an ongoing long-term process of energy system transformation.

These perspectives have developed a range of questions on citizenship, energy systems, and accordingly on ENCI. These critical discussions are summarised along seven key distinctions.

- **Active and passive ENCI. (section 3.2)**
- **Public and private spheres. (section 3.3)**
- **State citizens and participants in the hybrid institutional sphere. (section 3.4)**
- **Individual and collective agency. (section 3.5)**
- **Shallow and deep environmental citizenship. (section 3.6)**

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- **Pragmatic and transformative involvement in the energy system. (section 3.7)**
- **Frontrunners and laggards. (section 3.8)**

For the sake of clear exposition, this unpacking proceeds along a set of dichotomies. However, the discussions will typically unfold the shades in between the extremes. This is in line with the differentiating approach behind the otherwise rather essentialist ENCI understanding proposed by Devine-Wright (2007: 78): *'Presenting these ideas in this* [schematic – our addition] *form has the disadvantage of suggesting that these representations are dualistic opposites, and that the "energy citizen" view will or should simply replace the "consumer/deficit" as normative in UK energy policy.'*

3.2 Unpacking ENCI: Active and passive

The political ideals of energy citizenship assume a certain active, engaged, empowered form of citizenship. This assumption of active engagement is shared across the otherwise divergent interpretations of ENCI. *What would be the – perhaps less prominent, visible and desirable – counterparts of such active ENCI? Which variations and deviations of this active ENCI seem to be relevant as well? What kinds of passive, disengaged, disempowered ENCI can be identified – and why would we consider them as ENCI or not? Why would we analyse these forms? What is interesting about them?*

The idea that ENCI is necessarily *active* citizenship is also explicit in the seminal writings on the concept (Cf **section 2.2**): Circulating alongside the 'deficit' view, an alternative representation of the public can be identified involving quite different assumptions about public awareness, motivation and concern about energy – active publics, which are likely to lead to very different pathways of technological change. This is described as 'energy citizenship' (Morris, 2001; Devine-Wright, 2007) in which the public is conceived as active rather than passive stakeholders in energy system evolution. The associated potential for action is framed by notions of equitable rights and responsibilities across society for dealing with the consequences of energy consumption, notably climate change. (Devine-Wright, 2007: 71)

If ENCI is indeed by definition active, 'active ENCI' would be a tautology, and 'passive ENCI' would be an oxymoron. But that seems too simple. The longstanding theorisation of citizenship has made clear that there are certain shades of grey (of activity) to unpack. One can think of Dobson's (2003) account of Bryan Turner (1990), 'A Theory of Citizenship', in which both the active/passive and top-down/bottom-up distinctions are underlined as key dimensions of citizenship:

> 'Turner refers to "two crucial variables" in citizenship theory. The first, he writes, "concerns the passive or active nature of citizenship, depending on whether citizenship is developed from above (via the state) or from below (in terms of more participatory institutions, such as trade unions)" (1990: 189). The second, he continues, "is the relationship between the public and the private arenas

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within civil society. A conservative view of citizenship (as passive and private) contrasts with a more revolutionary idea of active and public citizenship" (1990: 189).'

One could similarly interpret Arnstein's famous 'participation ladder' as a continuum of greater and lesser participation, greater and lesser exertion of citizenship. The very lowest steps on the ladder would then roughly correspond with 'passive' citizenship. Or inversely, the idea of 'passive energy citizenship' calls attention to the existence of citizens who have not even started mounting Arnstein's ladder – whether due to disempowerment, disillusionment, or disinterest. The 'passive energy citizenship' category seems to roughly correspond with various forms of 'latent' political participation pointed out by Ekman and Amnå (2012: 287-288), such as blank voting or non-voting[11], and more generally the various politically behaviours of citizens that *on the surface* appear semi-political or non-political.

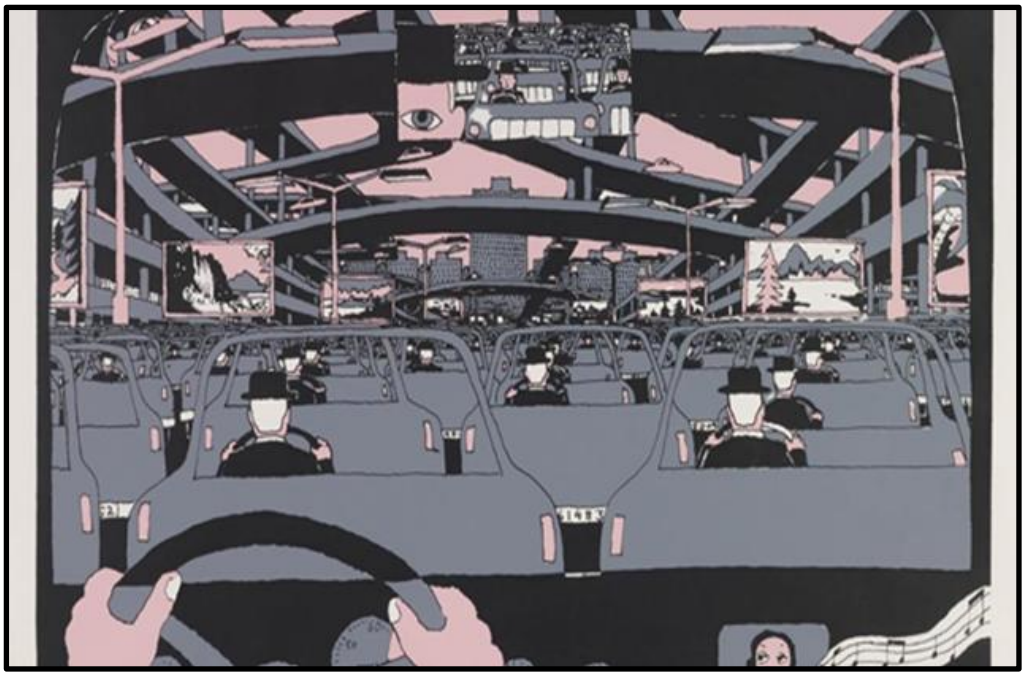

Figure 9. Passive Energy citizenship (Source: Pushwagner – 'Soft City')

Figure 9 by the Norwegian artist Hariton Pushwagner shows how there is also a visual discourse on *'passive'* energy citizenship. It exists alongside the abundant images that express the active forms (Cf. **section 2.5**). It is useful to remember that the ENCI concept has been coined as an alternative imaginary to the stock image of the 'deficient' citizen. Now, it may be that the latter idea of the deficient citizen is inaccurate and misleading (it is indeed a convenient way to legitimise expert-dominated energy policies and protection of incumbent energy system structures). Yet, it is not irrelevant. The Pushwagner representation of detached, disengaged, consumerist, dehumanised quasi-

11. Blank voting and non-voting are quite different kinds of political agency. This underlines the relevance and scope of the 'latent' political participation as argued by Ekman and Amnå (2012: 287-288).

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citizens is supported by an extensive critical-theoretical scholarship that elaborates this widespread alienation. Passive, deficient, or at least *less-than-active*, energy citizenship can be understood as an endemic phenomenon resulting from decades of societal evolution. One can think of the centralised decision-making structures that tend to come along with the development of Large Technical Systems (Summerton, 1994).

Also relevant are the innovation-sociological accounts of the 'delegation' of agency to technologies and experts (Latour, 1992). This tends to liberate and unburden individuals, but it also erodes certain capacities to act and to interact (Pel 2016). Meanwhile, scholarship on deep ecology and environmental philosophy has elicited the various forms in which energy-consuming people have become alienated and detached from the associated energy production, extraction of resources, and impacts on others. Passive energy citizenship can also be considered as a sediment of the 'industrial modernity' principles that have shaped current socio-technical systems (Schot and Kanger, 2018). The liberalisation of the energy market may have evoked a certain financially aware energy consumership[12]. Simultaneously this activation has entailed a certain detachment, however. The consumer logic brings along a certain disconnected attitude. Citizens are encouraged to regularly break with energy providers, rather than maintain longer-term relations with them.

These accounts of path dependency, systemically induced deficiency and alienation shed new light on the current appeals for active ENCI. These ENCI imaginaries appear to presuppose the very kinds of (engaged, active, creative) agency that historically have become eroded. As a consequence, this concept exerts a certain discipline. On a Foucauldian reading, it exemplifies how emancipating concepts tend to ascribe capacities, normalise certain behaviours – and thereby oppress. ENCI discourse is positing a certain kind of normality to which individuals may easily learn to conform, whilst others are struggling to keep up with the new demands to act and engage in certain ways. Emphasising the historical formation of passivity and the associated struggles to keep up, these critical-structuralist perspectives provide important nuance to the pejorative notion of the 'passive' energy citizen. The passive ENCI is not just a non-citizen or a 'deficient' citizen. It also refers to vulnerable, disempowered, alienated individuals, and to overburdened citizens who have been urged to do significantly more than opening the mail[13] from their energy providers.

The scholarship on ENCI, and on citizenship more generally, in fact, indicates a broad spectrum of more and less active ENCI. In the classic conceptualisation of Devine-Wright (2007), there are four key representations of energy and energy users, which carry with them certain perspectives of the individual and the social collective, and of the potential for engagement and participation in the energy system. Although the neoliberal and more radical forms of ENCI share a core vision of the active citizen, they differ on the

12. Just as current energy policy frameworks endorse the active energy prosumer – see section 2.4.
13: This example reminds of the thresholds that even exist for the very lowest steps of the ENCI ladder.

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prominence they assign to the private versus public spheres of action and to the consideration they give to power relations and the limitations they impose on individual agency (Lennon *et al.,* 2020). It is also relevant that Devine-Wright defined ENCI as a new facet of the 'energy as social necessity' representation. He complemented the original focus on vulnerable groups with a more empowered and active aspect of participation in the energy system.

While the active-passive distinction refers to behaviour or action, in its ideal version, ENCI echoes particular assumptions regarding individual capacities and profiles. Levels of knowledge, awareness, motivations to act, and capacities or skills are assumed. From a social psychology perspective, these are key dimensions from which action stems. If change is sought, these dimensions should be understood and influenced. ENCI presumes an individual that is relatively aware of the importance of energy as a resource and a social necessity (Devine-Wright 2007), has relatively extensive knowledge of the energy system and its local, place-related implications, and/or is motivated to learn and constantly improve his/her energy performance.

ENCI places the emphasis on the energy user's role as a member of a political community. Meanwhile, behaviour change campaigns place the focus on private sphere individual actions. They suggest a certain set of psychological characteristics of the energy citizen. She endorses biospheric and altruistic values, rather than hedonic or egoistic values (Steg, 2016), understands the impact of individual consumption behaviour on ecological and environmental systems, assumes responsibility for environmental impact and, in her more transformative version, she considers nature as part of the self or endorses a pro-environmental identity (see **section 3.6** for further discussion). The more neoliberally oriented approaches make room for values and motivations stemming from enlightened self-interest, i.e., financial or cost-reduction motivations.

The ideal energy citizen engages in political action in a continuum between the private and the public sphere, and between the system-confirming and system-opposing extremes. Within the private sphere, she expresses herself politically through conscious consumerism. She makes purchase decisions that take into account the energy footprint of products, and installs house technologies that contribute to energy efficiency, through monitoring and actions to reduce overall consumption. Within the public sphere, she pays attention to energy debates and expresses positions actively through voting, or the lending of support to various initiatives and movements (e.g., signing petitions, maybe joining a manifestation). Such a perspective has been criticised as reflecting a neoliberal perspective of the citizen as consumer and a constraining public sphere of participation, where questions of exclusion and inequality are avoided (Lennon *et al.,* 2020).

A less constraining perspective on citizenship, deriving from the democratic perspectives outlined in **section 2.2**, focuses on the active energy citizen as deeply engaged in participation processes to shape the energy transition. A certain type of compliant participation, whereby citizens endorse the basic tenets of the centralised energy system and/or its pathways towards change or transformation (e.g., by focusing the debate on

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where to install solar panels or windmills) is treated as desirable, with the overall objectives centred on endorsement or acceptability of the top-down policies. In this predominantly top-down approach, participation is equated to active engagement within an agenda set by public officials and endorsed by technical experts.

In contrast, advocates for a bottom-up approach to participation, and an enlarged sphere for citizen engagement with energy system transformation (Lennon *et al.,* 2020) place their empirical and policy focus on the higher-commitment starting or joining of energy cooperatives, becoming a prosumer, or joining social movements to change energy systems, lifestyles, or patterns of production and consumption. This type of energy citizen endorses ideals of sustainability, believes in her capacity to act on goals that matter to her (Avelino *et al.,* 2020) and becomes creative in generating the social relations and systems that can support a relocation of citizenship within wider contexts of social engagement in the energy system (Defila *et al.,* 2018; Mullally *et al.,* 2018), as notions such as social innovation have proposed.

The active versus passive distinction of energy citizenship places the emphasis on the acting (knowledgeable and caring) individual, versus the non-acting (ignorant, disinterested) individual. From a business as usual, system-confirming perspective, acting includes classical political behaviour, with its private versus public sphere variants, with empirical manifestations such as conscious consumerism, voting, participating in public consultations and even joining an energy cooperative to have access to renewable sources of energy. From a system transformation or social innovation perspective, acting involves a deeper questioning of existing structures for engagement and participation, and actions or behaviours to enlarge the potential for action, through engagement in collectives and social movements. Passive forms of ENCI would refer to lack of interest and involvement in any action both in the private and public domains. The passive citizen as a social representation is not interested in, nor willing to engage with, energy issues and is content with the centralised provision and management of the system. Dobson states:

> 'Although not formally included in my list of contrasts, I should mention the often-made distinction between active and passive citizenship. From an analytical point of view this distinction has much to commend it at first sight, particularly if it is placed alongside the contrast between rights and duties. From this perspective, active citizenship has to do with the discharging of duties and responsibilities to the political community and its members, while passive citizenship is associated with sitting back and claiming the rights that are due to the individual qua citizen. The distinction between activity and passivity begins to unravel, though, with the recognition that it is tendentious to regard a "preoccupation with formal rights" as defined almost entirely in terms of the possession of rights' (Kymlicka and Norman, 1994: 354; see also Roche, 1992: 20) (Dobson, 200).

The passive energy citizen would include those who, despite raising awareness (as European opinion polls have been suggesting for several years), are unmotivated to act.

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The lack of action and desire to change can be taken as passivity. Yet, this as well may be too simple. For example, it neglects the potentially active forms of rebellion, or political opinions that diverge from the manifest ENCI ideals (Cf. Chapter 2) – yet, which still display active political engagements. One can think of the beliefs about the continuous availability of resources through technological innovation, which motivate lavish or 'conspicuous consumption' behaviours (Bronner and de Hoog, 2018) or the social desirability of resource- and consumption-intensive lifestyles. And adding more shades of grey: *How about those active citizens in favour of allocating public funds to purposes other than energy transition, environmental conservation and sustainability more broadly? Could such active, or even militant, non-endorsement of an environmental agenda be considered an active form of (anti)environmental citizenship?* The fact that they are not explicitly expressed in public discourse, due to the current unpopularity of an anti-environmental political position, does not mean that these are not active forms of ENCI. *Can active behaviours that oppose the normative ideals of ENCI be considered as active ENCI?* This is where we see that potentially latent forms of active ENCI do not necessarily fit the normative ideals, which brush over a broad range of notions such as sustainability, environmental justice, or democratic participatory and (truly) deliberative processes. Different commitments to, and understandings of, notions such as these characterised different forms of active ENCI, on both ends of the supporting-opposing spectrum of the normative ideal.

Loosening the common normative understandings of the concept and considered along analytical distinctions of active/passive and public/private sphere, ENCI would include active resistance forms of participation, for example, protesting against the location of windmills or solar panels, pro-nuclear energy manifestations, and even the 'gilets jaunes' movement in France – alongside joining energy cooperatives or antinuclear protests. However, theoretical conceptualisations and empirical demarcations of ENCI tend to focus on desirable forms. They often include a normative component through which ENCI refers to active forms of engagement in environmentally and socially *sustainable* energy transitions. This excludes some of the very active but unpopular forms of individual and collective manifestations, such as protests against fuel taxes, or debates regarding the desirability of renewable energy sources being located close to residential areas. These often coincide with motivated, knowledgeable, and locally-attached individuals – i.e., conform to the active energy citizen model.

Desirable forms of ENCI are also related to the incumbent political agenda and the power relations embedded in the energy system. Socio-technical systems are shaped by social practices, relations of power and existing institutions and economic networks. The perspective of the 'good citizen' is shaped similarly by statist and market-driven determinations of future energy systems. Lennon *et al.* (2020) state that:

> 'These imaginings invariably involve minimal disruption to current centralised models of energy production and distribution, a continued (re)conceptualisation of energy as a commodity, and the maintenance of corporate ownership and

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control over individualised patterns of consumption, all of which inform the shift to renewable power and greater energy efficiency'.

The emphasis on individual responsibility and capacity for action has a dark side: the citizen becomes exclusively burdened with the responsibility and power (or failure) to act. The politics of 'every little step counts', drawing attention away from the big steps of system transformation, are echoing heavily in some of the depictions of the 'active energy citizen' (**section 2.5**). Mental and moral justifications for inaction are scrutinised as *psychological distancing or moral licensing,* often disconnected from analyses on capacities to act. The presumption of limits to individual capacities for knowledge, motivation and action have led to the prominence of approaches such as nudging. This incorporates certain limitations to individual capacities, yet it retains a neoliberal emphasis on rational choice.

When assuming ENCI to be active and restricting the concept to this relatively manifest side of it, the important issue of empowered action is at risk of becoming obscured. We will come back to this in **section 3.5**.

3.3 Unpacking ENCI: Public and private spheres

The political ideals of energy citizenship – as expressed, for instance, by policy-makers and EU-Institutions – seem often to embrace the political agency of individuals and groups within the boundaries of the private sphere. This is to say, they raise attention to the realm of household and, eventually, workplace – as complementary to (but perhaps in opposition to) the role of market and state institutions in the energy transition (see 3.4). From such a point of view, energy citizenship could be understood to be rather confined to the private sphere, and to the most extent to the 'grassroots' movements such as energy cooperatives and communities. *Can ENCI be really restricted to the boundaries of the private sphere? Why is it considered as a private matter, and what would be the counterparts of this 'confined' ENCI? What would an unbounded energy citizenship be like? And what sorts of framing enable ENCI to be deployed beyond the private sphere?*

What strikes immediately in this political ideal, in which ENCI appears as *de facto* circumscribed to the private sphere, is that it seems contradictory to the common definition of citizenship. Indeed, the distinction between private and public spheres originates in political theory and its views on citizenship (cf. 2.2 *infra*). Traditionally, both liberal and civic republican approaches of citizenship consider it as a strictly *public* matter – whilst the private sphere has to remain private and cannot be part of citizen life. The introduction of privacy, *i.e.,* what occurs in households for instance, is a recent movement notably fostered by inclusiveness, gender and ecological concerns. If the public sphere remains a common basis for citizen activities, its extension to the private sphere consists in acknowledging the legitimacy of the private sphere as a possible site of citizenship, though with some limits. As underlined by Dobson (2003): *'This is not to politicise the whole of the private sphere in an invasive way, but to recognise that some of the things we do in the*

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private sphere have citizenly characteristics.' If citizenship can be extended to various aspects of the private sphere, the forms of ENCI that are anchored within the private sphere mostly belong to the latent forms. It is especially the case with efficiency-related practices, in that they remain in the private sphere. On the contrary, prosuming practices are more visible (especially solar panels on roofs) and could be seen as more 'manifest' forms of ENCI. Yet, the 'private' ENCI is still in the bosom of 'latent' forms, considering the multiple leverages leading to such efficiency and/or sufficiency practices. Indeed, the energy transition and sustainability concerns remain hardly detachable from financial and opportunist motivations, which lessens their potential as 'manifest' citizenship.

Also, this could help to explain the common focus on the 'private' sphere of energy citizenship. Private actions may have virtuous implications and many of them could be regarded as acts of citizenship. This private side of citizenship can easily be extended to the workplace, for instance, and especially to those with a strong sense of responsibility for the energy transition (or sustainability more generally)[14]. ENCI could be taken to refer to those who champion those issues in an organisation and outside an organisation, in partnerships with others, including civil society which they consider as an ally. There is also citizenship in universities. It is exercised by those pursuing a renewable-based energy system, expressing this normative ideal openly in interactions with students and the public sphere (on radio, TV and in opinion pieces). This shows how there is often no clear border between the private and public spheres. Private energy-related decisions may express normative goals and ideals, and professional work in government, private industry, consultancy services and academia may reflect these values as well. Professionals with a passion for renewable energy may join an energy cooperation, and, after retirement, they often serve in a managerial capacity. This focus on private actions, whether in the households or in organisations, conveys a rather narrowed view on the possible forms of energy citizenship. As well as this, it draws unwarranted limits to the breadth of energy democracy.

The 'private energy citizenship' and 'energy communities' imaginaries praised by policy makers can be considered the two facets of similarly confined ENCI and energy democracy understandings. Indeed, 'energy communities' represent the advantage of a local scale – often with restrictive boundaries. Also, they present an idealised image that hides a more contrasted reality – in which energy communities are instrumentalised by governments to achieve local acceptance of RES, as Goedkoop and Devine-Wright (2017) state:

> 'There is indeed an international trend to encourage the shared ownership of renewable energy projects between company and community actors. Examples of specific projects include the Middlegrunden offshore wind farm in Denmark, where 50% of the project's value is owned by citizen-shareholders, many of

14. Of course, those actively engaged within their organisation have their counterpart, for instance, those who are involved in energy issues because it ends up being in their job description. They may work in municipalities that have joined the Covenant of Mayors or similar initiatives, etc.

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> whom were local residents and the Earlsburn wind farm in Scotland, where the Fintry community negotiated a 1/15 stake in a local wind farm proposed by the developer, Falck Renewables. In terms of energy policies, the Danish Renewable Energy Act (2009) obliges wind energy developers to share 20% of the value of their projects with local communities living within 4.5km of the site, with similar legislation in one German federal state and in Belgium. It is notable that these initiatives define a community in heterogeneous ways, with some emphasising collective involvement (e.g., Fintry) and others the involvement of individuals as share purchasers. Some emphasise the involvement of local residents (e.g., share purchase only eligible to those within 4.5km of a project site in the Danish example), whereas others are open to the participation of citizens living elsewhere (e.g., Middlegrunden). These differences reflect the persistent ambiguity of "community energy" as previously identified in the literature'.

Citizenship as defined by the state and by those who are practising it can gravitate towards a deliberately narrowed and instrumentalised version, far from the potentialities attached with more extensive views on the concept. As Van Veelen (2018) underlines:

> 'Concepts of energy citizenship and democracy thus open up the possibility of conceiving participation not solely in deliberative forms, but also raises questions around the impact of material forms of participation on the changing boundaries between the public and private sphere.'

The vision of an ENCI confined to the private sphere can arguably not be sustained – this would suppress its more latent forms. Yet, ENCI better not be circumscribed to the public sphere either. This would omit a large range of private actions that are pivotal towards the raising of energy awareness – and therewith for the spreading of ENCI and associated energy democracy ambitions. The changing boundaries between the public and private spheres suggest considering some of the household or workplace individual activities as possible parts of ENCI. Furthermore, this suggests a broadened perspective that is attentive to the process through which ENCI comes into being both individually and collectively – including the material (Ryghaug et al. 2018) and collective forms of participation that may foster it. For instance, it is too rarely acknowledged that energy communities tend to form part of various sorts of hybrid arrangements, including private companies (that supply equipment, management, services, etc.). This specific aspect is elaborated on in the following subsection.

3.4 Unpacking ENCI: State citizens and participants in the hybrid sphere

When Devine-Wright (2007) formulated ENCI as a political ideal, it was in clear opposition to the figure of the passive consumer. The recent political uptake of the concept is equally emphasising the engagement in public causes, political participation, and civic initiatives towards energy democracy and energy communities. *What would be the*

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counterparts to this rather classical, state-oriented understanding of ENCI? Can institutionally hybrid forms of ENCI be identified? Can corporate social responsibility and various forms of social economy and cooperatives also be considered ENCI? Can more or less commercialised forms of prosumerism, after all a quite prominent manifestation of citizens who participate in energy transition, be considered ENCI, and why (not)?

Scholarship on the Third Sector, public administration and the Social Economy situates ENCI in the broader shift from government to governance. Public issues (like the energy transition) are no longer exclusive matters for governmental policy – they are settled by diverse networks of interdependent public and private sector organisations (Koppenjan and Klijn, 2004). For example, Wittmayer *et al.* (2021) consider how renewable energy prosumerism develops in a hybrid institutional sphere, on the edge of the institutional logics of market, state and community (Cf. Figure 10 below). Thus, energy prosumerism diverges from the classical citizenship that is confined in the upper triangle.

Characterised by the combined self-production and self-consumption of energy, energy prosumerism hovers in between community energy initiatives, more or less sustainable 'enlightened' enterprises, state-led regional development constructions, and, indeed, the various hybrid institutional constructions. Various scholars have pointed out that RE prosumerism legislation should better demarcate the concept, to prevent efforts to support non-profit activities opening up to commercial uses (Pienkowski, 2021:3). Brown *et al.* (2020) have reminded us that RE prosumerism is, as yet, mainly indicating a set of new *business models*. Leaning strongly towards the right corner of the diagram, at least the commercialised forms of prosumerism are arguably beyond what can reasonably be called ENCI. Rodhouse *et al.* (2021:4) appear to consider ENCI as a counterpart to the 'imagined public' of the energy prosumer, set apart roughly through the for-profit/non-profit division. *'Like the prosumer, the energy citizen is an active enabler of renewable energy realisation; in addition, energy citizens are considered politically aware, motivated, and concerned and want to realise a system with equitable rights and responsibilities across society'.*

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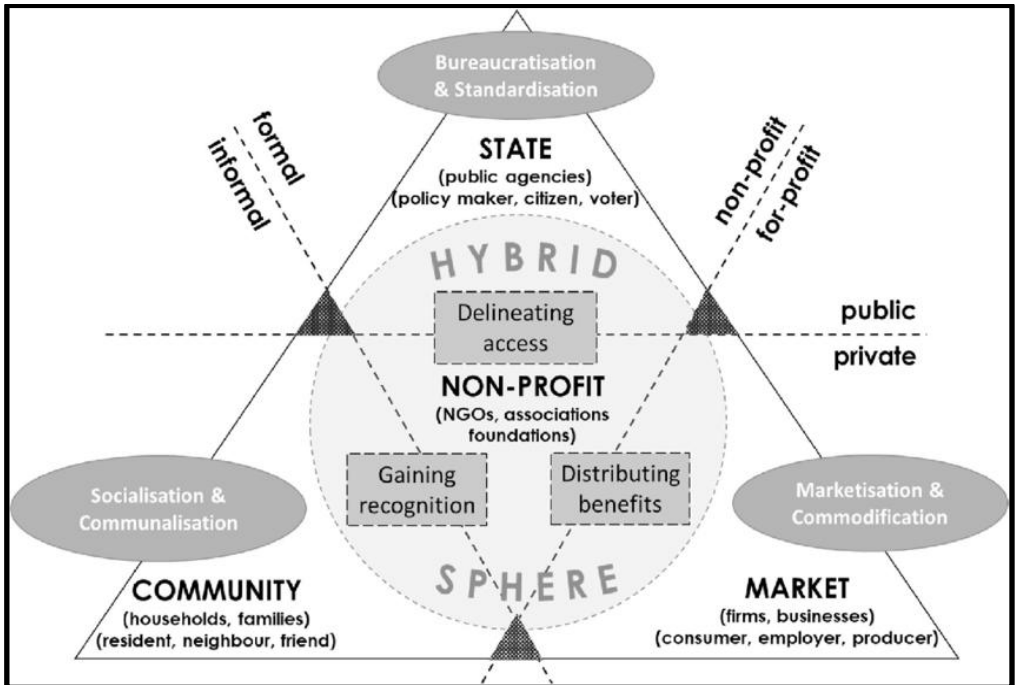

Figure 10: Citizenship and the hybrid institutional sphere (Wittmayer *et al.,* 2021)

Compared to the commercial-leaning RE prosumerism business models, ENCI is arguably to be positioned closer to the lower left-hand corner of the triangle – the institutional logic of community/civil society. Indeed, many of the political ideals of ENCI seem to associate it strongly with forms of community energy. Taylor Aiken (2019) has shown how the energy communities are often torn between community and state logics – the latter has certain tendencies towards instrumentalisation of community-based 'grassroots' initiatives. Indeed, ENCI appears to be hovering in this tense interface between state and community logic. This summarises why ENCI is a political ideal that is only roughly agreed upon (sections 2.3 and 2.4).

Creamer *et al.* (2017) underline that community energy should not be reduced to the 'community logic' in Figure 10. As also shown by Hicks and Ison (2018), local energy cooperatives involve various motivations and logics. For commercial companies, the money-making logic is important or even paramount. Still companies are subject to pressures from customers, state actors and especially citizens to become more responsible. Responsibility used to be taken up through corporate social responsibility systems in ways that did not harm profits. This is increasingly seen as insufficient – not only by sustainability observers but also by business itself. Capitalism is widely viewed as in need of modification (to become more inclusive, responsible, and fair). In the book *Accountable*, business experts O'Leary and Valdmanis call for '*citizen capitalism'*, by which they mean '*an economy made up of corporations chartered around a deeper purpose and individuals living their values in each of their roles: citizen buyer, citizen worker, citizen saver, and citizen voter*' (O'Leary and Valdmanis, 2020:230). But achieving this requires changes in new business models, partnerships for multiple value creation and social change (Diepenmaat *et al.,* 2020). To align purpose with profits requires changes beyond the strategies of individual firms.

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Citizenship is penetrating the market and government sphere, whose logics are combined with other logics, in a complementary or substituting way. This expansion of citizenship is associated with the expansion of the hybrid sphere. In the process, citizenship values and practices may undergo changes as well, for example, when an energy cooperative becomes more commercial and managerial. Along this line of reasoning, citizenship and ENCI could even be considered to permeate the whole of Figure 10 – which is of course stretching the ENCI very heavily.

The boundaries between state, markets, and civil society (as the sector which is neither state or for-profit) are presently changing in the following way: after a period in which governments sought to coerce business to serve the common good, it is now citizens who have become active in demanding business to do good. This can be achieved via hybrid forms that combine the logics of creating value for shareholders and value for society. Examples of hybridity are commercial companies committed to the greater good, NGOs who are becoming more business-like, for example, by developing business activities, and energy cooperatives owned by members. Urgenda is an example of an organisation that undertakes different types of activities. They are putting pressures on the Dutch government to do more on climate change (they won a famous court case against the national government); they produce action plans for business, government and society (consisting of tabled approaches for GHG reductions with quantified CO2 – as a typical task of science and government agencies); and they offer guidance and advice on sustainability actions, via the website and in low-carbon energy projects. The mixing of civil society, market, and state is making civil society less distinctive and citizenship a more pervasive (multi-actor/domain) phenomenon.

The growing presence of citizen-based associations in the field of energy may overlook that energy communities may depend on government policies for their diffusion. According to Markantoni (2016), the state is an important actor for the societal phenomenon of energy community – which can be taken as a form of associational ENCI:

> '(...) top-down support for community energy is a necessary motivator for community energy developments. If communities are to benefit from energy transitions and challenge hard energy paths in the UK and beyond, there must be an alignment of wider policies with community needs, otherwise there is a danger that community energy will be pushed to the margins of the next energy revolution' (Markantoni, 2016:167).

The energy transition as a momentous (influence-exerting) process (supported by public policies and a wide range of stakeholders) brings into play many different actors of governance, creating a multi-actor situation for energy citizenship. The A16 wind power project in the Netherlands is an interesting case in this respect. Various aspects related to energy citizenship came into play in this project: the creation of renewable energy, participation and local democracy, and a fair distribution of benefits and costs. After many conflicts the project resulted in a configuration in which the community enjoys 25% of the economic benefits. Demands for fair distribution of benefits and costs were met in ways

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that correspond with several of the demands of energy citizenship. In The Netherlands, the (fair) sharing of economic benefits is becoming the model favoured by national and local/regional governments[15]. Thus, two aspects of ENCI, benefits sharing and public participation, are being institutionalised. Also, this shows that (large-scale, multi-actor) energy projects are not just about values and power, but also about intermediation and interest integration. The energy transition interacts with other transformation processes (the expansion of the hybrid sphere and the reconsideration of public and private responsibilities).

Finally, missing in the picture about the hybrid sphere are knowledge institutes. Significant but relatively latent citizenship is exerted at the interface between academia and civil society. Citizen science, engaged scientists and environmental associations challenge the hegemonic expertise and frames of industrial lobbies, using clever frames of inherently safe nuclear reactors, CCS-ready power plants and carbon leakage. This ENCI in the form of 'critical eyes' has 'spoken truth to power' on various key energy-related issues. For example, this has exposed how incumbent actors managed to kill Feed-in Tariff systems which were undermining the fossil-fuel use, claiming FiT systems to amount to unlawful state-aid (violating WTO and European competition law). Another topic of scrutiny was the carbon emission trading system for carbon, where some industries (cement and steel, in particular) succeeded in making huge profits. The relevance of knowledge institutes for the hybrid institutional sphere is emphasised in 'triple-helix' and 'quadruple-helix' models of innovation. Their involvement adds reflexivity.

Overall, one could conceive of ENCI as an institutionally hybrid and pervasive form of political agency in the energy system – well beyond the manifest, rather state-bound understandings of it. However, whilst making perfect sense from the point of contemporary governance theory and innovation studies, this does seem to overstretch the concept. ENCI can be taken to comprise various forms of citizenship that are leaning towards market, state, or science institutions – yet many of these institutional contexts are only *contexts* for ENCI. **One could consider knowledge institutes as *intermediaries*[16] for ENCI, for example, or as parts of the institutional *ecosystems* in which ENCI thrives.**

3.5 Unpacking ENCI: Individual and collective agency

The political ideals of energy citizenship are not particularly clear about the actors who are supposed to exert energy citizenship. The individual citizen could be considered the default understanding – citizens vote individually, for example, and they have rights as individuals. However, many of the ENCI ideals (Cf. Chapter 2) are hinting at *embedded* individuals. What is more, the associated ideals like energy democracy, energy justice and

15. https://www.change.inc/energie/windturbines-33487
16. The roles of various intermediaries and institutional ecosystems will be investigated in WP4.

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community-based energy seem to suggest that ENCI can be exerted by collectives like households, families, neighbours, communities, and companies. *What would be the relevant counterparts of the individual kinds of ENCI? Can associations, energy communities and other collective actors (municipalities, companies, etc.) be considered to exert energy citizenship, or are they rather to be considered as the professional/social environments or the 'ecosystems' in which ENCI can thrive?*

First, it makes sense to restrict ENCI to acts of individuals. The manifest, easy-to-visualise understanding of engaged, environmentally conscious, active persons is a quite intuitive view on ENCI. The assignment of agency to the individual is an ontological position of certain scientific disciplines and policy discourses. The primacy of the individual is also the core political position of liberalism and its neo-variants. Psychological perspectives on agency and goal-directed behaviour consider that contextual influences are filtered through perceptions and social representations held by the individual. From the political science point of view, it is also very relevant that political participation, and ENCI is arguably a form of it, is often starting from the rights and duties of individuals (Ekman and Amnå, 2012).

However, a purely individualistic, atomistic understanding of ENCI seems too restrictive. The arguments against it are well-known. They lead back into the neoliberal model of the citizen as consumer. Such atomistic understandings of citizens are reducing individuals into separated, self-serving units who exercise agency through acts of purchase – while collective and public spaces for the wider exercise of citizenship are shrinking (Lennon *et al.,* 2020). As Lennon *et al.* argue, power and power relations are critical determinants of energy transitions.

A complex mix of factors, including financial resources, access to technology, linking social capital, along with national and EU regulations merge to structure citizen engagement with the energy system in ways that create widely differing levels of enfranchisement and participation. Linking social capital refers to 'vertical' relationships, where the key feature is differences in social power. An example could be relationships between a community-based organisation and government or other funders (Claridge, 2018).

However, in popular discourse, behaviour change narratives often ignore these issues of unequal agency and access to resources. Rather, they construct the citizen as an individual actor motivated primarily by financial considerations and invite them to exercise civic responsibility through changes in economic behaviour and purchasing decisions in the private sphere (Lennon *et al.,* 2020).

An atomistic understanding of ENCI does not do justice to the ideals of energy democracy and energy justice that are commonly considered to be the finality of ENCI. Furthermore, there is the social-psychological insight that the active, empowered characteristics of ENCI are presupposing individuals that are embedded in wider socio-

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technical, institutional, social, and psychological environments. The individual is always conceived as embedded[17] within physical and social systems that condition the capacities to develop a sense of agency (i.e., to develop goals, as well as the belief and sense of being able to exert agency), in addition to the skills necessary for its exercise (Bandura, 2000; Avelino *et al.,* 2020). This embeddedness is a fact of our neurobiology and the result of our evolutionary history, as recent neuroscientific evidence has shown[18]. The importance of the social as a constitutional part of our make-up is reflected in transactionalism, defined as a pragmatic philosophical approach that views social exchange as a fundamental aspect of human existence and all human interactivity as a set of transactions within a reciprocal and co-constitutive exchange.

Within the field of social and environmental psychology, the transactional perspective incorporates interactions with the spatial, physical, and material dimensions of contexts as key to human agency and human action (Altman, 1992; Bronfenbrenner, 1974). These perspectives place the emphasis on the essential embedded nature of the individual and of her capacities for action. Thus, the embedded individual can be conceived as subject to, and constrained by, different agendas and power relations. It becomes immediately apparent that the primacy of the individual, the social representation of her knowledge, skills, interests and identity is not neutral in representations of energy citizenship, but rather depends on who does the representing, what the agenda or goal is, what issues are up for debate and whose interests take prevalence.

Analysing social innovation movements, it has been argued that the empowered individual is resourced – materially and psychologically – through the collective, which creates spaces and contexts for need satisfaction, the articulation of goals that matter, as well as the development of motivation and effective strategies to challenge existing institutions (Avelino *et al.,* 2020; Pel *et al.,* 2020). As a collective, empowerment is about the capability of changing the rules of the energy system, and it relies on the development of a common identity which is psychologically and politically relevant. Bottom-up organisations promoting ENCI seek community-based and collective forms of empowerment, through contexts where resources such as time and skills can be pulled together, where additional capacities for meaningful participation can be developed and

17. The understanding of ENCI as a property of embedded individuals also helps to find a balance between two extreme positions: on both ends of a continuum, the deficit versus the ideal vision of the energy citizen represent extremes that can be disempowering. The deficit model assumes that citizens, for the most part, do not have the knowledge, skills, resources, or motivations to be actively involved in the shaping of the energy system and such a citizen is best served by a centralised, expert-driven energy system or, at best, involved in consultations over peripheral aspects of such a system (Devine-Wright, 2007). At the other end of the spectrum, the political ideal conceives of a citizen who is fully endowed with knowledge or capable and interested in acquiring it, has abundant access to resources such as time and skills, and maintains interest and motivation based on an understanding of her civic responsibility and/or the understanding of the impact decisions regarding the energy system have on her life and community. Such a standard of rationality, motivation and capacity does not account for limitations to individual agency.

18. See the polyvagal theory for an account of the neurobiological basis for social engagement (Porges, 2001; 2011) as well as a key dimension of our construction of the self and our multiple social identities (Tajfel and Turner, 1979)

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spaces of citizenship are reclaimed away from the individualisation and fragmentation of the neoliberal model. All social representations of ENCI place the emphasis on certain collective identities, drawing attention to them or making them salient. The 'citizen as consumer' representation bundles us together through our purchasing capacity and decision-making power, while pulling us away from other common bonds. Beyond representations of the individual, what vision of community is being created, by whom, and what identities are made salient will determine repertoires of commitments/loyalties, ways of thinking and acting, and what spaces for the development and enactment of capacities for agency are available to us.

The idea that ENCI refers to embedded individuals stretches the concept beyond the atomistic understandings. Accordingly, ENCI is taken to comprise various forms of civic associations, similar to what Ekman and Amnå (2012) proposed regarding political participation. In other words, ENCI is taken to comprise various forms of 'community energy'. Next to the empowered forms of individual action, and the manifest forms of ENCI, there is this orientation towards community. **This ENCI is expressed through place-based identities, trust, and solidarity as main values on which to base social relationships between community members. Commitments to benefitting the community** rather than the individual are the manifest forms of most empowered forms of ENCI, those that open the political space to meaningful forms of citizenship and participation, instead of closing it off, as argued in **section 3.2**.

Finally, there is of course a much broader range of collective agency, well beyond the immediate contexts in the form of energy communities, that is somehow related to ENCI. The key point is that ENCI can be considered as a certain form of social innovation – it involves new forms of doing, organising, framing, and knowing, which tend to be propagated through widely distributed agency. From the viewpoint of social innovation, ENCI would be understood in a very broad fashion. It would comprise the ENCI motivations and actions of embedded individuals, the community energy initiatives they may be involved in, the translocal ENCI 'movements' they may be part of, the institutional environment of businesses, governmental agencies and Third Sector organisations that may be conducive to ENCI, and eventually the wider context of socio-material changes that make ENCI an infrastructural, ideological and economic reality (Cf. Pel *et al.,* 2020).

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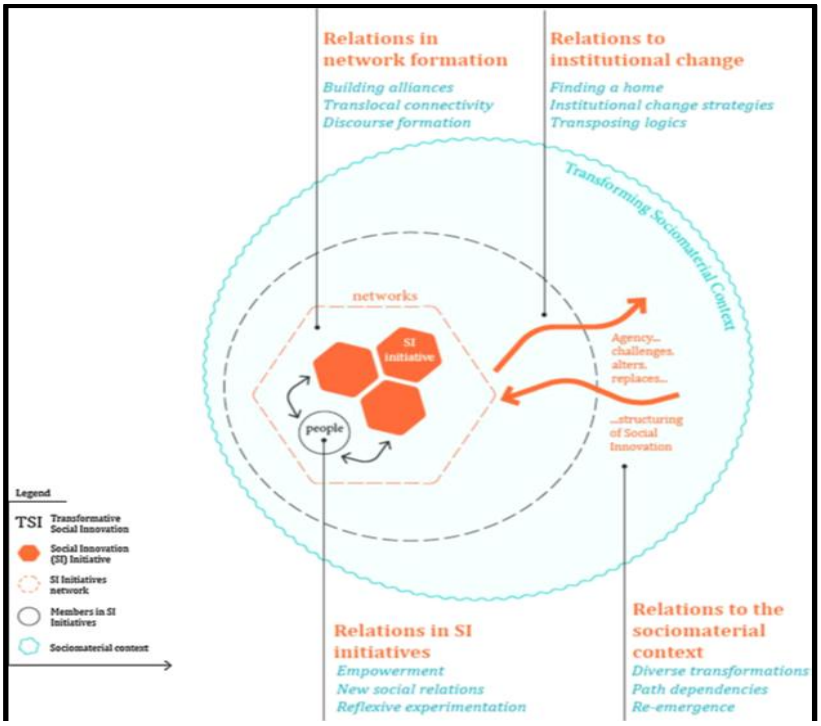

Figure 11: Distributed agency in Transformative Social Innovation Source: Pel *et al.* (2020: 5).

This emphasis on distributed agency adds further weight to the arguments against an individualising-atomistic view on ENCI. There is more ENCI than the manifest individualised forms. On the other hand, it indicates how ENCI potentially can be expanded to comprise all actors (and 'actants') in society – which would make it difficult to distinguish it from energy communities, energy policies, energy markets, or energy transition. **Considering this risk of overstretching, it seems appropriate to keep ENCI restricted to the embedded individuals and associations described above – which is in line with the idea of 'citizens' being constituted through certain individual rights and duties.**

Meanwhile, the broader distributed agency through which ENCI is propagated will be taken up in WP4, through the study of favourable 'ecosystems' and intermediaries. We may not want to count this broader embedding amongst the 'latent forms' of ENCI, but it is all the more worthy of study for the conditions and mechanisms that shape ENCI. A relevant example is the overview of roles and activities of intermediation (ascertained in Warbroek *et al.,* 2018 for low-carbon local energy initiatives), which could be used to identify ENCI-related mechanisms. Elaborating the distributed production of ENCI further, WP4 investigations will mobilise actor network theory, the theory of organisational fields, and social movement theory.

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Relevant Support Required by LLCEIs	Associated Roles from Literature	Activities
Building capacities and embedding into community	Facilitating	Distributing financial, technical, institutional, knowledge resources, providing advice, building capacity, and skills.
	Aggregation of knowledge	Developing toolkits, handbooks, and templates, and distributing these.
Alleviating barriers within the status quo	Brokering	Advocacy, negotiation with other parties, representative function, lobbying, engaging with policy makers, introducing new actor configurations, and embedding in current policy frameworks. Identifying and challenging institutionalized practices.
Opening up the system for the uptake, acceptance or breakthrough of LLCEIs	Creating institutional infrastructure	Setting up a supportive environment in which local initiatives are embedded and integrated, and which governs interactions and activities.
	Configuring	Embedding technology in the local community. Prioritizing or shaping certain uses of the technology, developing new (business) models, and engaging in pilots.
	Framing and coordinating	Articulating demand, framing discourses and debates, and coordinating between actors in decision-making processes.

Figure 12: Overview of intermediary roles and activities – Source: Warbroek *et al.* (2018: 10)

3.6 Unpacking ENCI: Shallow and deep environmental citizenship

The political ideals of energy citizenship appear to understand it as a particular form of ecological or environmentally responsible citizenship. There are reasons to consider ENCI a form of citizenship that contributes positively to collective goals of energy transition, de-carbonisation and reduction of ecological footprint. ENCI could be considered a form of environmental citizenship that is advanced in these sustainable development terms. *What would be the counterparts of this? Would shallow, not particularly sustainability-conscious behaviours still qualify as ENCI? Is it the intention to exert environmentally friendly behaviour that counts, or is one only a true ENCI if acting with positive environmental consequences, and demonstrable positive effects in terms of sustainability impacts? What about the issues of deeper motivations and commitment to positive environmental, social, and democratic impacts?*

Much of the debate on ENCI emerges out of a concern for environmental destruction and major policy and community mobilisation towards addressing pressing environmental concerns. The concept of *environmental* citizenship makes explicit reference to an understanding of a biological-essentialist community to which we belong, as reflected in the concept of biophilia as a basis for environmental citizenship (Wilson, 1984), and the political implications that derive from this affiliation (Dower, 200; Barry, 2006). It underlines a necessary shift in the conceptualisation of our relationship to nature, from anthropocentrism to ecocentrism, from a human-exclusive focus to a humans-as-embedded-in-nature focus. Unpacking environmental citizenship, with its shallow and

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deep versions can shed some light on some of the characteristics and variations of ENCI as well.

The European Network for Environmental Citizenship proposed the following definition of the concept:

> 'Environmental Citizenship is defined as the responsible pro-environmental behaviour of citizens who act and participate in society as agents of change in the private and public sphere, on a local, national and global scale, through individual and collective actions, in the direction of solving contemporary environmental problems, preventing the creation of new environmental problems, achieving sustainability as well as developing a healthy relationship with nature. Environmental Citizenship includes the exercise of environmental rights and duties, as well as the identification of the underlying structural causes of environmental degradation and environmental problems, the development of the willingness and the competences for critical and active engagement and civic participation to address those structural causes, acting individually and collectively within democratic means, and taking into account inter- and intra-generational justice.' (European Network for Environmental Citizenship, 2018)

In its ideal normative and manifest form, ENCI could be considered a form of environmental citizenship circumscribed to the energy domain. However, given the nuances and ambiguities of other, less clearly ideal forms of ENCI, where positive environmental impacts are not always apparent or without debate, and given the other normative finalities of its ideal forms (democracy; justice), **ENCI is only partly overlapping with environmental citizenship.**

The definition of environmental citizenship refers to both individual and collective changes, and spans knowledge, identity, and behaviour, both private and public. Conditions for the adoption of pro-environmental behaviour have received a lot of research and policy attention. Classifications of both types of behaviours and individuals according to the speed, breadth and depth of adoption suggest shallow and deep versions of environmental citizenship. For example, Stern (2000) advanced the relatively early debates on what constitutes pro-environmental behaviour by using intent versus impact, and public versus private as dimensions of classification. Initial policy efforts after the UNEP Rio Summit focused on increasing citizens' environmental awareness and local agendas rushed into promoting less costly and more easily accepted behavioural changes. This led to the 'small steps' philosophy becoming widely endorsed. Stern's classification points to a shallow (intent-based) versus a deep (impact-based) commitment to pro-environmental behaviour, the latter entailing a deeper understanding of the multiple effects of consumption and lifestyle on environmental systems and their balance.

The pace of pro-environmental behaviour adoption, or of lifestyle change, suggests another way of looking at the depth of commitment and endorsement of pro-environmental behaviour. The now relatively old classification of DEFRA based on willingness and ability to act defined a series of individual profiles that marked targeting

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strategies of the UK's government behaviour change policies. It suggested degrees of shallow or deep environmental citizenship.

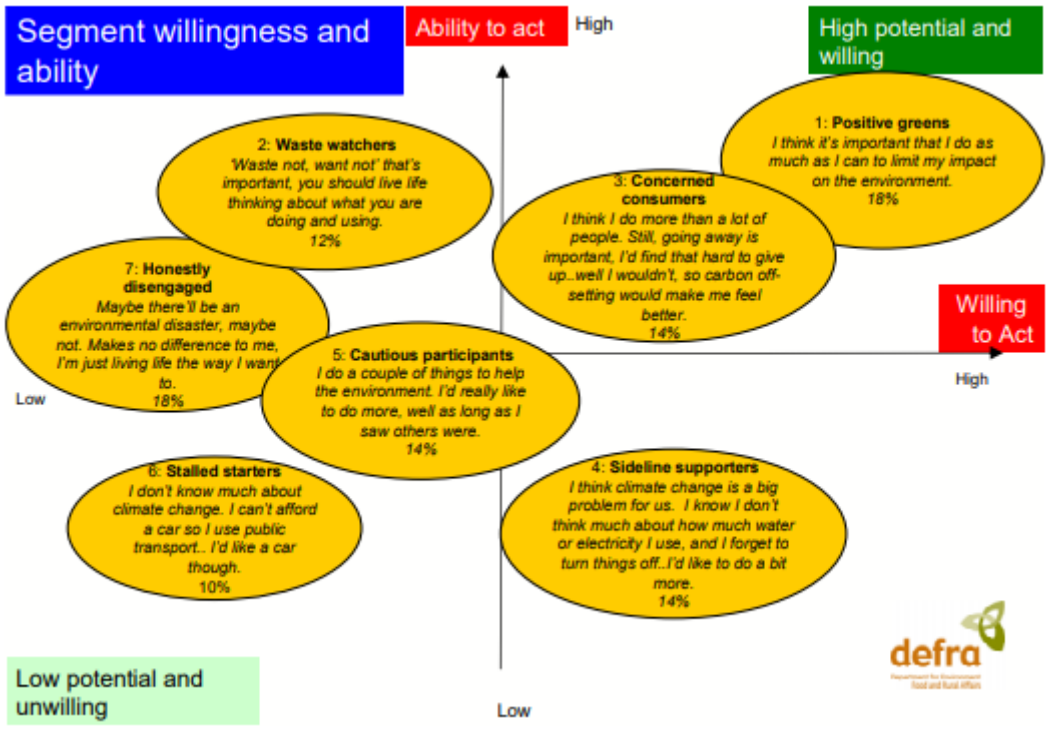

Figure 13: Environmental citizenship – A Framework for pro-environmental behaviours. Department for Environment, Food and Rural Affairs Report. Crown Copyright 2007.

Such behavioural classifications do not unpack the determinants of willingness and capacity to act. Although behaviour or action is the key vehicle of expression of environmental citizenship, psychological studies have attempted to look behind the curtains – those dimensions that would explain the depth of commitment and make perception of action necessary and, to a certain degree, inevitable. The study of values has received extensive attention, as mentioned before (Steg and Vlek 2009; Bouman *et al.,* 2018; Clayton *et al.,* 2015). Beliefs about nature, the environment and the relationships with humans has focused on underlying, latent, yet potent representations and belief systems that condition political allegiances and motivate public and private action. The New Environmental Paradigm and the Human Interdependence Paradigm were developed as concepts and measurements of what was considered a profound change in values and our representations of human-nature interdependence (Dunlap and Van Liere, 2008; Garling *et al.,* 2002). If ENCI is partly a manifestation of environmental citizenship, its deep forms include this profound shift in worldviews, and values, which in turn make certain behaviours inevitable. In its shallow forms, behavioural choices and policy support are conditioned by narrower motivations.

Studies on the relevance of emotional aspects on behaviour and their relationship to identity and motivation have offered interesting insights into what might differentiate

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between deep and shallow environmental citizenship. The concepts of environmental and environmentalist identity or inclusion-of-nature-into-self have suggested two ways of looking at the relationship between self-definition and behaviour, one more essentialist, the other more pragmatic or behaviour-oriented (Whitmarsh and O'Neill, 2010; Clayton, 2012). ENCI can also be conceptualised as deep when revealing strong emotional allegiances as part of the motivation for individual and collective energy action, and shallow when driven by narrow economic cost-benefit considerations.

Finally, theories of motivation and classification of different types of motivation for action suggest an interesting entry point into the shallow versus deep dimension of understanding. Self-determination theory, one of the most widely endorsed theories of motivation, suggests that motivation exists on a continuum from rather autonomous or self-determined forms to less autonomous or externally controlled forms. The autonomous forms of motivation in their most integrated form are aligned with deeply held systems of values and beliefs and lead to authentic, self-determined action. Deeper forms of ENCI would necessarily mean deeply held autonomous motivation for pro-environmental action, in line with clear, embodied understandings of our relationship to ecological systems, while shallow forms would refer to contextual, externally controlled sources of motivation, such as social status, rewards, and sanctions.

Also, social innovation bottom-up movements often strive for deep transformations of values, belief systems and relationships to both nature and fellow human beings, showing that transformation of belief systems, values and identities is seen as a necessary dimension of a significant transition or shift in culturally sanctioned and socially endorsed practices and habits (Avelino *et al.,* 2020; Pel *et al.,* 2020). The concept of deep scaling has also been proposed to stress the focus on this type of paradigm shift. Different forms of ENCI could also be classified as reflecting a focus on deep or shallow transformations as either a target of policy or a pre-condition for the consistent exercise of energy citizenship.

How high should the bar be raised then for the manifest and latent forms of energy citizenship, when posing it on the deep-shallow continuum? Deeper forms of ENCI would be those that reflect coherent pro-environmental behaviour across lifestyle domains and/or a high willingness to change and incorporate conscious forms of everyday behaviour (the high-high quadrant of the DEFRA classification). Intent is insufficient, if not coupled with impact, environmental, social and/or participatory. **Deep forms of ENCI seek clearly defined impacts, conceived as positive environmental impact, community/relationship building, or fostering a wider space of democratic influence and participation. In its deeper forms, emotional and identity commitments to the natural environment, to place, and to human communities, guide motivation for action.** In its shallow forms, ENCI stays within the realm of declared intent, but not impact. For example, this is reflected in new forms of conspicuous consumption, which advocate for greener consumption but maintain the 'conspicuousness' of the original resource-intensive paradigm. In its shallow forms, commitments and motivations fluctuate, and can switch between communities, energy providers, or political positions, guided by narrower considerations of financial and social

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self-interest. One example is the opposition to renewable energy technologies in 'nimbyism', of otherwise self-declared environmentally and socially conscious citizens.

3.7 Unpacking ENCI: Pragmatic and transformative involvement in the energy system

The political ideals of energy citizenship are not very explicit about the scope of the concept regarding energy system change. The general idea of ENCI as a somehow 'active' form of being involved with energy matters is seldom specified into particular active engagements with elements of energy systems. A quite common assumption in the ENCI ideals is that it amounts to active participation in collective decision-making processes about energy production, transmission, and storage. Yet, this ties ENCI quite strongly to an 'energy system' in the narrow sense of concrete decisions about technologies, infrastructure and public utilities. This rather pragmatic involvement with the energy system can be considered the relatively manifest form of it. As such, it raises questions about the latent forms that may be overlooked: *Is ENCI about those practical-technical matters or about other aspects of the energy system too? If so, which ones?* By examining the spectrum between pragmatic and transformation-oriented approaches, this section addresses the normative issues of what energy system transition should entail. *What would be the counterparts of the ENCI through pragmatic involvement? What forms of broader, transformation-oriented involvement in energy systems can be distinguished? And which of these relatively latent forms should arguably be beyond the realm of ENCI?*

ENCI is quite commonly taken to refer to a rather pragmatic involvement in the energy system, in which, for instance, joint ownership is viewed as a functional aspect. The policy discourses on ENCI emphasise participation in decision-making processes on energy projects, and various *concrete actions* – ranging from home insulation to initiatives towards renewable energy prosumerism. These concrete activities can be assessed for their costs and their sustainability impacts. Representing the tangible, consequentialist side of ENCI, these forms of ENCI are also prominent in the newspapers (Figure 14):

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Photovoltaïque en Wallonie: requête en annulation contre le décret «prosumers»

Le décret wallon qui prévoit la compensation dégressive des frais de distribution pour les détenteurs de panneaux photovoltaïques est l'objet d'une requête en annulation devant la Cour constitutionnelle.

La requête a pour objet l'annulation du décret wallon d'octobre 2020, qui prévoit notamment des mesures compensatoires au bénéfice des propriétaires de panneaux photovoltaïques. - Belga.

Figure 14: Pragmatic involvement in the energy system. Source: *le Soir* (2021b)

Often visualised in terms of concrete activities and technological interventions, the pragmatic understanding of ENCI can be considered a particularly manifest side of it. There are good reasons to understand ENCI in such pragmatic terms. Early accounts like Devine-Wright (2007) already emphasise the shift from 'deficient' to knowledgeable, capable, self-organising and practically effective citizens. Another consideration is that political participation tends to take shape for a large part through voting and deliberation on concrete projects and political proposals. This certainly applies to public involvement in the energy system, and thus to ENCI: *Is the development of technologies and infrastructures acceptable, at this location and in this particular form?*

ENCI is easily reduced to such pragmatic involvement in the energy system. Also, such limited interpretation is induced by the common tendency to imagine this involvement as the involvement in concrete projects. However, Armstrong (2020) indicates that public involvement in the energy system often transgresses the confines of specific projects. This indicates a range of relatively latent forms of ENCI, which are *transformation-oriented* rather than pragmatic.

> 'In some cases where the public is presented with a new technology or development, they may come in with little base technical knowledge (although research has shown the importance of other forms of information, including local knowledge). In other cases, mobilised publics and social movements engaging with energy matters may approach issues with a different scope and scale. Instead of looking at an individual project, regulation, or policy in its own right and the local effects, mobilised publics and social movements may approach

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> them from the perspective of broader energy transition goals and climate change.'
>
> Armstrong (2020:2)

Other transformation goals are the creation of a more local, inclusive, community-based economy and deepening of democracy.

These transformative variations can be considered the relatively 'latent' forms of ENCI. On the other hand, their existence and relevance have been discussed in various literatures 19- they are not that latent. Taylor Aiken (2019) highlights how governmental programmes towards energy communities are prone to instrumentalising approaches that neglect the longing of involved citizens for community, solidarity, authenticity, and for an altogether less rationalist mode of handling energy provision. Also, social innovation literature often underlines how the pragmatic attitude to energy system transformation tends to stem from preoccupations with technological innovation and optimisation – which obscures broader transformative ambitions of empowerment, institutional change, and the dismantling of power inequalities (Moulaert and MacCallum, 2019; Wittmayer *et al.,* 2020). The literature on sustainability transitions, and especially the work on grassroots innovations, has investigated how the rather pragmatic tinkering with renewable energy innovations tends to be accompanied by broader transformative ambitions – reminiscent of counterhegemonic social movements who champion transformative change in the fabric of society (Seyfang and Smith, 2007).

Accordingly, Smith *et al.* (2016) discuss three perspectives on community energies: strategic niche management, niche advocacy, and critical niches. The last perspective opens debate about more socially transformative pathways to sustainability:

> 'So, in contrast with preceding perspectives, which frame the principal influence of niches in terms of instrumental growth, critical making takes a more antagonistic stance towards policy, and sees influence in debates engendered by grassroots initiatives that are unsettling towards regimes, and, ideally, help mobilise a more transformational politics (Hertz, 2012; The Corner House, 2013).'

The authors also note that the influence on value change may be more important than the influence in changing incumbent practices:

> 'Practically oriented sustainability groups can be wary of being construed as political. Nevertheless, all grassroots developments soon encounter impediments arising from social structures inherent to regimes. Influence is seen arising through the shared discussion, awareness, reflection, and points of action towards these social structures. Consequently, even grassroots innovations that

19. The history of critical thought has brought forward a broad range of dichotomies of reformism vs revolution, incremental vs radical innovation, hegemonic vs counterhegemonic. These distinctions are relevant as far as they inspire citizens to shape their energy citizenship in a more or less radical form. These distinctions are too abstract however to describe manifest and latent forms of ENCI.

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> "fail" to scale-up have value so long as they mobilise critical insight: how choices, trade-offs, and social as well as material activity is structured, and how these limited freedoms for manoeuvre might be overcome in future mobilisations of political agency beyond the niche. It is the spread of critical insight, and transformative politics, that becomes the indicator of success' (Smith *et al.,* 2016: 412).

In a book on the energy transition, Smith (2012) discusses the involvement of civil society in energy transition processes. The concerns are said to be wide-ranging. Civil society organisations disagree on the desirability of various renewable energy options:

> 'Associations that believe sustainability transitions to be necessary, often disagree over the precise requirements and possibilities. Associations such as Country Guardian campaign against wind farms, and join professional associations like the Academy of Engineering in arguing for geo-engineering solutions and nuclear power. Meanwhile, environmental NGOs like Friends of the Earth caution against unconstrained bio-energy. Others prefer decentralised energy solutions, and campaign against carbon capture and storage. The detailed pathways for sustainable energy transitions are contested within civil society'.

Civil society is said to provide an important source of reflexivity in energy transitions, which are important for assuring that the transition to low-carbon energy is not at the expense of other important civil concerns:

> 'The sheer variety of voices within civil society ensures the imperatives of, say, transitions to low carbon energy, do not eclipse the principles of social justice and broader environmental sustainabilities.'

These studies of grassroots innovation in the energy transition clarify not only that there is a range of 'transformative' ENCI existing beyond the manifest pragmatic forms. They also indicate that the line between the one and the other is blurry. A particular individual, or group of individuals, may be hard to classify as either 'pragmatic' or 'transformation-oriented'. The membership can be diverse with regard to those aspects, and the transformation goals themselves can be diverse. However fuzzy the line may be, these insights do suggest that ENCI should be taken to comprise more than the instrumental-pragmatic forms. This argument is supported through the recent discussions of 'energy democracy' – a concept that is evidently very close to the notion of the 'energy citizen'. Without going into the depths of this equally layered and essentially contested concept[20], the key point is arguably that **'energy democracy' articulates many of the normative commitments and transformative ambitions that get lost in pragmatic translations of ENCI.** Next to the striving for sustainable energy this includes aims such as the deepening of democracy and the development of a more fair, just, and inclusive society. The emphasis on democracy and voice is challenging an energy system that remains highly centralised

20. The different historical layers and contextual interpretations of energy democracy will be actively explored in the 'regional translation' workshops, described in deliverable 2.3.

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(somehow even at the EU scale), monopolised by a couple of big companies (notably the former state-owned companies) and dominated by experts. As a strategic domain, the energy system is largely placed outside the democratic realm. A notorious example of this is nuclear power in France, governed by the 'corps des Mines' and EDF. Stirling (2014) similarly invokes nuclear energy as the key argument for democratisation, and for the transformation of the incumbent structures of expertise and evidence-based policy.

Energy democracy has been brought forward as a transformative concept. It argues for radical democracy that goes well beyond formal rights and procedures. Considering the deeper power inequalities that shape the access to and effectiveness in established democratic procedures, energy democracy is often taken to include principles of inclusiveness, solidarity, and sensitivity to difference (i.e., of race, class, gender, and sexual identity). As indicated by Burke and Stephens (2018), energy democracy moves beyond what we described as the 'pragmatic' forms of ENCI:

> 'Energy democracy appears to move beyond reformist approaches to sustainability that emphasise technological or behavioural change but may be flexible in whether it takes a reconfiguration position, working to reconfigure modern energy systems, or a revolutionary position, working toward deeply structural societal shifts through processes of energy transitions (Geels *et al.,* 2015: 9).'

The energy democracy concept clarifies how energy citizenship can be exerted in many ways, well beyond the activities associated with the 'pragmatic' understanding of it. Firstly, for example, it can be taken to include various efforts towards more inclusive, gender-sensitive energy policies and towards empowerment of underrepresented and marginalised groups. After all, local energy cooperatives tend to be dominated by male, white people over 60 years of age. They are relatively highly educated and not poor, according to a study of energy cooperatives in Sweden, Denmark and Germany (Wierling *et al.,* 2020). Likewise, transformative ENCI could involve actions somehow redressing how representations of technological advancement, innovation and innovators rely on stereotypical notions of gender that privilege men and particular masculinities (Lindberg *et al.*, 2015). Unlike the more pragmatic forms of ENCI, these activities may not materialise necessarily in solar panels installed or in energy saved – but they are key examples of transformative ENCI that works towards energy democracy. Secondly, ENCI could also be taken to include acts of contestation (against new power lines, or against ecologically disturbing hydro-power installations). As far as this contestation is undertaken in the name of certain normative principles of energy democracy, ENCI could be taken to comprise non-legal protests and what social movement theory describes as 'direct action': occupation, blocking and disturbing of activities deemed not in line with sustainable and democratic energy.

The inclusion of various forms of 'direct action' may be overstretching the ENCI concept. For example. it is true that opposition has been indicated to be a defining feature of prosumerism (Campos and Marín-González, 2020). Oppositional tension may be

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considered a key aspect of the energy citizenship ideal. Yet, this does not fit the perspective sometimes adopted by policy actors. Empowerment is often equated to the moulding of the capacity to participate in energy system design or to shape energy transition pathways – without actual contestation of power relations. This is reflected in the notion of acceptability. Energy citizenship can arguably take the form of place- or issue-based collectives that aim for participation beyond the procedural, law-mandated consultation. This has led to successful examples of fostering collective agency for the implementation of energy-related social innovations, as, for example, in the case of Barcelona's superblock policy. Intense contestation from collectives in the neighbourhood of Poblenou, which was eventually incorporated by the city council into an open dialogue and debate about the actual shape of the superblock, has contributed to high levels of citizen involvement, and endorsement of the superblock (Dumitru *et al.,* 2021). Still, this example indicates a kind of opposition that remains close to the 'manifest' understandings of ENCI – the transformative ambitions were eventually linked up with a more pragmatic co-creation of energy neighbourhoods. **However, the examples of 'direct action' appear more remote from the 'pragmatic' understanding of ENCI. Maybe they indicate some other kind of energy-related political agency? On the other hand, they can be acknowledged as actions in the name of energy democracy, and thereby as (transformative forms of) ENCI.**

3.8 Unpacking ENCI: Frontrunners and late adopters

ENCI, in its various idealised forms, corresponds with the 'early adopters' of innovations, the 'frontrunners' in transitions, the pioneers, the trend-setting citizens. On the scale of countries, it also appears to refer to the guiding, leading member states in the EU that have somehow 'advanced' in developing energy citizenship. *What would be the counterparts of this 'frontrunner' understanding of ENCI? Which kinds of 'late adopters' can be distinguished, and why (not) would we still consider them forms of ENCI? Should ENCI be taken to refer to those ahead of the curve, or instead, to the very broad groups of citizens that become involved in the energy transition as it moves beyond its 'pre-development', 'take-off' and initial 'acceleration' phases and goes into its advanced stages?*

The frontrunners and laggards model stems from Rogers (1983; 2003). It is based on postulated psychological features of adopters: *innovators* (the first 2.5%) are venturesome, *early adopters* (the next 13%) are respectable (serving as peers for others), the *early majority* is deliberate (but less venturesome and less independent than earlier adopters), the *late majority* (34%) is sceptical and the *laggards* (16%) are traditional (they are said to possess almost no opinion leadership). Rogers' approach is called the 'psychological approach'. It emphasises people's attitude to a certain innovation and their willingness to take risks. This approach understands diffusion as an epidemic spread of information.

The psychological model is based on several false assumptions. First, it assumes that the innovation is attractive for the whole population. Often, this is not the case, especially

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not initially. In the beginning, a new technology is often expensive and too crude to be used on a wide scale (Rosenberg, 1976). Over time, innovations tend to become cheaper and more attuned to user needs, thanks to user feedback and dedicated improvement activities. Shifts in the external environment (changes in energy prices; support policies) may also make an innovation more attractive and culturally desirable (Kemp and Volpi, 2008). Learning as an information and persuasion-based diffusion mechanism occurs via personal networks, special advisory service, commercial advertisements and dedicated learning activities. In local energy communities, personal contact networks are known to play an important role. This reminds us of the diffusion, in turn, of energy communities. The wider diffusion of local energy cooperatives co-evolves with demand, possibilities to feed excess energy into the grid and permission to use land as sites for solar PV panels or wind turbines. In the Netherlands, opposition against land-based wind turbine sites is mounting and impeding expansion. Distribution network operators may also slow down the expansion of community-based energy, deny a grid connection or ask for prices that are too high for the service. **These diffusion models consider ENCI as a kind of innovation. Over time, the manifest forms of ENCI may be followed by 'early majority', 'late majority' adopters and 'laggards'. The latter refer to individuals with somewhat less enterprising profiles – or to individuals not yet in a position to change, or who are resisting change, or who do not wish to 'adopt'.**

The figure of the 'frontrunner' has become particularly influential through the emphasis on it in transition management (Rotmans, 2005). Given the imperfect nature of new innovations and absence of complementary assets and supporting institutions, initial change tends to come from frontrunners who unleash change processes and carry those through their difficult stages of experimentation. Frontrunners can be commercial companies and civic society organisations who experiment with sustainable lifestyles; who organise the first shared mobility schemes when they still appear impossible, costly and weird; who create support within their organisation to go solar; and, indeed, those who start to bear out new sustainable lifestyles and identities as proposed by ENCI.

Importantly, this kickstarting, pioneering role of the 'frontrunner' is closely tied to the first phase of transition, 'pre-development' and 'take-off' (Cf. Figure 15). In the later phases of 'breakthrough' and 'stabilisation', processes of mainstreaming and institutionalisation are fostering change – often with active support of government and incumbent 'regime' actors. In those phases a much broader range of actors becomes important. Various intermediaries, policy brokers, community leaders, and sector organisations reach out to the broader public beyond the pioneering, enterprising and probably privileged 'frontrunners'. The cumulation of the early and later adopters yields an S-curve.

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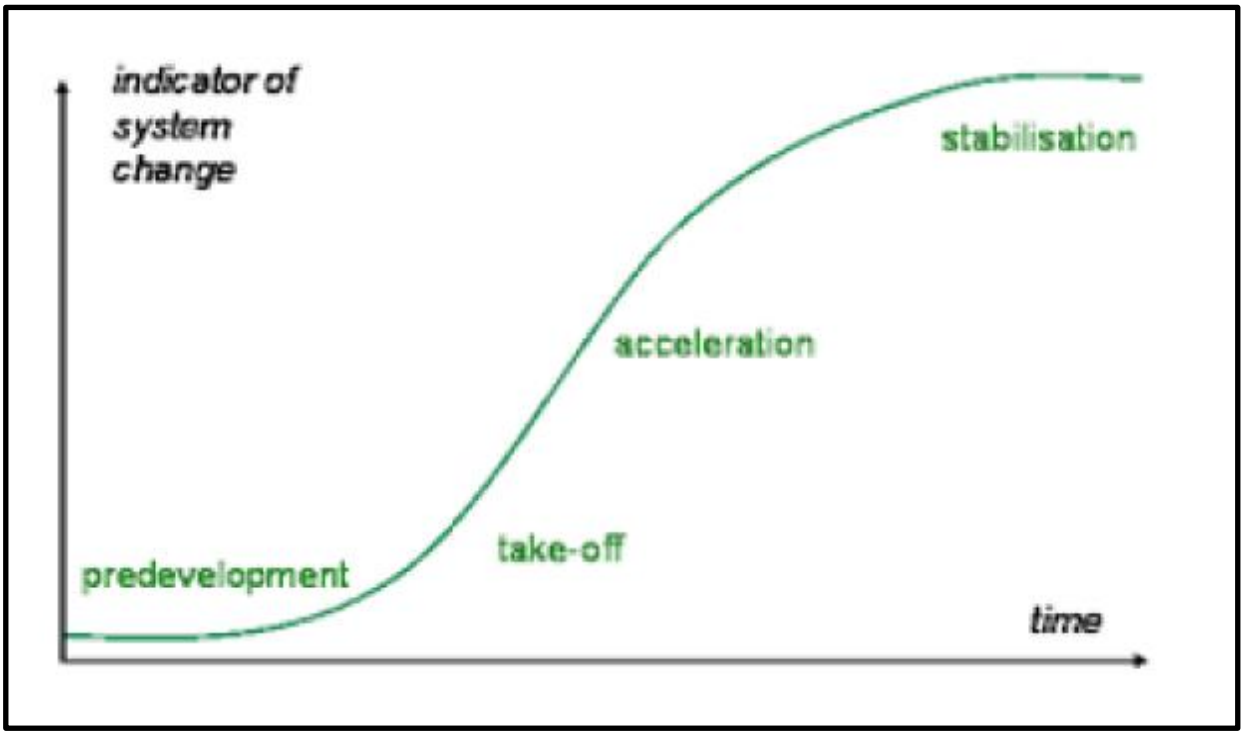

Figure 15: Phases in transition (Adapted from Rotmans, 2005)

This transition management perspective articulates in more detail how we can conceive of an 'elite' of early frontrunner energy citizens, followed during the transition process by forms of ENCI that emerge from acceleration and stabilisation. In such 'universalist' understandings of ENCI, risk-taking agency or 'out-of-the-box' modes of thinking are not required. Later adopters may also benefit from new value propositions (solar PV leasing, solar cells integrated in roof tiles, different ownership models, attractive package deals, the unburdening of prospective adopters by special actors who take care of everything, locally available projects). In the course of 20 years, solar PV investments have become attractive investments and battery electric cars have become attractive cars thanks to the lower costs, longer range and charging infrastructure (which meant that they are no longer bought for environmental reasons). Recently some community-owned energy initiatives started to adopt smart grid technologies like Virtual Power Plants (VPP) which enables them to become involved in the distribution, trading, and management of energy (van Summeren *et al.,* 2020). Thus far, VPPs must comply with the incumbent energy system, making it difficult to keep their own needs and values centre stage. But this may change during the course of a transition.

As described in **section 3.1**, there are good reasons to consider this broader range of ENCI 'beyond frontrunners' to form part of ENCI. **The awareness anno 2021 is strong that Europe is not only aspiring to advance – it is also de facto going into a next stage of transition.** When commenting on the just announced European Deal plans, EC vice-president Timmermans underlined accordingly that 'the Green Deal/climate transition will be affecting everybody' (NRC, 2021). In a similar vein, policy visions and activists converge in the importance of ensuring a (by certain standards) 'just' transition, in which 'nobody is left behind'.

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Therefore, sustainability transitions research has shifted focus in recent years. The earlier preoccupation with innovation and experiments has shifted to processes of phase-out, decline, destabilisation and 'exnovation' – i.e., to various dark sides of transition in which old structures collapse. Accordingly, one could consider how these next phases of transition may also bring new – and, perhaps, historically unprecedented – forms of ENCI that have remained latent or simply non-existent thus far. Amongst the relatively new forms of ENCI we could consider the calls for a just transition when moving towards alternative energy sources. Amongst 'laggards' one could consider the individuals, sectors and regions that are particularly vulnerable to being 'left behind' or that are resistant to alternative energy. Well-educated people are more likely to join an energy cooperative as members and to benefit from subsidy schemes for electric cars, heat pumps and solar PV panels. Inequality is likely to be reproduced unless specific actions are taken to counter it. Actions to soften the pain for vulnerable groups can be understood as energy citizenship. Demand by industry for subsidies that counter the higher costs of low-carbon fuels (such as hydrogen) do not qualify as ENCI. Demands by unions for a just transition from coal to low-carbon energy sources in coal-producing regions constitute a border case.

The distinction of transition phases helps to avoid the judgemental and normatively rather primitive scheme of the frontrunners vs laggards. In a transition, people's preferences, mind-sets, beliefs, and behaviours change are not a given but subject to change. Across countries there will be differences, in terms of the speed of change but also differences in the nature of change. This has to do with cultural differences and other historical legacies. As indicated by our Hungarian consortium partner:

> 'Many of the things mentioned for Germany, France, or Belgium, are not happening in Hungary. People are not empowered… even those who are active, feel that they are being constrained by current legislation, and approach, even when we talk to very active energy citizens, in our neighbourhoods' programme, when we talk about these inspiring examples, even prosumerism, or energy communities, they feel like, "yes, that's interesting, that is nice, but we feel like we're a hundred years away from that in Hungary"'.

It is important to realise that the frontrunner/laggard distinction is an innovation-theoretical, dynamic distinction. Both categories are indicating temporary states, not essences and static characteristics. Individuals and countries can catch up along the transition process or fall behind later. Most importantly, collective-level dynamics of learning exist through which frontrunners transmit knowledge, skills, and norms. The innovation-theoretical understanding of manifest and latent ENCI comprises various diffusion mechanisms: **initial frontrunner-laggard distinctions become blurred over time.**

An example of these diffusion mechanisms are Naber *et al.* (2017), who distinguish four models for upscaling in the study of smart grids: *growing, replication, accumulation,* and *transformation*. Accumulation is when lessons from various initiatives are utilised and transferred via intermediary organisations and accumulated knowledge. Transformation is when local experiments (that are part of a global niche) shape the wider landscape of

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regulations, common beliefs and duties, and prevailing regimes. Figure 16 sketches how **ENCI could be conceived – from the longer-term perspective of innovation and transitions – using the analogy of passing the baton in a relay race that includes frontrunners and laggards. These processual, long-term perspectives also remind us that unprecedented forms of ENCI may emerge along the trajectory.**

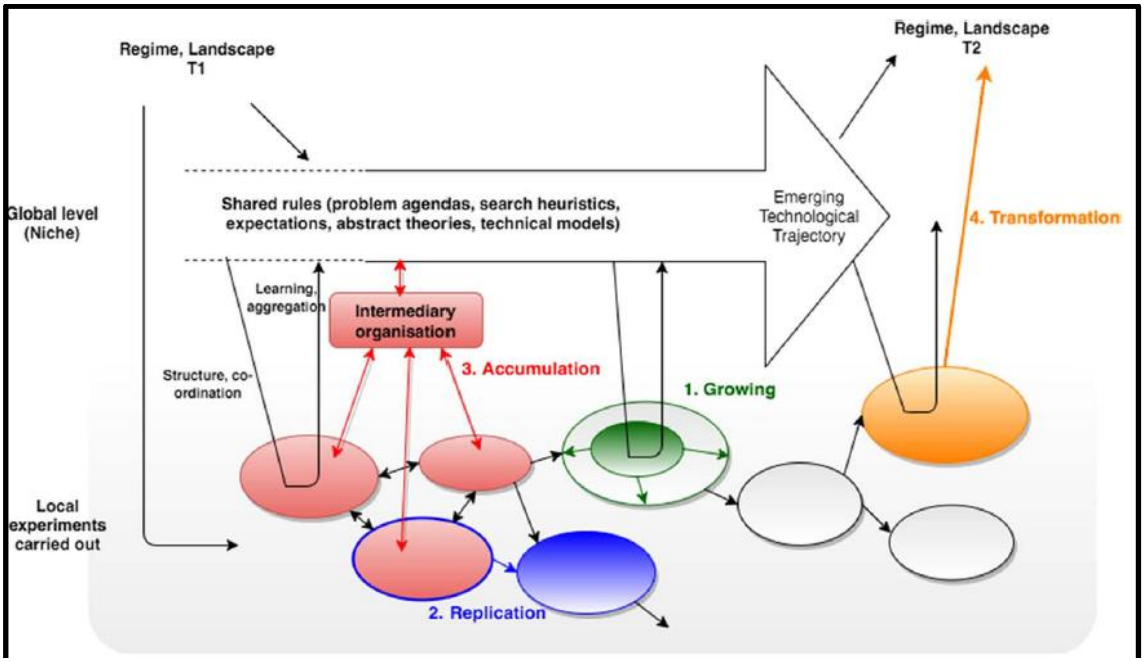

Figure 16. Patterns of upscaling around an emerging technological trajectory (Naber *et al.,* 2017:344).

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4 Conclusion: Towards an energy citizenship typology

Section 3 has identified a miscellany of ENCI variations that go beyond the manifest appearances of it – the prominent understandings as discussed in Chapter 2. Disclosing the less prominent, relatively latent kinds of ENCI, these unpacking discussions have opened the understanding of it considerably. For the subsequent construction of a typology it is important to summarise this broad set of antitheses into some synthetic insight. Taking stock of the key conceptual distinctions, we present a working definition (**section 4.1**). Next, we provide outlines for the ensuing typology development. This section formulates general insights about the complex ENCI concept that somehow need to be accounted for: *Which of the discussed distinctions and aspects seem to be foundational for ENCI? Which empirical phenomena do we accordingly consider 'latent', less prominent, or somehow border-case examples of ENCI, and which phenomena do we consider not to qualify at all as ENCI? Which are the complicating factors and loose ends that may be difficult to account for in our ENCI typology?* (**section 4.2**). Finally, it is described briefly how the developed conceptual framework will inform further work flows (**section 4.3**).

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4.1 ENCI: Framework and working definition

Chapter 3 has unpacked ENCI along seven key distinctions. Figure 17 visualises how the manifest forms of ENCI have been complemented by a range of relatively latent forms.

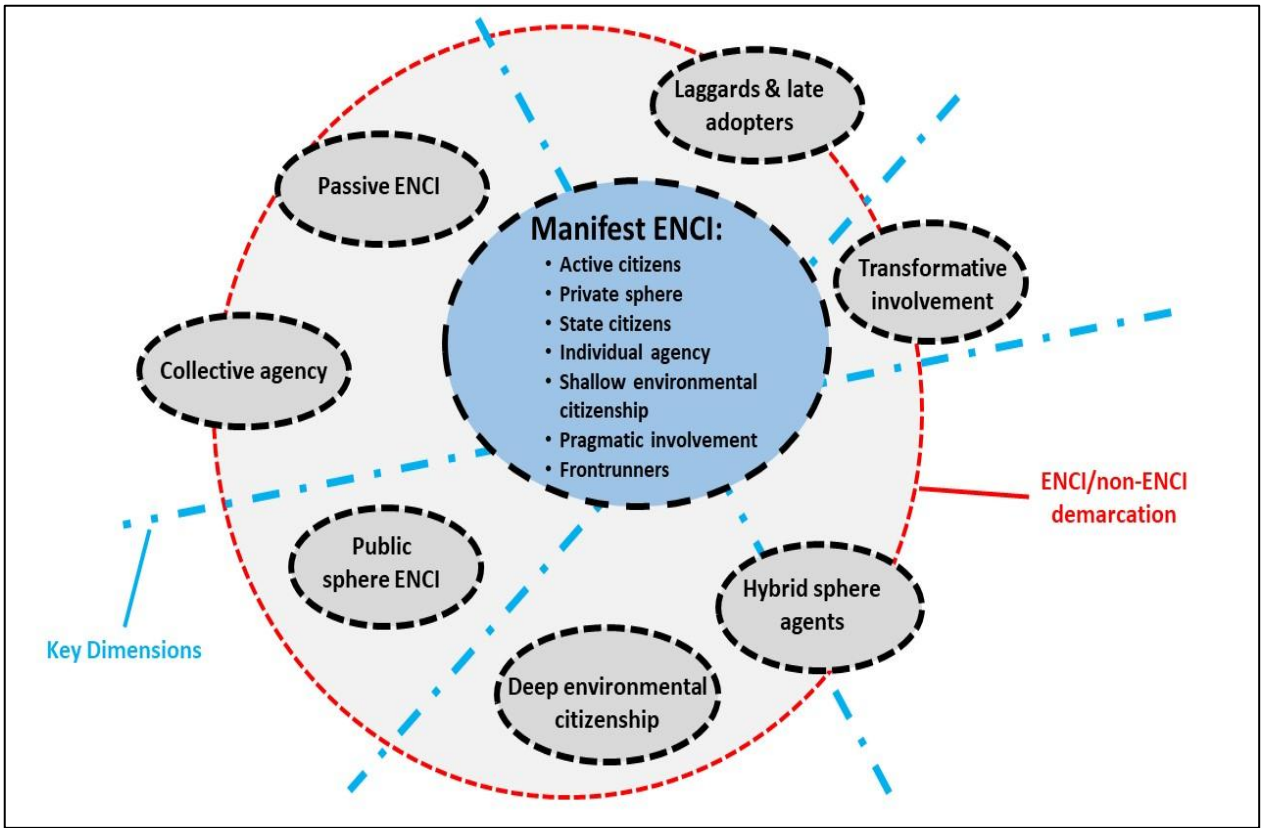

Figure 17: ENCI conceptual framework: manifest/latent forms along seven key distinctions

Comprising seven key distinctions, this integrative overview is obviously much more complicated than the basic 'manifest'/ 'latent' scheme. It lays open a vast conceptual space, including a range of further questions and controversies over the demarcation lines that should be drawn. As such, perhaps it should not be called a framework.

On the other hand, our conceptual unpacking has provided foothold and conceptual guidance for further research stages – Figure 17 is a conceptual framework in that sense. Its heuristic value can be summarised through the following main conclusions:

- **A normative understanding of ENCI**: The unpacking has only further made clear that ENCI – however contested, subject to multiple interpretations and as yet still to be filled with more specific contents – denotes certain normative commitments and political ideals (**section 2.6**). Several core strivings stand out across the various interpretations: commitments to empowerment, sustainability, and energy democracy. Perhaps a normatively neutral, processual understanding of ENCI would be analytically easier to handle, and it would help to avoid simplistic ideas about ENCI as if it were an 'instrument' towards energy transition (Cf. Wittmayer *et al.,* 2020). A neutral definition is clearly

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inappropriate. The identified ethical-political commitments are arguably essential to the meaning of ENCI.

- **Overlapping categories of 'latent' ENCI:** The unpacking of ENCI has deliberately considered forms of energy-related agency that are not evident cases of ENCI. The seven explorations of 'latent' forms have been pursued along different themes and disciplinary perspectives – yet, they clearly display certain convergences. Even if approached from an innovation-theoretical rather than a sociological perspective, the 'laggards' category **(section 3.8)** appears to be strongly overlapping with the forms of relatively 'passive' ENCI **(section 3.2).** Likewise, there are certain affinities between the ENCI forms that are collective rather than individual (**section 3.3**), those that are private rather than public sphere focused (**section 3.4), and those that gravitate towards the hybrid institutional sphere (section 3.5).**
- **Relative prominence**. Some categories of 'latent' ENCI are only very relatively latent. The discussions of deep/shallow environmental citizenship (**section 3.6**) and of pragmatic/transformation-oriented ENCI (**section 3.7**) brought out clearly that the manifest/latent scheme is not like a lamp switched on or off. The distinctions often contain further distinctions, to begin with. Also, further consideration needs to be given as to whom, or on what basis, something is considered to be 'manifest' or 'latent' – the Pel and Kemp (2020) and Ekman and Amnå (2012) accounts of this follow different logics. Operationalisation into empirical research will entail a more concrete discussion of the theorised 'manifest' and 'latent' forms.
- **Narrow and strict senses of ENCI:** Throughout the conceptual unpacking, the question has come up repeatedly whether certain 'latent' forms should still be considered at all as ENCI. Figure 17 therefore indicates a dotted demarcation line, setting ENCI apart from non-ENCI. Considered normatively, in light of the ethical-political ideals invested in the concept (**Chapter 2**), one could regard the 'passive' ENCI as a form of non-ENCI. The 'laggard' category could be taken to comprise a combination of not-yet and just-beginning ENCI. Considered analytically, one could also consider that various collective forms and institutionally hybrid forms of ENCI may be very much in line with ENCI ideals – yet, nevertheless, too remote from the individual agency and the state-oriented stance associated with citizenship and ENCI. One could consider that these forms are not ENCI, but rather manifestations of corporate social responsibility, grassroots innovation, prosumerism, or community energy. Meanwhile, there are certain dividing lines to draw as well regarding the 'pragmatic' or 'transformation-oriented' involvement in the energy system (**section 3.7**). *Is ENCI a matter of concrete actions and projects, or rather one of broader political action towards energy system changes – or does it comprise both?*

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- **Advanced, basic, and in statu nascendi forms of ENCI:** The aforementioned demarcation between ENCI and non-ENCI seems important to make, as far as ENCI indicates a set of ideals, desirable behaviours, and enlightened ethical commitments. On the other hand, ideals can be aspired to, and they can be realised to different, more or less advanced, degrees. Our conceptual framework discloses a spectrum between fully-fledged energy citizens and the passive, disengaged and disempowered 'spectators' that basically play no part in the energy game (Pel *et al.,* 2016). Thus, ENCI can be understood similar to Arnstein's ladder of participation (**section 3.2**), and arguably there is a certain minimum level of environmental citizenship to be set to qualify as ENCI (**section 3.6**). Yet the bar should not be set too high, and it should certainly not be applied in a static, judgemental way. The innovation-theoretical notion of the 'late adopters' (**section 3.8**) indicates that certain individuals (and countries) may be *developing towards* certain stages of ENCI, and this development towards it could be considered to be *part of* ENCI. Adding rough categories of advanced, basic and developing ENCI allows to retain a relatively strict understanding of ENCI – whilst otherwise directing the research focus beyond the over-exposed 'frontrunners'.
- **Different framework conditions and different translations.** Understandings of ENCI and citizenship differ across political actors (**Chapter 2**). Further unpacking and disclosure of less prominent and less empowered forms of ENCI has brought out how they differ across European member states and regions. For example, a context-sensitive understanding is needed to account for the different framework conditions and local translations of what energy democracy should comprise (**section 3.7**), how public/private we should consider ENCI (**section 3.3**), and what its proper institutional place would be (**section 3.4**). An internal project workshop has already identified several local variations, interpretations and context-specific factors that give some further depth to the concept. This is not only a matter of different translations and definitions – it also speaks from the different empirical examples that count as 'best practices' in different contexts.
- **Empirical distinctiveness and operationalisation:** Each of the seven distinctions elicit relevant aspects that help towards a profound understanding of ENCI. Yet, not all of them are leading to clear-cut distinctions between what is ENCI, and what is not: however relevant conceptually, is it possible to distinguish empirically and at first sight between 'pragmatic' and 'revolutionary' implication in the energy system? Some of the conceptual distinctions are difficult to operationalise, and to use as a basis for the selection of appropriate cases. On the other hand, there are also certain discussions that can inform sharp choices in empirical research: Does ENCI refer only to individuals and households, or can it also be ascribed to associations, networks, organisations and institutions (**section 3.6**)? Is it entirely a public sphere matter, or are ENCI cases to cover

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both the public and the private sphere (**section 3.4**)? or only those cases in which the very division of public and private is at issue?

These main insights lead to the following ENCI definition:

> **'Energy citizenship refers to forms of civic involvement that pertain to the development of a more sustainable and democratic energy system. Beyond its manifest forms, ENCI also comprises various latent forms: it is an ideal that can be lived up to and realised to varying degrees, according to different framework conditions and states of empowerment.'**

4.2 Towards an energy citizenship typology

The multitude of theoretical distinctions which have been discussed could be visualised as a multi-faceted 'diamond'-shaped typology of ENCI phenomena. However, the heuristic value of such a multidimensional typology would be very low. Also, it would remain near-impossible to identify enabling conditions for the achievement of ENCI ideals. It would similarly remain difficult to identify the constraining conditions that tend to keep ENCI confined to marginal improvements, reproduction of systemic problems, solutions with ambiguous effects, or even perverted forms of energy system transformation. The distinctions cannot be transposed directly into dimensions of a typology. A typology fully articulating seven dimensions would be overly complex.

Indeed, throughout the seven distinctions there are certain recurring themes. The respective 'manifest' and 'latent' forms of ENCI display overlaps. These recurring themes and overlaps between the distinctions allow for synthesising. They open the very possibility of ordering the various ENCI features by their more basic dimensions, and then to (re)dispatch the distinctions alongside these dimensions. Going back to the scheme that this conceptual unpacking started from (Figure 8 in Chapter 3), the next step is to specify the ENCI dimensions 1 & 2.

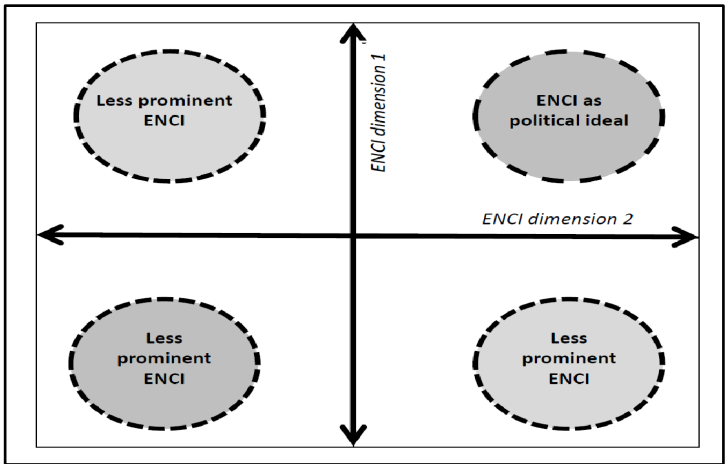

Figure 8: Idealised/prominent forms of ENCI and their as yet unknown counterparts

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This will be revisited within Deliverable 2.2. The purpose of D2.2. is to operationalise the conceptual framework into a coherent set of ideal-types of ENCI. This will complete the conceptual toolbox for the empirical investigations. Building on the developed distinctions, a more precise ENCI typology will be developed by

- merging and aggregating the seven distinctions into more generic and fundamental dimensions of ENCI;
- considering how the seven pairs of 'manifest' and 'latent' forms of ENCI are captured or excluded by the defining dimensions;
- considering how certain conceptual distinctions would constitute key criteria of one dimension or another;
- elaborating a matrix crossing the dimensions and the related criteria, in which each cell corresponds to a certain 'ideal-type' of ENCI to be validated;
- taking stock of the distribution of apparent ENCI exemplar cases over the theorised ideal-types.

4.3 Implications for further workflows

The elaboration into an ENCI typology is the crucial follow-up to this analysis. Apart from that, there are several other linkages to consider. Important next steps are:

- **WP3:** The preliminary definition of ENCI (**section 4.1**) and the unpacking of ENCI clarify the range of empirical phenomena that ENCI can be taken to refer to. As such it informs the empirical investigations conducted in WP3, comprising both a larger-N scanning of ENCI phenomena (N=500) as well as in-depth cases. The unpacking clarifies how the sample of cases covers manifest and latent forms of ENCI. Certain theoretical distinctions and aspects will prove difficult to study and distinguish empirically. Access to data will be greater for certain 'manifest' forms of ENCI. This means that the selection of cases may focus on certain kinds of ENCI and disregard others, i.e., it may comprise a certain subset of the theorised variations. Taking the seven theoretical distinctions as a frame of reference, the empirical investigation is bound to cover a very broad range of ENCI variations.
- **WP4:** The conceptual framework has unpacked ENCI into its more and less manifest forms. This has helped to delineate the concept and distinguish it from others, but it has also clarified through which societal contexts, institutional structures, and innovation ecosystems ENCI is conditioned. WP4 provides further elaboration of the latter. It empirically examines the role of intermediary actors, institutional arrangements, and governance in energy citizenship. It will also identify and develop viable business models, social innovation models and new forms of organisation for advancing energy citizenship.

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- **WP5:** This work package will examine external conditions that support or hinder energy citizenship at the supranational, national and regional level in nine European countries. The validity and receptibility of different models will be tested with users in a large-scale citizen survey, while national citizen consultations will be used for co-creation of several scenarios for the advancement of (desirable forms of) energy citizenship. Delineating ENCI and unpacking the range of citizens/citizenship it can be taken to refer to, the conceptual framework provides particularly relevant guidelines for the survey **(WP5):** how to develop a sample of 'energy citizens' that covers – or otherwise accounts for – the various categories of 'latent' ENCI as well? The sampling is difficult, as ENCI can be considered an 'essentially contested concept' (Callorda Fossati *et al.,* 2017).
- **WP6:** This work package is dedicated to translating the research into policy action, developing policy recommendations at different levels. These recommendations will have to be informed by the empirical research upcoming in the project. Still, the conceptual framework has laid important foundations for policy advice. The critical-constructivist approach has clarified the actors, interests, normative commitments, and ideological dimensions of the concept. Policy advice needs to carefully account for the various 'latent' forms of ENCI that exist alongside the well-known and often celebrated ones. ENCI better not be promoted wholesale: a differentiated ENCI is needed The conceptual framework has provided a set of qualifiers, specifications, nuances that work towards a more incisive and respectful ENCI discourse – regarding the supposed ENCI 'laggards', for example, where it is useful to address the matter in terms of transition phases and innovation processes. Meanwhile, our analysis also clarified how ENCI is a, as yet, relatively malleable and salient 'narrative of change' (**Chapter 2**) that could gain political currency in the context of European energy/sustainable development policies. A particularly important window of opportunity for political relevance is likely to open with the EU elections of May 2024.

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