ENERGY TRANSITION AND DEMOCRATIC CHALLENGES: THE CONTRIBUTION OF EU LAW

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ABSTRACT: The legal design of future energy systems should be inserted in a far-reaching reflection on how energy is used and distributed according to the social goals defined within the framework of an institutional arrangement interacting with technological innovation. energy law is then not to be seen as an independent branch of public law but as a particular approach in the overall legal framing of social reproduction processes. Energy democracy should be tackled according to this mindset. it had become almost a truism to think that energy transition to a post-fossil model is as such a way to enhance democracy. However, significant boost of socio-environmental conflicts related to renewable energy facilities raise doubts about an alleged necessary relation between new sources of energy, technological innovation and increasing democratization within the framework of a more or less smooth transition.

The implementation of renewable energy in the context of energy transition has opened a debate about energy democracy. However, the discussion is often centred in the acceptability of renewable energy generation projects. Energy communities provide a way to develop robust democratic practices in the energy system, addressing inequalities and exclusions and promoting democracy as a fundamental social value. EU law has incorporated these entities and, thus, provide opportunities to bridge energy systems with democratic practices according with core values of the Union, although an explicit democratic principle is not to be found in EU law, which can contribute in a significant way to achieve a profound democratization of the energy systems. This contribution would be enhanced with a more explicit assumption of the democratic principle in energy related directives.

1. INTRODUCTION

EU law assumes democracy as one as its core values since the preamble (along with human rights and the rule of law). Accordingly, Article 2 of the Treaty of European Union

(TEU) establishes that "[t]he Union is founded on the values of […] democracy [...]. These values are common to the Member States in a society in which pluralism, non-discrimination, tolerance, justice, solidarity and equality between women and men prevail."[2] It seems a natural consequence of that that democratic principle should pervade through all EU law, but there is a decoupling between the core value of democracy and the actual legal developments in multiple sectors of EU law. Particularly, this is the case of the EU energy law. Actually, this is not a particularity of EU law, since in most cases constitutional law—in our case, EU primary law—tends to ignore the technological framework and the energy resources that make possible a certain political structure. On the other hand, energy law is configured as a sectorial and self-referential field that usually ignores political arrangements as far as it is formulated in a supposedly neutral technical fashion.

The decoupling of constitutional affirmation of democracy and its rhetorical or managerial treatment in energy law ends normally in a technocratic bias in the design of energy systems.[3] My goal in this paper is to determine to which extent energy transition is an opportunity for the democratization of energy systems and to which extent EU law is contributing to that. I think that this plan should be approached from the assumption that the legal design of the energy model must be inserted in a more general reflection on the ways in which energy is produced and used in relation to social goals, building a bridge between technological conditions and institutional arrangements.

Accordingly, democracy must be thought of regarding the existing energy model, and the energy model must be built on a participatory idea of society. Energy democracy should therefore be configured not as a mere management technique, but as a manifestation of a social organization in a transition context that is intended to be fair and inclusive. However, in my view, democracy as proclaimed as fundamental value in EU primary law (and member states' constitutions) is seen as independent of material

[2] See Consolidated Version of the Treaty on European Union [2016] OJ C202/15, 7.6.2016.

[3] See Jordi Jaria-Manzano, *Legitimidad técnica y legitimidad democrática en la toma de decisiones administrativas que afecten al medio ambiente*, 3 Revista Aranzadi de Derecho Ambiental, 105-123 (2003).

conditions and, particularly, of the energy system, while democracy in energy law seems to be a complementary way to help energy transition, although EU energy law shows promising developments which can help to bridge this gap. I will focus in this second aspect, considering why energy democracy should be a fundamental element of democracy as political form in the Anthropocene,[4] why energy transition provides opportunities in this vein, and how EU law can contribute to this.

2. DEMOCRACY, EQUALITY AND ENERGY

Democracy is based on shared citizenship in a given political community, a condition that depends, to a large extent, on its material conditions and social structures. The evolution of military technique in classical Greece, with the predominance of hoplites over the old cavalry, promoted an egalitarian ideal, so that, progressively, small farmers began to demand a greater role in political life. To the extent that they formed a substantial part of the army that had to defend them, and they also participated in the assembly.[5] The dawn of democracy in Greece shows how it responds to technological circumstances, power relations and social objectives in a specific context, where some basic conditions of equality between citizens are fulfilled. In this sense, the validity of an energy model articulated around fossil fuels cannot be separated from the progressive democratization of Western societies.[6] This contributed to decisively transforming the socioeconomic structures of early capitalism, with the consequent impact on political relations.[7]

In the specific Western European tradition of the social state, there is the belief that the conditions in which people live are essential to an effective enjoyment of human rights,

[4] This is an increasingly accepted narrative regarding current planetary transformation since it was propagated by Paul J. Crutzen in *Geology of mankind*, 415 Nature, 23 (2002).

[5] See Kurt A. Raaflaub, 'Poets, lawgivers, and the beginnings of political reflection in Archaic Greece', in Christopher Rowe & Malcolm Schofield, *The Cambridge History of Greek and Roman Political Thought* 58 (Cambridge University Press, 2005).

[6] See Vaclav Smil, *Energy in Nature and Society. General Energetics of Complex Systems* 309 (The MIT Press, 2008).

[7] See J. R. McNeill, *Something New under the Sun: An Environmental History of the Twentieth-Century World* 10 (Norton, 2001).

and then essential to democracy.[8] Indeed, EU law in the tradition of European welfare state (*Sozialstaat*) seems to be aware of that. Particularly, Article 3.1 TEU states that its aim is the well-being of the peoples belonging to the Union, and Article 2 TEU refers to pluralism, non-discrimination, tolerance, justice, solidarity and equality between women and men.

In this vein, fundamental rights in EU law encompass "not only the classic guarantees of freedom from interference by the state, but also the right to participation and certain aspects of political, social and economic life."[9] Accordingly, the purpose of distributive justice is to compensate for the unwanted effects of the deployment of commutative justice in traditional constitutionalism, thus providing an opportunity for all members of the global community to enjoy minimum conditions of life by reducing inequality in the distribution of resources.[10] Equality and political participation are thus linked, but the recent developments of democracy in the context of the civilization of oil seems to go in the opposite direction. Despite the social metabolism based on oil has contributed to improving the material conditions and the availability of time of citizens in Western countries, facilitating participation in democratic institutions, the solid democratic practices of Western political systems have been eroded in recent decades.

The massive use of coal during the first phase of the industrial revolution had strengthened the workers' movement, enabling the subaltern classes to have a significant impact on the energy flow of the industrial system and, therefore, providing them with significant bargaining power.[11] However, this also stimulated the progressive implementation of oil, which allowed to bridge the logistical bottlenecks to which coal is subjected and thus weaken the workers' ability to block energy distribution.[12] It is not the goal of this paper to explore how an increase of coal use in the energy system could help democracy, as far as I would concentrate in the process of transition to a system

[8] See Luzius Wildhaber, 'Soziale Grundrechte', in Peter Saladin & Luzius Wildhaber (eds.), *Der Staat als Ausgabe. Gedenkschrift für Max Imboden* 373 (Helbing & Lichtenhahn, 1972).

[9] See David Anderson & Cian C. Murphy, 'The Charter of Fundamental Rights', in Andrea Biondi et al. (eds.), *EU Law after Lisbon* 161 (Oxford University Press, 2012).

[10] See Alejandro Llano, *La nueva sensibilidad* 188 (Espasa, 1988).

[11] See Timothy Mitchell, *Carbon Democracy. Political Power in the Age of Oil* 18ff. (Verso, 2011).

[12] Ibid. 36ff.

heavily relying on renewables, but it is important to see how energy model helps o hinders democratic practices.

Large oil infrastructures reinforce accumulation and, given the location of the oil fields, also colonial or dependency dynamics, making difficult to establish democratic systems in the periphery of the capitalist world-system.[13] Thus, the unfolding of the capitalist accumulation process in its oil phase raises significant questions regarding justice, insofar as the exploitation of fossilized sunlight by central economies reinforces global asymmetries, allowing the appropriation of global resources to the detriment of the periphery, which deepens dependency and hinders to establish viable democratic institutions in the global South.[14]

Likewise, the shift from coal to oil also boosts the acceleration of the consumer society. In fact, the literature on energy transition has shown how consumer inertia ends up being a barrier to the implementation of renewable energy projects, which require much greater involvement than that demanded by centralised distribution systems in the fossil era.[15] If coal favours rail transport, oil makes the use of the internal combustion engine viable and, therefore, individual motorised mobility.[16] The most important fact from the point of view of the generation of democratic practices is that oil can be handled in large quantities with relatively little labour and very intensive capital gives rise to a concentration of political power and the generation of large political communities, functional precisely because of the availability of sufficient energy. There, a purely arithmetical conception of democracy its developed.[17] This ends up by being very dangerous for minorities, as is particularly evident in the situation of indigenous

[13] Ibid. 108.

[14] See Alf Hornborg, 'The Anthropocene challenge to our worldview', in Jordi Jaria-Manzano & Susana Borràs Pentinat (eds.), *Research Handbook on Global Climate Constitutionalism* 20 (Edward Elgar, 2019).

[15] See Cristina Acosta et al., *Facilitating Energy Transition through Energy Commons: An Application of Socio-Ecological Systems Framework for Integrated Community Energy Systems*, 10 Sustainability, 366, 3 (2018).

[16] See Tim Di Muzio, *Carbon Capitalism. Energy, Social Reproduction and World Order* 106ff (Rowman & Littlefield 2015).

[17] See Adhémar Esmein, *Éléments de droit constitutionnel français et comparé* 300 (Sirey, 6th ed. revised by Joseph Barthélemy 1914).

peoples on the periphery of the global economy, particularly in the case of Latin America.[18]

As a final result, financial capitalism, linked to technologies based on massive oil consumption, facilitates the centralisation of decision-making processes and the concentration of wealth, leading to a weakening of democratic institutions, even though liberal democracy seems to have been expanding during the oil era. In fact, since the 1970s, a large social gap has been opening up in Western societies, in a context in which the very structure of the system guarantees the unequal distribution of resources.[19] This factor is key in the recent evolution of Western democratic systems, as far as causes the growth of social inequality, which is a fundamental issue regarding energy transition.

In the context of oil formal democracy, citizens are losing their political power because of the shortcuts that allow powerful actors to exert influence on political decisions circumventing the citizenry.[20] Capital in motion in the global network of markets takes on dimensions that impede democratic control.[21] This allows the corporate capture of the regulators, which uses to be very important in the energy sector.[22] This phenomenon is due to the capacity of large corporations to pressure governments because of their dependence on the investments they can make.[23] This corporate capture of the regulators is often accompanied by the phenomenon of revolving doors, so that those who occupy decision-making positions in the public sector end up being also members

[18] Para 7 of the Kari-Oca Declaration and Indigenous Peoples' Earth Charter states the following:

> Where small numbers of Indigenous Peoples are residing within state boundaries, so-called democratic countries have denied Indigenous Peoples the right of consent about their future, using the notion of majority rule to decide the future of Indigenous Peoples. Indigenous Peoples' right of consent to projects in their own areas must be recognized.

[19] See Joseph Stiglitz, *The Price of Inequality* 38 (Norton, 2013).

[20] An example of this is the influence of one of the largest global energy companies, ExxonMobil, on political processes in different parts of the world, as points out Di Muzio, *Carbon Capitalism. Energy, Social Reproduction and World Order* 38-39.

[21] See Marco Revelli, "La ideología de la globalización y su realidad", in in Miguel Carbonell & Rodolfo Vázquez (eds.), *Globalización y Derecho* 126 (Ministerio de Justicia y Derechos Humanos, 2009).

[22] On regulatory capture, see Ernesto Dal Bó, *Regulatory Capture: A Review*, 22(2) Oxford Review of Economic Policy, 203 (2006).

[23] See Francisco J. Laporta, 'Globalización e imperio de la ley. Algunas dudas westfalianas', in Carbonell & Vázquez, *Globalización y Derecho* 213ff.

of the direct bodies of large corporations, as is particularly the case in the energy sector in Spain.[24]

Thus, in view of the global dynamics of social reproduction of the late capitalism, democracy is actually very limited.[25] Oil plays a key role in this and, in fact, facilitates the implementation of the neoliberal discourse that determines the scope and depth of contemporary democracies.[26] With all this, as Lafont points out, citizens clearly lose political power.[27] In this context, improving and enhancing the forms of citizen participation appears as a challenge for today's society.

On the other hand, the erosion of democracy—in the central states; it was already fragile or non-existent in the periphery—is accompanied by an erosion of the living conditions of a large part of the population, which makes political participation even more difficult, consolidating a framework of dependence and prostration.[28] Ultimately, contrary to the need for equality that democracy presupposes, inequality increases, which is also reflected in the energy system, giving rise to the phenomenon of energy poverty, showing the existence of structural inequalities.[29] Likewise, the so-called energy vulnerability shows that difficulties in relation to supply can extend beyond those who, at a given time, experience a situation of energy poverty.[30] Actually vulnerability anticipates poverty and shows the shortcomings of the energy system.[31]

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[24] See Iñigo Capellán-Pérez et al., *Renewable Energy Cooperatives as an Instrument towards the Energy Transition in Spain*, 123 Energy Policy, 215, 220 (2018).

[25] See David Held, '¿Hay que regular la globalización? La reinvención de la política', in Carbonell & Vázquez, *Globalización y Derecho* 78.

[26] See Mitchell, *Carbon Democracy. Political Power in the Age of Oil* 141.

[27] See Cristina Lafont, *Innovaciones democráticas y la amenaza del tecnopopulismo*, 112 Revista de las Cortes Generales, 45, 48 (2022).

[28] See Sergio Conti, *Geografia economica. Teorie e metodi* 173ff. (UTET, 1996).

[29] See Stefan Bouzarovski & Neil Simcock, *Spatializing energy justice*, 107 Energy Policy, 640, 645 (2017).

[30] See Pilar Murias et al., *A Territorial Estimate for Household Energy Vulnerability: An Application for Spain*, 12 Sustainability, 5904, 3 (2020).

[31] See Rosa M.ª Regueiro Ferreira et al., 'Análisis crítico de la contribución de la Agenda 2030 a la identificación de la vulnerabilidad energética', in Adrián Dios-Vicente & Raul Rios-Rodríguez (eds.), *Libro de actas XVII Jornadas de Economía Crítica: 'Emergencias, Transiciones y Desigualdades Socioeconómicas'. 4 y 5 de Febrero de 2021. Universidade de Santiago de Compostela* 38 (Asociación de Economía Crítica, 2021).

It is important to note here as a conclusion of this section, that inequalities in energy supply do not only show an inefficient allocation of supply, but also do erode democracy which is dependent on a certain equality and certain standards of living. For this reason, I think that a change in the energy model does not only affect to how energy is distributed among people, but conditions as well the democracy as a form of political organization. Accordingly, reflections on the energy transition in relation to citizen involvement are ultimately linked to the conditions of possibility of democracy in the future, as far as social participation in energy systems will define how deep democracy will be in the future.

In fact, energy transition is seen as an opportunity for that, but it can be taken as granted as far as new technology arrangements do not imply more democracy by themselves, as far as a rapid development of renewable energies, thanks to the existence of technological, but also social, innovations, which connect with the efforts of public authorities, clearly transforming the energy landscape.[32] Indeed, the energy transition depends largely on the implementation of distributed generation models that replace the current centralised systems, allowing new perspectives for democracy.[33] This would allow a democratisation of the energy system, making community involvement possible in a way that centralised systems do not permit.[34]

3. ENERGY TRANSITION AND SOCIOENVIRONMENTAL CONFLICT

Our civilization depends on "the undoubtedly unsustainable harnessing of a unique solar inheritance that cannot be replenished on a civilizational time scale."[35] Consequently, the availability of energy resources accumulated over millions of years represents an

[32] See Emi Minghui Guia & Iain MacGill, *Typology of future clean energy communities: An exploratory structure, opportunities, and challenges*, 35 Energy Research & Social Science, 94, 94 (2018).

[33] See Jorge Galán Sosa, *La regulación del autoconsumo de energía eléctrica* 33ff. (Atelier, 2021).

[34] See Elodie Le Gal, 'Using social science perspectives on risk to implement an environmental justice analysis. Is this the right way forward to mitigate the social risks of low-carbon energy technologies and help policy-makers achieve renewable energy targets worldwide', in Jordi Jaria-Manzano et al. (eds.), *Energy, Governance and Sustainability* 89 (Edward Elgar, 2016); and Jessica Wentz & Chiara Pappalardo 'Scaling up local solutions: creating an enabling legal environment for the deployment of community-based renewable microgrids', ibid. 105.

[35] See Smil, *Energy in Nature and Society. General Energetics of Complex Systems* 204.

energy interlude, so that the reserves that allow the development of fossil capitalism are finite. Thus, increasing difficulties are foreseeable in relation to the availability of energy of fossil origin.[36] On the other hand, the massive use of fossil fuels has generated over the last centuries the so-called greenhouse effect, so that the need to react to global warming also projects us towards a new energy model.[37] In short, we are facing "the inevitable transition to the post-fuel world."[38]

The need for an energy transition through the implementation of renewable energies is thus raised.[39] Consequently, active policies are needed to promote a rapid transition towards energy systems focused on generation through renewable energies.[40] This is, in fact, a complex process, which seems to demand pragmatic solutions.[41] In any case, decarbonisation seems to require a transition towards distributed energy systems and this seems to open the door to democratization.[42]

However, decisions regarding the adoption of renewable energy sources, such as wind farms or hydroelectric facilities, have often been made through top-down procedures, supposedly based on specialized knowledge, which have left the population out of the

[36] See Ramón Fernández Durán & Luis González Reyes, *En la espiral de la energía. Vol. II: Colapso del capitalismo global y civilizatorio* 90ff. (Libros en Acción, 2nd ed. 2018).

[37] See Navroz K. Dubash, 'Climate Change through the Lens of Energy Transformation', in Simon Nicholson & Sikina Jinnah (eds.), *New Earth Politics. Essays from the Anthropocene* 316-317 (The MIT Press, 2016); and Laura Presicce & Endrius Cocciolo, 'Régimen jurídico del autoconsumo de energía eléctrica renovable y las políticas de transición energética: del marco europeo a la normativa española', Marisol Anglés Hernández & Margarita Palomino Guerrero (eds.), *Aproximaciones comparadas sobre el sector eléctrico en Iberoamérica* 401 (Instituto de Investigaciones Jurídicas - Universidad Nacional Autónoma de México, 2021).

[38] See Smil, *Energy in Nature and Society. General Energetics of Complex Systems* 368.

[39] According to Anaïs Guerry, in 'A reflection on some legal aspects of decision control in the energy transition process: a comparison of France and Germany', in Jaria-Manzano et al., *Energy, Governance and Sustainability* 195, 'energy transition' has two different meanings: on the one hand, a "*broad governmental strategy which aims to transform one system of energy production and consumption into a more sustainable one*"; and, on the other hand, a "*general cultural change, which aims to harmonize the link between man and nature, between individuals and their environment, and also the role, rights and responsibilities of citizens in a democratic legal system*". Both meanings are compatible.

[40] See Capellán-Pérez et al., *Renewable Energy Cooperatives as an Instrument towards the Energy Transition in Spain* 215.

[41] See Smil, *Energy in Nature and Society. General Energetics of Complex Systems* 368.

[42] See Melissa Powers, 'Energy transition: reforming social metabolism', in Jaria-Manzano & Borràs Pentinat, *Research Handbook on Global Climate Constitutionalism* 254.

picture.[43] A recent example of this is the regulation in the Decree Law 16/2019, of November 26, on urgent measures for the climate emergency and the promotion of renewable energies, of the Catalan Government, where the procedure for approval of new wind farms is centred in an administrative body, the *Ponència d'Energies Renovables*, composed of specialized public servants.[44] The weight of technical criteria is normally very significant compared with public participation. This generates significant social rejection, so that a significant part of the literature on renewable energy focuses on the acceptability of the projects by local communities.[45] This has been the case in recent decisions of the aforementioned body regarding to new wind farms in South Catalonia.[46]

Sometimes, emphasis is placed on the need to allow the participation of local communities in the profits of the operation.[47] Article 9 bis of the aforementioned Catalan Decree Law 16/2019 is a good example of that. Regarding to this, Knauf and Wüstenhagen underline the importance for the developer of facilitating the financial participation of local communities in wind energy generation projects.[48] On the other hand, Müller et al. point out the importance of the perception by the local population of a sense of equity in the process of designing and building renewable energy generation facilities.[49]

[43] See Le Gal, 'Using social science perspectives on risk to implement an environmental justice analysis. Is this the right way forward to mitigate the social risks of low-carbon energy technologies and help policy-makers achieve renewable energy targets worldwide' 87.

[44] DOGC 8012, 28.11.2019.

[45] See, for example, Jakob Knauf & Rolf Wüstenhagen, *Crowdsourcing social acceptance: Why, when and how project developers offer citizens to co-invest in wind power*, 173 Energy Policy, 113340, 2 (2023).

[46] See *La DO Terra Alta «exigeix» frenar la «massificació eòlica» a la comarca*, Diari Més 30.07.2024, <https://www.diarimes.com/ca/ebre/terra-alta/240730/do-terra-alta-exigeix-frenar-massificacio-eolica-comarca_147922.html>.

[47] Knauf & Wüstenhagen, *Crowdsourcing social acceptance: Why, when and how project developers offer citizens to co-invest in wind power* 1.

[48] Ibid. 3.

[49] See Florian Johannes Yanic Müller et al., *Understanding subjective and situational factors of wind turbine noise annoyance*, 173 Energy Policy, 113361, 8 (2023).

It also been underlined the need to highlight the added value from an environmental point of view of the projects to ease the acceptance by the affected communities.[50] In this sense, Palomo Vélez et al. consider that an environmental framing is a more effective strategy than a financial approach,[51] while Le Maitre et al. underline that wind projects that offer financial compensation to local communities are more acceptable to them.[52] In similar research, Sirr et al. point out that, in contrast to projects driven by companies, those that come from local communities not only generate greater economic benefits for them, but also create a sense of ownership and control that encourages community involvement.[53] In the same vein, Hübner et al. stress the importance of local community involvement and the equitable distribution of financial benefits for the viability of renewable energy generation projects.[54]

Moreover, beyond financial benefits, local community support for renewable energy projects is reinforced by environmental or social reasons.[55] In any case, concern about the acceptability of the projects shows a view of energy democracy as nothing more than a mechanism to ensure the viability of the transition to renewable energies, which progressively captured by corporate actors.[56] In fact, while, "[i]n the early days, it was driven by the passion of individual farmers or grassroots initiatives who put up a few wind turbines. By now, multinational utilities are building large wind farms, and smaller, specialized developers are often working on an entire portfolio, allowing them to diversify the risk and redeploy their skills after selling completed projects to larger

[50] See Gonzalo Palomo-Vélez et al., *Promoting energy sources as environmentally friendly: does it increase public acceptability?*, 3 Environmental Research Communications, 115004, 9 (2021).

[51] Ibid. 11.

[52] See Julia le Maitre et al. *Empowering onshore wind energy: A national choice experiment on financial benefits and citizen participation*, 173 Energy Policy, 113362, 9 (2023).

[53] See Gordon Sirr et al., *An analysis of the factors affecting Irish citizens' willingness to invest in wind energy projects*, 173 Energy Policy, 113364, 1 (2023).

[54] See G. Hübner et al., *Broadening the social acceptance of wind energy—An Integrated Acceptance Model*, 173 Energy Policy, 113360, 2 (2023).

[55] See Marula Tsagkari et al., *A comprehensive framework and an empirical analysis on two islands*, 30(5) Sustainable Development, 1155, 1163 (2022).

[56] This seems to be the point of view of Valeriya Azarovaa et al., *Designing local renewable energy communities to increase social acceptance: Evidence from a choice experiment in Austria, Germany, Italy, and Switzerland*, 132 Energy Policy, 1176, 1177 (2019).

investors."[57] In this sense, it is to be expected that new projects in the field of wind energy will be driven by large-scale operators and will have a very significant impact on small or medium-sized rural communities.[58] In relation to this, large wind installations seems to weaken citizen involvement in the energy transition.[59]

The conceptualisation of renewable energy projects in a solutionist context seems to reinforce the idea of energy democracy as a mere technical tool. In this sense, it seems very significant that this type of project has greater support among men than among women.[60] That the sensitiveness in relation to the impact of certain installations on tourism must be interpreted in the same vein.[61] In essence, what is prioritized here is the persistence of the hegemonic development model in the face of the possibilities of a democratisation of the energy system and, therefore, of the economy, which links with the idea of sustainable development, which supposes the preservation of hegemonic relations of social reproduction.[62]

This promotes a managerial response to the global environmental crisis, which does not necessarily imply a particular sensitivity regarding a deepening of democracy in the energy model.[63] In fact, within the framework of the Anthropocene narrative, an ecomodernist discourse has been developed, whose proposals, among which geoengineering experiments stand out, are rather the result of a technocratic perspective than a commitment to the deepening of democracy.[64] In short, the transition towards renewable energies does not imply necessarily greater

[57] See Knauf & Wüstenhagen, *Crowdsourcing social acceptance: Why, when and how project developers offer citizens to co-invest in wind power* 1.

[58] See Le Maitre et al. *Empowering onshore wind energy: A national choice experiment on financial benefits and citizen participation* 1.

[59] Ibid. 2.

[60] See Marula Tsagkari et al., *A comprehensive framework and an empirical analysis on two islands* 1163.

[61] See David Bidwell, *Tourists are people too: Nonresidents' values, beliefs, and acceptance of a nearshore wind farm*, 173 Energy Policy, 113365, 2 (2023).

[62] See John S. Dryzek, *The Politics of the Earth. Environmental Discourses*, 13 (Oxford University Press, 2nd ed. 2005).

[63] See James Connelly & Graham Smith, *Politics and the Environment. From theory to practice*, 201 (Routledge, 1999).

[64] See Clive Hamilton, *The Anthropocene as rupture*, 3(2) The Anthropocene Review, 93, 99ff. (2016).

democratisation and, consequently, it should not necessarily be assumed to be a fairer energy model.[65]

Notoriously, the energy privilege of the richest communities imposes most of the costs of the transition on low-income communities, which must assume the generation facilities with the greatest impact.[66] Thus, it is noted that small groups of high-income population are capable of blocking wind energy development projects. Even in the case of the United States, it can also be observed that this opposition sometimes has the support of corporations related to the production and use of fossil fuels through far-right think tanks.[67]

In this regard, it should also be noted that the implementation of energy communities is concentrated in states with the highest per capita income and, in fact, they tend to be concentrated in the context of high-income neighbourhoods, so that, as Caramizaru and Uihlein point out, "the level of citizen welfare can play a role in providing the purchasing power and sufficient capital to cover the investments."[68] In fact, energy communities tend to depend on voluntary work, beyond expertise and financing, which makes it difficult for a large part of the citizenry to get involved, as does the complexity of its management.[69]

Thus, even if distributed energy systems in a context of transitions seems to be an opportunity for democratization, democracy seems often to be a technical arrangement to ease the acceptance of controversial renewable energy facilities. Consequently, there is a disconnect between the implementation of energy democracy in relation to the acceptability of the projects and the use of the energy transition as an element of re-

[65] As Cocciolo points out in *The role of energy communities for thermal networks: An EU legal perspective* 4, "even though technology enables the model change, the driver behind the change is political, and the law underpins an ongoing societal transformation".

[66] See Leah C. Stokes et al., *Prevalence and predictors of wind energy opposition in North America*, 120(40) Proceedings of the National Academy of Science, e2302313120, 2 (2023).

[67] Ibid. 6.

[68] See Aura Caramizaru & Andreas Uihlein, *Energy communities: an overview of energy and social innovation* (EUR 30083 EN) 17 (Publications Office of the European Union, 2020).

[69] See Karina Standal et al., *Can renewable energy communities enable a just energy transition? Exploring alignment between stakeholder motivations and needs and EU policy in Latvia, Norway, Portugal and Spain*, 106 Energy Research & Social Science, 103326, 2 (2023).

democratisation of societies where political participation is experiencing a notable crisis. In fact, the literature on acceptability actually assumes a concern for the opposition or rejection of the projects, which, in essence, implies a simplification of the complex reality of the transition.[70]

In any case, it is obvious that this perspective implies a vision of citizens as an obstacle rather than as an active element in the transition. It should be concluded that, although energy transition is an opportunity for democratization of energy systems and, thus, of the whole society, public policies implementing renewable energy facilities are often promoting corporate control. In my opinion, how energy law frames energy transition and the implementation of renewable sources of energy is crucial in to which extent the opportunity of democratization of the energy system is actually seized. The next section is devoted to analyse how EU energy law is behaving regarding this.

4. EU LAW AND CITIZENS INVOLVEMENT IN ENERGY SYSTEMS

Recent EU law seems to show some concert about citizens involvement. The introduction of energy communities is a the most significant development in this vein. These communities are referred in two different directives: the Directive 2019/944 of the European Parliament and of the Council, of 5 June 2019, on common rules for the internal market for electricity and amending Directive 2012/27/EU;[71] and the Directive (UE) 2018/2001 of the European Parliament and of the Council, of 11 December 2018, on the promotion of the use of energy from renewable sources.[72] The regulation is essentially the same, despite in one of them, it is implied that the generation of energy within the community can be done from non-renewable sources, while the other presupposes that, in any case, it is done from renewable sources.[73]

Article 16.1 of the former defines a citizen energy community as a legal entity that:

[70] See Sophia Küpers, Susana Batel, *Time, history and meaning-making in research on people's relations with renewable energy technologies (RETs)—A conceptual proposal*, 173 Energy Policy, 113358, 6 (2023).

[71] OJ L158, 14.6.2019.

[72] OJ L328, 28.12.2018.

[73] See Jorge Galán Sosa, *La regulación del autoconsumo de energía eléctrica* 154.

(a) is based on voluntary and open participation and is effectively controlled by members or shareholders that are natural persons, local authorities, including municipalities, or small enterprises;

(b) has for its primary purpose to provide environmental, economic or social community benefits to its members or shareholders or to the local areas where it operates rather than to generate financial profits; and

(c) may engage in generation, including from renewable sources, distribution, supply, consumption, aggregation, energy storage, energy efficiency services or charging services for electric vehicles or provide other energy services to its members or shareholders.

While Article 2.16 of the latter defines a renewable energy community as a legal entity that

(a) which, in accordance with the applicable national law, is based on open and voluntary participation, is autonomous, and is effectively controlled by shareholders or members that are located in the proximity of the renewable energy projects that are owned and developed by that legal entity;

(b) the shareholders or members of which are natural persons, SMEs or local authorities, including municipalities;

(c) the primary purpose of which is to provide environmental, economic or social community benefits for its shareholders or members or for the local areas where it operates, rather than financial profits.

Energy communities appear here as the most promising institutional solutions for an evolution to a genuine energy democracy. In this sense, in the context of the European Union, states with more ambitious decarbonisation policies, such as Denmark or Germany, have recognised that the transition towards a model based on renewable energies demands local action.[74] In short, energy transition requires greater

[74] See Guia & MacGill, *Typology of future clean energy communities: An exploratory structure, opportunities, and challenges* 95.

involvement of citizens, institutions and local companies in energy projects carried out at the municipal level through the development of energy communities.[75]

Indeed, in the face of the rejection that many renewable energy generation projects are arousing,[76] energy communities appear to be a more robust and legitimate solution within the framework of the energy transition.[77] It is a type of community-based solution that "combines production and consumption in the household segment, which results in new forms of organizations, business models and institutions."[78] Thus, López-Jurado Escribano points out the role of self-generation and the importance of small consumers when it comes to guaranteeing greater security in the energy supply and the necessary moderation in price, reducing risk, in an environmentally sustainable way, and reaching a reasonable level of remuneration.[79]

Energy communities are emerging, on the one hand, as a form of organization that allows us to face the challenges related to overcoming the Anthropocene gap, while, secondly, they constitute organizational experiments to effectively promote the development of the energy transition in the direction of a greater deepening of democracy. In relation to the former aspect, given the vulnerability of large generation facilities, energy communities constitute an organizational structure aimed at building a decentralized energy model and, therefore, with greater resilience to non-linear disruptive episodes in the context of geological transformation and the progressive scarcity of fossil fuels.[80]

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[75] See Aleksandar Ivancic et al., *Guía para el Desarrollo de Instrumentos de Fomento de Comunidades Energéticas Locales* 10 (IDEA, 2019).

[76] See recent examples in South Catalonia above.

[77] See Azarovaa et al., *Designing local renewable energy communities to increase social acceptance: Evidence from a choice experiment in Austria, Germany, Italy, and Switzerland* 1176.

[78] See Gabriela Dóci, G. et al., *Exploring the transition potential of renewable energy communities*, 66 Futures, 85, 87 (2015).

[79] See Francisco B. López-Jurado Escribano, Francisco B., 'Las responsabilidades estatales en los mercados y precios de la electricidad', in M. Mercè Darnaculleta Gardella et al. (eds.), *Nuevos retos del estado garante en el sector energético* 61 (Marcial Pons, 2020).

[80] See Stefano Moroni et al., *Energy communities in the transition to a low-carbon future: A taxonomical approach and some policy dilemmas*, 236 Journal of Environmental Management, 45, 45 (2019); and Powers, 'Energy transition: reforming social metabolism' 274.

In this regard, it should be noted that the forecasts made within the framework of Earth System science show a future scenario of increasing instability in relation to the conditions of the Holocene.[81] In fact, it seems that "highly nonlinear changes in the global environment that will tend to alter the very character of the life-support system in question and be largely irreversible on human time scales".[82] In this sense, the possibilities for the management of small renewable energy generation facilities have increased in recent times, as far as it allows the development of decentralized projects community-managed that increase the resilience of the system.[83]

On the other hand, a community-based distributed energy system allows for the deepening of democracy, based on an idea of the administration of common goods that promotes justice, inclusion and equality.[84] Thus, as Bosselmann points out, "[s]maller communities have the advantage of more effective citizen engagement and can be highly innovative", through practices of communal ownership and local democracy.[85] This ultimately allows progress towards a fair energy transition, which only seems possible through the real involvement of citizens in decision-making processes.[86] Therefore, energy communities are suitable ways to bring energy to the homes of vulnerable or low-income people.[87] Finally, as far as they are community-based, they facilitate to overcome the big majority dynamics of current representative democracies, giving voice and capacity of decision to local interests and minorities.

In short, energy communities allow us to imagine more fragmented democratic systems, where meaningful public debates and effective participation in decision-making by

[81] See Louis J. Kotzé, *Global Environmental Constitutionalism in the Anthropocene* 4 (Hart, 2016).

[82] See W. V. Reid et al., *Earth System Science for Global Sustainability: Grand Challenges*, 330 Science, 916, 917 (2010).

[83] See Wentz & Pappalardo 'Scaling up local solutions: creating an enabling legal environment for the deployment of community-based renewable microgrids' 105.

[84] Ibid. 109.

[85] See Klaus Bosselmann, 'The atmosphere as a global commons', in Jaria-Manzano & Borràs Pentinat, *Research Handbook on Global Climate Constitutionalism* 80.

[86] See Benjamin K. Sovacool & Michael H. Dworkin, *Global Energy Justice. Problems, Principles and Practices* 225 (Cambridge University Press, 2014).

[87] See Standal et al., *Can renewable energy communities enable a just energy transition? Exploring alignment between stakeholder motivations and needs and EU policy in Latvia, Norway, Portugal and Spain* 5.

citizens are possible. It should not be overlooked that the Greek root of the word 'democracy' ultimately refers to the idea of division, as Agamben points out, so that, indeed, demos is people, but "in origine, «divisione de un territorio», «parte assegnata» [originally, «division of a territory», «assigned part.»]"[88] In short, it is about generating fragmented communities with decision-making capacity.[89] In the face of standardisation, an energy system based on distributed and community generation allows the integration of cultural factors and human diversity, the importance of which has been pointed out in some studies on the energy transition.[90] In short, this implies a conception of democracy different from the purely arithmetic one that has been consolidated from the notion of sovereignty that presides over political Modernity.[91]

However, despite the introduction of energy communities, it is very significant that none of both directives use the word 'democracy', while expressions as 'active participation' (Directive 2019/944) or 'local involvement' (Directive 2018/2001) are used. Thus, citizen involvement is not seen exactly as an expression of a democratization of the energy system, but rather as a means to legitimate technical programs of technological and economic transformation.[92] In this sense, EU law seems to promote a vision of citizens involvement as a means to influence citizens in order to make them predisposed to change, rather than to actively participate in the transformation.[93] As an example of this, paragraph of the preamble 43 refers to the utility of "community energy initiatives […]

[88] See Giorgio Agamben, *La potenza del pensiero. Saggi e conferenze* 165 (Neri Pozza Editore, 2005).

[89] See Jordi Jaria-Manzano, 'La sombra del Leviatán es alargada: ¿Puede establecerse un marco político común para la convivencia de lo «indígena» y lo «occidental»?', in Antoni Pigrau Solé (ed.), *Pueblos indígenas, diversidad cultural y justicia ambiental. Un estudio de las nuevas constituciones de Bolivia y Ecuador* 546 (Tirant lo Blanch, 2013).

[90] See Linda Steg, *A Research Agenda to Better Understand the Human Dimensions of Energy Transitions*, 12 Frontiers in Psychology, 672776, 3 (2021).

[91] See Consuelo Sánchez, Consuelo, 'Autonomía y pluralismo. Estados plurinacionales y pluriétnicos', in Miguel González et al. (eds.), *La autonomía a debate. Autogobierno indígena y Estado plurinacional en América Latina* 282 (FLACSO (Sede Ecuador), Cooperación Técnica Alemana (GTZ), Grupo Internacional de Trabajo sobre Asuntos Indígenas (IWGIA), Centro de Investigaciones y Estudios Superiores en Antropología Social (CIESAS), Universidad Intercultural de Chiapas (UNICH), 2010).

[92] See Endrius Cocciolo, *The role of energy communities for thermal networks: An EU legal perspective*, Review of European, Comparative and International Environmental Law, p. 8 (2024); y Anna Melnyk et al., *Value dynamics in energy democracy: An exploration of community energy initiatives*, 102 Energy Research & Social Science, 103163, 2 (2023).

[93] See Linda Steg & Charles Vlek, *Encouraging pro-environmental behaviour: an integrative review and research agenda*, 29(3) Journal of Environmental Psychology, 309, 310 (2009).

to facilitate the uptake of new technologies and consumption patterns, including smart distribution grids and demand response, in an integrated manner" as well as to "advance energy efficiency at household level and help fight energy poverty through reduced consumption and lower supply tariffs."

However, core democratic values of the EU can be tracked as well in both directives. The mentioned paragraph 43 of the preamble of the Directive 2019/944 underlines that energy communities can "help fight energy poverty through reduced consumption and lower supply tariffs" as well as enable "certain groups of household customers to participate in the electricity markets, who otherwise might not have been able to do so.", while article 22.1 of the Directive 2018/2001 prevents participants in energy communities of "being subject to unjustified or discriminatory conditions or procedures that would prevent their participation." This should be connected with the idea of just transition, which seems to be clearly associated with the core values of the Union, and should to be explored as way to boost energy democracy in EU Law.

5. ENERGY DEMOCRACY AND JUST TRANSITION

From the perspective of a just transition, therefore, the question of a genuine energy democracy becomes important and is projected into the design of institutions and political practices that are actually more inclusive and participatory, which should ultimately serve to implement real energy justice and to eliminate energy poverty.[94] Thus, as Cocciolo points out, technological innovations in the energy field allow for the decentralization of decision-making through more open and democratic forms of governance, as well as the achievement of community-centred socio-environmental benefits rather than strictly financial ones.[95]

Indeed, if our goal is a resilient and fair energy model in the context of the social changes needed regarding to confront the Anthropocene, the energy transition must be based on distributed, participatory and decentralized models. It is in this context that energy

[94] See Endrius Cocciolo, *Cambio climático en tiempos de emergencia. Las comunidades autónomas en las veredas del «federalismo climático» español*, 11(1) Revista Catalana de Dret Ambiental, 14 (2020).

[95] See Cocciolo *The role of energy communities for thermal networks: An EU legal perspective* 4.

democracy becomes important, and in particular energy communities as a vehicle for its implementation.[96] Likewise, the link between climate justice and energy justice is relevant when designing a just transition.[97] As Presicce and Cocciolo point out, the just energy transition must enable a framework for the consideration of people in situations of vulnerability and energy poverty.[98] Articles 27 and 28 of the Directive 2019/944 are consecrated to vulnerable consumers and anergy poverty, connecting with already mentioned Article 3.1 TEU.

In any case, it should not be assumed that this will simply happen due to the sheer inertia of the transition to renewable energies, but rather, in fact, a far-reaching redesign of decision-making processes is required in the context of an anthropocenic theory of democracy. In this context, the need to open new spaces for citizen participation is correlated with the demand for transparency and responsibility in the exercise of power, especially when it is carried out in an elusive or opaque manner. Therefore, the democratization of access to capital within the framework of the construction of a model of collective ownership of renewable energy generating facilities would contribute to a socially significant energy transition, beyond a mere process of technological updating.[99]

The question of the democratisation of the energy system in a transition context must be linked to the institutional re-articulation of societies in the context of planetary transformation, which reveals the existence of the so-called Anthropocene gap, i.e. the inability of human beings and their institutions to understand, analyse and cope with the implications of the transition to a new geological era. It is in this context that the debate on the possible democratisation of the energy system must be raised, which

[96] See J. Lowitzsch et al., *Renewable energy communities under the 2019 European Clean Energy Package – Governance model for the energy clusters of the future?*, 122 Renewable and Sustainable Energy Reviews, 1 (2020).

[97] See Katherine Cox, 'Energy justice and climate change: reflections from a Joseph Rowntree Foundation research programme', in Karen Bickerstaff et al. (eds.), *Energy Justice in a Changing Climate: Social Equity and Low-Carbon Energy* 79 (Zed Books, 2013).

[98] See Presicce & Cocciolo, 'Régimen jurídico del autoconsumo de energía eléctrica renovable y las políticas de transición energética: del marco europeo a la normativa española' 405.

[99] See Capellán-Pérez et al., *Renewable Energy Cooperatives as an Instrument towards the Energy Transition in Spain* 215.

requires taking into account both the issues relating to inclusion and participation and those relating to resilience.[100]

In short, the transition to a model centred on renewable energies does not necessarily imply a greater democratisation of the system, although it certainly opens up opportunities in this regard, as emphasised, for example, in EU law regarding to energy communities, already referred in this paper.[101] One could speak here of an alternative in relation to power relations in the context of the energy transition, that is, an evolution towards a *Rekommunialisierung*,[102] which implies an empowerment by local communities; or, on the contrary, towards a neo-feudalism with generation and distribution facilities concentrated in a few hands used as levers for the establishment of social relations based on inequality and exclusion.[103]

In any case, it must be assumed that it is not clear that communities necessarily adopt the most convenient strategies in the process of transition.[104] In fact, certain inertias can have an impact on preventing local communities from opting for solutions based precisely on local democracy. One of the key factors is regulatory uncertainty.[105] In the context of the transition to the Anthropocene, uncertainty will tend to increase in general, which may end up being a problem for effective democratization. This can favour a technocratic state of exception that seeks to transfer decision-making power to expert bodies in the face of the "ignorance" of the entire population.[106]

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[100] See Victor Galaz, *Global Environmental Governance, Technology and Politics* viii (Edward Elgar, 2014).

[101] See Dorian Frieden et al., *Collective self-consumption and energy communities: Overview of emerging regulatory approaches in Europe* 4 (COMPILE Working Paper, 2019).

[102] The idea of *Rekommunalisierung* has been developed in Germany. See, in this regard, Guerry, 'A reflection on some legal aspects of decision control in the energy transition process: a comparison of France and Germany' 206. Thus, the German model of *Bürgerenergiegenossenschaften* has become one of the most notable examples in the proliferation of energy communities on the European continent. Ibid., 213.

[103] A possible neo-feudal drift of the capitalist system had already raised concerns in the context of the political theory of Weimar Germany and, specifically, in the case of Hermann Heller, as noted by Manuel García-Pelayo in *Derecho constitucional comparativo* 17 (Alianza, 1984).

[104] See Steg, *A Research Agenda to Better Understand the Human Dimensions of Energy Transitions* 5.

[105] See Adi Cohen et al., *Institutional acceptance of wildlife mitigation technologies for wind energy: The case of Israel*, 173 *Energy Policy*, 11335, 3 (2023).

[106] See Christophe Bonneuil & Jean-Baptiste Fressoz, *The Shock of the Anthropocene: The Earth, History and Us* 79ff. (Verso, English Edition by David Fernbach, 2017).

In short, the energy transition is not necessarily linked to a more robust democracy, but can favour it, given certain conditions, which, ultimately, would contribute to a more inclusive and fairer social model, in the context of the new global scenario. It therefore makes sense, in my opinion, to consider the possibilities and conditions of an effectively democratized energy model in the process of transition towards a post-fossil world. In my view, this should to be done through a more clear and deep connection between EU energy law and the core values of the Union, having into account the European Green Deal, which refers explicitly to involve consumers in the energy transition and address energy poverty.[107] In this sense, it seems clear that regulatory strategies can stimulate a technocratic bias that is already present, or choose to generate an environment of relative security for the deepening of democracy. EU law seems to allow developments in both directions.

6. CONCLUSION

Most people share the belief that citizen involvement is a crucial legitimizing factor in the implementation of new energy technologies in the transition to a post-fossil society. However, democracy is not something that should be taken for granted. To the extent that the implementation of an inclusive and fair post-fossil energy model is intended in the context of planetary transformation, a democratic deepening of the energy system is required that links with an anthropocenic theory of democracy. In this context, energy communities are a promising development, the design of which should, however, be integrated into an agenda aimed at exploring the channelling of technological innovation in line with institutional arrangements to promote a truly democratic energy system, which is only possible if the fundamental social pact in a given society is also truly democratic. This cannot be done without integrating the principles of energy law into a constitutional approach to global planetary change and societal adaptation to the Anthropocene, inspired in any case by the equal dignity of all human beings.

[107] See Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: the European Green Deal, COM(2019) 640 final.

In fact, energy law can treat democratic techniques in different ways and, particularly, EU energy law can provide tools for achieving a profound democratization of the energy systems which can contribute to reinforce democratic institutions as a whole in the future. Regarding to this, I think that EU legislation could be far clearer in promoting the democratic principle as a core principle of energy law and that, even in the current situation, the courts can explore possibilities of connecting in a consistent way the democratic core values of the Union and the recent developments regarding citizen involvement in energy systems. In any case, the democratic principle is EU law is not clearly formulated and, although it could be developed through interpretation, it would better to lay down some explicit reference in the directives, connecting them in a consistent way with the core values of the Union.