

European Citizens' Panel on Energy Efficiency, Session 1

Knowledge and Information Center – Questions & Answers

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Group1

Question	Answer	Answered by
Why is there a lack of transparency in the private energy market across Europe, i.e., lack of transparent information about how energy is produced and how much it costs in other EU countries, and even in one's own country?	In general terms data about the prices of energy are available at the European level. In more detail the European Statistical Data Authority (EUROSTAT) makes detailed price statistics for different consumer typologies and different energy carriers like gas and electricity available for each member state (link to the data from Eurostat for prices paid by household consumers for gas and electricity). For more current energy prices there is data available from the electricity wholesale markets. These can be found on dedicated stock exchange markets e.g. for electricity through this link . The wholesale market is a trading platform where electricity producers sell electricity to the energy suppliers (the companies that supply households with electricity and send the electricity bills). Gas is traded through international markets and the most recent price data can be found here .	Reinhard Six, Jan Rosenow

Group 2

Question	Answer	Answered by
In relation to the illustration at page 9 of the Kit, a participant has asked when will this system of integrated energy be implemented - what is the predicted timeframe and how does it relate to political decisions?	<p>This illustration, and the change it depicts should be understood as a long process of transformation without a set date of implementation. Increasing local production (RES), increasing electrification and use of fuels like hydrogen, and technologies like smart grids will contribute to this gradual transformation to a more green, flexible, secure, and affordable energy system.</p> <p>This is already starting to happen more and more – people charge their cars when electricity is cheap helping the grid, home batteries make use of rooftop solar generation and smart heat pumps can heat people’s homes when it is cheapest to do so.</p>	Nikolaos Kontinakis (DG ENER), Jan Rosenow

Group 3

Question	Answer	Answered by
What is an energy community?	<p>Energy communities are initiatives where citizens are involved in using and/or producing energy more sustainably. Examples include local people collectively owning wind farms or solar panels installed on rooftops. That way, households can become a player in the energy sector.</p> <p>The community energy concept could offer a solution for energy poverty, for example if energy communities don’t have as their priority profit but the wellbeing of their members.</p> <p>The concept can be extended to energy efficiency, in which case the energy community collectively invests and reaps the benefits of the works.</p> <p>For more information:</p>	Nikolaos Kontinakis (DG ENER), Goda Perlaviciute

<p>Are there examples of energy communities or is this just a concept? Do some of the EU member states subsidize this model?</p>	<p>What is an energy community? - European Commission (europa.eu)</p> <p>Indeed, governments should provide regulatory framework to make energy communities feasible. The development of energy communities is not homogeneous in all member states, yet examples exist in most countries.</p> <p>To support EU Member States, the EU provides funding to facilitate the collaboration between local and regional authorities and energy communities, but also to accelerate the emergence and growth of community energy projects in the EU Member States.</p> <p>The Commission has a repository of the existing energy communities across the EU accessible at the following link: Energy Communities Repository - Homepage - European Commission (europa.eu)</p> <p>The repository also provides information on the national legislation promoting the creation and development of energy communities.</p> <p>For example, the Spanish Government (and also the Italian, and may be others) dedicated some budget lines of the Recovery Fund to support financially Energy Communities and Energy self-consumption: https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility/country-pages/spains-recovery-and-resilience-plan_en#green-transition</p> <p>You can get a lot of information about energy community there: https://www.rescoop.eu/policy#financing-tracker</p>	<p>Edoardo Concari (DG ENER), Mathieu Daloze (DG ENER), Claire Roumet (Energy Cities)</p>
<p>Could you share some examples of measures preventing energy waste during transportation? (Preventing</p>	<p>The laws of physics dictate that we cannot have zero losses during energy transformation and distribution. However, we can work on minimizing them.</p>	<p>Massimo Maraziti (DG ENER),</p>

<p>energy waste during the energy distribution stage)</p>	<p>Energy lost during transmission is relatively low; in 2020 CEER published a comprehensive report. The technical losses are due to physical laws and are very difficult to reduce: they grow in proportion to the length of the lines and to the quantity of electricity transported. In principle the energy system transformation is going to increase the losses, mostly because renewable energy is often generated far from consumption centers and so needs to be transported over a longer distance, while electrification of heating and transport increases the amount of energy to be transported.</p> <p>Distribution losses are generally higher and therefore there is more potential for reduction. Distribution systems need to be upgraded and redesigned to adapt them to the new reality: more electricity to be distributed and a different structure of generation. Distribution systems were designed to “distribute” electricity from a central generation facility to a multiplicity of consumers: when so many citizens install solar panels injecting electricity into the grid instead drawing from it the grids struggle to cope; sometimes they trigger a security system which simply disconnects the panels (“curtailment”): that means that the electricity is simply wasted. Distribution System operators have plans to solve these problems, but they require large investments that will have to be financed.</p> <p>In district heating systems heat is lost through pipes in the ground, especially if they are badly insulated. Upgrading old and leaky district heating pipes can reduce heat losses.</p>	<p>Jan Rosenow, Claire Roumet (Energy Cities)</p>
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Group 5

Question	Answer	Answered by
<p>Electric grids cannot power electric cars is fake news? Distribution company and the transport company did not prepare for it. Which is the</p>	<p>1-It depends on the number of the cars and of the capacity of each local grid. However, grids can be upgraded, at a cost: the technology is mature. Charging stations can be programmed to work only when there is electricity available in the grid: this is called “smart charging”.</p>	<p>Massimo Maraziti (DG ENER)</p>

<p>energy that is feeding the electric cars? Where does the energy come from- nuclear power plant.</p>	<p>Basically, the grid collects and mix electricity by ALL the active generation facilities, depending on the country.</p>	
<p>Which system would help to prioritize and revert the current political will?</p>	<p>To support political leadership in favor of energy efficiency, there should be broad and visible support from citizens and businesses, large coalitions in favor of more ambitious measures – they already exist but are usually smaller than alliances supporting other business interests. One avenue to explore is to have more processes to collect the views of citizens and green businesses, more data to gain a better understanding of the barriers and solutions depending on the actors. Making sure that energy efficiency actors are well represented, and their views taken into account during policymaking could be another avenue. The EU governance usually requires consultation of stakeholders during policy planning, regulations could support better integration of stakeholders’ input or increased dialogue between stakeholders and policy makers or provide financial and technical support to ensure stakeholders remote from policy making still get a chance to voice their perspective (active outreach). Permanent platforms for energy and climate stakeholders could be set up at the national level (already suggested by the Governance regulation).</p> <p>Making your voice heard during the elections at EU, national and local level is a step to influence the political process.</p>	<p>Camille Defard (JDI), Rados Horacek (DG ENER)</p>
<p>How can we influence private companies for change and push them to be more energy efficient?</p>	<p>Article 11 of the Energy Efficiency Directive (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AJOL_2023_231_R_0001&qid=1695186598766) requires that enterprises with an average annual consumption higher than 85 TJ of energy over the previous three years implement an energy management system. Enterprises with an average annual consumption higher than 10 TJ must carry out an energy audit.</p>	<p>Claudia Canevari (DG ENER), Claire Roumet (Energy Cities)</p>

	<p>Moreover, an Action Plan on the recommendations resulting from energy audits must be drawn, communicated to the management board, and made public.</p> <p>In Geneva, for example, the energy municipal company is producing heat from the lake and is supplying large neighborhood. In Sonderborg, Denmark, it is private companies that are supplying heat of their industrial processes to other companies.</p>	
<p>Equity between countries, equity between actors. Citizens should not have in the shoulders all the responsibility.</p>	<p>The question relates to fairness. Two types of fairness are important:</p> <p>(i) distributive fairness, meaning that gains and losses are distributed fairly in society. There are different ways for fair distribution, for example by distributing costs and benefits equally, or by the principle “polluter pays”.</p> <p>(ii) procedural fairness, meaning the important decisions are taken in a fair way. Top-down policymaking may be perceived as unfair by the public; more fairness could be reached via engaging the public in decision-making, for example in citizen assemblies.</p> <p>The EU, national Governments, regions, and municipalities work at their specific levels to support citizens and undertakings financially and by suitable regulation. At EU level, the EU financing and regulation considers distributional equity effects.</p>	<p>Goda Perlaviciute, Claire Roumet (Energy Cities), Rados Horacek (DG ENER)</p>
<p>Questions related with environmental matters, in terms of the transition from the fossil fuel. 6- Belgium and Portugal, and Greece the regional and national differences and how to harmonize?</p>	<p>The energy efficiency EU legislation consists largely of directives. A directive is the EU legal act that sets out a goal that EU countries must achieve. However, it is up to the individual countries to devise their own laws on how to reach these goals. This is exactly because EU Member States are different and thus need to reach the goals in a different way.</p>	<p>Nikolaos Kontinakis (DG ENER), Claudia Canevari (DG ENER)</p>

	<p>The question, therefore, should be more on how to allow and help the different Member States to achieve similar energy and climate objectives.</p> <p>In that sense, the European approach can strengthen all countries as it allows for national circumstances to be factored out even by offering complementarity and economies of scale across the 27 countries.</p>	
<p>EU sovereignty if we develop renewable energy- how to become a sovereign power?</p>	<p>The market for fossil fuels is mostly global, and the EU is one major importer; the market for renewable energy is mostly local (the energy is consumed close to where is produced); so YES, increasing the share of renewable energy while reducing the fossil fuel share will reduce EU import dependence and improve its security of supply.</p> <p>Energy efficiency works together with renewables energy to ensure a most cost-effective and fair transition towards decarbonization of the EU.</p> <p>Equally if we reduce our demand of energy, it will help the EU to become self-sufficient</p>	<p>Claire Roumet (Energy Cities), Massimo Maraziti (DG ENER)</p>

Group 7

Question	Answer	Answered by
<p>What are the exact borders of the topic of energy efficiency? Are emissions included? What is the impact to change households' equipment in terms of emissions?</p>	<p>Energy efficiency is about how much energy we use to get the same energy services we need (warm homes, transport, industrial production etc.). This means it includes the entire energy system (electricity, gas, oil, coal, district heating, biomass, etc.).</p> <p>Energy efficiency measures aim at consuming less energy. It includes insulating houses, using more efficient devices, etc.</p>	<p>Jan Rosenow, Rados Horacek (DG ENER)</p>

	<p>Energy efficiency has direct impact on carbon emissions but is not measured in that way.</p> <p>28% of the EU's energy consumption is from households. Most of this is heating people's homes. Lighting and electric appliances only contribute 13.6% to the energy used by households.</p>	
<p>How can we fight the programmed obsolescence of new technological devices?</p>	<p>Regulation: a new European Ecodesign for Sustainable Products Regulation (ESPR) is being discussed. The aim of this regulation is to make everyday consumer products easier to repair, reuse and recycle, thereby reducing their impact on the environment. Discussions are also ongoing on a possible ban on planned obsolescence.</p> <p>In addition to stricter regulations, consumers could play a role too, for example by choosing to purchase devices that have longer life span and/or boycotting devices with short life span. Consumers' demand for more sustainable products can "push" companies to change.</p> <p>In this regard the ESPR is considering introducing "digital product passports". The passport will include instructions for easy repairing and recycling, as well as information on the product's environmental impact. Consumers will be able to compare passports via an online platform.</p>	<p>Julien Tami (DG ENER), Goda Perlaviciute, Arianna Vitali</p>
<p>Does substituting our old appliances with new, more energy-efficient appliances, therefore producing all these new appliances, really surpasses the energy impact of producing those new appliances?</p>	<p>Yes, this can be the case!</p> <p>This is why more energy-efficient appliances are not the full solution. Proper (efficient) production, use, disposal and recycling of appliances, and the ability to repair and/or keep for longer well-operating devices need to be promoted to maximize the impact of energy-efficient appliances.</p>	<p>Nikolaos Kontinakis (ENER), Reinhard Six</p>

	Looking at the overall energy consumption of a household appliances like washing machine account for around 13% of the overall energy consumption. A major part of energy consumed by a household is for heating and hot water.	
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Group 8

Question	Answer	Answered by
What are the existing European norms for renovations for energy efficiency? What is the distribution of responsibility between actors? (ex: individuals, state, owners, banks?)	<p>The European Energy Performance of Buildings Directive requires EU countries to set energy efficiency standards that buildings need to reach when undergoing renovation. These standards are set by EU countries depending on their local conditions (climatic, economic, etc..). EU countries are also able to set stricter rules.</p> <p>In terms of responsibility, Member States set the standards and enforce them, individual/owners must comply with them and can ask technical and financial support from state/region or private (banks).</p> <p>Moreover, the Energy Efficiency Directive includes specific provisions promoting the renovation of public buildings at national, regional and local level at an annual rate of at least 3% of their total floor area in order to transform them into highly energy efficient buildings.</p> <p>In terms of distribution of responsibility, we can answer to whom is the landlord of building.</p> <p>To see who all the actors on renovation of building are: https://www.renovate-europe.eu/about-the-campaign/renovate-eu-2050/</p>	<p>Julien Tami, Edoardo Concari, Mathieu Daloze (DG ENER) Claire Roumet (Energy Cities)</p>

<p>What is Europe's energy mix? What are current trends? Expected future developments? Developments in past decades?</p>	<p>Numbers from EUROSTAT: In 2021, the energy mix in the EU, meaning the range of energy sources available, mainly consisted of five different sources: crude oil and petroleum products (34%), natural gas (23%), renewable energy (17%), nuclear energy (13%) and solid fossil fuels (12%).</p> <p>This does not mean that all these energies are produced in EU: the energy available in EU comes from energy produced in the EU AND from energy imports.</p> <p>In 2021, the EU produced around 44% of its own energy, while 56% was imported. As it comes to EU's own produced energy, renewable energy has the largest share (41% of total EU energy production). Nuclear energy (31%) was the second largest source, followed by solid fuels (18%), natural gas (6%) and crude oil (3%).</p> <p>To answer the unjustified and unprovoked invasion of Ukraine by Russia and the consequent war and stop buying Russian gas; EU reduced its gas consumption by 19%; and has bought gas from other supplier (United States, Algeria.....)</p> <p>The largest decline in energy production originates from the oil and petroleum sector; however, it remains the largest source of energy in Europe. The trend is to supply more and more electricity from Renewables sources (especially last year: boom of solar production)</p>	<p>Goda Perlaviciute, Luuk Koiter (DG ENER), Claire Roumet (Energy Cities)</p>
<p>Energy efficiency: what is the current situation in Europe, what trends and policies are underway? Please provide some concrete examples</p>	<p>Energy is a shared competence between the EU and the Member States. Energy efficiency is a key objective of the EU energy policy and, as such, it is also a shared competence. The EU plays a key role in setting the objectives and shaping the overall legislative framework. Member States must put in place policies and measures to achieve the objectives set at the EU level taking into account national specificities.</p>	<p>Edoardo Concari (DG ENER), Arianna Vitali, Rados Horacek (DG ENER)</p>

	<p>The EU energy efficiency policy framework has recently been revised in line with the EU Green Deal with a view to increase the ambition for 2030 in order to achieve the climate neutrality objective by mid-century. The main piece of legislation in this regard is the Energy Efficiency Directive, which sets the overall energy efficiency targets for 2030 and includes provisions on the exemplary role of the public sector in leading by example on energy efficiency. Moreover, the Energy Performance of Buildings Directive promotes the acceleration of building renovation, while the Eco-design and Energy labelling legislation promotes more energy efficient appliances and products.</p> <p>Despite progress over the past decades, there is still a vast untapped energy efficiency potential across the EU economy, in particular in sectors such as buildings, transport and industry. The EU objectives are clear, but actions at the national level must be accelerated to achieve them.</p>	
<p>Who chooses our energy mixes and how? Companies? States?</p>	<p>Article 194 of the Treaty on the Functioning of the European Union (TFEU) states that each Member State has the right to choose its energy mix (https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:12012E/TXT)</p> <p>Member States do so take into consideration their specific circumstances: some countries are endowed with more hydroelectric potential, some have more wind, some more sun, some have natural gas, some coal, some a bit of oil, many have biomass and so on.</p> <p>So, it is mainly a national decision (by government) especially to ensure security of supply.</p>	<p>Massimo Maraziti (DG ENER), Claire Roumet (Energy Cities)</p>
<p>When is it better to keep using an old appliance that still works but consumes a lot, than to buy a new more energy efficient appliance? Or</p>	<p>The cost related to the use of an appliance through its lifetime is usually higher than the cost of buying it. Thus, sometimes experts claim that buying an energy-efficiency appliance always makes sense.</p>	<p>Nikolaos Kontinakis (DG ENER),</p>

<p>how can citizens get this information?</p>	<p>However, considering the environmental footprint of an appliance, proper (efficient) production, use, disposal and recycling of appliances, and the ability to repair and/or keep for longer the well-operating devices need to be promoted to maximize the positive impact of energy-efficient appliances.</p> <p>Some data are sometimes available on the carbon footprint of the appliances, but it is not compulsory to give that information.</p>	<p>Claire Roumet (Energy Cities)</p>
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Group 9

Question	Answer	Answered by
<p>Is there enough funding for individual countries to improve by the EU? Do they have to do it alone? What help can they provide financially?</p>	<p>The total investment needs for energy efficiency for the 2021-2030 period is estimated at 3000 billion euro for the whole of the European Union. Public funds for energy efficiency have increased substantially but they will not be sufficient. The investment gap – beyond the use of public funds – is estimated at 1650 billion euro. To close this investment gap, the EU combines policy incentives, technical support, and public funding to leverage more private financing and more Member States funds, used in a more efficient way. This is expected to bring 165 billion euro per year on an average.</p> <p>Because of the end of the EU recovery plan in 2026 and the subsequent national public subsidies given out during the energy crisis that strained public budgets, it may be harder for Member States to provide sufficient support to private green investment in the coming years. There are some debates around a larger EU budget or new common borrowing to contribute to achieving the green transition, including energy efficiency objectives, for example in EIB investment report 2023.</p>	<p>Claudia Canevari, Mathieu Daloze (DG ENER), Camille Defard (JDI)</p>

Group 11

Question	Answer	Answered by
Why has wind energy gotten more expensive over recent years?	<p>Two ways to understand this question. First, wholesale electricity prices (from all energy sources) got more expensive during the energy crisis. Wholesale electricity prices are set in auctions at the same level for all sources. When there is not enough renewable or nuclear energy (both cheaper), typically also coal or gas power plants must produce electricity. Therefore, gas prices influence the electricity price for all energy sources, including making wind energy more expensive.</p> <p>(Wholesale prices are the price at which the electricity producers sell their energy to electricity suppliers. The retail price also includes network charges and taxes.)</p> <p>Second, the price of building new wind farms got more expensive recently because of inflation on construction materials and higher costs of financing (higher bank rates), among others. However, in many countries onshore wind is still the cheapest form of electricity generation.</p>	Rados Horacek (DG ENER), Camille Defard (JDI), Jan Rosenow
Does the EU look into the future of utilizing waste from electric cars and other electric appliances? Especially electric cars - we are using them more and more, but the utilization is complex and hard - does the EU take that into consideration and look for solutions? Are there investments in hydrogen solutions?	<p>Yes, the EU has a new Battery regulation to ensure that batteries, including from electric cars, will be collected, reused, and recycled. It will be progressively implemented starting in 2025.</p> <p>Hydrogen solutions benefit from public investment, but cars fueled with hydrogen are not energy efficient. Hydrogen is very energy intensive to produce and should be kept for very specific uses in the industry where there are no other alternatives. For individual cars, it is much more efficient to opt for electric solutions.</p>	Camille Defard (JDI)

EUROPEAN SUPER GRID - what is the plan for it? When will this project be finalized? What are the plans for it for upcoming years? How will it work?

What is commonly called “supergrid” is a wide-area transmission network, generally trans-continental or multinational, that is intended to make possible the trade of high volumes of electricity across great distances.

It is established by an ensemble of different projects that will be finalized at different times. Upon completion, these projects would result in the creation of a power network interconnecting European countries between themselves and with other regions, such as North Africa and the Middle East.

Concretely, the energy interconnectedness will allow for European states to sell their energy surpluses to other countries, and to buy others’ excesses in times of deficiency. This is critical because availability of renewable energy fluctuates in time. The European Super Grid is far from being complete d, but numerous projects are currently being built or under active planning.

ENTSO-E, the European Network of Transmission System Operators and the European Network of Transmission System Operators for Gas jointly publish a “Ten Year Network Development Plan (<https://2024.entsoe-tyndp-scenarios.eu/>), which is periodically updated.

Massimo Maraziti (DG ENER).
Arianna Vitali,
Goda Perlaviciute