



The Just Energy Transition Fund

Fostering Energy Transition, Countering Economic
Inequality and Boosting EU Legitimacy

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Executive summary

How the JET Fund stands out from other proposals?

- The Just Energy Transition Fund (JET Fund) is a proposal for a new EU financial instrument linking energy transition targets with the reduction of economic inequality. It promotes the widest possible participation in this process by offering financial support to those who would not be able to benefit from it otherwise. It mitigates increasing inequality, garnering the necessary broad social support for the transition.
- In contrast to other proposals, its focus is not limited to coal-dependent regions.
- The JET Fund places citizens at the centre of the transition. It offers people agency to and could increase the European Union's legitimacy. It offers a socially-based answer to the fundamental question: why the EU?

The challenge of growing economic inequality

- The adverse effects of the energy transition are unevenly distributed among all EU citizens. The negative phenomena include:
 - an increase in energy prices' share of in the poorest households' budgets,
 - the concentration of energy poverty in regions with historically worse conditions for development, like Southern Europe and Central and Eastern Europe,
 - unfavourable changes in which inequality between regions, measured in terms of exposure to the risk of energy poverty, is deepening.

- Support systems' current design, which aims to incentivise the energy transition, does not enable all citizens to participate in the process. A closer look at two energy transition measures from different sectors – subsidies for electric vehicles (EVs) and the EU Emissions Trading Scheme (EU ETS) – shows the essence of the problem. Although they help mitigate climate change and support the EU economy, they also contribute to another serious problem, growing economic inequality.
- The problem of the EU energy sector and its uneven costs-benefits distribution mirrors a wider trend:
 - in G-7 economies and across many (but not all) advanced economies, wealth and income inequality in general have been rising since the 1980s.
 - most low- and middle-income respondents across the G-7 countries believe that their wealth has either decreased or remained unchanged over the past few years.
 - the relative poverty rate in G-7 countries has been increasing since the 1980s.
- The increase in living costs due to the energy transition, along with the unevenly distributed benefits, will contribute to growing inequality. It could have profound negative effects:
 - Inequality breeds mistrust towards other members of society and institutions. Inequality also discourages people from participating in public life. Lack of trust and civic engagement weakens political institutions' legitimacy.

- The observed economic inequality raises questions about whether the strategic goals and ways of achieving them have been correctly identified and followed. Policies that fail to acknowledge the social context of the energy transition will erode confidence in the validity of the EU's climate and energy goals.

Details of the new proposal

- The JET Fund shall be considered from two perspectives. Firstly, it departs from a narrow, sector-specific perspective of policy drafting, towards a more holistic approach, which aims to balance economic, climate and social targets. Secondly, it seeks to remodel EU energy transition policy. Its current design suggests: the wealthy will gain and the poor will lose. Economic equality and the EU's legitimacy will suffer.
- In contrast, the JET Fund aims to counter the increase in economic inequality by fostering an energy transition. It supports meeting climate targets by scaling up investments to increase energy efficiency and use renewable sources of energy, among other things. In the longer term, it will guarantee wider public acceptance for a process that could be unpopular due to its social costs. With a properly-designed support system, investments will be channelled to vulnerable groups, countering economic inequality. The Fund is not meant to be a silver bullet for all energy transition challenges across a broad spectrum of sectors and should be therefore accompanied by strengthening initiatives covering other sectors.
- The JET Fund's aims should be pursued via investment support for:

- improving final consumers' energy efficiency (e.g. retrofitting buildings, replacing heat and cooling sources);
- distributing energy resources (e.g. PVs on residential buildings, heat pumps and other alternative heating technologies);
- local infrastructural projects aimed at bringing clean and cheap energy to local communities (e.g. infrastructural projects needed to integrate decentralised energy generation units with the grid of local distribution heating projects or energy clusters).
- The JET Fund programmes shall be addressed to final consumers, especially poor households, local communities, housing co-operatives and other similar entities. The Fund offers progressive investment support measures. Contrary to commonplace regressive support systems, it does not require that beneficiaries contribute a significant amount of capital ex ante.
- By supporting the energy transition and countering economic inequality, the JET Fund will offer tangible results to all citizen, building trust and confidence in EU policies and institutions, which will strengthen the European project's legitimacy.
- The JET Fund should receive new financial resources from the EU budget, but not at the expense of structural funds
- The Fund is linked with the EU's new ambition to become a net-zero Greenhouse Gas (GHG) emissions economy. Stepping up climate policies requires new financial resources from increasing the EU budget.
- New priorities need not replace earlier ones if the latter reflect issues that still need addressing. For this reason, it seems unreasonable to finance efforts

to meet climate targets at the expense of structural funds. The latter are meant to rebalance development between the regions, helping the EU common market thrive.

- When setting regional eligibility criteria, the JET Fund should follow a well-established approach based on NUTS 2 region. This is the default geographical level for allocating resources from EU funds. As the focus of the Fund is to combine energy transformation with the aim of reducing social inequality, it should resort to an indicator of social and economic development as the basis for allocating the funding among member countries. The two indicators that are proposed are regional GDP per capita and regional Human Development Index.
- Estimates of overall private and public investment needs for energy transition in the EU vary significantly. According to one study, achievement of net-zero GHG emissions economy by 2045 would require average annual investments of 90-110 bn EUR. Another analysis reports that investments needed to meet current EU targets by 2030 are estimated at 381 bn EUR annually, whereas the predicted level of energy investments by 2030 is expected to reach only 231 bn EUR per year. It would leave a financing gap of 150 bn EUR per year. Given that the total EU budget expenditures between 2017 and 2019 are around

155-165 bn EUR per year, bridging the gap is unlikely.

- In view of the social dimension of the JET Fund, i.e. its aim to counter the economic inequality, the assigned budget should be significant enough to ensure that the social impact is achieved and recognizable. Hence, the Multiannual Financial Framework 2021-27 should provide for an average annual budget for the JET Fund of no less than 10-20 bn EUR.
- According to the moderate annual budget size i.e. 15 bn EUR, Poland is the country that would be provided with the highest amount of financing (circa 2.1 bn EUR). It results from the combination of its population size and the low scores of its regions in terms of economic output and social development. Greece and France would be two other countries securing the highest amount of annual funding – with the volumes of circa 1.7 bn EUR for Greece and 1.6 bn EUR for France.
- At the European level, the European Commission should manage the JET Fund, distributing funds between member states. At the country level, managing authorities should be designated to
 - (1) select and coordinate funded programmes,
 - (2) separate and control funds and
 - (3) build regional networks for implementing programmes.

Introduction

The Polish government suggested establishing a Just Energy Transition Fund (JET Fund) in its position on the EU industrial policy strategy to 2030 (Ministerstwo Przedsiębiorczości i Technologii, 2019). Over a month later, Ursula von der Leyen, the European Commission's recently-nominated president, pledged to establish a Just Transition Fund. Although this idea comes from the Progressive Alliance of Socialists and Democrats' (S&D) programme, its shape will be formulated by all stakeholders at the EU level in coming months. This paper contributes to the upcoming debate.

The JET Fund is a proposal for a new EU financial instrument that would combine energy transition targets with a reduction in economic inequality

The JET Fund is a proposal for a new EU financial instrument that would combine energy transition targets with a reduction in economic inequality.¹ Without the Fund, the transition to a net-zero GHG emissions economy will not succeed. The Fund promotes the widest possible participation in the energy transformation by offering financial support to people who would not be able to benefit from it otherwise. It mitigates increasing inequality, offering much-needed social support for the transition.

The JET Fund places citizens at the centre of the transition. Without undermining the

transition targets, it challenges the dominant perspective, which merely focuses on setting the right carbon price. Instead, it offers people agency and could increase the European Union's legitimacy. It offers a socially-based answer to the fundamental question: why the EU?

The JET Fund places citizens at the centre of the transition. The proposal stems from a historically-shaped sensitivity in Central Europe

The proposal stems from a historically-shaped sensitivity in Central Europe, where the notion of an "energy transition" echoes the post-communist "economic transition". The latter was a great economic success, but involved substantial social costs, which raised questions about its legitimacy (Arak et al., 2019). The Central European countries' experience could enrich the EU debate and show a way to strengthen the legitimacy of the European project, which has come under strain.

The paper has the following structure: Part I highlights the challenge of growing economic inequality caused by the energy transition. Part II outlines how the JET Fund profoundly changes the approach towards the energy transition. Part III explains how the Fund should be established to best meet its aims. Part IV compares it to other just transition proposals, showing how the JET Fund stands out.

¹ It is an extended version of the proposal put forward earlier in Dudek, Szlagowski (2019).

Part I. The challenge of growing economic inequality

The energy transition requires a comprehensive transformation of the current economy. Reaching the net-zero target will only be a partial success if not all citizens feel the positive effects. This will ultimately decide whether the transition is an EU success story or failure. Depending on how it proceeds, the process could boost the EU's legitimacy by increasing social support or heighten public distrust of the European project.

The fundamental challenge is that the costs and benefits of the EU's ambitious energy transition policy are unevenly distributed. The policy not only needs to be redesigned; it also requires a change in mind-set.

The current situation may result from EU institutions adopting a perspective that is distant from citizens. Its key targets concern reducing greenhouse gas emissions from industrial sites or the share of renewable energy sources in member states' energy mix, while neglecting the changes' social implications.

The poor are more affected by rising energy costs

The adverse effects of the energy transition are unevenly distributed among EU citizens. The negative phenomena include:

- an increase in energy prices' share in the poorest households' budgets,
- the concentration of energy poverty in

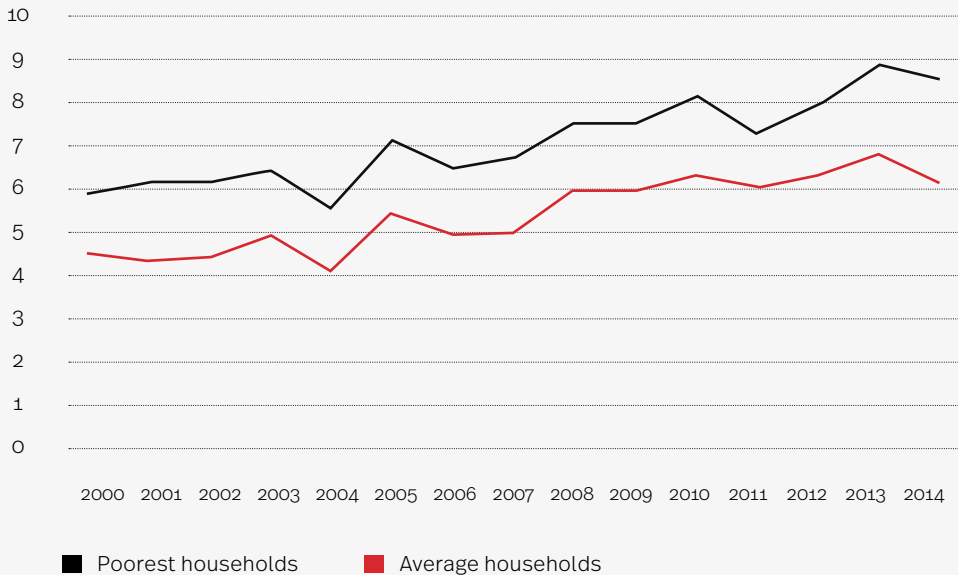
regions with historically worse conditions for development, like Southern Europe and Central and Eastern Europe,

- unfavourable changes in which inequality between regions, measured in terms of exposure to the risk of energy poverty, deepens.

The adverse effects of the energy transition are unevenly distributed among EU citizens

Firstly, the data not only shows that households' energy costs are rising, but that the poorest people are the most affected. According to the European Commission, the share of energy costs in the poorest European households' budgets rose from 6% to 9% in 2000-2014. Over the same period, its share in average European households' budgets increased, too, but by just 1 percentage point, from 5% to 6% (see Chart 1). The disproportional negative impact on the poorest is particularly problematic because it leads to energy poverty, i.e. the state in which a household is unable to obtain the energy needed for heating, cooling, lighting and using equipment due to a combination of factors, which may include low income, high energy costs and the building's low energy efficiency (Sokołowski, Kietczewska, Lewandowski, 2019).

▼ **Chart 1. EU average – share of energy spending in household budgets**

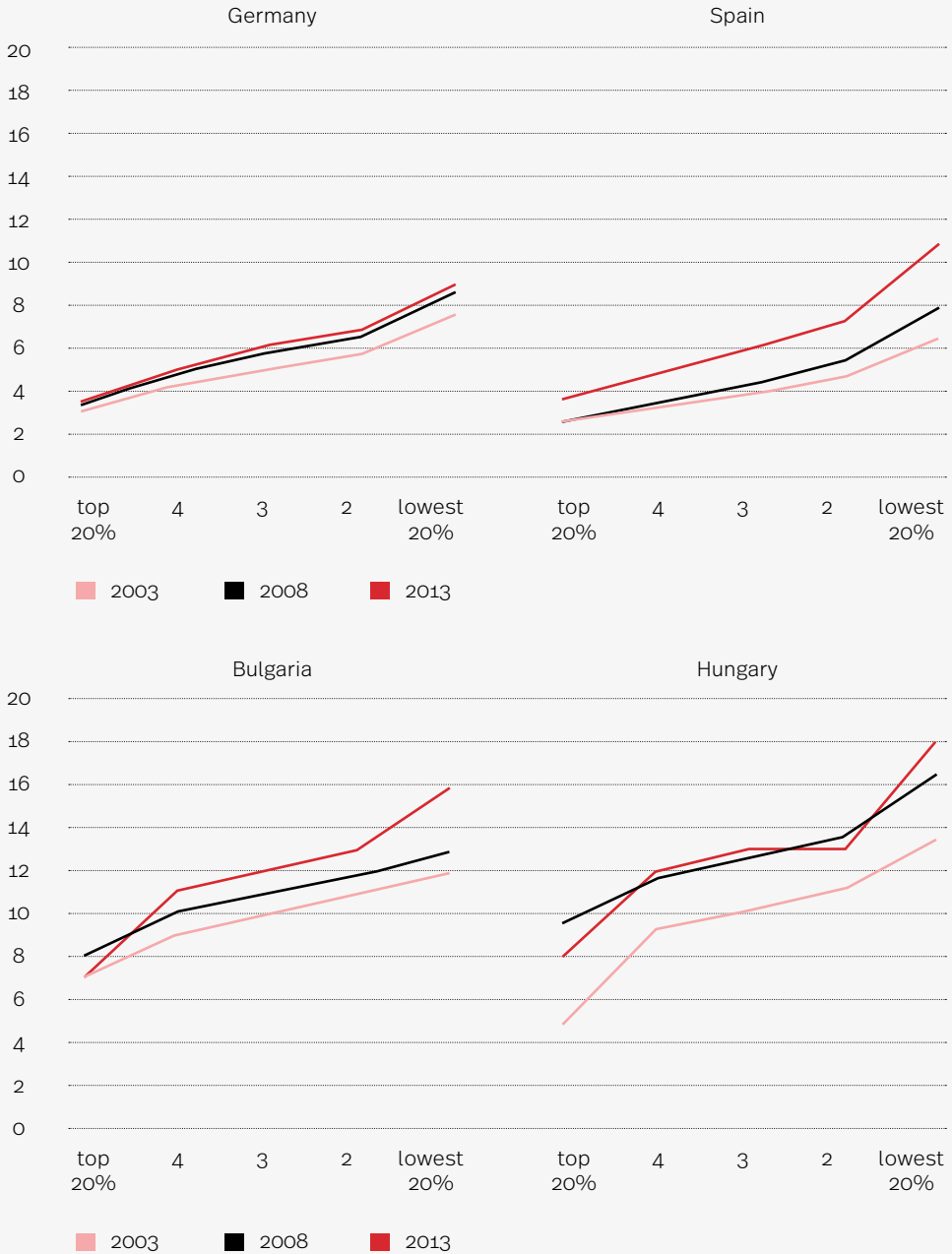


Source: European Commission (2016A).

Secondly, energy poverty varies geographically. Studies point to three regions: Southern Europe (around the Mediterranean) and Central and Eastern Europe, where energy poverty is more severe, and Northern and Western Europe, where the problem exists to a lesser degree and only affects people in the poorest social group. Germany,

where the average household spends 9% of its disposable income on energy utilities, is an example of a country in the third region. In Spain, in the Mediterranean region, the average household spends 11%, rising to 16% in Bulgaria and 18% in Hungary, countries in Central and Eastern Europe (see Chart 2) (European Commission, 2016b).

▼ **Chart 2.** EU average – share of households’ disposable income spent on electricity, gas and other fuels used for heating, cooking or household appliances, by income quantiles

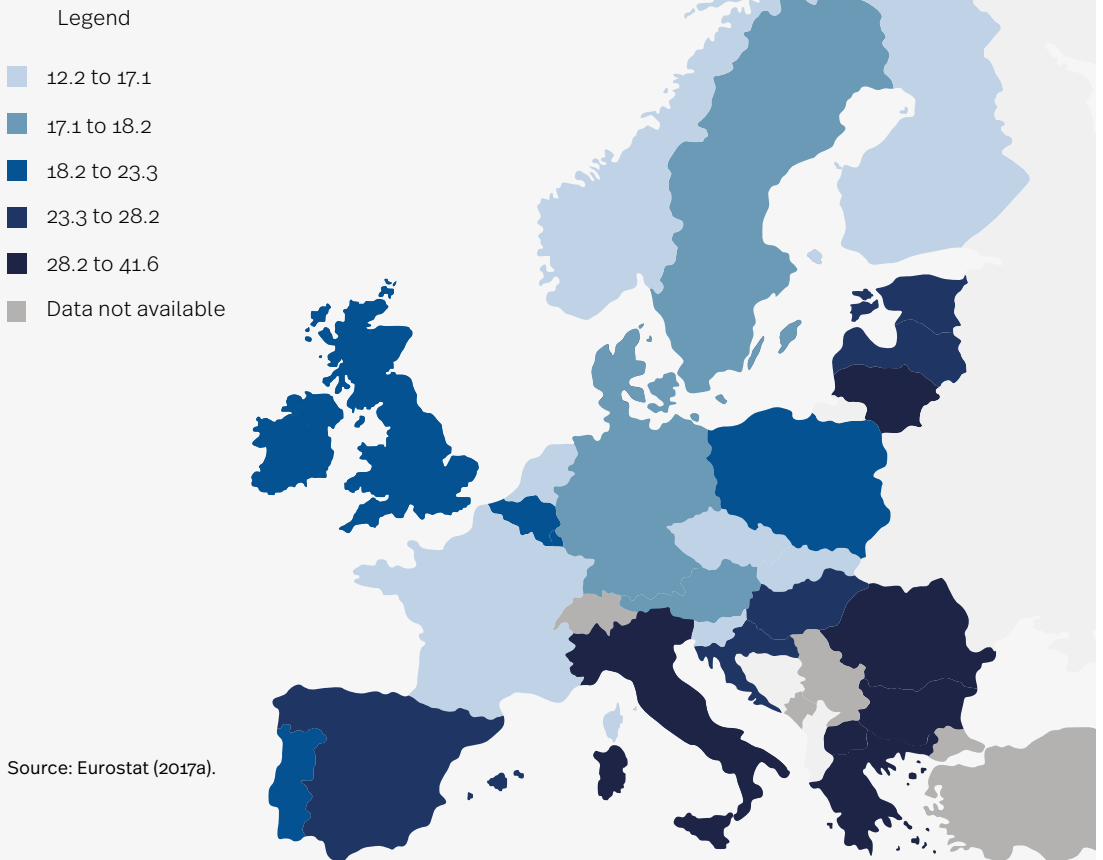


Source: European Commission (2016b).

There is an overlap between the data on geographical variation in energy poverty and that on people at risk of poverty or social exclusion, which is one of the basic indicators of inclusive growth used by Eurostat to measure the effectiveness of

European cohesion policy. In both cases, countries in Northern and Western Europe have significantly fewer people at risk of poverty – including energy poverty – than those in the Mediterranean region and in Central and Eastern Europe (see Illustration 1).

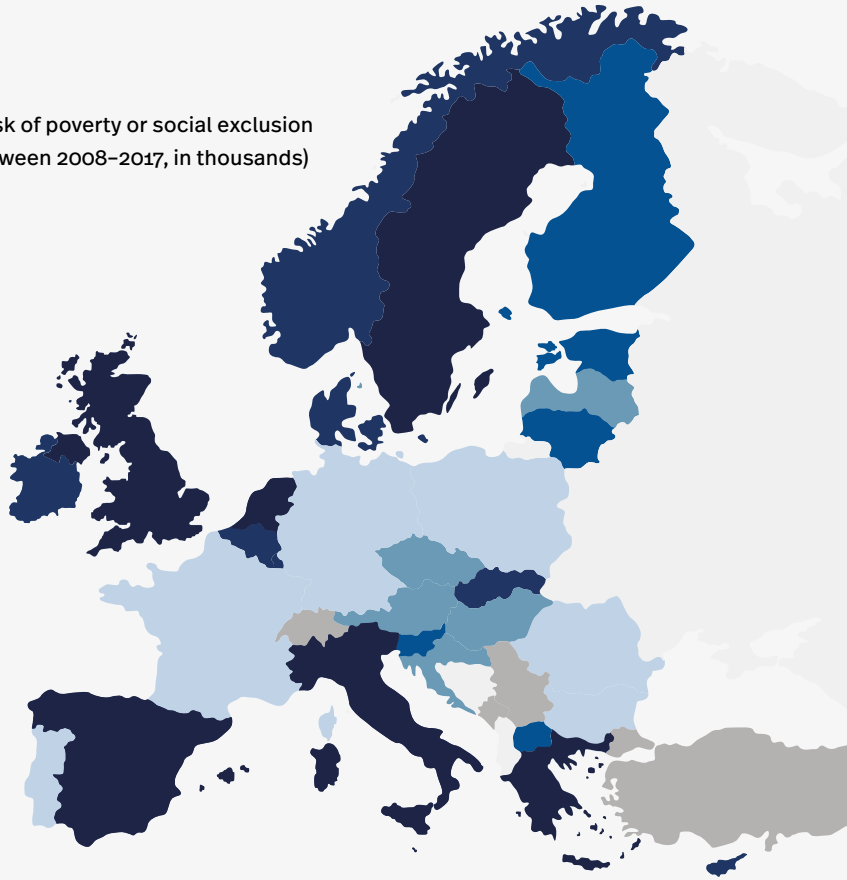
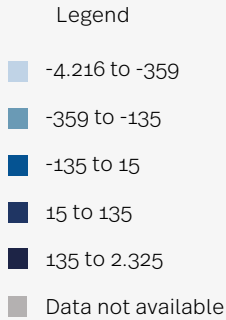
➤ **Illustration 1.** People at risk of poverty or social exclusion (data for 2017; percentage of society)



Finally, changes in the level of poverty (including energy poverty) since 2008 point to deepening inequality between the regions. In principle, between 2004 (the first year in which data for over ten member states was available) and 2007-2008,

the start of the financial crisis, the percentage of people at risk in individual member states decreased gradually. The financial crisis reversed this trend in some member states, especially in the Mediterranean region (see Illustration 2).

▼ **Illustration 2.** People at risk of poverty or social exclusion
(change between 2008–2017, in thousands)



Source: Eurostat (2017b).

The wealthy benefit more from the current support system

The current support system, which aims to incentivise the energy transition, does not enable all citizens to participate. A closer look at two energy transition measures from different sectors – subsidies for electric vehicles (EVs) and the EU Emissions Trading Scheme (EU ETS) – shows the essence of the problem.

The first example shows how policies may discriminate against low-income households, benefiting high-income ones. A common instrument supporting the move away from traditional vehicles is a subsidy (and/or tax break) for new EVs. This reduces the price for high-income households, which typically buy new cars (Zachmann, Fredriksson, Claeys, 2018, p. 79). However, low-income households gain little. For them, the benefits are not very tangible (e.g. cleaner air) or

postponed (secondary market for EVs). Measures designed in this way benefit the wealthy; the poor merely receive the vague promise of trickling-down gains.

The second example reveals a similar mechanism, this time benefiting industry at the expense of governments and households (or taxpayers in general). The EU ETS has created three streams of distributing wealth to industry: firstly, by allocating free allowances that subsequently gained market value, secondly, by compensating for indirect costs at energy-intensive enterprises and, thirdly, by creating low-cost allowances from international projects that could be marketed in the EU with an additional margin (Zachmann, Fredriksson, Claeys, 2018, p. 79). As a result, the EU ETS leads to rising energy prices that hit individual consumers, disproportionately affecting the poor, while industry experiences the direct benefits.

Most of the current energy transition support mechanisms help to mitigate climate change and support the EU economy, but they also contribute to another serious problem - growing economic inequality

Both examples respond to climate challenges relatively efficiently: subsidies for EVs shift preferences in the major car-buying group towards EVs and the EU ETS helps reduce greenhouse gas emissions. The point is: they mitigate climate change and support the EU economy, but they also contribute to another serious problem, growing economic inequality (Zachmann, Fredriksson, Claeys, 2018, p. 7-10).

The broader trend of growing inequality

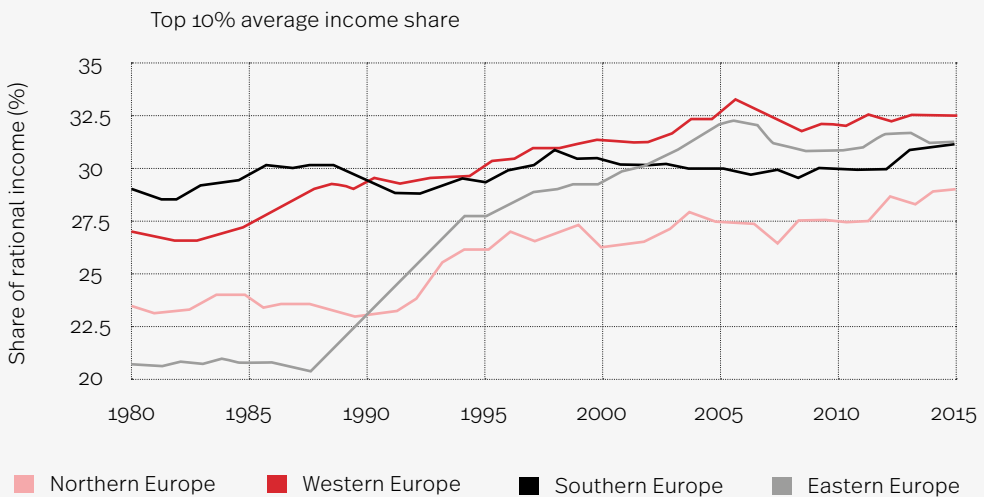
The EU energy sector and its uneven distribution of costs and benefits mirrors a wider trend. According to McKinsey Global Institute,

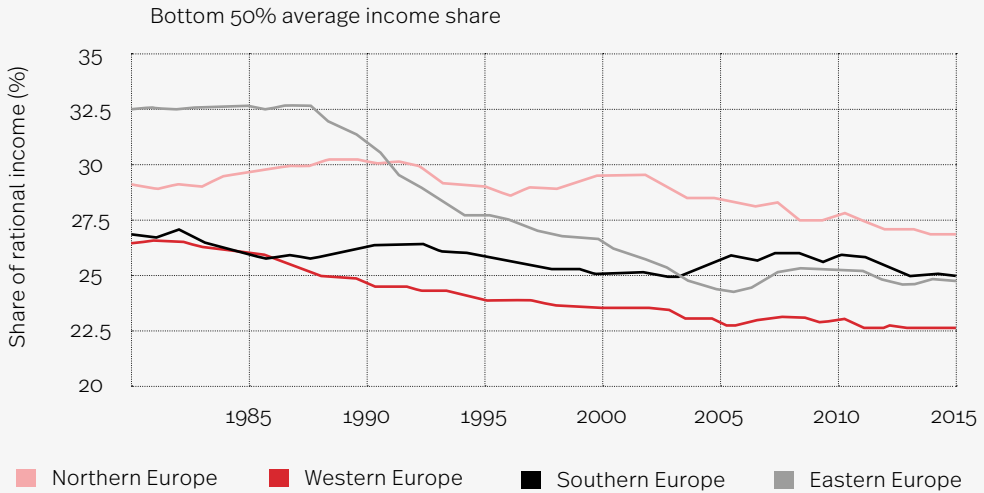
“Inequality within many advanced countries is moving in the opposite direction from the global trend of declining inequality between countries. In G-7 economies and across many (but not all) advanced economies, wealth and income inequality in general has been rising since the 1980s” (Fine et al., 2019).

The EU energy sector and its uneven distribution of costs and benefits mirrors a wider trend

A similar conclusion can be drawn in relation to EU regions. Since the EU enlargement of 2004, there has been a relatively high degree of convergence between trends in Northern, Southern, Western and Eastern Europe. Despite some differences in national trajectories, however, the average income of the top 10% has risen, while the income of the bottom 50% has either remained unchanged or fallen (see Chart 3) (Blanchet, Chancel, Gethin, 2019).

▼ Chart 3. Income inequality in European regions, 1980-2017: average income share for top 10% and bottom 50%



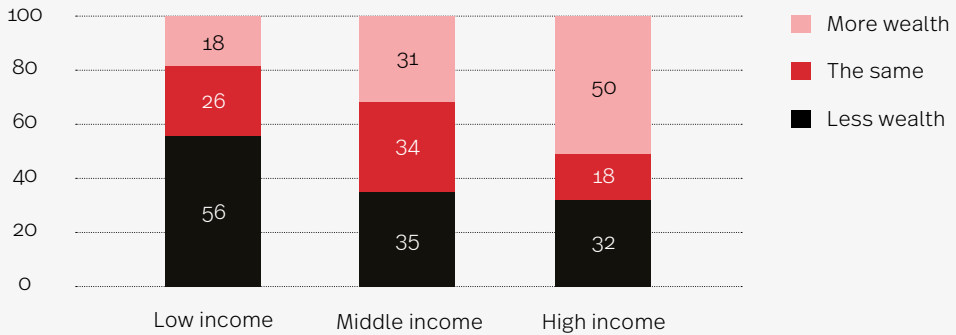


Source: Blanchet, Chancel, Gethin (2019, p. 31).

This growing inequality is echoed by most low- and middle-income respondents across the G-7 countries, who believe that their wealth has either decreased or remained unchanged

over the past few years. In contrast, half of high-income respondents believe that they are wealthier now than a few years ago (see Chart 4).

▼ **Chart 4.** Respondents indicating whether they had “more”, “less”, or “the same” amount of wealth in “the last few years”, % of respondents by income level

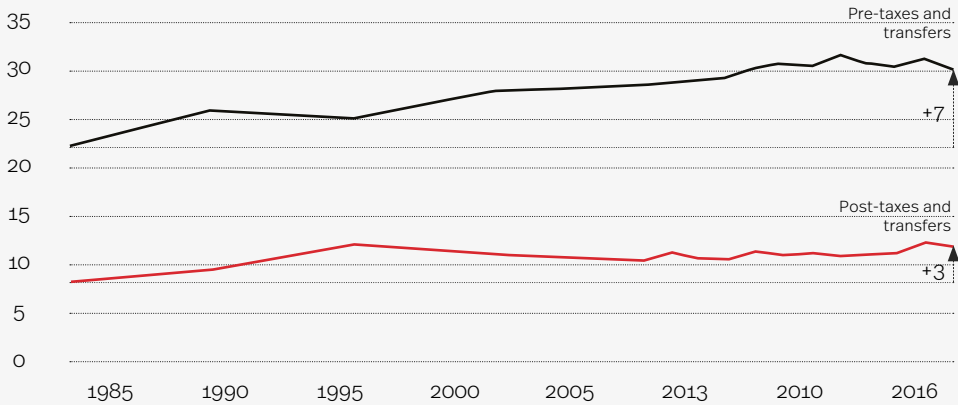


Source: Fine et al. (2019, p. 45).

The data concerning the most economically vulnerable citizens is no less troubling. The relative poverty rate in G-7 countries has been increasing

since the 1980s. In 2016, it was 30%, 7 percentage points higher than 30 years earlier. It has been at this high level for several years already (see Chart 5).

Chart 5. Relative poverty rate*, % of total population, G-7 average**, 1985-2016



* The poverty rate is the percentage of people whose disposable income is lower than the poverty threshold, which is set as less than 50% of median household income.

** Average poverty rate for G-7 countries is based on 5-6 data points on average each year.

Source: Fine et al. (2019, p. 45).

Rising social discontent creates a legitimacy problem

The increase in living costs and unevenly distributed benefits due to the energy transition will contribute to growing inequality. This could have profound negative and widespread effects. Firstly, inequality breeds mistrust towards other members of society and institutions. Inequality also discourages people from participating in public life (Brown, Ulsaner, 2002). Lack of trust and civic engagement weakens the legitimacy of political institutions.

Inequality breeds mistrust towards other members of society and institutions

Secondly, the observed economic inequality raises questions about whether the strategic goals and ways of achieving them have been

correctly identified and followed. Policies that fail to acknowledge the social context of the energy transition will erode confidence in the validity of the EU's climate and energy goals.

In autumn 2018, a wave of grassroots "yellow vests" protests swept through France. The regionally-differentiated demands meant that the movement was usually referred to as being against the French political elite. However, this description misses the source of the discontent. Citizens took to the streets to protest against an increase in the fuel tax, which President Emmanuel Macron introduced to support the development of renewable energy sources at the expense of fossil fuels (see Tagliapietra, Zachmann, 2018; Arak, Dudek, Szlagowski-Budacz, 2019). People feared that it would reduce living standards.

Has this lesson been learned? Are people's concerns in this age of growing inequality being heard?

Part II. The JET Fund – a new proposal for a just energy transition

The JET Fund shall be considered from two perspectives. Firstly, it departs from a narrow, sector-specific perspective of policy drafting, towards a more holistic approach, which aims to balance economic, climate and social targets. Secondly, it seeks to remodel EU energy transition policy. Its current design suggests: the wealthy will gain and the poor will lose. Economic equality and the EU's legitimacy will suffer.

JET Fund aims to counter the increase in economic inequality by fostering energy transition

In contrast, the JET Fund aims to counter the increase in economic inequality by fostering energy transition. It advocates meeting climate targets by scaling up investments to increase energy efficiency and use renewable sources of energy, among other things. In the longer term, it will guarantee wider public acceptance for a process that could be unpopular due to its social costs. With a properly-designed support system, investments will be channelled to vulnerable groups, countering economic inequality.

Supporting investments that are tangible for all citizens

The JET Fund's twofold goal – fostering the energy transition while reducing economic inequality – should be pursued via investment support for:

- improving final consumers' energy efficiency (e.g. retrofitting buildings, replacing heat and cooling sources);

- distributing energy resources (e.g. PVs on residential buildings, heat pumps and other alternative heating technologies);
- local infrastructural projects aimed at bringing clean and cheap energy to local communities (e.g. infrastructural projects needed to integrate decentralised energy generation units with the grid or local distribution heating projects).

The list of actions supported by the JET Fund could be expanded to other subjects that fit its conceptual framework.

Since almost all the effects will be tangible for citizens, the JET Fund will build trust and confidence in EU policies and institutions, strengthening the European project's legitimacy.

An energy transition that benefits the least wealthy

The JET Fund's driving concept is to make the energy transition benefit the least wealthy, who are the most affected by rising energy costs, but have the most limited access to capital. Well-designed measures supporting a just energy transition should be used to reduce economic inequality.

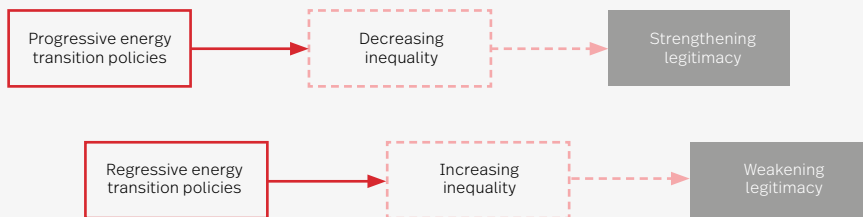
Well-designed measures supporting a just energy transition should be used to reduce economic inequality

Before exploring the proposed measures, one conceptual clarification is needed. From the perspective of energy transition policies' social

dimension, it is crucial to consider the distinction between progressive and regressive policy tools (Zachmann, Fredriksson, Claeys, 2018, p. 7). Progressive measures make low-income households better off in relation to high-income households, reducing overall economic inequality. Regressive measures have the opposite effect.

The JET Fund offers progressive investment support measures (see Illustration 3). Contrary to common regressive support systems, it does not require that beneficiaries contribute a significant amount of capital *ex ante*. In this way, it overcomes an entry barrier for households with low access to capital.

Illustration 3. Impact of energy transition on inequality and legitimacy



Source: prepared by the authors.

- The JET Fund's support measures should:
- be non-refundable for households with the lowest income, and
 - for households with relatively low-income, provide an option to postpone beneficiaries' own contribution and/or divide it into instalments.

The latter measure could include leveraging support funds with the private capital of banks or energy companies. They would provide the capital to cover the beneficiary's contribution and would be paid back from the savings/earnings made by the household.

Additional value of the JET Fund

Apart from supporting the energy transition and countering economic inequality, the

JET Fund will boost employment. The market for energy retrofitting services in Poland offers a good example. According to one study, the potential direct impact of policies intensifying residential energy retrofitting in Poland could create approximately 100,000 additional jobs per year in the country (Lewandowski, Sałach, Ziółkowska, 2018). Most of the new jobs would not require highly specialised skills. In coal-mining regions, this could help requalify miners (World Bank, 2018a).

The JET Fund could also improve air quality in places where air pollution is caused by outdated and inefficient energy solutions and where lack of capital is the main barrier to modernisation.

Part III. Setting out the details

The architecture of energy transition measures

JET Fund programmes shall address the final consumers, especially poor households, local communities, housing cooperatives and other similar entities. They should focus on improving buildings' condition and supporting prosumers.

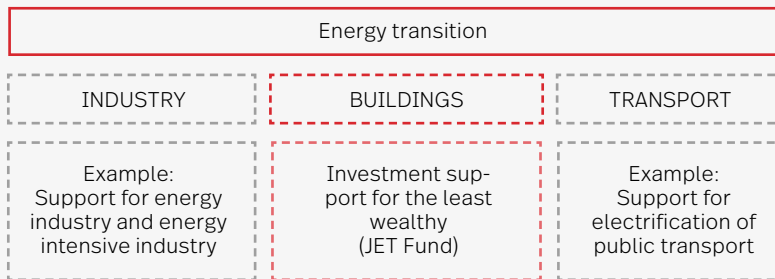
JET Fund programmes shall address the final consumers, especially poor households, local communities, housing cooperatives and other similar entities

This focus is based on two arguments. Firstly, it offers households tangible effects, like lower energy bills in homes that have

been retrofitted or generate their own energy. Secondly, the research on the EU funds' effectiveness suggests that focused priorities improve growth performance (Darvas et al., 2019). This suggests that the challenges in each sector should be addressed with tailor-made policies (see Illustration 4) (compare IRENA, 2019, and Tagliapietra et al., 2019).

The JET Fund is not meant to be a silver bullet for all energy transition challenges across a broad range of sectors. Leaving out two areas relevant to the energy transition, industry and transport, does not mean that they do not require support using other policy tools. The JET Fund should be accompanied by initiatives covering other sectors, such as support for the power industry and energy-intensive industries or support for the electrification of public transport.

Illustration 4. The JET Fund as part of energy transition measures



Source: prepared by the authors.

The source of funding

The JET Fund is linked with the EU's new ambition to become a net-zero economy.

Stepping up climate policies requires new financial resources by increasing the EU budget.

New priorities shall not replace earlier ones. It does not seem reasonable to finance the achievement of climate targets at the expense of structural funds

Importantly, the new priorities shall not replace earlier ones, if they reflect issues that still need addressing. For this reason, it does not seem reasonable to finance the achievement of climate targets at the expense of structural funds. The latter are meant to rebalance development between regions, helping the EU common market thrive (Padoa-Schioppa, 1987; Delors, 1989). Free movement of goods, capital, services and labour might put already-disadvantaged regions in a worse position. Structural funds aim to make up for this. Moreover, it is worth noting in this context that they serve not only eligible beneficiaries, but also all those across the EU that provide services and goods that are either used to execute funded projects or benefit from their results (Kutwa i Szymańska, 2019).

Budget

Estimates of overall private and public investment needs for energy transition in the EU vary significantly.² According to one study, achievement of net-zero GHG emissions economy by 2045 would require average annual investments of 90-110 bn EUR (Eurelectric, 2018). Another analysis reports that investments needed to meet current EU targets by 2030 are estimated at 381 bn EUR annually, whereas the predicted level of energy investments by 2030 is expected to reach only 231 bn EUR per year.

It would leave a financing gap of 150 bn EUR per year (Williams et al., 2018). Given that the total EU budget expenditures between 2017 and 2019 are around 155-165 bn EUR per year, bridging the gap is unlikely.

In view of the social dimension of the JET Fund, i.e. its aim being to counter the economic inequality, the assigned budget should be significant enough to ensure that the social impact is achieved. Hence, the Multiannual Financial Framework 2021-27 should provide for an average annual budget of 10- 20 bn EUR

However, in view of the social dimension of the JET Fund, i.e. its aim to counter the economic inequality, we assume the assigned budget should be significant enough to ensure that the social impact is achievable and recognizable. Hence, we propose that Multiannual Financial Framework 2021-27 provides for an average annual budget for the JET Fund of no less than 10-20 bn EUR.³

Eligibility criteria for regions

Using the appropriate territorial units for statistics

When defining regional eligibility criteria, the JET Fund should follow a well-established approach based on the NUTS 2. This is the default geographical level for allocating resources from cohesion policies and the territorial partition corresponds to actual administrative division in member states. Using NUTS 1 data could have

² Similar differences in estimates of investment needs are observed in case of carbon pricing trajectories, see for example Guivarch, Joeri Rogelj (2017).

³ Annual budget of Cohesion Fund, which has proven to fulfill aims of achieving social impact and recognizability, in Multiannual Financial Framework 2014-2020 is approx. 9 bn EUR. Authors consider this level as a reasonable starting point for defining the JET Fund budget.

adverse effects, intensifying inequality within member states. At the NUTS 3 level, geographical units are often smaller than those of actual territorial units (Vandermotten, Van Hamme, 2017).

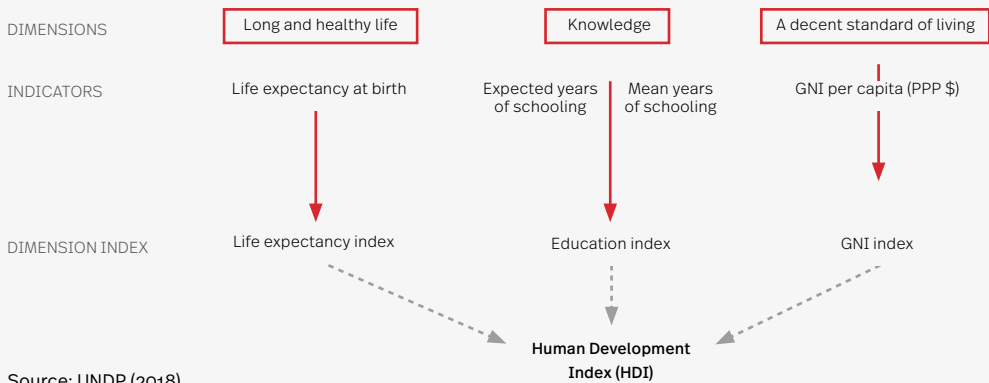
Finding the right indicator

Gross domestic product (GDP) in Purchasing Power Standards per capita is the main indicator used for the allocation of EU funds (Vandermotten, Van Hamme, 2017). It is an indicator of an economic output of a country or a region. Expressed in PPS, it allows to eliminate the differences between countries in the levels of prices, thus making it possible to make valid comparisons between countries at different levels of

economic development. Data on GDP in PPS per capita for NUTS 2 units are calculated by EURO-STAT on an annual basis and thus they are readily available for use.

Human Development Index (HDI) can be considered as an alternative indicator of development. It goes beyond the GDP as it incorporates not only the economic but also the social dimension which plays a leading role among the JET Fund's proposed objectives. Calculated within the United Nations Development Programme, it measures achievements in three key dimensions of human development: health, knowledge and standard of living (see Illustration 5) (UNDP, 2018).

» Illustration 5. Calculating the Human Development Index - graphical presentation



Although HDI was originally developed with the purpose of comparing developed, developing and underdeveloped countries, it is still fully compatible with the JET Fund's objectives. Data on respective regions scores in terms of human development are derived from the 2014 European Commissions' Joint Research Centre report (Hardeman, Dijkstra, 2014).

Regional Gross Domestic Product in Purchasing Power Standards per capita (RGDP PPS)

and Regional Human Development Index (RHDI) are the two indicators that can be used to define the eligibility criteria for the distribution of energy transition funding. As RHDI data is only available as of 2012, the data on RGDP was collected for 2015 – having data for two time-points which are as close as possible, allows for greater comparability of the results. Having these two indicators, all the EU member states' NUTS 2 units were grouped into four categories of

development based on their scores on, respectively, RGDP in PPS and RHDI. These four broad categories are “very high level of development”, “high level of development”, “medium level of development” and “low level of development”. Such categorization helps to distinguish differences between EU countries - all of which are classified as very highly developed – based on

the original (country-level) Human Development Index. For the sake of distinguishing these four groups, the cut-off values were calculated in line with the methodology applied by United Nations Development Programme (UNDP, 2014). The applied methodology results in four groups of countries roughly equal in size, as depicted in table 1.

▾ **Table 1. Four categories of development and their respective cut-off values**

Level of development	RHDI rank (2012)	RGDP PPS (2015)
Very high	Ranks no worse than 59	More than 33,100
High	Ranks from 60 to 118	More than 25,700 but less than 33,100
Medium	Ranks from 119 to 176	More than 19,600 but less than 25,700
Low	Ranks worse than 177	Less than 19,600

Source: calculations of the Polish Economic Institute based on Eurostat (2015) data and Hardeman, Dijkstra (2014) data on RDHI.

Eligibility for funding and budget composition

The JET Fund should be primarily addressed to regions adversely affected by the energy transition. Thus the eligibility for the funding should be restricted to only those regions that are to some extent in need for financing based on their current level of development.

For this reason it is advisable to allocate financing only to regions qualified as high, medium or low in terms of their level of development – proportionally to their needs. Depending on the size of the budget that will be available, the distribution of financing is presented in table 2 below.

▼ **Table 2.** The distribution of the JET Fund across the three levels of development depending on the budget size, in bn EUR

Share of funding across levels of development				
Budget version and size		High	Medium	Low
	Average annual budget size for a given budget version	10%	30%	60%
The minimum budget size	10 bn EUR	1	3	6
The moderate budget size	15 bn EUR	1.5	4.5	9
The optimal budget size	20 bn EUR	2	6	12

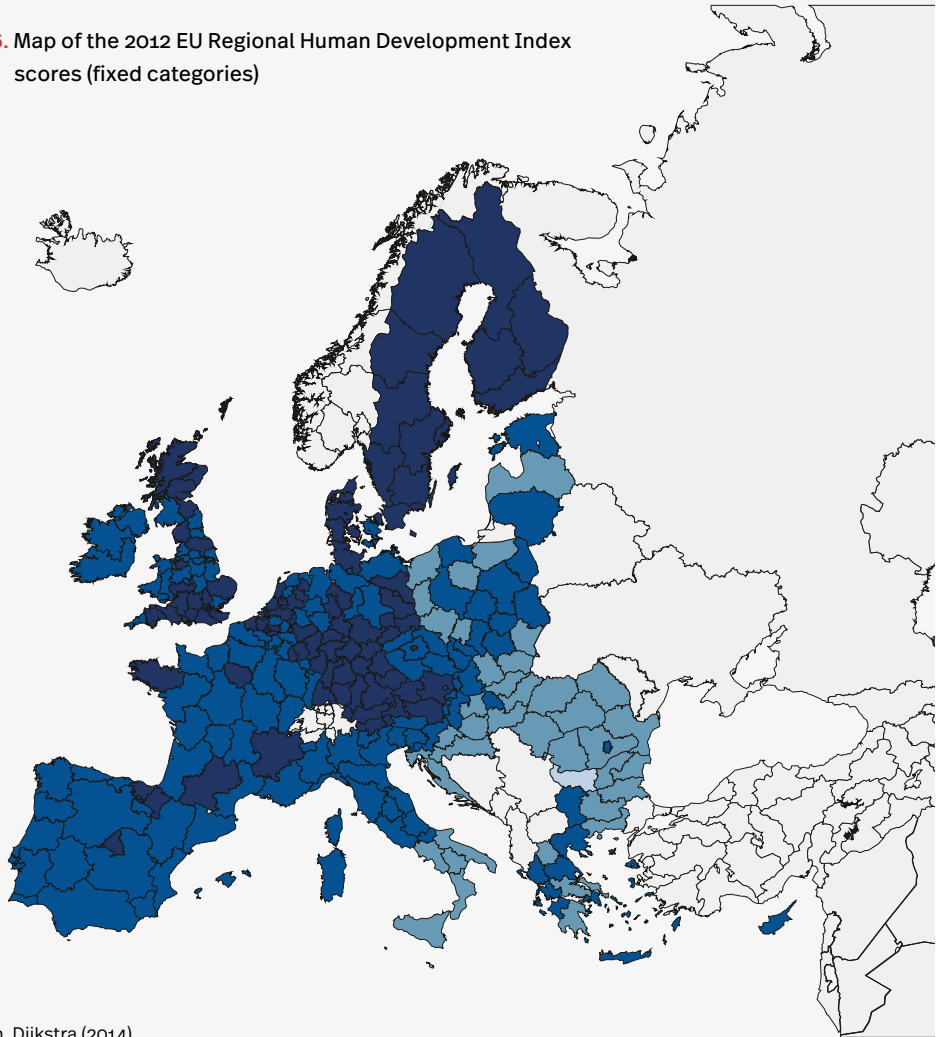
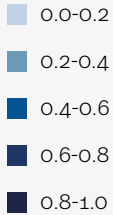
Source: calculations of the Polish Economic Institute.

European Union countries differ markedly in terms of the distribution of their regions across different levels of development.⁴ The map of EU regions' scores in human development reveals significant differences across regions within countries (illustration 6). Very high level of development uniformly

characterises Scandinavian countries and, to a large extent, Germany, Denmark and Belgium with France, Spain and Italy lagging behind. Central and Eastern member states look much worse. Among these, Czech Republic, Lithuania, Estonia and some regions of Poland note the highest scores.

⁴ Great Britain has been omitted from the proposed calculations of the budget allocation.

Illustration 6. Map of the 2012 EU Regional Human Development Index scores (fixed categories)



Source: Hardeman, Dijkstra (2014).

More recent data based on 2015 Eurostat release of RGDP PPS per capita shows that the NUTS 2 units of the Central and Eastern Europe are concentrated in categories of medium and low level of development. Poland, Romania and Bulgaria are among countries whose regions populate these two categories to a large extent. Based on RGDP, only 6% of Polish regions fall within the first category (very high level of development), while 17.6% and 76.5% are classified as of medium- or of low-level of development, respectively.

Countries of the Western region of the EU are more diverse in terms of their regions' level of economic development. 58% of German NUTS 2 units fall within the "very high level of development" category and 29% of them are classified as highly developed. At the same time, some Southern member states score much worse in terms of development achievements – Greece being the most clear example here.

▼ **Table 3.** The distribution of countries' NUTS 2 units across different levels of development according to RGDP in PPS and RHDI, in %

Country	Total number of NUTS 2 units	RGDP (PPS, 2015)				RHDI (2012)			
		Very High	High	Medium	Low	Very High	High	Medium	Low
Austria	9	66.7	33.3	0	0	33.3	66.7	0	0
Belgium	11	45.5	18.2	36.4	0	27.3	45.5	27.3	0
Bulgaria	6	0	0	16.7	83.3	0	0	16.7	83.3
Cyprus	1	0	0	100	0	0	100	0	0
Czech Republic	8	12.5	0	75.5	12.5	12.5	0	75.0	12.5
Germany	38	57.9	28.9	13.2	0	60.5	39.5	0	0
Denmark	5	40.0	40.0	20.0	0	60.0	40.0	0	0
Estonia	1	0	0	100	0	0	0	100	0
Spain	19	10.5	26.3	47.4	15.8	10.5	21.1	47.4	15.8
Finland	5	40.0	60.0	0	0	80.0	20.0	0	0
France	26-27*	3.7	29.6	59.3	7.4	11.5	46.2	26.9	15.4
Greece	13	0	7.7	7.7	84.6	0	0	30.8	69.2
Croatia	2	0	0	0	100	0	0	0	100
Hungary	7-8*	12.5	0	12.5	75.0	0	0	14.3	85.7
Ireland	2-3*	66.7	0	33.3	0	0	50.0	50.0	0
Italy	21	23.8	33.3	19.0	23.8	0	23.8	47.6	28.6
Lithuania	1-2*	0	50.0	0	50.0	0	0	100	0
Luxembourg	1	100	0	0	0	100	0	0	0
Latvia	1	0	0	0	100	0	0	0	100
Malta	1	0	100	0	0	0	0	100	0
Netherlands	12	41.7	58.3	0	0	66.7	33.3	0	0
Poland	16-17*	5.9	0	17.6	76.5	0	0	31.3	68.8
Portugal	7	0	14.3	57.1	28.6	0	0	71.4	28.6
Romania	8	12.5	0	0	87.5	0	0	12.5	87.5
Sweden	8	25.0	75.0	0	0	100	0	0	0
Slovenia	2	0	50.0	50.0	0	0	50.0	50.0	0
Slovakia	4	25.0	0	25.0	50.0	0	25.0	25.0	50.0

* For France, Hungary, Ireland, Lithuania and Poland the total number of NUTS 2 units rose between 2012 and 2015.

Source: calculations of the Polish Economic Institute based on Eurostat (2015) data on RGDP and Hardeman, Dijkstra (2014) data on RDHI.

Having specified the share of funding that can be attributed to three broad groups of regions depending on their level of development (table 2), it is necessary to find a mechanism that would ascribe funding to particular countries based on their respective regions' scores in terms of development. Following the current EU practise in terms of distributing its funds to particular member states, the Regional Gross Domestic Product in Purchasing Power Standards per capita will be utilised as a primary indicator defining the regions' access to financing.

The most simple and intuitive distributional mechanism calculates the total annual amount of funding that can be attributed to a given country in proportion to the number of its NUTS 2 units that fall within each category of development. In this definition both the

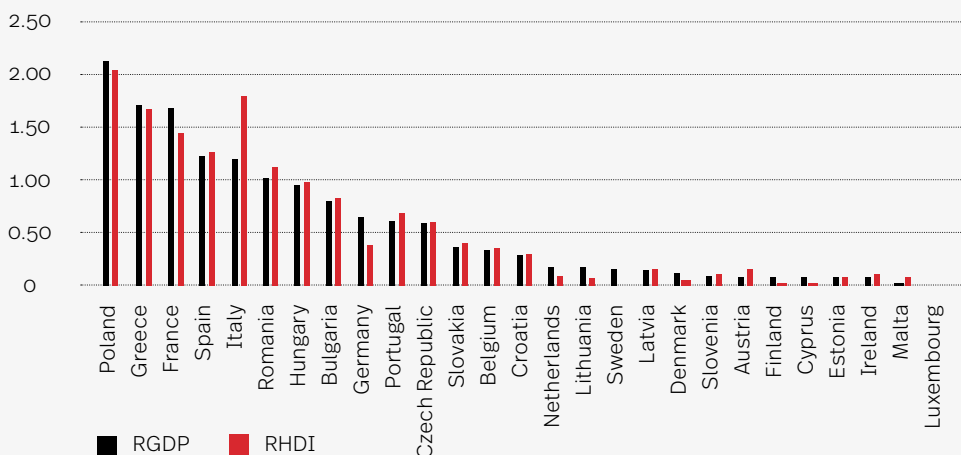
respective country's size as well as its regions' level of development matter. For the sake of clarity, appendix table 2 and appendix table 3 reports the distributions of NUTS regions across different countries and levels of development. Taking the example of Belgium, its total number of NUTS 2 regions equals 11. According to RGDP 5 of which are classified as very highly developed, 2 of which are highly developed and 4 of them are moderately developed. Thus, only 6 of these units qualify for energy transition funding. Given that overall there are 59 regions falling within the "high level of development" category and 60 regions falling within the "medium level of development category", it means that the total amount of funding under the moderate version of the budget size is equal to:

$$\text{Total funding for Belgium} = \frac{2 \cdot 1.5}{59} \text{ bn EUR} + \frac{4 \cdot 4.5}{60} \text{ bn EUR} = 0.35 \text{ bn EUR}$$

The distribution of funding for EU member states calculated in the described manner is presented in Chart 6 and the precise values of

the funding for respective countries are presented in Appendix table 3 and table 4.

▼ **Chart 6. The annual amount of funding for EU member states under the moderate budget version, in bn EUR**



Source: calculations of the Polish Economic Institute based on Eurostat (2015) data on RGDP and Hardeman, Dijkstra (2014) data on RDHI.

Under the described rule and the moderate budget size, Poland is the country that would be provided with the highest amount of annual financing (2.1 bn EUR). It results from the combination of its population size and the low scores of its regions in terms of economic output (RGDP). Greece and France would be two other countries securing the highest amount of funding – with the volumes of 1.7 bn EUR for Greece and 1.6 bn EUR for France.

The JET Fund's distribution mechanism

At the EU level, the European Commission should manage the JET Fund, distributing funds between member states. At the country level, managing authorities should be designated to

- (1) select and coordinate funding programmes,
- (2) separate and control funds and
- (3) build regional networks that implement programmes.

Regional networks in charge of implementing programmes are of primary importance. Reducing economic inequality, the JET Fund's aim, requires wide outreach so that financial resources can reach potential beneficiaries, in particular housing cooperatives and households. For this purpose, local authorities and private entities (such as banks and energy companies) should be included in the fund-distribution mechanism. Their participation will:

- provide additional competencies, in particular knowledge about target groups (e.g. social welfare centres);
- distribute funds efficiently (e.g. a network of branches and other channels for communicating with bank clients) (compare World Bank, 2018b);
- create financial leverage (e.g. by having commercial entities, such as local banks or energy companies, co-fund certain projects) (compare Spyridaki, Broc, 2018, p. 1).

To create a broad distribution network, there should be different implementing institutions managed by institutions in member states. Their tasks depend on the market segment that they would focus on (e.g. poor households, housing cooperatives, small enterprises or farmers).

An excellence-building mechanism for JET Fund programmes

The European Commission should establish a team of experts that would:

- collect and assess member states' experiences implementing JET Fund programmes;
- develop best practices;
- provide assistance, such as training and consulting, to member states' managing and implementing institutions (see Spyridaki, Broc, 2018).

Part IV. The JET Fund and other just transition proposals

How the JET Fund stands out

The JET Fund is the most ambitious, proactive and forward-looking just transition proposal in the EU. These features contrast with those of other proposals. The JET Fund takes a holistic approach, seeking to balance economic, climate and social targets. It links support for the energy transition with reducing economic inequality. By advocating the broadest possible participation in the energy transition, it has the potential to garner greater public support for this challenging process and secure additional resources that could significantly advance it. Since its programmes offer tangible benefits for citizens who might feel overlooked, the JET Fund could boost the EU's legitimacy.

Since its programmes offer tangible benefits for citizens who might feel overlooked, the JET Fund could boost the EU's legitimacy

Other proposals

The Just Transition Fund (JT Fund): Ursula von der Leyen's proposal

The JT Fund became part of the Green Deal for Europe announced by Ursula von der Leyen, the European Commission's recently-nominated president (von der Leyen, 2019). Although it lacks details, it confirms that just transition ranks high on the future Commission's political agenda. Its scope and final shape remain to be determined, which creates an opportunity for ambitious proposals.

The origin of von der Leyen's proposal could matter for future debates. The pledge was

made to gain the European Parliament's support; in particular, that of the Progressive Alliance of Socialists and Democrats (S&D). The JT Fund was mentioned in passing in their 2019 manifesto for the European elections (Party of European Socialist, 2019). In earlier documents, the S&D suggests a fund focused on reskilling workers, in particular those working in polluting industries (it is worth noting that its focus is not limited to coal-dependent regions). They call for a JT Fund "to finance an education and training system that provides workers with the new skills they need in the green economy, with special emphasis on tackling gender inequalities in this emerging sector" (Party of European Socialist, 2018). The extremely vague addition – "and to find clean solutions for the transport and energy industries" – is missing from the 2019 manifesto, which only focuses on a "socially fair way".

The Modernisation Fund: the existing EU ETS-related instrument for selected coal-dependent regions

The Modernisation Fund was established over a year ago as a result of the reform of the EU Emission Trading System. It is funded from the auction of up to 2% of total EU ETS allowances for 2021-2030. Its main task is to enable large-scale investments related to modernising energy systems, although it also includes a just transition component. The latter was added under pressure from the European Parliament, which originally wanted to allocate financial resources from the EU ETS to a separate Just Transition Fund (European Parliament, 2017). Its proposal was not accepted, but some elements were included in the Modernisation Fund. As a result, the latter is the EU's only existing

instrument that relates directly to the just energy transition. However, it addresses the issue in rather limited way, targeting carbon-dependent regions and “the redeployment, re-skilling and up-skilling of workers, education, job-seeking initiatives and start-ups” (Directive (EU) 2018/410). Significantly, its current beneficiaries are ten member states that were selected on the basis of GDP per capita at market prices of less than 60% of the 2013 EU average.

The Just Energy Transition Fund: the European Parliament's new budgetary proposal for all coal-dependent regions

In the run-up to the negotiations of the 2021-27 Multiannual Financial Framework, the European Parliament called for the establishment of a Just Energy Transition Fund that would receive EUR 4.8 bn “to address societal, socio-economic and environmental impacts on workers and communities adversely affected by the transition from coal and carbon dependence” (European Parliament, 2018). As in the case of the Modernisation Fund, the focus is on workers in coal-dependent regions. This time, all 41 regions are eligible, not just those in selected member states. Moreover, the funding would come from a different source: the EU budget, rather than EU ETS allowances.

Appendixes

Appendix Table 1. A comparison of the proposals

This table compares the main features of different just transition measures:

	JET Fund – the Polish proposal	Just Transition Fund – von der Leyen’s pledge	Modernisation Fund	Just Transition Fund – the European Parliament’s rejected proposal	Just Energy Transition Fund – the European Parliament’s new proposal
Origin	<ul style="list-style-type: none"> • 2019 • first mentioned in the position on the EU’s industrial policy strategy up until 2030 • later reiterated in the context of the net zero GHG emissions target • Policy Papers of the Polish Economic Institute 	<ul style="list-style-type: none"> • July 2019 • pledged to the European Parliament as a part of the Green Deal for Europe • likely origin: the Progressive Alliance of Socialists and Democrats’ programme 	<ul style="list-style-type: none"> • March 2018 • established by revising the EU ETS directive • in the process of being formed • the just transition component originated from a rejected European Parliament proposal to set up a Just Transition Fund 	<ul style="list-style-type: none"> • February 2017 • proposal rejected • included in the Modernisation Fund 	<ul style="list-style-type: none"> • November 2018 • appeal to be included in the EU budget for 2021-2027 • interim report on the Multiannual Financial Framework for 2021- 2027
Features	<ul style="list-style-type: none"> • broad participation not limited to coal- dependant regions • final consumers, in particular poor households, local communities, housing cooperatives and other similar entities • selected based on public and private FCE per capita and NUTS 2 • focus on building sector and prosumers • progressive investment support measure • twofold goal: supporting the energy transition and countering economic inequality • boosting EU legitimacy 	<ul style="list-style-type: none"> • undefined 	<ul style="list-style-type: none"> • just transition component limited to coal-dependent regions • focus on workers • the beneficiaries are ten member states selected based on GDP per capita at market prices of less than 60% of the 2013 EU average • the Fund mainly focuses on large-scale investments in the power and industry sectors • small-scale just transition projects compete with large-scale projects 	<ul style="list-style-type: none"> • dedicated to coal- dependent regions • in member state with a GDP per capita well below the EU average • focus on workers 	<ul style="list-style-type: none"> • dedicated to coal- dependent regions • no GDP constraints (all regions) • focus on workers • EUR 4.8 bn allocated
Funding	<ul style="list-style-type: none"> • EU budget of 10-20 bn EUR per year • stepping up ambitions on climate policy requires new financial resources • should not be at existing funds’ expense; their rationale remains 	<ul style="list-style-type: none"> • undefined 	<ul style="list-style-type: none"> • pooling of 2% of EU ETS auctioning revenue 	<ul style="list-style-type: none"> • pooling of 2% of EU ETS auctioning revenue • complementing the European Regional Development Fund and the European Social Fund 	<ul style="list-style-type: none"> • EU budget

Appendix Table 2. The distribution of countries' NUTS 2 regions across levels of development (based on RGDP per capita in PPS)

Country	The total number of a country's NUTS 2 units	Very high level of development		High level of development		Medium level of development		Low level of development	
		Number of units in a category	% of units in a category	Number of units in a category	% of units in a category	Number of units in a category	% of units in a category	Number of units in a category	% of units in a category
Austria	9	6	10	3	5	0	0	0	0
Belgium	11	5	8	2	3	4	7	0	0
Bulgaria	6	0	0	0	0	1	2	5	8
Cyprus	1	0	0	0	0	1	2	0	0
Czech Republic	8	1	2	0	0	6	10	1	2
Germany	38	22	37	11	19	5	8	0	0
Denmark	5	2	3	2	3	1	2	0	0
Estonia	1	0	0	0	0	1	2	0	0
Spain	19	2	3	5	8	9	15	3	5
Finland	5	2	3	3	5	0	0	0	0
France	27	1	2	8	14	16	27	2	3
Greece	13	0	0	1	2	1	2	11	18
Croatia	2	0	0	0	0	0	0	2	3
Hungary	8	1	2	0	0	1	2	6	10
Ireland	3	2	3	0	0	1	2	0	0
Italy	21	5	8	7	12	4	7	5	8
Lithuania	2	0	0	1	2	0	0	1	2
Luxembourg	1	1	2	0	0	0	0	0	0
Latvia	1	0	0	0	0	0	0	1	2
Malta	1	0	0	1	2	0	0	0	0
Netherlands	12	5	8	7	12	0	0	0	0
Poland	17	1	2	0	0	3	5	13	21
Portugal	7	0	0	1	2	4	7	2	3
Romania	8	1	2	0	0	0	0	7	11
Sweden	8	2	3	6	10	0	0	0	0
Slovenia	2	0	0	1	2	1	2	0	0
Slovakia	4	1	2	0	0	1	2	2	3
Total	240	60	100	59	100	60	100	61	100

➤ **Appendix Table 3.** The distribution of NUTS 2 regions across levels of development (based on RHDl)

Country	The total number of a country's NUTS 2 units	Very high level of development		High level of development		Medium level of development		Low level of development	
		Number of units in a category	% of units in a category	Number of units in a category	% of units in a category	Number of units in a category	% of units in a category	Number of units in a category	% of units in a category
Austria	9	3	5	6	10	0	0	0	0
Belgium	11	3	5	5	8	3	5	0	0
Bulgaria	6	0	0	0	0	1	2	5	8
Cyprus	2	0	0	0	0	0	0	2	3
Czech Republic	1	0	0	1	2	0	0	0	0
Germany	8	1	2	0	0	6	10	1	2
Denmark	5	3	5	2	3	0	0	0	0
Estonia	1	0	0	0	0	1	2	0	0
Spain	5	4	7	1	2	0	0	0	0
Finland	26	3	5	12	20	7	12	4	7
France	38	23	39	15	25	0	0	0	0
Greece	13	0	0	0	0	4	7	9	15
Croatia	7	0	0	0	0	1	2	6	10
Hungary	2	0	0	1	2	1	2	0	0
Ireland	21	0	0	5	8	10	17	6	10
Italy	1	0	0	0	0	0	0	1	2
Lithuania	1	0	0	0	0	1	2	0	0
Luxembourg	1	1	2	0	0	0	0	0	0
Latvia	1	0	0	0	0	1	2	0	0
Malta	12	8	14	4	7	0	0	0	0
Netherlands	16	0	0	0	0	5	9	11	19
Poland	7	0	0	0	0	5	9	2	3
Portugal	8	0	0	0	0	1	2	7	12
Romania	4	0	0	1	2	1	2	2	3
Sweden	2	0	0	1	2	1	2	0	0
Slovenia	19	2	3	5	8	9	16	3	5
Slovakia	8	8	14	0	0	0	0	0	0
Total	235	59	100	59	100	58	100	59	100

➤ **Appendix Table 4.** The distribution of funding for respective states under different annual budget sizes based on RGDP per capita in PPS, in bn EUR

Country	The minimum budget size	The moderate version	The optimal budget size
Austria	0.05	0.08	0.10
Belgium	0.23	0.35	0.47
Bulgaria	0.54	0.81	1.08
Cyprus	0.05	0.08	0.10
Czech Republic	0.40	0.60	0.80
Germany	0.44	0.65	0.87
Denmark	0.08	0.13	0.17
Estonia	0.05	0.08	0.10
Spain	0.83	1.24	1.66
Finland	0.05	0.08	0.10
France	1.13	1.70	2.26
Greece	1.15	1.72	2.30
Croatia	0.20	0.30	0.39
Hungary	0.64	0.96	1.28
Ireland	0.05	0.08	0.10
Italy	0.81	1.22	1.62
Lithuania	0.12	0.17	0.23
Luxembourg	0.00	0.00	0.00
Latvia	0.10	0.15	0.20
Malta	0.02	0.03	0.03
Netherlands	0.12	0.18	0.24
Poland	1.43	2.14	2.86
Portugal	0.41	0.62	0.83
Romania	0.69	1.03	1.38
Sweden	0.10	0.15	0.20
Slovenia	0.07	0.10	0.13
Slovakia	0.25	0.37	0.49
Total	10	15	20

➤ **Appendix Table 5.** The distribution of funding for respective states under different annual budget sizes based on RHDI, in bn EUR

Country	The minimum budget size	The moderate version	The optimal budget size
Austria	0.10	0.15	0.20
Belgium	0.24	0.36	0.48
Bulgaria	0.56	0.84	1.12
Croatia	0.20	0.31	0.41
Cyprus	0.02	0.03	0.03
Czech Republic	0.41	0.62	0.82
Denmark	0.03	0.05	0.07
Estonia	0.05	0.08	0.10
Finland	0.02	0.03	0.03
France	0.97	1.46	1.94
Germany	0.25	0.38	0.51
Greece	1.12	1.68	2.24
Hungary	0.66	0.99	1.32
Ireland	0.07	0.10	0.14
Italy	1.21	1.82	2.42
Latvia	0.10	0.15	0.20
Lithuania	0.05	0.08	0.10
Luxembourg	0.00	0.00	0.00
Malta	0.05	0.08	0.10
Netherlands	0.07	0.10	0.14
Poland	1.38	2.07	2.75
Portugal	0.46	0.69	0.92
Romania	0.76	1.15	1.53
Slovakia	0.27	0.41	0.54
Slovenia	0.07	0.10	0.14
Spain	0.86	1.28	1.71
Sweden	0.00	0.00	0.00
Total	10	15	20

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