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## Deliverable 2.2 Conceptual Typology

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## Summary

This deliverable elaborates the fundamentals of the conceptual framework (D 2.1) into a conceptual typology of energy citizenship (ENCI). This document provides a background report on the process of grouping the key conceptual distinctions of ENCI into empirical observable analytical categories. Following a robust methodology, ten ideal-types are presented and discussed in this document. The report presents a consistent description for each of the ten, highlighting conceptual characteristics, and these are then illustrated with salient examples. This innovative conceptual typology captures the breadth of energy citizenship in terms of conceptual forms, thus encompassing both existing and possible types. The typology will be modified or refined according to the project's forthcoming empirical results (WP3-6).

This report is a deliverable (D 2.2) of EnergyPROSPECTS and is publically available.





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## Introduction: an iterative typologisation

Within the EnergyPROSPECTS proposal, the typology has been conceived as an iterative process at the junction of conceptual WP2 and empirical WP3, as the proposal's depiction (sidebar 1) and the figure 1 above underline:

#### Task 2.2 according to the EnergyPROSPECTS Proposal

"This task elaborates, systematises and operationalises the key conceptual distinctions into empirical observables and examples, analytical categories, and sensitising concepts — with as key task the development of a conceptual typology that captures the main theoretical dimensions. This provides inputs for further empirical analyses (WP3-6) and for activities in dissemination (WPs 1 and 7). This involves an elaboration of the conceptual framework in terms of:

(a) relevant ideal-types and empirical manifestations,

(b) case demarcations (temporal/geographical/functional scope),

(c) relevant units of analysis and processes, and

(d) relevant impacts pertaining to sustainability as well as energy justice.

The conceptual framework also indicates:

(e) the range of relevant contextual constraints and conditions that shapes energy citizenship (as unpacked into a coherent set of well-defined and recognisable ideal-types). Specifying the resources and contextual constraints shaping particular types of energy citizenship, the conceptual framework also supports differentiated and tailored development of instruments and dissemination (informing WP 4, 5, 6 and 7)."



Figure 1: Iterative typology development process informed by theory and practice

Conceived as the second step of conceptualisation towards empirical work, this first draft of the typology is primarily shaped by the conceptual framework and especially its delineation of the concept of energy citizenship to be used in the EnergyPROSPECTS project. To address the heterogeneity of citizens' involvements within the energy system





and its transformation, the approach adopted within WP2 relies on this definition resulting from the general conceptualisation task, i.e.:

"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, energy citizenship (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." (Pel et al., 2021:64)

In accordance with the conceptual framework elaborated in the D 2.1, the typology seeks to derive from the key conceptual distinctions to analytical types and categories that account for the multiple forms of energy citizenship (ENCI). As such, the typology intends to fit the core principles of a typology, defined as "an organised system of types that breaks down an overarching concept into component dimensions and types" (glossary attached to Collier *et al.*, 2012). At the same time, this typology development entails a "prospective" intention: following Pallett *et al.* (2019) in their proposition for an innovative way of mapping participation in the energy system, the process of elaboration of this typology pursues three main aims: first, providing a broad view on the diversity of forms through which ENCI may come to reality; second, endorsing an open approach of the ENCI, that welcomes also unexpected forms or outcomes related to ENCI; third, a willingness to improve the understanding of a current reality, and to contribute to strengthening energy citizenship by underlining some emerging possibilities.

The EP typology takes up the preliminary definition of a case of ENCI "as any form of individual or collective practice through which citizens engage with a particular part of the energy system or a direct energy-related issue" (adapted from Pallett *et al.*, 2019). This provisional definition — which WP3 D 3.1 will revise and stabilise — enables a broad and open view on the multiple forms ENCI may take, even beyond the empirically-feasible case studies <sup>1</sup>, while avoiding the trap of an empty shell (or a buzzword).

Relying on the vision of active (and less-active) citizenship and on the many components and distinctions used for differentiation of ENCI in D 2.1, the purpose of the following typology is to circumscribe in both a rigorous and creative way the main dimensions of ENCI and the components and categories specifying each dimension.

<sup>1.</sup> Both the conceptual framework and the typology intend to account for a broad range of possible ENCI forms, exceeding the scope that can be covered in the empirical studies, for various pragmatic reasons such as private-individual practices within households, that can hardly be investigated outside of a dedicated project.





A typology refers to an "organised system of types" with the purposes to (a) increase complexity in making heterogeneity explicit (which works against stereotype-based forms of thinking and analysis) and – at the same time – (b) reduce complexity in breaking down the variety to a number of distinct cases. Both exercises have value. The motives, generating process and shaping factors are likely to differ across types as something to uncover. But when doing this, one should be aware that not all diversity can be fully considered because of the complexity reducing element. The typology developed here, as Collier, LaPorte and Seawright (2012) pointed out, aims at contributing to various "analytic tasks:

- forming and refining concepts,
- drawing out underlying dimensions,
- creating categories for classification and measurement,
- and sorting cases."

The EnergyPROSPECTS typology intends to undertake these tasks and to support a discussion about ENCI in which ideals, empirical forms, and variations are clearly distinguished from each other, as well as to refine the conceptual framework developed in Deliverable 2.1, deciphering the underlying dimensions and relevant categories, through constant go-and-return between conceptual and empirical work.

Aimed at developing a conceptual typology, deliverable D 2.2 first introduces briefly the general characteristics of conceptual typologies as well as the key terms and outputs it provides (chapter 1). Then it presents the process set up to develop a typology of ENCI (chapter 2), and explains and exemplifies the resulting ideal-types (chapter 3). It concludes with some key remarks on the contribution of the typology to the empirical investigation and on the difficulties and challenges for the forthcoming ENCI analyses.



## 1. Methodological background on qualitative typology development

The development of a relevant typology of ENCI represents a methodological challenge. The very uncertain nature of ENCI calls for the elaboration of a qualitative conceptual typology that relies on a tailored methodology (subsection 1.1), enabling the typologisation process to lean on several key inputs (subsection 1.2).

## 1.1 Qualitative typologies: Between conceptualisation and empirical investigation

Qualitative descriptive typologies are mostly grounded on both a conceptual framework and consistent empirical research. Therefore, a dedicated methodology has been elaborated to allow a typologisation process that takes into account the specificity of the ENCI as a research object and the provisional absence of empirical inputs.

## 1.1.1 Insights on typologies

Though often criticised for its "reductionism", its lack of conceptualisation or on the contrary its inability to account for empirical reality, typologisation remains a valuable and creative analytical step, provided it is carried out properly. In that respect, it is helpful to consider the variety of forms a typology may take. Beyond the debates on its analytical contribution, some authors (from Weber to Lazarsfeld to, more recently, Collier et al., 2008, 2012) have explained in detail the conditions and procedures enabling the development of a relevant typology, whether quantitative or qualitative. Considering the database building planned within EnergyPROSPECTS, both quantitative and qualitative forms of typology could potentially have been developed within the project. Quantitative typologies are mostly part of quantitative-oriented research, for which they can represent a valuable step in causal inference. They can provide the conceptual starting point in a quantitative analysis by e.g., identifying a subset of cases on which the researchers wish to focus, overcoming an impasse in a given study, synthesising the findings, or enabling assignment of cases to the cells in a typology (Collier *et al.*, 2012: 226). For the EnergyPROSPECTS project, opting for a quantitative typology would have implied to *decide* about the variables and their attributes before the data collection — which was not possible for a concept as





difficult to define as that of ENCI. Thus, and according to the iterative process described previously, it was obvious that only a qualitative typology could be feasible and fruitful for a wider understanding of ENCI.

This choice also relies on the specificity of ENCI that results in many obstacles for the typologisation. As underlined in the conceptual framework, ENCI cannot be considered as an established "concept" which would allow one to study the various derivations on the basis of existing theorisations or approaches of the concept *via* a typology. Neither is ENCI an observable "social phenomenon", or a complex social reality that a qualitative typology would comprehend, understand and explain (Kluge, 2000). So far, energy citizenship is everything but an "already given object" (Canguilhem, 1952: 16), concept or idea, of which various forms would be easily deciphered. This specificity is an argument for the development of a qualitative conceptual typology that allows one to order the various independent forms of ENCI.

Given the specificity of our research object, establishing a "typological theory" (Alexander and Bennett, 2005: 176) proves also inappropriate, since the aim of a typological theory is to provide "hypotheses on all of the mathematically possible types relating to a phenomenon, or on the full "property space", to use Lazarsfeld's term" (*Ibid.*). At this stage of the research, ENCI cannot be grasped through any form of causality analysis neither based on the building of clusters of causes or outcomes, nor on the assumption of their possible equifinality. More generally, our purpose here is not to elaborate any kind of explanatory typology (Bennett and Elman, 2006), which would not be in line with the current stage of development of the EnergyPROSPECTS project.

Thus, the choice of a *qualitative conceptual typology* is the one that fits particularly well to both the general research process within EnergyPROSPECTS and the specificity of its object, ENCI, as captured in the conceptual framework. The focus of such a conceptual typology is to "explicate the meaning of a concept by mapping out its dimensions" and to inform and structure the development of a methodology for the empirical qualitative analysis (Collier *et al.,* 2008, 2012).

To do so, the typology is "the result of a grouping process" through which the research object is "divided in some groups or types with the help of one or more attributes" (Kluge, 2000). A type is defined by a "special compound of attributes" (Lazarsfeld, 1937) i.e., a combination of attributes made in such a way that the elements within a type are as similar as possible, whilst the differences between the types are as strong as possible. Moreover, these attributes are not only to be correlated, but also entangled in meaningful relationships. As Kluge (2000) underlines, "types are always constructions" that are "dependent on the attributes that should form the basis for the typology".





## 1.1.2 Typologisation process

Building on the literature devoted to typologies in general (Kluge, 2000, Alexander and Bennett, 2005), and on conceptual typologies in particular (Collier *et al.*, 2008, 2012), the typologisation process consists in successive steps that are guaranteeing the relevance of the typology. Therefore, this subsection underlines consecutively the reduction of attributes to identify the two (or more) key dimensions that will frame the typology and then the development of a matrix based on the attributes or variables of the dimensions. Each cell of the matrix will represent a possible "ideal-type" of the overarching concept, to be validated and explained further.

## Identification of dimensions through the reduction of the "attribute space"

The development of a robust typology requires both rigor and creativity (Collier *et al.*, 2012; Alcantara, 2016). When the typology is not primarily grounded on empirical material, a strong conceptual framework is required to give an overview of the "attribute space" (Lazarsfeld, 1937: 10) in which "the operations of reduction can be defined and explained" (*Ibid.*).

This first step of reduction leads to the identification of the few key dimensions or ordering concepts of the studied object, as well as of the different attributes or criteria composing each dimension — corresponding to the set of properties through which each type will then be described. According to Lazarsfeld, three main types of reduction can be distinguished:

- 1. The functional: when a relationship between two attributes or variables actually exists that enables one to reduce the number of combinations.
- 2. The arbitrary numerical: when index numbers authorise to superimpose attributes (this type of reduction will not be in use in our typology).
- 3. The pragmatic: when groups of combinations can be contracted into one in view of the research purpose.

#### The matrix as cross-tabulation of dimensional attributes

Once the attribute space has been reduced, ideally to form two or three main dimensions, each encompassing two or more attributes, a matrix (generally a table) can be elaborated to provide an overview of all potential possible combinations (each combination appearing in a separate cell of the table). In the case of a "conceptual" or "descriptive" typology, each cell of the matrix represents a type that corresponds to a specific stance of a broader concept.





The three following figures exemplify the way two or more dimensions and attributes may be combined within a typology:

		Con	flict
		Low	High
iguity	Low	Administrative Implementation	Political Implementation
Amb	High	Experimental Implementation	Symbolic Implementation

Figure 2: Matland's (1995) typology of policy implementation (as adapted in Collier et al., 2008)

Figure 2 above illustrates a common form of typology that results from a 2x2 matrix, in which the cross-tabulation of the two variables of each dimension provides four independent types that are named according to their attributes.

Figure 3 shows a more elaborated form of typology, in which the main dimensions are represented as scales:



Figure 3: Dahl's figure of liberalisation, inclusiveness and democratisation (1971: 7)

Dahl's well-known typology of regimes underlines how opposite poles of certain characteristics serve to clarify differences and similarities. Moreover, using titles instead of naming the variables that are cross-tabulated enables him to account for the possible trajectories from closed hegemony to other forms of regime.

In some rare cases, the typology may even be based on three dimensions. In figure 4, for instance, the corners are representing the types, operating a polarisation of the





characteristics to make it easier to grasp complex differentiations occurring within historical processes:



Figure 4: Collier and Collier's "Dimensions of the Party Heritage: Centrist Majority Bloc, Union-Party Links and Coalitional Role of Unions" (2002: 504)

Whatever their number (or their nominal or ordinal declinations), the dimensions of a typology are the basis for the cell types (Collier *et al.*, 2008: 157). The declination of the dimensions consists in the identification of the variables (or attributes) that are generally put in rows and columns. Cross-tabulation of the dimensions and the related attributes results in a matrix in which each cell should be mutually exclusive and collectively exhaustive and, therefore, correspond to a specific type. At this stage, a very important point made by Collier *et al.* (2012) should be noticed:

A key point must be underscored: The cell types in a conceptual typology are related to the overarching concept through a kind hierarchy. Understanding this hierarchy helps to answer the following question: What establishes the meaning of the cell types, that is, of the concept that corresponds to each cell? The answer is twofold. (1) Each cell type is indeed "a kind of" in relation to the overarching concept around which the typology is organised, and (2) the categories that establish the row and column variables provide the core defining attributes of the cell type. (Collier *et al.* – Annex – 2012)





#### From the matrix's cells to the types

On the basis of the matrix, the next step of analysis is to outline how this ordering of ideal-types enables a better understanding of the existing (or potentially-existing) stances of the studied concept.

A first validation test consists in assigning cases to each combination of attributes and compare them with each other, in order to check the internal homogeneity of the type construction. According to Kluge, this step is necessary for two main reasons:

- because the cases must resemble each other to a large extent on the "level of the type";
- in order to check whether there is a sufficiently high external heterogeneity on the "level of the typology" (between the types).

If these conditions are met, then the cell types can be named and described on the basis of their attributes to form the ideal-types of the concept, as Weber (1904) defined them:

An ideal-type is formed by the one-sided accentuation of one or more points of view and by the synthesis of a great many diffuse, discrete, more or less present and occasionally absent concrete individual phenomena, which are arranged according to those one-sidedly emphasized viewpoints into a unified thought construct. In its conceptual purity, this mental construct cannot be found empirically anywhere in reality.

These ideal-types are not necessarily meant to exist in such a typical way in reality — up to the point it can lead to the possibility of "empty cells" or "kinds of cases that have not occurred or perhaps cannot occur" (Alexander and Bennett, 2005: 175). Yet, these ideal-types provide a broad picture of the phenomenon and highlight how its various forms can be understood and analysed. The ideal-types can be mobilised as a set of lenses through which existing forms become describable, for instance, as an "unperfected" form of type X, or as a combination of characteristics from different types.

This methodological overview of typology development calls for three further precisions attached to the conceptual nature of the typology elaborated within this work package.

• First, emphasis is put here on the theoretical basis for typology elaboration rather than on an initial analysis of a case collection, following the statement made by Doty and Glick that "overemphasis on describing the typology and underemphasis on developing the underlying theory have opened the typological literature to criticism." (Doty and Glick, 1994:231)





- Second, this conceptual approach of the ENCI typology aims at meeting the "advantage offered by typologies [which] is that they allow researchers to move beyond the limitations of the current empirical world" (Doty and Glick, 1994: 245). Consequently, this typology does not aim only at accounting for the current effective ENCI forms but also at highlighting possible forms of ENCI that do not (yet) exist or no longer exist. In that respect, the typology may also contribute to the changeorientation of the EnergyPROSPECTS project, by improving the understanding of the potential "migration" from one type to another over time (Pel and Kemp, 2020).
- Third, since it is grounded primarily on a conceptual framework and not on relevant sets of case studies, this conceptual typology development may result in the identification of ideal-types that are difficult to investigate empirically.

## 1.2 Key inputs informing the typology development

Next to the literature on the theoretical approaches of typology development, the methodological background consists of various sorts of inputs:

- the conceptual framework as the core of the typologisation process;
- insights on the team's orientations and main concerns through a collective brainstorming;
- additional insights from literature on approaches of energy democracy and justice;
- a first validation check with a first collection of cases.

The inputs of the conceptual framework, the brainstorming and the validation check will be described in the following paragraphs, the insights from additional literature review in chapter 2.2.

## Conceptual framework

The conceptual framework elaborated in the D 2.1 provides consistent insights into the problematisation of energy citizenship that will drive the EnergyPROSPECTS project in general, and the conceptual typology in particular.

As a research object to be built, ENCI has been captured as a multifaceted political ideal, encompassing a series of key distinctions (or dichotomies). Figure 5 from D 2.1 synthetises the conceptual framing and its seven distinctions, which form the basis for the typology development.







Figure 5: ENCI Overview: Manifest/latent forms and key dimensions (Pel et al., 2021:61)

It is noticeable here that the "latent" and "manifest" forms of ENCI represent a flexible yet transversal differentiation that encompasses all the seven distinctions through which the concept of ENCI has been unpacked. Though not composing a dimension of ENCI, the latent or manifest character of ENCI is seen as an important modulation factor that shall be kept in mind, especially when deepening the analysis of cases in the empirical phase and looking for trajectories between latent and manifest forms. And all the more since the resulting demarcation between ENCI and non-ENCI seems flexible as well, as represented by the dotted line running across the many latent forms of ENCI.

The conceptual framework, which outlines various distinctions, provides a large "space of attributes" to be reduced. Based on the described methodological steps and a preliminary check with empirical cases, a transparent reduction process was possible.

## EnergyPROSPECTS collective brainstorming

WP2 team used the opportunity offered by the July 2021 EnergyPROSPECTS monthly meeting to carry out a quick brainstorming with all the project partners devoted to the delineation of ENCI key criteria and core problematics. The purpose of such "brainstorming" was not to contribute to the theoretical work on ENCI as such, but to provide a better understanding of the concerns and perspectives that matter within the





consortium. This brainstorming which collected "immediate associations" of the EP team members with ENCI<sup>2</sup>, resulted in some valuable insights for the conceptual framework and the conceptual typology development.

- Within the conceptual framework, it influenced the idea that ENCI should not be defined in "neutral" terms, but that there are certain ethical commitments and political ideals (energy democracy as a key concept that captures many of them) that are essential for the conceptualisation of ENCI.
- Within the typology, it strengthened the idea that the variety of forms of participation (based on the related concepts of energy democracy and energy justice) should serve as a core aspect of the type description.

Moreover, the importance devoted to decision-making processes underlined a strong linkage between citizenship and democratic ideals, at least with regard to political theory approaches of democracy. According to those approaches, democracy mostly implies a focus on the procedures and mechanisms associated with decision-making (Van Veelen, 2019). This aspect is reinforced by the very content of the problematics associated with ENCI — and especially all concerns regarding energy justice, energy inequalities, poverty and environmental citizenship —, thus converging towards problematics that are associated in many studies around "energy democracy". This points out heuristic linkages between ENCI and energy democracy issues (Van Veelen, 2019), but also the necessity to be aware of the challenges associated with such a slippery term as "democracy".

## A first empirical validation check

A first overview of the empirical breadth of ENCI resulting from a first collection of more than sixty cases (mostly in the German context)<sup>3</sup>. Aimed at providing an overview to support typology development, these sixty cases have been collected before the achievement of the conceptual framework; thereafter, their relevance has to be checked accordingly. From a methodological point of view, the sampling of cases was based on the various examples of possible ENCI mentioned in the EnergyPROSPECTS proposal, which were extended along the case collection process. The cases were shortly described in terms

On that purpose, all the attending team members were asked to fill in sticky notes with the criteria and problematics that they consider as essential to understand energy citizenship within the project. At the end of the item collection, they were all asked to vote for the points they consider as the most fundamental.
 The many case studies realised in France and Belgium during the last decade by the first author of this deliverable have been also mobilised as a complement to the German cases, notably to underline some country-specific aspects.





of type of actions and objectives, and ordered in several intuitive categories<sup>4</sup>. The German cases from the H2020 Energise Project were added in the database (extending it to about 130 cases). One important practical application of the eventual typology will be to facilitate dialogue across the various empirical investigations on ENCI and related topics. For now, this first sample of cases has been notably used to realise the first validation check of the matrix (see subsection 2.3.2).

Figure 6 summarises the core role played by the conceptual framework, and the additional information that has been mobilised to enable the typologisation process (which is described in section 2).



Figure 6: Knowledge inputs which informed ENCI typology development

<sup>4.</sup> These categories are: networks, initiatives and projects, short time experiences, individual initiatives, living labs, business-related projects and protest movements.



## 2. Typologisation process

Following Collier *et al.*'s template for the elaboration of conceptual typologies, the ENCI typologisation process is characterised by the following building-blocks that are summarised below and explained in detail throughout chapter 2.

- 1. **Overarching concept:** the concept of energy citizenship (first order construct), resulting from the combination of attributes (latent and manifest forms, seven distinctions) identified within the conceptual framework.
- 2. The key dimensions (second order construct) which result from the overarching concept of energy citizenship and the distinctions that were outlined in the conceptual framework (Deliverable 2.1). In a conceptual reduction process, these distinctions are assigned to two key dimensions: ENCI "agency" and "outcome orientation" (detailed in subsections 2.1 and 2.2, see also figure 7).
- 3. Variables (or dimensional attributes): The variables are cross-tabulated to form a matrix.

The dimension "agency" is first decomposed in the attribute "individual" and "collective", and the two attributes are further differentiated to form five categories of agency:

- Three on the individual side: 1. private; 2. organisationally embedded; 3. public.
- Two on the collective side: 4. citizen-based or hybrid; 5. social movements.

The dimension "outcome-orientation" is described along two poles:

- Reform-oriented / reformative orientation (pragmatic and incremental change resonance), low energy democracy, shallow environmental sustainability.
- Transformation-oriented / transformative orientation (radical change resonance), high energy democracy, deep environmental sustainability.
- 4. The matrix: This cross-tabulation creates a 5 × 2 matrix (cf. *infra*).
- **5. The types:** The ten forms of engagement located in the resulting cells are corresponding to ten ideal-types of ENCI, of which they collectively provide a conceptually exhaustive picture.

In chapter 2, we depict the two main dimensions that have emerged from the reduction process of the seven distinctions of the conceptual framework first (subsection 2.1) and then describe the production of a matrix (subsection 2.2).





## 2.1. Reducing the conceptual framework's "space of attributes": synthetic diagram

Figure 7 gives an overview of the reduction process that was carried out to identify the two key dimensions of the typology based on the seven distinctions of the conceptual framework. The distinctions were categorised as describing either characteristics of "agency" or "outcome orientation" and the related attributes were reduced and assigned accordingly (the dimensions are described further in 2.2)<sup>5</sup>.

Two distinctions have been considered as being relevant for both dimensions: active / passive and frontrunners / late adopters. The two are obviously describing characteristics of agents, drawing on the degree of involvement (from the passive, vulnerable and disempowered individual to active individuals or collectives). Yet, they can also be used to characterise the outcome-orientation, since active and frontrunner forms of ENCI can be seen as striving for transformative changes, while passive and late adopter forms of ENCI are more likely linked to reformative change orientation (or no change at all). These two distinctions are also part of the individual or collective trajectories of ENCI, considering that passive forms of ENCI may become more active, and laggards or late adopters might become frontrunners. Yet, these aspects can hardly be taken into account in the conceptual typology — or, more precisely, in the set of types — but can only be captured empirically. As such, they could not be translated directly into the dimensions' attributes or ascribed to particular ideal-types. Rather, they provide an evolutionary backdrop to the typology, reminding one that the ideal-types are manifestations of ENCI that — under changing framework conditions in different EU countries — can emerge and fade.

If visually some distinctions are appearing directly within the dimensions' variables, it does not mean that a lower importance has been given to the distinctions that are not present in the two circles. Equal importance and value were given to all distinctions, but some of them have been considered as being embedded within overarching variables.

<sup>5.</sup> More precisely, the dimensional attributes of agency result from a functional reduction of the attributes encompassed in the related distinctions (individual/collective, public/private sphere and State/hybrid). The dimensional attributes of the outcome orientation result from a pragmatic reduction of the attributes encompassed in the related distinctions (pragmatic/transformative, shallow/deep environmental citizenship).







7 KEY DISTINCTIONS

to the two key dimensions of the typology





## 2.2 Two main dimensions: agency and outcomeorientation

This subsection describes the two key dimensions that emerged from the reduction process in more detail.

## 2.2.1 Agency

The agency dimension encompasses three key distinctions highlighted within the conceptual framework and it primarily aims at addressing basic issues such as: *Who is doing ENCI? To whom can ENCI be ascribed? Which kinds of configurations of actors can be considered relevant when searching for empirical cases?* 

To answer this series of questions, the focus has first been put on the individual / collective distinction as delineated within the conceptual framework. As a status granted to individuals, ENCI can hardly be typologised without individual focus. Yet, a focus only on individuals would induce noticeable analytical "risks", considering the (neoliberal) ideological assumptions attached with such an atomistic perspective. Consequently, the typology development endorses the distinction between the "embedded" individuals — as described in the conceptual framework — and various forms of collectives in which individuals may be assembled as the two main attributes of the agency dimension.

Taking the individual as an attribute of agency allows us to include the private/public distinction within the agency dimension. It opens up the possibility to consider individuals in the private sphere of the household as well as being embedded within various types of organisations, such as their workplaces, schools, kindergarten, etc., but also within the public sphere — which leads to the three attributes of individual agency.

In line with the conceptual framework, the collective agency attribute refers to individuals assembled within collectives understood as associations whose forms of involvement *directly* pertain to ENCI — a condition that avoids overstretching the concept to the institutional "ecosystem" of ENCI (Pel *et al.*, 2021: 41). The collective agency can be divided in two relevant sub-categories according to their modes of action ("concrete" energy practices or direct political involvement).

 The citizen-based and hybrid collectives refer to energy-related practices and configurations that are respectively initiated and led by citizens only (such as grassroots initiatives), whilst the latter encompasses various other-than-citizen actors, notably public authorities and private actors such as renewable energy sources (RES) developers or project managers. Both citizen-based and hybrid collectives are combined here in one single attribute of agency with regard to the





current trend to "multi-actor situations of ENCI" (Pel *et al.*, 2021:40). This categorisation excludes actors that can be seen as part of the institutional context, or of ENCI "ecosystems", i.e., it restricts ENCI to actors directly involved with the ENCI enactment as such.

 The social movements account for citizen-led and energy related social and/or political agencies that pertain to the general definition given by Diani (1992) as "networks of informal interactions between a plurality of individuals, groups and/or organisations, engaged in political or cultural conflicts, on the basis of shared collective identities".

Agency	CATEGORY	OPERATIONALISATION	EXAMPLES
۹L	Private	Energy practices within the household	Change in energy practices (e.g., energy saving habits, prosuming, using smart appliances).
INDIVIDU	Organisationally embedded	Energy practices outside of the household (workplace, school)	Behavioural change within the organisation Change of organisational purpose
	Public	Energy practices within the public sphere	Participation in public consultation for RES projects
TIVE	CITIZEN-BASED AND HYBRID	Energy practices of collectives whether citizen-based or composed of heterogeneous actors (hybrid)	Grassroot initiatives Local RES projects that are initiated by citizens or in which citizens can acquire shares
COLLECTI	SOCIAL MOVEMENT	Energy practices of collectives composed primarily of citizens following innovative socio- political and sustainable energy targets	Trade Unions, NGOs Climate activists, protests against new power lines or renewable energy projects

#### Table I: Operationalisation and examples of the categories composing the agency dimension





## 2.2.2 Outcome orientations

#### Basic attributes: reformative and transformative outcome orientations

The second dimension encompasses the two remaining key distinctions highlighted within the conceptual framework and it aims primarily at addressing questions that are complementary to those for the agency dimension, i.e., *ENCI for what? What are the possible outcomes of ENCI that legitimise it as desirable? What kind of engagements and outcome orientations are to be considered as relevant for the empirical search?* 

With the purpose of answering this series of questions, the second dimension resulting from the merging process is the "outcome orientation", for which two attributes are distinguished: reformative and transformative. Outcome orientation is referring to the envisioned contribution of ENCI to energy system changes (transition). For empirical analysis this means to have a look at which kind of *aspirations* regarding the contribution to energy transition are formulated on the individual or collective level of ENCI and consequently how they are pursued — or if certain forms of ENCI are characterised by a lack of aspirations for (social and environmental) change.

Just like the individual/collective distinction for the agency, the pragmatic/ transformative distinction elaborated within the conceptual framework grounds the two basic (or primary) attributes of the outcome-orientation dimension. Referring mostly to attitudes rather than to outcomes-orientations, the term "pragmatic" is replaced by the term "reformative" for the typology. More directly oriented towards the outcomeorientations of ENCI, the "reformative" attribute accounts for the pragmatic and manifest engagement in the energy system and its limited interpretation in terms of involvement within "concrete projects" or activities and in technological interventions that can be assessed for their costs and sustainability impacts (Pel *et al.*, 2021: 51). On the opposite side of the spectrum, the transformative outcome orientation tends to embrace "broader energy transition goals and climate change" (Armstrong, 2020:2, cited in *Ibid*.).

Following the main themes browsed within the pragmatic / transformative distinction depicted in the conceptual framework, three secondary attributes are characterising each of the two primary attributes (reformative / transformative):

- Low or high level of energy democracy aspirations / commitments.
- Shallow or deep environmental sustainability, as sketched in the pragmatic / transformative distinction and extended in the shallow / deep environmental citizenship distinction.
- Striving towards incremental or radical social change.





Secondary attributes: Energy democracy, environmental sustainability and sociotechnical change

#### Low or high energy democracy

As underlined in the conceptual framework, energy democracy<sup>6</sup> has been brought forward as a transformative concept (Pel et al., 2021:54), that is intimately related to the shift from reformative approaches toward deeper structural societal transformation through energy transition. As such, the level of energy democracy is linked with the possibility of transformative changes as an ENCI outcome. Being primarily a movement of practitioners and then also a field of research (Szulecki and Overland, 2020; Feldpausch-Parker et al., 2019), energy democracy combines a broad range of features: various and heterogeneous actors, democratic values and functions that are upheld by various supporting processes "such as public engagement as sense making around socio-technical systems, making issues of power and competing values open to discussion and resolution, and enabling the conflict and contestation inherent in the redistribution of resources" (Feldpausch-Parker et al., 2021:6). Embedding justice, participation and power issues (Burke and Stephens, 2017), commitments or aspirations towards energy democracy are indicative for far reaching transformative ambitions. Indeed, according to the intersectional framing of energy citizenship, citizens can only exert a transformative influence if the structures are appropriate. This includes decentralisation, but also the possibility for "dismantling", controllability of technologies, prevention of risks for future generations, and so on. Also, it implies considering issues of energy justice such as inequality and marginalisation in energy processes, inequalities of access to affordable energy, inequalities in terms of climate vulnerability (especially between Northern and Southern countries), the social and environmental impacts from energy systems, and the possibility to participate in energy decision-making processes about energy infrastructure (Feldpausch-Parker et al., 2021:7). Thus, the level of energy democracy tends to evolve concomitantly with the degree of transformation and change aspirations, alongside a kind of continuum <sup>7</sup>.

<sup>7.</sup> It is not assumed that a high level of energy democracy commitment *necessarily* induces transformative outcomes, only that the former conditions the very possibility of the latter, turning the transformative outcomes into a *potentiality*. This aspect cannot be resolved at this conceptual stage but only through empirical studies.



<sup>6.</sup> A relevant definition is given in Burke 2017: "Energy democracy goals include a shift to 100% renewable energy sources in ways that resist the dominant fossil-fuel energy agenda, reclaim social and public control over the energy sector, and restructure the energy sector to better support democratic processes, social justice and inclusion, and environmental sustainability."



Shallow or deep environmental sustainability

Aimed at operationalising the complex distinction between the shallow or deep environmental citizenship developed in the conceptual framework, this attribute refers basically on the extent to which environmental issues are considered as such within ENCI.

The shallow side of this continuum corresponds more or less with the concept of "weak sustainability" (Ott and Döring, 2004; Ott, 2009) for which ecology is only one dimension besides the economic and social ones. ENCI with this orientation focuses primarily on increasing efficiency mostly through technological innovation or substitution (without more far-reaching changes of practices), or through incentives and other regulations entailing the risk of rebound-effects (e.g., electro-mobility). This shallow version of the attribute inclines therefore toward incremental forms of change or can even result in a "business as usual" scenario. On the opposite side of the continuum, the deep environmental sustainability echoes the strong sustainability perspective, which considers the social and economic systems as being embedded in the ecological one. The ecological system prevails in that it has boundaries and limits that "cannot be discussed" (limited resources, limited carrying capacity for greenhouse gas emissions, limited resilience of the ecosystems, etc.). In such framing, the environment is given a higher value, translated in the energy realm by combining efficiency, consistency and sufficiency measures, far reaching change of individual and organisational practices, willingness to live within the ecological limits (e.g., the 1.5-degree limit), and so on. This deep version of the environmental attribute inclines to characterise more transformational practices aimed at far reaching changes of the current energy regimes, and the support of or struggle for strong political commitments (e.g., politics of restraint, phase out policies, tough fiscal reforms).

If intuitively energy democracy and environmental sustainability concerns have to be interrelated, their interlinkages are not self-evident, all the more since environmental issues have not been given a particularly high consideration within the literature devoted to energy democracy. Mostly, the relationship between energy democracy and environmental concerns are taken for granted and, therefore, addressed through general considerations. For instance, Stephens (2019) points out that "energy democracy connects environmentalism with social justice and racial equity". Burke (2017) underlines that "the energy democracy movement (...) can be understood as contemporary expression of earlier social and environmental movements within and beyond the energy sector, including grassroots anti-nuclear and peace movements in Europe and the United States and the associated interest in local, participatory and direct democracy". When given more attention within the energy democracy literature, environmental concerns are generally seen through highly human wellbeing-centred (rather than ecologically-centred) lenses that put the emphasis on the linkages between social and environmental justice. This focus on "justice" reduces environmental issues to the rights for citizens to live in a healthy





environment, to be treated fairly and meaningfully involved in environmental decisionmaking (Feldpausch, 2019; Bullard, 2005). The same logic is at stake regarding climate issues, which are mostly addressed very generally and/or in terms of climate justice: "energy democracy also responds to concerns about climate change and climate injustice" (Fairchild and Weinrub, 2017; Feldpausch, 2019).

In order to fit with the distinction between shallow and deep environmental citizenship as elaborated within the conceptual framework, the interlinkages between energy democracy and environmental sustainability have to be pushed a bit further toward the definition given by Alarcón Ferrari *et al.* (2018), who consider that "energy democracy is a fairly new concept and is a normative proposal that aims at articulating prospects for reduction of consumption, resource efficiency, use of renewable sources of energy and community empowerment".

In the light of such definition, the shallow / deep environmental sustainability can be seen as a continuum, which tends to evolve concomitantly — though not absolutely — with that of energy democracy. More generally, this short literature overview enables us to assume that there are certain trade-offs between their respective transformative ambitions.

Incremental or radical sociotechnical change / confirmation or contestation of the energy system

In the light of the two secondary attributes described previously, the degree of change associated respectively with the reformative or transformative poles can be underpinned by the distinction between incremental and radical forms of change. While differentiating these poles is helpful for conceptual reasons, we are aware that these processes are in reality more entangled and less separated than suggested by the dichotomy<sup>8</sup>.

Incremental change relies on pragmatic forms of involvement with the energy system "in the narrow sense of concrete decisions about technologies, infrastructure and public utilities" (Pel *et al.*, 2021:50), limiting the forms of ENCI to the ideal of an "active participation in collective decision-making processes about energy production, transmission, and storage" (*Ibid.*), in which the main views on energy (Devine-Wright, 2012) and energy-systems remain quite unchanged. Consequently, the forms of ENCI conveying such incremental change can hardly overcome a system-confirming relation towards the basic structures of the energy systems, all the more since these forms of ENCI are inclined to be associated with low energy democracy and shallow environmental sustainability.

<sup>8.</sup> Indeed, every discontinuity is associated with continuities (in technology, ideas, organisation and social relations) which means that transformative change is associated with a good deal of incremental change.





On the opposite side of the spectrum, radical change relies on transformationoriented forms of involvement with the energy system. These forms of involvement may go far beyond technological and optimisation concerns, questioning the main views on energy and the social, economic and power structures of the energy system. As underlined within the conceptual framework, many of the normative commitments and transformative ambitions that get lost in pragmatic translations of ENCI are articulated in the concept of energy democracy. Consequently, high energy democracy and deep environmentally sustainable forms of ENCI tend to be associated with more radical changes, thus forming the transformative pole of ENCI outcome-orientation.

#### Synthesis of the "outcome-orientation" dimension

As shown in the previous development, the two outcome dimensions reformative and transformative are relying on "clusters of characteristics" (Alexander and Bennett, 2005:177), in which the change, energy democracy and environmental sustainability subattributes are bundled.

Table 2 synthetises the attributes that are bundled in the two outcome-oriented dimensions. For each dimension, the type of change and level of energy democracy are given an operational definition that consists of: (1) describing the sociotechnical changes expected within the energy system (incremental or radical) and the main understandings of energy on which these changes rely; (2) characterising the level of energy democracy (low or high), according to the degree of empowerment of the citizens and justice; (3) sketching the depth of the consideration given to environmental issues (deep or shallow environmental sustainability).

#### Remarks:

- At this conceptual stage of the typology development, the outcome-dimension and the way it is articulating energy system change, energy democracy and environmental sustainability seems accurate, at least on the basis of the existing literature. However, this combination can only be validated empirically, first within the regional workshops, and then by the empirical case studies.
- In the context of ENCI, there are the cases that arguably do exist, yet they are less visible in public discourse and less accessible for researchers. Some of these categories have been discussed as "latent" ENCI in D 2.1, and have to be kept in mind though not appearing in the conceptual typology.



Table II: Operational definitions of the outcome-orientations
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OUT- COME- ORIENTA -TION	ASSOCIATED OUTCOMES	OPERATIONAL DEFINITION
VE	INCREMENTAL SOCIOTECHNICAL CHANGE	Corresponding to the "pragmatic" ENCI, this form of change is principally system-compliant and relies on the adoption of new technologies and behaviours to turn the passive consumers into active ones to achieve transition purposes. Energy is still viewed as a commodity: supply, demand, and price remain its main properties, and choice, individualism, private sector- orientation compose its central values.
REFORMATIV	LOW ENERGY DEMOCRACY	Centred around top-down forms of energy democracy (information, campaigns, "invited" forms of participation, minority shares), in which the citizens do not control or govern the energy system. Poverty, gender or inclusiveness issues are subsumed under the citizen-as-consumer figure (Devine-Wright, 2007; Lennon <i>et al.</i> , 2020).
	Shallow environmental sustainability	Environmental issues are dealt with in a superficial way, focusing mostly on efficiency, incentives and regulatory measures. In the shallowest forms, environmental issues are not addressed as such but somehow taken for granted, as a positive externality of the functioning of energy markets (ecological modernisation).
Ш	RADICAL SOCIOTECHNICAL CHANGE	In line with the "transformative ENCI" described in the conceptual framework, the main views on energy, the social, economic and power structures of the energy system are contested by citizens who incline to change it radically. Energy is ideally seen as a common: accessibility, affordability, (public) common proper are its main properties, and participation, community/ collective forms and public interest are its central values.
TRANSFORMATIVE	HIGH ENERGY DEMOCRACY	Centred around bottom-up or grassroots forms of energy democracy ("invented" forms of participation, cooperatives), in which the citizens control and govern effectively the energy system. Poverty, gender and inclusiveness issues are taken into account as part of the transformation process. Issues of energy justice – integrating the needs of disadvantaged groups in North and South – are an integral part of an engagement that aims for high energy democracy.
	DEEP ENVIRONMENTAL SUSTAINABILITY	Environmental and climate issues are considered as core aspects of ENCI engagement. Outcome-orientations are framed in terms of meeting climate targets, staying within environmental limits, shifting to sustainable modes of living, e.g., by combining efficiency, sufficiency, and consistency approaches (Vadovics and Živčič, 2019).





## 2.3 Matrix

## 2.3.1 Configuration of the matrix

On the basis of the merging process and elaboration of the two dimensions, the latter have been crossed, resulting in the following matrix:

	AGENCY				
OUTCOME-		Individual	COLLECTIVE		
ORIENTATION	Private	Organisa- tionally embedded	PUBLIC	CITIZEN- BASED AND HYBRID	SOCIAL MOVEMENTS
REFORMATIVE INCREMENTAL CHANGE LOW ENERGY DEMOCRACY SHALLOW ENVIRONMENTAL SUSTAINABILITY	Type 1	Туре 3	Type 5	Туре 7	Туре 9
TRANSFORMATIVE RADICAL CHANGE HIGH ENERGY DEMOCRACY DEEP ENVIRONMENTAL SUSTAINABILITY	Туре 2	Туре 4	Туре б	Туре 8	Type 10

#### Table III: Matrix configuration

Each type has to be considered as a *form of engagement* that is describing a specific mode of energy citizenship and encompasses more "latent" or "manifest" forms that can only be detected empirically. The outcome-orientation dimension consists of a bundle of attributes that points out the existing "poles". It does not account for the variations and degrees the two outcome-orientations may take, which are summarised in the following table 4.



## Table IV: Variations and degrees of ENCI outcome-orientations

DEGREE OF	LOW	MEDIUM	HIGH
Personal & identi- ty enga- gement	Citizens devote little attention and time to energy matters, which are subsumed under other concerns (e.g., financial, reputational). There is a limited connection between climate- energy issues and individual identity.	Citizens' involvement remains limited (in terms of duration, intensity of engagement, initiated actions), thus inducing some identity forming aspects but not to the point of becoming a significant part of it, citizens can consent to one- shot engagement (e.g., buy cooperative shares).	The personal involvement in terms of time and intensity are high, and the belonging (to the project, social movement, community initiative, group, etc.) is strong enough to become part of one's identity.
Contesta -tion of current energy system	Citizen involvement/action is essentially system-confirming, which means that citizens generally go along with the basic structures of the energy system.	Some system-contesting aspects are part of the process, yet not really appropriated by citizens or considered as a full part of their involvement. Contestation of the system remains "idealistic" or even "utopic", and is not really meant to come into being.	Citizens are committed to deeply renew and restru- cture the energy system, toward a more democratic and sustainable one. Narratives, actions and proposals are part of the contestation of the dominant system, and result in critics and protests against energy policies and actions as well as in forms of engagement that aim at fundamental changes (e.g., achieving autonomy).
EFFECTIVE CITIZEN POWER/ CONTROL	When expressed (e.g., within "invited" deliberative processes), citizens' voices remain hardly heard or taken into account. Being a minority, citizens' voices do not really count or in a voting process, the framings tend to limit the possibility of expressing an opinion.	Citizens can express their views, but their voices are not compulsory (within deliberative, representative or consultative processes). Within organised / participative structures, citizens remain a minority group, i.e., unable to impose their views to other groups.	Citizens exert the effective control, and their votes are mandatory. This governance takes place mostly in an "invented" process (as opposed to "invited" ones by Radtke <i>et al.</i> , 2020). Citizens represent a majority group, empowered enough to control the process, and thus make their voices predominant.
JUSTICE/ EQUITY	Justice or equity are essentially out of scope, or restricted to equal access to markets.	Equal access is granted to all concerned citizens, but the framings tend to limit them to a certain geographical area or amount of financial contri- bution, which does not guarantee "real" equity.	Involvement is fully open, without specific belon- ging conditions. Issues such as energy poverty, gen- der and inclusivity are taken into account and foster adaptative measures to guarantee more equity.
Environ- mental sustain- nability	If given any consideration, environmental sustainability issues are mostly seen as self- evident and not explicitly taken into account. In the lowest forms, environmental sustaina- bility tends to be dealt with as a positive or negative externality.	Environmental sustainability is part of the process or initiative, but this concern is addres- sed in a superficial way (focus on efficiency strategies) and without dedicated assessment. Energy remains the main focus.	Environmental sustainability is a core issue, which is followed with a holistic strategy (mix of efficiency, consistency and sufficiency measures). Its assessment through indicators is seen as desirable.

## 2.3.2 First validation test

As explained in chapter 1, the first validation test aims at assigning cases to each combination of attributes and compare them with each other in order to check the consistency of the matrix configuration (cf. subsection 1.1.2).

On the basis of the two dimensions described above, the matrix was tested by checking whether forms of engagement that can be found empirically, correspond with the outlined categories. The cases mentioned are directly inspired by the preliminary collection of German cases described in subsection 1.2.

The ten cells delineated by the matrix could quite easily be filled with some of the cases collected mostly in Germany. Many other cases of the sample could as well be associated with only one of the cells, which tends to confirm that the matrix allows the identification of independent types. Indeed, for each cell — i.e., on the level of the type —, the cases collected tend to resemble each other to a large extent, whilst the high heterogeneity between the types is confirmed on the level of the typology.

Some other empirical cases seem to be a mix of at least two of the ten ideal-types, which also confirms the relevance of the types (further validation relies on more extensive empirical investigations).

This first test can be seen as a step for further development of our conceptual typology, and not as any sort of empirical validation. The empirical validation of the typology requires a much-elaborated methodology and a structured validation process which will be undertaken in WP3.



	AGENCY				
OUTCOME-		Individual			
ORIENTATION	Private	ORGANISATIONALLY EMBEDDED (WORKPLACE)	Public	CITIZEN-BASED AND HYBRID	SOCIAL MOVEMENTS
		Manifest	and latent forms can be diffe	erentiated	
<b>REFORMATIVE</b> INCREMENTAL CHANGE LOW ENERGY DEMOCRACY SHALLOW ENVIRONMENTAL SUSTAINABILITY	<ul> <li>Adoption of more efficient practices</li> <li>Replace appliances by energy saving ones</li> <li>Prosuming</li> <li>Change to a 100% renewable energy provider</li> </ul>	<ul> <li>Adoption of new internal rules for saving energy at the workplace</li> <li>Employees or students financing a solar installation at their workplace/ university</li> </ul>	<ul> <li>National events such as the 2020 French Citizen convention for climate</li> <li>Citizen consultation (often legally mandatory), e.g., for the implementation of a wind farm in communal areas</li> </ul>	<ul> <li>Local renewable energy utility with public-community co- ownership, such as in Wolfhagen Stadtwerke (25% citizen share)</li> <li>citizens minority share owning in a wind or solar farm project</li> </ul>	- "Debating the power grid" ( <i>Bürgerdialog</i> <i>Stromnetz</i> ), initiated by ngo/ npo such as Germanwatch - Renewable grid initiative
TRANSFORMATIVE RADICAL CHANGE HIGH ENERGY DEMOCRACY DEEP ENVIRONMENTAL SUSTAINABILITY	<ul> <li>Autarky-oriented housing (individuals and group of individuals)</li> <li>Self-sufficiency oriented practices</li> </ul>	<ul> <li>Individuals working for climate or energy communities</li> <li>Individuals involved in hybrid companies, such as Naturstrom in Germany</li> </ul>	<ul> <li>Vote at a referendum on the energy policy (nationally, regionally or locally)</li> <li>Vote locally for a specific project</li> </ul>	- Active energy communities (citizen majority shareholding) - Energy cooperatives	<ul> <li>Friday for future,</li> <li>Extinction Rebellion</li> <li>Anti-nuclear</li> <li>movements</li> <li>Protest against</li> <li>renewable energy</li> <li>projects or new power</li> <li>lines</li> </ul>

#### Table V: Testing the matrix by exemplifying possible forms of engagement

## 3. Ten provisional types of ENCI

In this third chapter, the ten types resulting from the matrix are described and - if possible - exemplified, in order to provide a robust basis for empirical investigations and critics.

In accordance with typology theory, these ten types are mutually exclusive and exhaustive. However, each type entails a large range of possible actual configurations and situations that compose a sort of type-specific continuum (which must be explored further and described through empirical case studies). This type continuum often extends to various latent forms of ENCI, as counterparts of the manifest forms (as described in the conceptual framework). Those latent forms can be identified more clearly and described based on empirical analyses.

Table 6 on the next page summarises the ten types in a synthesising overview.

The types are then described alongside the main attributes that have been outlined in chapter 2.



	AGENCY				
OUTCOME-		Individual			
ORIENTATION	Private	ORGANISATIONALLY EMBEDDED (E.G. WORKPLACE)	Ривыс	CITIZEN-BASED AND HYBRID	SOCIAL MOVEMENTS
		Manifest ar	nd latent forms can be differ	entiated	
REFORMATIVE INCREMENTAL SOCIO- TECHNICAL CHANGE LOW ENERGY DEMOCRACY SHALLOW ENVIRONMENTAL	<ol> <li>DO THEIR BIT (in the household)</li> <li>Complying with the green energy transition</li> </ol>	3. DO THEIR BIT (within organisations) Energy citizenship within organisations	5. MAKE THEIR VOICE HEARD Participating in societal energy discussions	7. DO THEIR SHARE Joining green energy projects	9. DO THE JOB Facilitating the energy transition through alignment
SUSTAINABILITY					activities
TRANSFORMATIVE RADICAL SOCIO-TECH- NICAL CHANGE HIGH ENERGY DEMOCRACY DEEP ENVIRONMENTAL SUSTAINABILITY	2. DO THEIR OWN (in the household) The change-making energy citizen	4. DO IT THEIR WAY (within organisations) The energy-related change maker in organisations	6. MAKE THEIR VOTE COUNT Mobilising votes for energy transition	8. GO AHEAD Building, expanding and linking citizen- based organisational forms	10. MAKE THEIR CLAIMS Protesting against the current energy system

## Table VI: Overview of the ten ENCI types



#### TYPE 1: "DO THEIR BIT (IN THE HOUSEHOLD)" Complying with the green energy transition

# Agency smart technologies user) as well as late adopters. Personal and identity engagement **Outcome-orientation**

Reformative Incremental change

Type 1 refers to individuals who try to "do their bit" by changing their individual practices and equipment in their household towards more energy efficiency and/or prosuming. Type 1 encompasses passive as well as more active energy citizens (see below) and frontrunners (e.g.,

This type may be fostered by various form of concerns and motivations that do not belong to ENCI as such. The individualistic forms of engagement encompassed in type 1 entangle energy transition issues with various other sorts of concerns (that may even predominate), ranging from narrow to enlightened self-interest (on the narrow side: financial/economic ones; on the enlightened selfinterest: related to health, e.g., desire for cleaner air).

Rooted in the private sphere, this type of engagement takes mostly the form of a "compliant participation" and often reacts to "top-down" public or NGO-led campaigns and other sorts of information. These activities aim at reforming the energy system by targeting the "citizen-asconsumer" and turning the passive consumer into a more active one, by e.g., enhancing the acceptance for energy saving technologies or "low cost" change of behaviour.

Rooted in the private sphere, this type of engagement takes mostly the form of a "compliant participation" and often reacts to "top-down" public or NGO-led campaigns and other sorts of information. These activities aim at reforming the energy system by targeting the "citizen-asconsumer" and turning the passive consumer into a more active one, by e.g., enhancing the acceptance for energy saving technologies or "low cost" change of behaviour. Consequently, this type 1 of ENCI results from the various

possible modes of conformation to emerging / new social norms, normality and constraints associated with mainstream energy transition. Compliant individual citizens become involved in transition processes in an atomistic way, and the energy transition process is





Confirmation of the basic principles of the current energy system

Confirmation of the basic principles of the current energy system Low energy democracy Empowerment

Energy justice

*Environmentally shallow* 

Examples

resulting from the aggregation of these separate entities, limiting the induced change potential to incrementalism.

Considering its confirmative-reformative features, the "do their bit" type does not question the basic structural characteristics of the current energy system.

This type of involvement is associated with a low level of energy democracy: individualised citizen's engagement is limited to the small to medium changes of practices in the private sphere, not encompassing empowering participation beyond the household.

This type of involvement is associated with a low level of energy democracy: individualised citizen's engagement is limited to the small to medium changes of practices in the private sphere, not encompassing empowering participation beyond the household.

Questions of energy justice do not necessarily play a major role in the engagement of this type. However, there are certain campaigns / activities that combine the issue of saving energy with social questions (e.g., support for lowincome people to reduce their energy costs).

In line with the low level of engagement, the degree of commitment to environmental sustainability is variable but mostly shallow, when existing. Engagement is mostly aimed at increasing energy efficiency and/or providing renewable forms of energy, which encompasses the risk of rebound effects. More fundamental sufficiency-oriented practice changes are less prominent in this type.

Type 1 can be found on a whole continuum, from the most latent forms (i.e., the passive energy user that makes a tiny step toward more efficiency) to more committed ones (i.e., user equipped with smart meter and appliances) up to the most manifest and visible ones (i.e., the prosumer, for which environmental and energy issues may play a role alongside considerations of efficiency and financial opportunity). This type is particularly manifest through the visible "pragmatic" energy citizens. Some examples of type 1 are:

- Individuals changing their energy consumption behaviours and practices in the household (energy





savings, more energy efficient appliances and careful attention to energy uses and dissipation).

- Prosuming (through e.g., installation of solar panels on the rooftop, mostly connected to the grid).
- Use of feedback devices to monitor one's consumption (smart metering).

Use of nudges and other gamifications to increase energy efficiency at home.





## TYPE 2: "DO THEIR OWN (IN THE HOUSEHOLD)" The change-making energy citizen

Agency	Type 2 refers to individuals who make the choice to "do their own" in their household as a form of engagement toward energy transition, notably by seeking ethical consumption as well as conscious energy choices such as self-sufficiency or even autarky to complement energy efficiency practices. This type tends to include a higher share of active energy citizens and frontrunners for a more fundamental energy transition.
Personal and identity engagement	Thus, this form of individual ENCI commitment implies a high degree of personal, affective and identity engagement, since it relies on a broad set of alternative practices towards more sustainable lifestyles, from energy production/ consumption, to mobility, to food practices.
Outcome-orientation	If deployed in the private sphere, this type of engagement is mostly rooted in a sociotechnical environment that enables such individualised "bottom up" and alternative practices aimed at departing themselves from the citizen- as-consumer scheme.
Transformative Radical change Contestation of the current energy system	Consequently, this type refers mostly to transformative forms of individual engagement in the energy transition, that are meant to break radically with the current centralised energy system. Reflecting upon their role as individuals in the energy system, those individuals are attempting to act accordingly (for instance, by opting for off-grid energy systems).
High energy democracy Empowerment Energy justice	The degree of energy democracy associated with this type is noticeably higher than for type 1. Indeed, seeking for more autonomy and self-sufficiency implies a high degree of self-empowerment, and radical choices in terms of allocation of financial resources and capabilities. In that respect, this type cannot be strictly "individual", but refers more to a "libertarian" view, that is not mainly driven by individualistic concerns. Also, it includes individuals who



contest the current consumption-based economic system and are concerned with the social effects of such a system.



Environmentally deep	Similarly, the adoption of proactive and self-sufficient			
	practices in type 2 is largely induced by a high level of			
	awareness of the ecological limits and the need for more			
	far-reaching changes of the production/ consumption			
	patterns. Individuals see themselves as part of structural			
	changes towards a more resilient, flexible and controllable			
	energy system linked to the visions of "small is beautiful			
	and "soft technologies".			
Examples	Some examples of type 2 are:			
	- Autonomous / self-sufficient housing (combining off- grid energy sources and storage technologies).			

- Autonomous "nomadic" ways of life (e.g., in a truck equipped with solar panels...).





## TYPE **3**: "DO THEIR BIT (WITHIN ORGANISATIONS)" Energy citizenship within organisations

Agency	Type 3 refers to individual practices as embedded in various sorts of organisations individuals are engaged in, such as the workplace, the kindergarten, schools, universities, and so on. More and more organisations are currently endorsing energy transition as an added logic of actions. Thus, the individuals who are embedded in such organisations are meant to adopt this logic and to conform with the behaviours that are considered as organisational citizenship behaviours. In some cases, they are also the
Personal and identity	ones who are initiating the integration of this logic. Therefore, the degree of personal and identity engagement
engagement	in this type is highly tied with the ones that initiated this
	added logic within the organisation:
	when the added logic emanates from the organisation
	have at least to core with it and with the related
	nave at least to cope with it and with the related
	now officiency practices within the organisation's
	heidings and/or to take this new logic into account in their
	evended work (However, they can also take a very active
	role in supporting organisational changes )
	When the energy transition logic is raised by individuals
	(equivalent to a "bottom-up" form) the level of
	engagement depends on the acknowledgement by other
	colleagues and the organisational leaders. This latter case
	can also lead to quite substantial organisational changes.
Outcome-orientation	If the impulse towards energy transition comes from the
	organisation itself, it allows the embedded energy citizen
	to participate to a lower or greater extent with their own
	ideas and engagement in advancing organisational energy
	related issues. The other possibility is that the individuals
	involve themselves in raising energy awareness in the
	organisation, starting energy action staff groups, and
	motivating low- or high-cost measures.
Reformative	As described, the degree of change associated with such





"manifest" added logic appears to be highly variable, but Incremental change belongs mostly to the reformative and incremental forms of change. The individuals of this type of ENCI are acting within a given organisational structure which in its core is following another main logic than energy transition ("good education" in Kindergarten and schools, "developing new products or services for a competitive market" in companies, etc.). The added energy transition logic has to be compatible with the respective main logic and dominant organisational structures and routines. Depending on that compatibility and openness of the organisational leaders for change the leeway for ENCI and its forms can be very different. Confirmation of the basic This type of ENCI contributes only to a small extent to principles of the current changes of the basic structural characteristics of the energy system energy system: outside of the energy sector in a large *Low (to medium) energy* sense, there is little probability that energy transition can democracy become a main concern for any organisation with a remote field of activity (public or private). Empowerment

At the individual level, such incremental goals may result from a strong engagement and growing energy and climate concerns within the organisation. For instance, when employees or students of a university decide to finance solar panels on the organisation's rooftop, the individuals feel empowered, notably because they managed to overcome a certain organisational inertia.

Energy justice Within these forms of ENCI, the focus is seldomly placed on energy justice or environmentally deep sustainability: the inherent rationality of organisations makes it hardly possible for individuals to engage beyond "doing their bit" within an organisation they belong to. Yet, this type might also be oriented toward energy justice by creating favorable settings and/or endorsing structural changes for sustainable energy production and consumption.

Environmentally shallow (to Organisational engagement of ENCI can take very different forms, which are linked to low or medium environmental outcomes. Leeway for changes can be motivated and/or strengthened by financial motives (saving energy as cost reducing strategy) and respective governmental incentives



medium)



(for example, installing renewable energy, or changing the heat/cooling system). Organisations can also see the possibility for improving their image by acting as pioneers in the energy transition process.

**Examples** Some examples of type 3 are:

- Individual(s) involved in motivating the organisation to install solar panels on the roof of its building (e.g., school, university, public facility, company).
- Individuals initiating energy saving campaigns in their organisation (technical and behavioural changes).
- Individuals involved in setting up an internal energy policy within their organisation, e.g., with the goal to reach "climate neutrality" until a certain point of time (e.g., university, municipalities).





## TYPE 4: "DO IT THEIR WAY (WITHIN HYBRID ORGANISATIONS)" The energy-related change maker in organisations

Agency	Type 4 refers to the form of ENCI in which organisation				
	embedded individuals endorse an energy transition l				
	up to the point of turning the organisation into a fully-				
	fledged ENCI actor. Therefore, this type pertains mostly to				
	organisations that are entering or already belong to				
	energy-related sectors. It can also include citizens in				
	(mostly) public organisations who make the energy				
	transition a core part of their identity by implementing				
	innovative technological, engineering and human				
	behaviour interventions. This type of ENCI encompasses				
	mainly active forms and mostly frontrunners.				
Personal and identity	The organisational context is characterised by a true				
engagement	organisational culture towards energy transition.				
	Citizenship strongly shapes the identity and practices of				
	individuals who are involved in it and constantly nurture				
	their engagement.				
Outcome-orientation	To do so, energy transition must become at least a key				
	logic of the organisation, thus making it evolve accordingly				
	by developing new practices, business models,				
	technological innovations, partnerships, and so on.				
Transformative	Individuals within such organisations are somehow				
Radical change	committed to turn them into fully-committed ENCI actors.				
	combining common good perspectives with other aims				
	such as financial performance. The contribution of these				
	organisationally-embedded individuals to radical				
	transformation of the energy system may be decisive by				
	providing new capacities and innovation proposals that				
	are the basis for potential radical change.				
Contestation of current	For instance, they may intend to renew energy markets by				
energy system	introducing alternative market devices and framings				
	aimed at contesting the current energy system and its core				
	principles, while enhancing energy democracy, e.g.,				
	through local energy markets. As such, the current view of				
	energy as a commodity may be transformed and critical				
	changes in the functioning of the energy system might be				





introduced. It is particularly the case of those who are embedded in the numerous "intermediary" and "change agent" organisations that enact the energy transition and have the capacity to push it forward.

High energy democracyOriented towards energy commons, taking part in<br/>renewable energy projects and initiatives such as energy<br/>cooperatives and communities, this "Do it their way" type<br/>of ENCI tends to deal with energy democracy, citizens'<br/>empowerment and energy justice as a high value, and<br/>attempts to foster these values.

Environmentally deepRegarding the environmental outcome orientation, the<br/>type tends to a deep understanding and favours far-<br/>reaching structural changes in direction of a more resilient,<br/>flexible and risk-minimising energy system.ExamplesSome examples of type 4 are:

 Individuals involved in energy market newcomers and other start-ups, who are ambitioning to transform the energy system (for instance, at the local scale), through renewable energy sharing/exchange or flexible markets aimed at optimising production and consumption.

- Individuals who are willing to support the creation of energy sharing communities or neighbourhoods through the organisation they are involved in, with a concern for the "common good" at all the stages of the process.





## TYPE 5: "MAKE THEIR VOICE HEARD" Participating in societal energy discussions

Agency	Type 5 refers to individuals who engage publicly towards energy transition by expressing their voice and expecting their voices to be heard. This type encompasses a range of more or less active ENCIs. Acting within the general framings of the deliberative democracy, this type comes mostly into being through (1) legally prescribed consultations in which citizens are invited to express their views on energy transition in general, or regarding a specific project or initiative; (2) long-lasting and often institutionalised consultative agencies or committees, in which selected citizens are invited to get access to information and express their concerns on energy-related issues; (3) digital participation platforms that are adopted as regular consultation and (limited) proposal-making citizen bodies.
Personal and identity engagement	By participating in such deliberative processes, some citizens become a lot more aware of energy transition issues, and as a result, they might engage themselves actively in ENCI thereafter through other means than sole deliberation. Also, Type 5 can represent an intermediary stage towards more committed forms of ENCI.
<b>Outcome-orientation</b> <i>Reformative</i> <i>Incremental change</i>	Constrained by the very framing of the consultative or deliberative process (notably because the mode and scope of participation are mainly predetermined by the incumbents — projects managers, political actors, etc.),
Confirmation of the basic principles of the current energy system	this type of ENCI is mostly on the reformative side and aims at taking part in incremental changes. These forms of citizen participation from above (or "top down") tend to enhance acceptability and acceptance of certain measures. Most of the time, citizens are asked to react to plans and measures developed by experts, which already
Low energy democracy	<ul><li>implies information and power imbalances.</li><li>Citizen voices are not powerful enough to become mandatory. Consequently, the control and governance of the process is not in citizens' hands, though they can</li></ul>





influence further developments (depending on the aim and design of the participation process).

- EmpowermentWithin the processes themselves, citizens empowerment<br/>remains limited. However, deliberative procedures may<br/>also provide unintended consequences, for instance when<br/>the debates escape from the predetermined and closed<br/>space of what can be discussed. Local legal-compliant<br/>consultations regarding energy projects sometimes result<br/>in an enlarged scope and a re-appropriation of the process<br/>by citizens.
- Energy justiceDesigned to foster acceptance, the processes related to<br/>this form of ENCI consider energy justice in a formal-<br/>procedural and, consequently, often limited way.<br/>Generally, the ways participants are selected and the<br/>information they receive indicate the considerations given<br/>to energy justice which is, for instance, deeper when<br/>participants are chosen by drawing lots and are informed<br/>by a diverse panel of experts.
- *Environmentally shallow* In such processes environmental concerns are either taken for granted or considered as constraints to overcome, which does not leave much space for deep environmental ENCI.

Some examples of type 5 are:

- Citizen consultations, fora, etc., i.e., events in which citizens are "invited" to express their view on the national energy policy or a specific local project.
- Institutionalised consultative committees such as the local information commission (CLI) and/or the local information and monitoring committee (CLIS) in the surroundings of the French nuclear plants.
- Digital consultation platforms such as Decidim (Barcelona), which has been adopted in several other European countries.



Examples



#### TYPE 6: "MAKE THEIR VOTE COUNT" Mobilising votes for energy transition

Agency	This type refers to individuals who are taking part publicly and vote in decision making processes related to energy transition. Grounded on the basic principle of citizenship in a democratic context, this type encompasses some passive forms as well as very active ones, and can mobilise late adopters as well as frontrunners.
Personal and identity engagement	Consequently, this type of ENCI, though relating on the idea of "making one's vote count" may go far beyond the sole act of voting. It depends on a sociotechnical and sociospatial and democratic context, and especially on the ability of collective and organised groups to open up the political space for alternative choices.
<b>Outcome-orientation</b> <i>Transformative</i> <i>Radical change</i>	This type proceeds from the most traditional forms of citizen engagement and participation in democratic contexts, since it consists in the ability of citizens to make their perspectives and convictions taken into account through voting. By giving citizens the final say in voting, democratic processes aim to make the majority of citizens prevail, which at least theoretically opens up the possibility for radical changes in policies. Whether through a national or local referendum on energy transition issues, or in the course of national or regional elections, citizens are entitled to vote in favour of one or another energy transition proposal and thus to decide collectively about (parts of) their energy future. Therefore, this type requires
Contestation of current energy system	an appropriate "political offer" that enables the citizen to opt for a transformative and system-contesting orientation (e.g., by voting for the re-municipalisation of the grid property and management at the local scale).
High energy democracy	From the concerned individuals' point of view, this type of
Empowerment	Within this type of ENCI, citizens tend to consider themselves as empowered, since their votes count and decisively impact on the decision-making process.



However, empowerment here depends on whether the



voting options are framed to allow for the manifestation of truly diverse opinions. These framings can stimulate a perception of empowerment or one of disempowerment. Relying on the procedural equity "one citizen, one vote", Energy justice this type of ENCI conveys a formal consideration for energy justice, which can become actual according to the specific context in which citizens are embedded. Different environmentally Just like energy justice, a deep environmental orientation (from shallow to sustainability orientation is part of the space of the deep) possible choices in that type of ENCI, yet it still has to be enunciated as such — which is seldom the case in "normal" general elections — but more conceivable at the local scale or in a referendum process. This type encompasses the whole continuum from shallow to deep environmental sustainability. Examples Some examples of type 6 are: - Citizens' votes are directly targeting climate and energy transition issues (e.g., if climate-change and energy transition have been put at the centre of political debate in the context of a general election campaign). - Citizens decide by referendum for a specific energy transition pathway (for instance, at a local or regional scale)<sup>9</sup>.

<sup>9.</sup> The referendum here is not assumed as a "consultative" procedure (which would refer back to type 5), but as one with a binding effect.



## TYPE 7: "DO THEIR SHARE" Joining green energy projects

Agency	Type 7 mostly takes the form of a collective hybrid or a citizen-based agency that enacts citizens' willingness to be part of the energy transition along with other sorts of actors, such as businesses and public authorities. So, type 7 refers to the many ways through which citizens are collectively involved in the energy realm, e.g., by taking part in renewable energy projects in which local citizens are offered to buy some shares (though remaining a minority shareholder group). This type is mostly on the active side of ENCI.
Personal and identity engagement	The "do their share" type results obviously from the aggregation of the "goodwill" of citizens who are eager to do their part for the energy transition, but are little inclined to high time-consuming and deeply engaging commitments in energy-oriented collectives.
<b>Outcome-orientation</b> <i>Reformative</i>	This type of ENCI rests upon the idea that those committed in the collective are "doing their part" for energy transition, mostly through compliant forms of participation, assigning type 7 to the reformative side.
Incremental change	The "do their part" type encompasses incremental changes of many sorts, notably those induced by the development of new business models such as the local energy markets or that of renewable energy thanks to public and/or private and citizen fundings.
Confirmation of the basic principles of the current energy system	The related energy transition realm in which citizens are entitled to get involved remains a little system- challenging. Within such (hybrid) collective agencies, multiple goals and perspectives are entangled, such as profits, reputation, political considerations, and so on, which contribute to confine this type of ENCI to a confirmation of the basic structures of the current energy system. Moreover, such hybrid agencies may even lead to a sort of instrumentalisation of ENCI, in which local citizens are entitled to become shareholders to foster local acceptance of a project.





Low energy democracyThe energy democracy potential associated with this type<br/>of ENCI is low, notably because it is embedded into quite<br/>closed (and mostly "top-down") frameworks that are<br/>including the possible (minority) participation of citizens<br/>and/or inhabitants. Therefore, the projects or initiatives<br/>composing this type are seldom in the hands of the<br/>citizens, limiting the depth of induced energy democracy.EmpowermentConsequently, the citizens' engagement of this type<br/>cannot be seen as highly empowering, since it does not<br/>allow citizens to exert a real control over the process or<br/>project — even if they are embedded in a (rather<br/>anonymous) collective.

*Energy justice* Similarly, energy justice issues are given little consideration here, especially when participation is conditioned by a financial contribution that is not affordable for the less wealthy. Low consideration for energy justice also appears in a series of restrictive conditions for the citizens to get involved, such as the place of residence, being a houseowner (and not a tenant), and owning many high-tech appliances.

Environmentally shallow
 This type of ENCI induces a shallow environmental concern, since the focus is primarily on energy issues, whilst the environment is often either presumed or simply neglected "in the name of" energy requirements.
 Examples
 Some examples of type 7 are:

- Citizens as minority shareholders in a wind or solar farm project (launched by a private company and possibly with public support), and in which only local inhabitants are entitled to buy shares (notably to foster local acceptance).

- Citizens' participation in a process that enact governmental public policy at the local scale according to a legal framework (e.g., Energy-climate territorial plan in France or PCET), which defines both the requirements and limits of citizen participation, while decision-making remains in the hands of local authorities. According to their characteristics, some energy communities can also belong to this type.





## TYPE 8: "GO AHEAD"

Building, expanding and linking citizen-based organisational forms

Agency	Type 8 relates to a collective citizen-based and/or hyle agency engaged in pushing forward the energy transit This type often takes its origin from a grassroots initia (or equivalent) in which citizens have been initiating so innovative and alternative energy transition project, gra- or community. Many cooperatives and energy communities can be seen as part of this type of EI whose purpose is to "go ahead" in the energy transit through direct involvement of active citiz Consequently, this type is more inclined to attra			
	The organisational principles of this type of ENCI are meant to be as democratic as possible (e.g., the seven cooperative principles <sup>10</sup> ) and to enable an effective engagement of the members of the collective. However, this type refers mostly to hybrid collectives, since "pure" citizens' organisations are rarely sustaining as such, especially in the energy realm, and thus tend to hybridise with local authorities, for instance, or numerous intermediaries who contribute to the concretisation of the project(s) or initiative(s) pursued by the collective			
Personal and identity engagement	Thus, Type 8 can be considered as a frontrunner form of ENCI highly embedded in supportive relations and networks that foster high social capital, knowledge and material resources. Distributed across the collective, these resources are also associated with a high degree of personal and identifying commitment.			
<b>Outcome-orientation</b> <i>Transformative</i> <i>Radical change</i>	In this type, citizens' governance and decision-making open the possibility of transformative and radical change orientations such as promoting a decentralised and sustainable energy system, fighting energy poverty and			

The seven principles are: 1. Open and Voluntary Membership; 2. Democratic Member Control; 3. Members' Economic Participation; 4. Autonomy and Independence; 5. Education, Training, and Information;
 Cooperation Among Cooperatives; 7. Concern for Community.





inequalities or creating innovative local energy markets grounded on sharing principles rather than neoliberal ones.

Contestation of currentCentred on social innovation and concrete actions to "go<br/>ahead" toward energy transition, this type of ENCI is an<br/>active and committed one. However, it can be more or less<br/>oriented toward an explicit political engagement in favour<br/>of a radical transformation of energy systems (e.g., by<br/>keeping this engagement implicit or at the local level).High energy democracyA high level of energy democracy is at the root of this type<br/>of ENCI, both as a basic principle and as an ideal to enact.EmpowermentTherefore, in this type, citizens are meant to govern,<br/>control and take decisions regarding the initiative or the

Energy justice

Environmentally shallow/deep

Examples

In a similar way, this type of ENCI generally extends its focus to deep environmental concerns, that are seen as inseparable from the energy issues.

As part of energy democracy, equity and energy justice are

project throughout its evolution across time (and eventually space). Resources such as space to define and align values, articulate goals, foster specific skills and competencies, as well as connectedness and networks for concerted action are in place, which foster empowerment.

Some examples of type 8 are:

mostly given a high consideration.

- Energy communities in which power is and remains in citizens' hands independent from the hybrid character of the collective.
- Energy cooperatives and networks, especially the active ones, that promote active engagement rather than "simple" investment.
- Groups or initiatives seeking for low carbon footprint





## TYPE 9: "DO THE JOB"Facilitating the energy transition through alignment activities

Agency	Type 9 refers to collective actors who aim at enhancing the acceptance and acceptability of the energy transition in a pragmatic way. They are mostly sticking to the changes promoted by policies and key actors of the current energy sector. This type encompasses very different actors, from trade unions to NGOs and some actions of climate- oriented political parties.
Personal and identity	This type entails highly heterogeneous forms and degrees
engagement	of personal engagement. It may correspond to some early stages of ENCI, for instance, within groups or collectives that have been recently created, and who have not yet acquired sufficient knowledge and resources to go beyond the mainstream perspectives on energy transition. On the opposite side of the continuum composing this type, social movements can be found that deliberately endorse the role of an "objective ally" of mainstream energy reform views.
Outcome-orientation	As a result of its highly pragmatic orientation, the "do the job" type of ENCI has to be placed on the reformative side, and it can prove to be efficient in terms of concrete actions and propositions towards energy transition. In that respect, the collectives who represent this type can be seen as "facilitators", "intermediaries" or "mediators" of energy reforms between the citizens and public authorities, by enhancing dialogue toward acceptability and local compromises on energy issues.
Reformative Incremental change	considering that energy transition is reachable only through cumulative small steps, this type of ENCI is mostly supporting incremental change. The collectives are supporting more or less explicitly the mainstream policy views on energy transition.
Confirmation of the basic principles of the current energy system	This type of ENCI tends primarily to confirm the basic principles of the current energy system. Their contributions tend to fit to the existing frameworks.





whether by endorsing them or at least by adapting their action to stay in line with the mainstream views regarding energy transition.

Low energy democracy Yet, this very pragmatic positioning also induces a limited contribution to energy democracy issues, due to a relative lack of critical perspectives on the energy system that are generally inducing more transformative approaches.

Empowerment Consequently, though enhancing awareness and acceptability, this type of ENCI does not prove to be either directly empowering or necessarily disempowering. Particular behaviours are facilitated but not the skills or resources to effect change by defining goals, aligning them with values and interests, and creating space for ownership and decision-making.

Energy justice is not given any specific consideration Energy justice within this type, and, if addressed, it remains bounded by the current sociotechnical structures of the energy system. Environmentally shallow Since this type of ENCI focuses primarily on energy issues, the environmental commitment and the respective actions often remain rather shallow. Examples

Some examples of type 9 are:

- Non-profit organisations that are promoting debate on and acceptance of transmission power-lines and grid development as a requirement for renewable energy development (Germanwatch or Renewable grid initiative in Germany).
- Non-governmental non-profit organisations or committed to enhance the acceptance and acceptability of wind-power or solar farms.





## TYPE 10: "MAKE THEIR CLAIMS" Protesting against the current energy system

Agency	Complementary to type 9, type 10 refers to social					
	movements that are protesting against the current energy					
	system or certain forms of energy transitions, by arguing					
	powerfully for the climate change emergency or by					
	opposing themselves to certain policy-orientations (e.g.,					
	off-shore wind power) or to specific projects (e.g., solar or					
	wind farms, or new power-lines) aimed at contributing to					
	energy transition. This type of FNCL includes the					
	active forms of ENCL and encompasses frontrunners and					
	early adopters					
Personal and identity	Though defined by a clear political positioning and shared					
enagaement	matters of concern this type is far from constituting a					
	homogeneous form of ENCL On the contrary, it may take					
	various forms according to its scale of action (from the von					
	various forms according to its scale of action (from the very					
	(auch as manifestations, direct action, multiples of action					
	(such as manifestations, direct action, public campaigns,					
	protest networks, occupying movements, and so on) and					
	its main focus. Yet, it is mostly a type that induces a high					
	personal and identity engagement, as in any social					
	movement.					
Outcome-orientation	This type of ENCI refers to collectives who are engaged in					
Transformative	social movements, thus deploying very explicit and					
	transformative political claims regarding energy					
	transition. Yet, with regard to everyday life practices and					
	fostering the energy transition process, the performativity					
	of this type remains uncertain and hardly assessable.					
Radical change	The "make their claims" type is the most visible type of					
	ENCI, at least within the public space, and all the more					
	since it is opting for radical changes. As such, it turns ENCI					
	into a highly political matter.					
Contestation of current	This type of ENCI is mostly contesting the main					
energy system/	characteristics of the existing energy system and claiming					
	for major transformations such as its decommodification,					
	(re)nationalisation and/or drastic decentralisation.					
High energy democracy	In line with these radical views on the transition of the					





energy system, energy democracy represents a key issue for such collective forms of ENCI.

Empowerment Demands for empowerment and energy equity and justice Energy justice are consubstantial with this type of ENCI, in that they are the basis for their claims.

Environmentally deep This type of ENCI is also deeply involved with environmental sustainability, and addresses both local critical environmental problems and global issues such as climate change. However, this type is also the one in which the ENCI realm proves to be potentially highly controversial, for instance, when environmental concerns are highlighted as being incompatible with the development of renewable energy (e.g., wind turbines endangering the migration of birds) or when the modes of action are splitting public opinion. Examples

Some examples of type 10 are:

- Climate protest movements such as Friday for future, Extinction rebellion.
- Protest movements against the construction of new power-lines in Germany, that are claiming for a more decentralised and participative energy transition.
- Anti- or pro-nuclear movements.
- Protest networks against certain forms of producing renewable energies (e.g., due to environmental or health concerns) such as wind or solar farms.





Figure 8: Exemplary illustration of the ten types of ENCI

## Conclusion: an ENCI typology in the making

This deliverable has elaborated the fundamentals of the conceptual framework (D 2.1) into a conceptual typology. It elaborates, systematises, and operationalises the conceptual distinctions into analytical categories and sensitising concepts for further empirical analyses (WP3-6). The heuristic value of the typology is illustrated by examples which are based on a first explorative empirical check. Within the wider EnergyPROSPECTS project, this deliverable represents the second stage in conceptualisation. It helps to translate the conceptual distinctions of the framework into categories that can be taken up in the empirical analyses throughout the project, but also as inspiration for policy advice and dissemination activities (WP 1 and 7).

Following a robust methodology, ten ideal-types have been elaborated on the basis of the conceptual framework (chapter 1). For bundling the various attributes, the seven distinctions of the conceptual framework are merged into two key dimensions: the "agency" and the "outcome-orientation" dimensions (chapter 2). The resulting 2x5 matrix built on the cross-tabulation of the dimensional attributes provides the ten ideal-types. For each of them, a consistent description highlights conceptual characteristics. These characteristics are illustrated with salient examples. This conceptual typology captures the breadth of ENCI in terms of conceptual forms, thus encompassing both existing and possible types.

The agency and outcome-orientation dimensions and the related attributes provide relevant categories for case demarcation and the empirical case study analyses. While the agency dimension basically differentiates between individual and collective forms of energy citizenship, the outcome orientation encompasses attributes, which refer to the ENCI's commitment to energy democracy/justice and depth of environmental sustainability as well as the resulting orientation of contributing towards incremental versus more radical change. These conceptual dimensions, and especially the bundle of attributes that compose the outcome-orientation, can only be validated empirically. They will be modified or refined according to the forthcoming empirical results.





	AGENCY					
OUTCOME-		INDIVIDUAL			COLLECTIVE	
ORIENTATION	Private	Organisationally Embedded	Public	CITIZEN-BASED AND HYBRID	SOCIAL MOVEMENTS	
REFORMATIVE Incremental socio- technical change Low energy	1. DO THEIR BIT (in the household)	3. DO THEIR BIT (within organisations)	5. MAKE THEIR VOICE HEARD	7. DO THEIR SHARE	9. DO THE JOB	
democracy Shallow environment- tal sustainability	Complying with the green ener- gy transition	Energy citizen- ship within organisations	Participating in societal energy discussions	Joining green energy projects	Facilitating the energy transi- tion through alig- nment activities	
TRANSFORMATIVE Radical sociotechnical change	2. DO THEIR OWN (in the household)	4. DO IT THEIR WAY (within organisations)	6. MAKE THEIR VOTE COUNT	8. GO AHEAD	10. MAKE THEIR CLAIMS	
High energy democracy Deep environmental sustainability	The change- making energy citizen	The energy- related change maker in organisations	Mobilising votes for energy transition	Building, ex- panding and linking citizen- based organi- sational forms	Protesting against the current energy system	

The ideal-types are of a conceptual nature, they are constructions of social reality. They do not necessarily have to be found in their pure form in reality. Within case study analysis they give an orientation for the identification of characteristics that point to a predominant type or mixture of two or more types. Depending on the limits of the methodological mix used in the empirical analyses (e.g., due to constraints of personal resources) it might be more difficult to detect characteristics of some of the types in comparison to others (e.g., manifestation of characteristics of the individual types of ENCI).

The conceptual typology calls for further empirical analyses. An interesting avenue for empirical and theoretical research are the ENCI trajectories across time. In the context of an ongoing energy transition process, it would be interesting to trace the development from one form of ENCI to another, on the individual or collective level, from passive to more active commitments, from latent to manifest forms, from "late adopter" to "frontrunner" pathways. Also, worthwhile to explore are the geographical (country or region related) differences between e.g., frontrunners and late adopters. These differences are not integrated within the conceptual typology, but they can be clarified through subsequent empirical analyses. Most importantly, empirical analysis will clarify the contextual constraints and the conditions that shape the performance of energy citizenship. After all, EnergyPROSPECTS seeks to identify the societal conditions that are conducive to the realisation of ENCI ambitions towards democratic, just, sustainable energy systems.



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