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How can there be an ecological transition without a just transition? – starting with the European Union

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ABSTRACT: Understanding that the nations and nation states that have historically contributed the least to climate change suffer the most from its impacts and have fewer opportunities to protect themselves or adapt to them is the first step in the process of understanding the importance of a just and inclusive transition for all. In an immense diversity of realities, this very notion is no different in the context of the European Union. This article seeks to show the need to find concrete tools, through the European Union's protagonism, for an ecological transition with social justice.

KEYWORDS: just transition – European Union – concrete tools – protagonism – ecological transition.

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1. Introduction: an ecological transition without a just social transition is inconceivable.

"*To transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use*" is the goal outlined in the introduction of the European Green Deal (EGD).[1] This is a significant challenge for the European Union, as the main risk associated with the transition to climate neutrality is that the heaviest burden falls on those who are least well placed to bear it. Without adequate compensation, some of the policy instruments used to adjust behaviour can create negative effects on citizens, who will be affected differently depending on their social and geographical circumstances; and on Member States, regions and cities, since each has a different starting point from the other to present their responsiveness. That is, the transition will take place at different speeds so that no Member State is left behind.[2]

To mitigate this situation, the European Commission published in December 2021, as part of the EGD, a proposal for a Council recommendation for the Just Transition Mechanism (JTM)[3] and inclusive for climate neutrality. It should be noted that the EGD is clear when it addresses the need to create an instrument that reacts to social, economic and territorial inequalities, and it's repetitive — purposefully — regarding the words "fair" and "inclusive" emphasising that the JTM is the essential tool to mitigate the socio-economic impact of the transition.

A just transition means the economy becoming as fair and inclusive as possible for all stakeholders, creating decent work opportunities, and leaving no one behind. A just transition involves maximising the social and economic opportunities of climate action, through deep technological transformation, minimising and carefully managing all challenges.

2. Deep energy transformation

The energy sector, the sector that most impacts the way of life in society, if not the most impactful, should be taken into account when talking about climate transition. There must be a profound and equivalent change, similar to those that the world underwent during the two Industrial Revolutions and driven by the principle of solidarity for a just transition.

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[1] For further developments, see European Commission, *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*, Brussels, 11.12.2019, COM/2019/640 final, accessed February 12, 2023, https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1588580774040&uri=CELEX%3A52019DC0640.

[2] In this regard, the European Commission has launched the European Pillar of Social Rights Action Plan, which, in the words of the President of the Commission Ursula von der Leyen, consists of «a set of rules that ensures solidarity between generations; a set of rules that rewards entrepreneurs who care for their workers; that focuses on employment and opens opportunities; that puts skills, innovation and social protection on an equal footing», accessed February 12, 2023, https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/economy-works-people/jobs-growth-and-investment/european-pillar-social-rights_en. For further insights, we recommend to note that this Pillar is subdivided into 20 principles which constitute the framework for the construction of a strong social Europe, fair, inclusive and full of opportunities, and which will be implemented by The European Pillar of Social Rights Action Plan, https://op.europa.eu/webpub/empl/european-pillar-of-social-rights/en/index.html.

[3] For further developments, see https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism_en, accessed February 12, 2023.

It should be stressed that a just transition towards climate neutrality brings together several essential features. Firstly, it must pay special attention to the standard of living, health and well-being of citizens, and the competitiveness of businesses, which are the source of wealth creation. Secondly, a transition to a de-carbonised economy must be planned and focused on the regions and sectors most affected by the transition, due to their dependence on fossil fuels, notably coal, peat and oil shale, as well as on carbon-intensive industrial processes. Thirdly, to emphasise support to vulnerable households, transport users and micro-enterprises affected by the introduction of emissions trading for fuels used in road transport and buildings, while ensuring the imperatives of a just transition of the workforce and the creation of quality jobs for citizens.[4] Furthermore, a just transition means, in addition to prioritising its citizens, the duty to provide a political framework necessary to guarantee and respect the rule of law,[5] as required by the Treaties.

Moreover, it should be noted that the energy sector has other components due to its strong links with other strategies, namely, the action plan for zero pollution of water, air and soil, the transition to sustainable and intelligent mobility, the construction of buildings that value energy efficiency, and the mobilisation of research and promotion of innovation must be accessible and safe under penalty of not achieving greater de-carbonisation of the energy system, and the need to meet the climate objectives set for 2030[6] and 2050,[7] in accordance with the objectives of the Paris Agreement.

The EGD, in turn, reveals that the production and consumption of energy by all economic sectors are responsible for more than 75% (seventy-five per cent) of the EU's GHG (Greenhouse gas emissions), and that "*the transition to clean energy must involve and benefit consumers; (...) it is essential to increase offshore wind energy production, based on regional cooperation between Member States, through a smart integration of renewable energy, energy efficiency and other sustainable solutions in all sectors, in order to achieve decarbonisation at the lowest possible cost*".[8] For its part, the EGD demonstrates that to achieve the

[4] For more information on the Just Transition Fund see https://www.europarl.europa.eu/factsheets/en/sheet/214/fundo-para-uma-transicao-justa-ftj-, accessed February 16, 2023.

[5] As of 2021, the EU budget has an additional layer of protection if breaches of rule of law principles affect or are likely to affect the EU's financial interests. This is due to a general conditionality regime for the protection of the EU budget, also called the Conditionality Regulation, in force since January 2021.This new conditionality regime allows the EU to take measures such as the suspension of payments or financial corrections to protect the budget. At the same time, final recipients and beneficiaries of Union funds should continue to receive their payments directly from the Member States concerned. Information taken from https://ec.europa.eu/info/strategy/eu-budget/protection-eu-budget/rule-law-conditionality-regulation_pt and https://eurocid.mne.gov.pt/artigos/estado-de-direito, accessed February 16, 2023. In addition, see Regulation (EU, Euratom) 2020/2092 of the European Parliament and of the Council of 16 December 2020 on a general cross-compliance scheme for the protection of the Union budget, accessed February 16, 2023, https://eur-lex.europa.eu/legal-content/PT/ALL/?uri=CELEX%3A32020R2092.

[6] By 2030, reducing greenhouse gas emissions by at least 55% compared to 1990 levels. On this goal, see the "Fit for 55" package that aims to align the EU's climate and energy legislative framework with its climate neutral impact target by 2050, accessed February 16, 2023, https://www.consilium.europa.eu/en/press/press-releases/2022/06/29/fit-for-55-council-reaches-general-approaches-relating-to-emissions-reductions-and-removals-and-their-social-impacts/.

[7] By 2050, ensure that the EU has zero net greenhouse gas emissions and that economic growth is decoupled from resource use.

[8] For further developments, see European Commission, *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*, Brussels, 11.12.2019, COM/2019/640 final, accessed February 15, 2023 https://

de-carbonisation of the energy system, it is necessary to build a sector that relies fundamentally on the full integration, interconnection and digitalization of the European energy market, respecting technological neutrality, and with a rapid shift away from coal and facilitating the de-carbonisation of the gas sector, notably by strengthening support for the development of de-carbonised gases.[9]

Therefore, the principle of solidarity that the EGD brings to this strategy is that of the principle of loyalty, Article (4), § 3, of the TEU and the duty of cooperation itself combined with all the cohesions promoted by the Treaty of Lisbon: economic, social, territorial and environmental cohesions, Article (3), § 3, of the TEU. In this Article, which shapes solidarity as an objective of the Union, it is stated that "*the Union shall promote economic, social and territorial cohesion and solidarity among Member States*". Solidarity here functions as a "*mechanism of self-organisation (...) among Member States and as an instrument to correct inequalities or in the service of common collective objectives capable of representing a basis of shared interests (e.g. social, economic and territorial cohesion*"[10]. In relation to loyal cooperation is the obligation not to jeopardise the achievement of the Union's objectives which, in turn, constitutes a particular expression of the principle of loyal cooperation under Article 4(3) of the TEU, insofar as paragraph 3(2) of the same Article states that Member States shall take all appropriate measures, whether general or particular, to ensure fulfilment of the obligations arising out of the law of the Union. We then return to the contribution of Alessandra Silveira, when the author stresses that "*the principle of European loyalty gives rise, therefore, to concrete obligations for national authorities – namely the obligation to strengthen and give effect to Union Law*". In other words, the principle of loyal cooperation underpins an essential feature of the EU's identity, as it is the effective legal protection for establishing the European Union itself as a Union of law.

In addition, the Union's primary law in relation to the EU's energy policy, through Article 194 TFEU, uses the principle of solidarity as a foundation under the mantle of the principle of loyalty and the promotion of economic, social, territorial and environmental cohesion. Article 194 TFEU uses the principle of solidarity as a basis, under the cloak of the principle of sincere cooperation and the promotion of economic, social, territorial and environmental cohesion, making explicit that account must be taken of "*the need to preserve and improve the environment*" to achieve the following objectives: (i) ensuring the functioning of the energy market; (ii) ensuring the security of the Union's energy supply; (iii) promoting energy efficiency and energy saving and the development of new and renewable forms of energy; and (iv) promoting the

eur-lex.europa.eu/legal-content/EN/TXT/?qid=1588580774040&uri=CELEX%3A52019DC0640.

[9] It should be noted that the European Parliament did not oppose the EU Delegated Climate Taxonomy Regulation, presented by the European Commission, to include specific activities in the fields of nuclear energy and gas (under certain conditions) in the list of environmentally sustainable economic activities covered by the so-called EU taxonomy, https://eur-lex.europa.eu/legal-content/PT/TXT/?qid=1588580774040&uri=CELEX%3A52019DC0640, accessed February 16, 2023. In this sense, the EU taxonomy «is a robust tool that creates a common language to help investors understand whether an economic activity is environmentally sustainable and navigate the transition to a low-carbon economy. And it can be considered the first "green list certification system" in the world». For further insights, see Nataly Machado, "European Union Taxonomy: what is it and how will it work?", *UNIO EU Law Journal – Thinking and Debating Europe,* March, 2022, https://officialblogofunio.com/2022/03/03/european-union-taxonomy-what-is-it-and-how-will-it-work/.

[10] Rita Lages de Oliveira, "Un estudio preliminar sobre la solidaridad como valor y objetivo de la Unión Europea", in *América Latina y el Caribe-Unión Europea: el valor de la integración regional y del diálogo entre regiones*, ed. Maria Parejas (Santiago de Chile: ECSA Chile, 2015), 57. (Freely translated by the author).

interconnection of energy networks. In other words, we also see a recapitulation of Article 11 TFEU, which refers to the principle of environmental integration, and Article 3(3) TEU, concerning the commitment to sustainable development based on a high level of protection and improvement of the quality of the environment.

In practice, however, the scenario is difficult for fulfilling the European Union's commitment to ecological transition. Investing everything in ecological transition and renewables may not work fully if countries outside the European Union do not align with European choices for numerous reasons, especially when there are protectionist measures from countries like China and the United States of America[11] and a disruption of the global energy market caused by Russia's invasion of Ukraine.[12]

And while the European Union is supportive of public opinion,[13] it is urgent to create the necessary conditions to accelerate this momentum not only at the European level, but across the world if the European Union is to maintain its status as a world leader in the climate transition. This will require political will, economic approaches, smart policies and basic support for innovation. And assuming that only multilateral cooperation will achieve the objectives of the Paris Agreement, developing countries need support for the measure in order to advance a just transition to a fair and inclusive future of net zero emissions. This implies that fossil fuel-dependent communities are in particular need of support to acquire new skills and access social protection.

3. Technology at the service of a just transition

All the changes necessary for an ecological and just transition necessarily involve technology. This is the technological dimension of sustainability. And if sustainability should be referred to as a goal to be achieved by the concept of "*sustainable development*", which has a triple dimension (economic, social and environmental), the solutions should come in ways that only science can offer, adopting a new energy model based on clean technologies.

In other words, in the three respective dimensions, it is important to clarify the following: (i) the environmental scope must take into account the sustainable use of natural resources and preserve, without exhaustion, those that are not renewable; (ii) the social dimension must be linked to the quality of people, equity in income distribution, social justice bias, and participation in environmentally relevant processes; and (iii) the economic aspect should address whether economic activities are lasting, in order to respect the renewable energy resources renewal capacity and

[11] For further developments, see US Inflation Reduction Act, a package that aims to boost US domestic green energy projects with subsidies and tax breaks, accessed February 16, 2023, https://www.euractiv.com/section/politics/news/us-inflation-reduction-act-may-heavily-impact-finnish-industries/.

[12] For further developments, see REPowerEU Plan, accessed February 15, 2023, https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en.

[13] 93% of EU citizens see climate change as a serious problem and 78% see it as a very serious problem. 90% of respondents – and at least three-quarters in each Member State – agree that greenhouse gas emissions should be kept to a minimum, offsetting other emissions in order to make the EU's climate-neutral economy by 2050, https://climate.ec.europa.eu/citizens/citizen-support-climate-action_en, accessed February 16, 2023. Also, almost three-quarters of respondents (74%) think that the principle of solidarity is a good approach for the EU and seven in ten reply that this is a good approach for their country, https://europa.eu/eurobarometer/surveys/detail/2653, accessed February 16, 2023.

the full internalisation of environmental and social costs of the economic activities, or at least an equitable redistribution of those costs.[14]

Still from a legal perspective, José Joaquim Gomes Canotilho understands that the principle of sustainability "*is a self-comprehensive dimension of a constitution that takes seriously the safeguarding of the political community in which it is inserted*"[15] and what can be stated about this principle, in EU law, is that "*it is appropriate to speak of a European Union constitutional principle that is directly densified through directly binding principles of the Member States and mediately operative within the environmental policies of the same States (...)*".[16] It is part of the logic behind how an independent legal order – that of the EU – binding on Member States and their nationals, came into being.[17]

What is understood by the technological dimension of sustainability is the attempt to ensure a rapid deployment of low carbon technologies and systemic changes towards the de-carbonisation of the production sectors and that they are inclusive and integrated with the priorities of development at all levels.

In other words, the development of new forms of energy production may often require the establishment of new value chains that host actors with whom they have not necessarily interacted in the past. This requires a relatively long process that can change society in various ways, for example, through legal regulation, changing consumer behavior, distributive effects, infrastructure development, and new business models. Therefore, it is important to emphasise that there is no room for the illusion that all ecological problems will be solved precisely by technology. There is the flip side, which is full of gaps in the protection of fundamental rights in the digital age and the law cannot catch up quickly with the changes to be regulated.

Thus, one should be very careful with the conviction that economic and technological growth is always compatible with environmental and climate protection, under the belief that humanity can progress infinitely.

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[14] For further development, see Alexandra Aragão, "Ambiente", in *Direito da União Europeia. Elementos de Direito e Políticas da União,* ed. Alessandra Silveira, Mariana Canotilho and Pedro Madeira Froufe (Coimbra: Almedina, 2016), 1099.

[15] For further developments, see José Joaquim Gomes Canotilho, "O Princípio da sustentabilidade como Princípio estruturante do Direito Constitucional", *Revista de Estudos Politécnicos*, vol. VIII, no. 13 (2010): 7-18, 8, https://docplayer.com.br/7620566-O-principio-da-sustentabilidade-comoprincipioestruturante-do-direito-constitucional.html, accessed February 16, 2023.

[16] The term chosen in the Treaties is sustainable development. Regarding the choice, Carla Amado Gomes explains that despite the insistence on the jargon of sustainable development, it is not believed that «results in any substantial change in the Union's environmental policy» (free translation) and that «the insistent and comprehensive reference to sustainable development made in Articles 3 and 21 of the TEU adds nothing to the logic of the Union's action, in particular the linkages (...) resulting from the principle of integration, based on Article 11 of the TFEU» (free translation). For further insights, see Carla Amado Gomes and Tiago Antunes, "O Ambiente no Tratado de Lisboa: uma relação sustentada", *Revista Actualidad Jurídica Ambiental*, May (2010): 10-11. Moreover, in other secondary legislation documents, such as Directive 2008/98 on waste, the principle of sustainability as a guide for measures to be taken in the area, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32008L0098, accessed February 16, 2023. In addition to the Directive, the CJEU has a decisive role in reaffirming the principle of sustainability. See Judgment CJEU *Verlezza*, 28 March 2019, Joined Cases C-487/17 to C-489/17, ECLI:EU:C:2019:270.

[17] For further developments, see Alessandra Silveira, *Princípios de Direito da União Europeia Doutrina e Jurisprudência* (Lisbon: Quid Juris Sociedade Editora, 2011), 28. The author explains that «the European Union, as we know, is not a modern state (in conception), but it does create laws, so to speak, *i.e.* it creates legal rules that are binding on the Member States and their citizens. In other words, the system functions as a legal order, or as an organised set of legal rules. In this sense, in the 1964 *Costa v ENEL* judgment, the CJEU recalled that, unlike international treaties, the founding treaties established an autonomous legal system which national authorities must enforce.» (Freely translated by the author).

However, this does not exclude what technology brings in terms of a range of environmental advances. There are more investments in cleaner energy and there are already more models that measure and reduce environmental impacts. In addition, there are more techniques that combine artificial intelligence with satellites and drones that not only allow for accurate assessments of climate and environmental change, they also predict how our actions will influence them. Lastly, with more advanced extraction and recycling techniques being developed, it's clear that there are technological benefits that cut across all dimensions of sustainability – social, environmental and economic.

But again. There must be political will.

In the European context and through the perspective of the objectives set by EGD, in which "*the environmental ambition of the Green Deal will not be achieved by Europe acting alone; the drivers of climate change and biodiversity loss are global and are not limited by national borders*",[18] the EU can use its influence, expertise and financial resources to mobilise both domestically, and across borders. The EU must be careful to assess the technological needs of Member States and third countries, in order to reduce GHG and vulnerability to climate change. How? By choosing technologies that clearly correspond to countries' development strategies, considering the country's long-term economic and social trends. In addition, the EU should have an approach based on a better ranking of technologies that can adapt and/or mitigate possible climate change in countries.

However, it is important to take into account "*the technology itself is also a threat that can endanger the future. As you will see, care must be taken to administer it, not only as a determining factor in the definition and management of the other dimensions, but as a dimension in itself, considered alone can make the process towards sustainability unfeasible and put civilization at risk of extermination. (…) if not well conducted, technology can be the instrument of a global catastrophe*".[19]

4. Conclusions

Climate change aggravated by human action is an unavoidable reality.[20]

In the context of the European Union, public opinion of EU citizens it is in favour of taking steps to combat climate change. They identify it (i.e., climate change) as the most serious problem facing the world, and that we should be working towards applying large investments for climate transition to combat the

[18] For further developments, see European Commission, *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*, Brussels, 11.12.2019, COM/2019/640 final, accessed February 15, 2023, https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1588580774040&uri=CELEX%3A52019DC0640.

[19] Paulo Márcio Cruz and Gabriel Real Ferrer, "Direito, sustentabilidade e a premissa tecnológica como ampliação de seus fundamentos", in *Sustentabilidade tecnológica: o papel das tecnologias digitais na promoção do desenvolvimento sustentável*, ed. Alessandra Silveira, Joana Covelo de Abreu and Larissa A. Coelho (Braga: Pensamento Sábio - Associação para o conhecimento e inovação Universidade do Minho, 2020), 6-28, 22, accessed February 17, 2023, https://repositorium.sdum.uminho.pt/bitstream/1822/66584/3/Sustentabilidade%20Tecnologica_Edicao%20Comemorativa%20MDUE.pdf. (Freely translated by the author).

[20] For further developments, see the full report: "Climate Change 2022: Impacts, Adaptation and Vulnerability", accessed February 17, 2023, https://www.ipcc.ch/report/ar6/wg2/.

ecological, social and economic crisis, and provide support to new innovations and technologies for the proper digital transition. This is where we can observe that the specificity of the European Union is an advantage, since it can make bold and ambitious decisions when they are needed at the European level, and organise the directions of economic investments, *exempli gratia*, for Member States, regions and social projects that need them most for their fair ecological transition.

In other words, it is through the commitments already made by the European Union for an ecological transition in line with new technologies, in particular through the Just Transition Mechanism, that Member States should be charged with the effective application of economic and social investments, taking into account the vulnerabilities and background of each region and its citizens – that is, a coherence between European social and economic objectives. Furthermore, the fair and equitable transition reflects a powerful and comprehensive strategy to ensure the resilience of an economy based on sustainable development decoupled from the exploitation of natural resources, with the achievement of high levels of environmental protection and social progress, and as close as possible to European citizens. All in a framework of actions that ensures that no one is left behind.

The truth is that the ends have already been sacrificed to the means: instead of seeking the well-being of the populations, whose growth should only be an instrument, growth has been pursued for its own sake, regardless of the ecological and human cost. And it is past time to reverse this situation.

A just transition can be considered when there is a global perspective on the inequality between Member States, with a holistic perspective where the root causes of socio-economic imbalances lie. Not only in the EU, but across the planet, immediate action is necessary: ecological transition will not be a matter of future generations, but the most serious threat to current generations. Faced with this reality, the EU must absolutely do its utmost to meet the deadlines set by 2050 and maintain its leading role in the ecological transition.

The problem is that technical progress develops independently of the ecological problem. Most of the time, when a technology develops, it does not do so to respond to an ecological problem, but to respond to an economic challenge such as the quest for new markets. And it is this equation that must be changed. For a fair transition, technological progress must be aligned with the details of an ecological transition and legal regulation. The big question is whether law can keep up with the speeds of the digital age and environmental, economic and social damage.