



United in diversity? National responses to the European energy crisis

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Introduction

By Thomas Pellerin-Carlin, Director of the Jacques Delors Energy Centre, Jacques Delors Institute

On February 24th 2022, Vladimir Putin invaded Ukraine for the second time in eight years. Once again he violated the international treaty his predecessor had ratified in 1994, that committed the Russian Federation to “respect the independence and sovereignty and the existing borders of Ukraine”.¹ As the war in Ukraine continues, Russian energy has emerged as a key dimension for at least three reasons.

First, Russian energy exports are Putin’s main source of funding. In 2021, revenues from Russian fossil fuels made up half of the Russian federal budget.² In 2022, with high oil and gas prices and still no implemented embargo on the horizon, Russia may gain as much as €250bn in revenues from its oil and gas exports to the European Union (EU) - four times more than Russia’s military budget.³ Oil and gas exports remain the main pillar of the Russian economy. That is why the EU is attempting to target Russian fossil fuel exports through economic sanctions in order to stymie this crucial source of funding for Russia’s military effort.

Second, Vladimir Putin uses energy supplies as a geopolitical weapon to limit individual EU member states’ freedom of action and sow disunity within the EU. To date, Russia has introduced *de facto* embargos on three EU member states (on Russian gas exports to Poland, Bulgaria and Finland), while its demands to pay gas in rubles are generating disunity among member states.

Third, Putin’s war on Ukraine intensifies the pre-existing energy price crisis the European Union has been living through since the summer of 2021. This leads to slower economic growth, higher inflation and lower purchasing power for Europeans.⁴

Against this backdrop, a series of national energy policy measures have been introduced to tackle the high energy prices, before and after Putin’s second invasion of Ukraine. **This joint paper aims to provide a brief analysis of the national responses, in light of the Commission’s REPowerEU plan with a view to informing the EU debate on charting an European way out of the crisis that is politically, economically, socially and environmentally sustainable.** To do so, five European Think Tanks based in Belgium (Bruegel), Czechia (AMO), France (Jacques Delors Institute), Italy (ECCO) and Spain (EsadeEcPol), joined forces to produce this briefing, which includes national case studies in six member states (Czechia, France, Italy, Germany, Spain, Sweden) that together represent two thirds of the EU population, GDP, and energy consumption. This briefing concludes with policy recommendations that aim to inform the debate of the 30th-31st May 2022 European Council, and forthcoming European and national decisions.

¹ “Memorandum on security assurances in connection with Ukraine’s accession to the Treaty on the Non-Proliferation of Nuclear Weapons” United Nations Treaty Collection, accessed May 18, 2022, <https://treaties.un.org/doc/Publication/UNTS/Volume%203007/Part/volume-3007-I-52241.pdf>.

² “Energy Fact Sheet: Why does Russian oil and gas matter?,” International Energy Agency, accessed March 21, 2022, <https://www.iea.org/articles/energy-fact-sheet-why-does-russian-oil-and-gas-matter>.

³ Thomas Pellerin-Carlin, “Stop feeding the bear - the case for a smart embargo on Putin’s oil and gas,” *Jacques Delors Institute*, May 9, 2022, https://institutdelors.eu/wp-content/uploads/2022/05/BP_220509_Stop-feeding-the-bear_Pellerin-Carlin_EN.pdf.

⁴ “European Economic Forecast - Spring 2022,” European Commission, accessed May 18, 2022, https://ec.europa.eu/info/system/files/economy-finance/ip173_en.pdf.

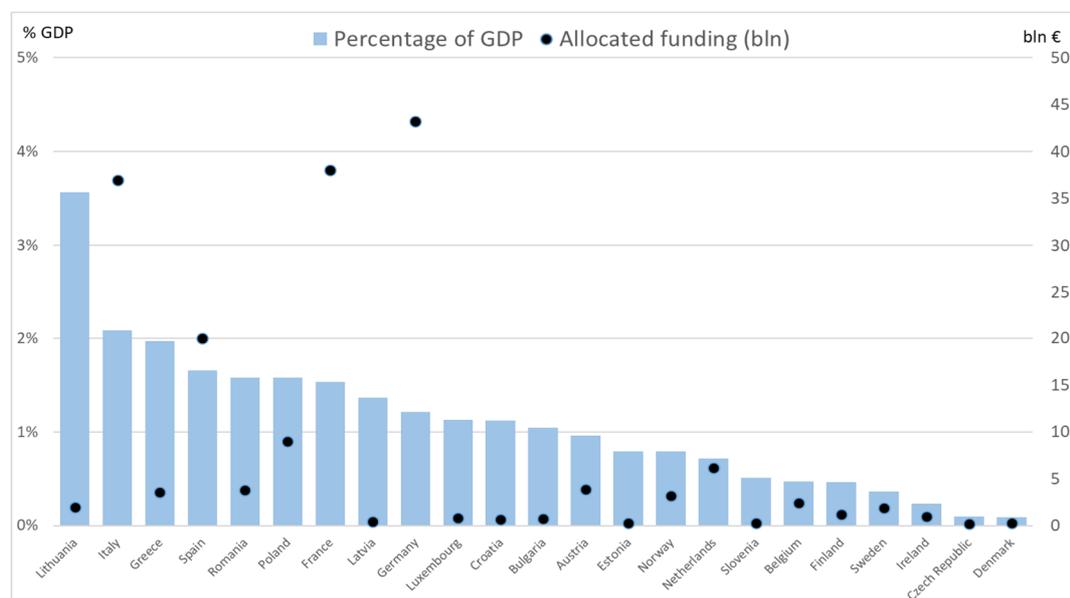


The European Picture

By Georg Zachmann, Senior Fellow, Bruegel and Giovanni Sgaravatti, Research Assistant, Bruegel

EU member states have already allocated almost €180bn to shield consumers and businesses from the energy price spike and the number is likely to further increase going forward. Estimates put the upcoming budgetary costs at an additional 75 billion to help companies rebuild gas storage facilities, cover the extra cost of non-Russian supplies, and organise distribution within the EU.⁵ The overall government bill of this crisis is quickly nearing 2% of the EU's GDP. To compare with the 2008 financial crisis, the European Economic Recovery Plan⁶ by the European Commission recommended member states roll out national budgetary stimulus for 1.5% of the EU's GDP.

Figure 1: Allocated funding by selected EU Member States (Sept 2021 – May 2022)



Source: Bruegel's own elaborations. Measures by national government summary

Apart from some common threads, for example tax reductions and support to vulnerable consumers, the type of measures rolled out by governments have been different both quantitatively and qualitatively. In the period from September 2021 to May 2022, in order to contain the impact of the energy crisis on their citizens, EU countries have spent anything between 0.1 and 3.6 percent of their GDP. Likewise, there has also been dispersion in terms of the types of measures. For example, only 6 member states have imposed windfall profit taxes, 4 have mandated state-owned firms to supply power at certain prices and 2 have fiddled with wholesale price regulation.⁷

Similarly, the effect of the energy crisis is highly heterogeneous among households depending on which country they live in. An analysis by the OECD found that the shock varies greatly among EU countries even when controlling for

⁵ Jean Pisani-Ferry, "The economic policy consequences of the war," *Bruegel*, March 8, 2022, <https://www.bruegel.org/2022/03/the-economic-policy-consequences-of-the-war/>.

⁶ "Commission adopts European Economic Recovery Plan," European Commission, accessed May 18, 2022, https://ec.europa.eu/economy_finance/articles/eu_economic_situation/article13502_en.htm.

⁷ Giovanni Sgaravatti, Simone Tagliapietra and Georg Zachmann, "National policies to shield consumers from rising energy prices", *Bruegel*, May 2022.



the household income level, with low-income households not necessarily hit the hardest in every country.⁸ One reason might be that the wealthier Europeans tend to spend a higher share of their budget on transport costs, signalling that transport costs (notably the price of oil) impact well-off individuals, who are likely to own a heavy car. Conversely, electricity and heating represent a higher share of monthly costs for low-income households than for high-income ones. Households' geography on the other hand is a clearer indicator of the magnitude of the burden, with people living in rural areas being affected more than those living in big cities across all EU countries analysed. However, the intra-country variation is again much higher than that between the households' geography type, with people living in the countryside of the Netherlands being hit by the energy price spike 9 times more than those living in the rural areas of Hungary.

Vladimir Putin's weaponisation of gas exports to the EU results in a very different level of exposure for member states based on their reliance on gas in their energy mixes and on their dependence on Russian gas. Countries in the east tend to be more vulnerable than those in the west because of the infrastructural Soviet legacy binding them to Russia. Then, countries in which gas accounts for a good share of electricity production and countries in which manufacturing still plays an important part in the economy, such as Germany and Italy, are also more exposed than others.

There is strength in European unity. Taken individually, many EU countries would face drastic consequences from a halt in Russian gas supplies. Yet, if the EU energy market is considered as one block that copes jointly with supply disruption, then Putin's implied threat becomes much weaker. This calls for a higher level of coordination across member states, joined by the willingness to possibly absorb parts of the shock incurred by other countries. Similarly, the national responses to roll out in this crisis need to be more coordinated than what is happening at the moment. Developing a coordinated approach is important to optimising the EU response from technical and economic perspectives. It is also vital to avoid political fragmentation on both internal and external fronts.

As noted by the OECD, governments need to focus their efforts on measures that target the most exposed and vulnerable households, while at the same time bearing in mind fiscal and environmental sustainability. The extraordinary high prices for energy might well be here to stay; financial markets and many analysts were wrong in late autumn last year in thinking that the prices would fall after the winter. Member states should now start to work out their policies with the assumption that these prices might be with us for years.

It is therefore important not to distort or weaken the price signal, otherwise virtuous demand-reducing behaviours will not materialise and government support will become unsustainable in the medium term. Means-tested vouchers and cash transfers are a more cost-efficient tool to reduce inequalities in the loss of purchasing power between income groups. On the other hand, price caps and tax cuts distort the price signal and in turn reduce households' incentives to save energy.⁹ Moreover, if price-caps are adopted at the national level this will fragment the EU energy market, whilst if they are introduced on the European wholesale market, price caps might prevent the efficient allocation of gas across member states (as traders have no incentive to bring gas from well supplied member states to less well supplied countries if prices are equal). Finally, the OECD found that price support for transport fuels risks supporting the highest income

⁸ H el ene Blake and Tim Bulman, "Surging energy prices are hitting everyone, but which households are more exposed?," *OECD ECOSCOPE*, May 10, 2022,

<https://oecdscopescope.blog/2022/05/10/surging-energy-prices-are-hitting-everyone-but-which-households-are-more-exposed/>.

⁹ Alberto Pototschnig, Jean-Michel Glachant, Leonardo Meeus and Ilaria Conti, "Consumer protection mechanisms during the current and future periods of high and volatile energy prices," European University Institute, March 25, 2022, <https://fsr.eui.eu/publications/?handle=1814/74376>.



households. A more forward-looking policy would be to increase support to vulnerable households to improve their energy efficiency and to rely less on fossil fuels, which in turn would bring long-lasting benefits.

Czechia

By Romana Březovská, Research Fellow, AMO

The political and society-wide debate on rising energy prices started in October 2021 when Bohemia Energy, the largest alternative energy supplier in Czechia went bankrupt because of very high wholesale electricity prices, resulting in a sudden and steep increase in energy bills for hundreds of thousands of households. This unprecedented shock put energy security and energy poverty high on the agenda. Vladimir Putin's second invasion of Ukraine further stressed the importance of the topic, framing it in geopolitical terms. It also created space for stakeholders to present their views and provided a sense of urgency to act on moral, economic, geopolitical and overall strategic grounds. The principal narrative in the Czech media has been evolving. Initially, it focused on the need to stop imports of fossil fuels from Russia. Later, as the social ramifications of the phasing down of Russian fossil fuel imports became more tangible combined with high inflation rates, the debate became less black and white and rather more expert and technical. Impacts on households and the private sector are explored extensively, while topics such as covid-19 are given much less attention. Besides demonstrations led by Fridays for Future and Extinction Rebellion that frame the crisis in the context of climate change, the climate crisis is somewhat missing from the current energy debate.

Czechia is both a landlocked and a carbon-locked country with underdeveloped renewable energy sources. The debate on fossil gas stands out as virtually all of Czechia's gas imports can be traced to Russia. Oil is discussed especially in relation to the sixth package of sanctions towards Russia. As 50% of Czech crude oil comes from Russia, the EU discussions touch a raw nerve. The Czech Prime Minister therefore asked the European Commission for an exemption from a ban on Russian oil imports until mid-2024, pointing to the lack of alternative routes for replacing oil supplies in the short-term in a sufficient manner.¹⁰

With the share of renewable energy sources being only at 6.7 % of final electricity consumption,¹¹ Czech officials are exploring various international partnerships to replace the missing commodities. Debates have been restarted with Polish counterparts to resume the construction of the Stork II gas interconnector that would enable Czechs to get some gas from the Polish LNG terminal in Świnoujście. Czechia is further exploring the option of constructing its own LNG terminal near the city Litoměřice. LNG could be delivered to Litoměřice from the Baltics by train or by ships. Another possibility would be to jointly use the LNG terminals in Germany to lower energy dependence on Russia.¹² International partnership is also crucial in terms of nuclear power – in March 2022 the state-controlled energy group ČEZ launched a tender for a new unit in Dukovany nuclear plant.¹³ The diversification of imports and self-sufficiency in energy are the main

¹⁰ "Czech prime minister: new oil sanctions proposal goes in right direction," Reuters, accessed May 18, 2022, <https://www.reuters.com/article/ukraine-crisis-eu-oil-czech-idUSP7N2UX0oG>.

¹¹ "Národní energetický mix," OTE, accessed May 18, <https://www.ote-cr.cz/cs/statistika/narodni-energeticky-mix>.

¹² "Česko možná vybuduje vlastní terminál na LNG," Deník N, accessed May 18, 2022, <https://denikn.cz/minuta/877271/?fbclid=IwAR2ebvqtxfyY3BFyzMzUj4JgKkjw1irircdJkX1uk87kIfI9K4SFHpBSXtg>.

¹³ Altogether there are three bidders – French EDF, US Westinghouse, and South Korean KHNP; the contract is to be signed in 2024 and the block is to function in 2036; "CEZ launches tender for new unit in Dukovany nuclear plant," Prague Stock Exchange, accessed May 18, <https://www.pse.cz/en/news/cez-launches-tender-for-new-unit-in-dukovany-nuclear-plant>.



drivers of those initiatives. It is also key to the Czech Republic for the EU to have solidarity mechanisms to manage fair shares of gas in case of emergency and to act as one on global energy markets.

On the national and local level, attention is paid towards the economic impacts of high energy prices on the private sector and on households. As the forecasts are rather bleak,¹⁴ examples of energy efficiency measures cut across national, municipal¹⁵ and private levels are shared. A focus on companies shows a rather pessimistic picture of, for instance, a city-owned gas supplier (Prague's Gas Supplier) asking the City of Prague for a loan to cover gas prices that have increased tenfold over a period of one year.¹⁶

The key instrument for financing the green transition in Czechia is the Modernisation Fund. In the context of the energy price crisis, Czechia has further adopted a series of public policies. A prohibition on the use of the most non-ecological boilers running on solid fuels (for instance, coal) was postponed from September 2022 to 2024. The aim is to lower the burden on households in light of high inflation, rising energy prices and insecurities in terms of gas phase out, and so to prevent households from switching to gas boilers. The policy will affect approximately 150 000 households. The postponement of the ban was already mentioned last year, therefore this move is not directly linked to the Russian situation, but it is currently portrayed as a step towards lowering dependence on Russian fossil exports. Via the highly popular program 'New Green Savings', support for gas boilers has been restricted and compensated for by higher support for heat pumps. The grants are supposedly low-income household friendly, covering up to 95% of costs.

Furthermore, Czechia adopted measures aimed at reducing the cost of road transport. The government agreed on the abolition of road tax for passenger cars, vans and lorries up to 12t.¹⁷ The Senate lowered the tax on oil and diesel¹⁸ from June 2022 to the end of September 2022, by 1.5 CZK/litre (ca. 0.061 EUR/litre). The government also abolished mandatory contributions of biofuels to diesel (6% since 2007) and to petrol (4.1% since 2009) to lower the price and enable farmers to grow something other than rapeseed oil in light of the expected decrease of Ukraine's grain exports. Furthermore, support for agrivoltaics is currently being discussed.

When it comes to building renovation, more attention is being paid to the investment support design of EU funds for households (heating, fuel switch; National Recovery Plan's edits, defining "energy poverty" in Czechia's National Energy and Climate Plans). There is furthermore an ongoing debate about the deployment of renewable heating systems (e.g. heat pumps, wood boilers) for 500,000 households within 5 years.¹⁹

¹⁴ Zuzana Kubátová, "Ceny elektřiny dostanou do problémů půlku domácností, varuje dodavatel," *Seznam Zprávy*, April 27, 2022, <https://www.seznamzpravy.cz/clanek/ekonomika-byznys-rozhovory-v-lednu-prijde-zlom-stat-by-mel-zastropovat-cenu-elektřiny-rika-dodavatel-199796>.

¹⁵ "Stát by mohl využít zisk ČEZ k pomoci lidem s cenami energií, tvrdí analytici," *Novinky.cz*, accessed May 18, 2022, <https://www.novinky.cz/ekonomika/clanek/stat-by-mohl-vyuzit-zisk-cez-k-pomoci-lidem-s-cenami-energi-tvrdi-analytici-40396520>.

¹⁶ "Dobrovolně platte víc a prodloužíme smlouvu. Pražská plynárenská zkouší zvláštní krok," *Aktualne.cz*, accessed May 18, 2022, <https://zpravy.aktualne.cz/ekonomika/prazska-plynarenska-obchazi-klienty-s-nabidkou-vyssi-ceny/r-49478af8ca1011ecbdboac1f6b220ee8/>.

¹⁷ "Vláda reaguje na prudké zdražování pohonných hmot. Zruší přímíchávání biosložky a silniční daň," *iRozhlas*, accessed May 18, 2022, https://www.irozhlas.cz/zpravy-domov/rust-ceny-pohonných-hmot-zruseni-biosložka-silnicni-dan_2203091624_zuj.

¹⁸ "Senát schválil snížení spotřební daně z nafty a benzínu," *Česká televize*, accessed May 18, 2022, <https://ct24.ceskatelevize.cz/domaci/3487070-zive-senat-projedna-snizeni-dane-na-pohonne-hmoty?fbclid=IwAR2nBU52PUeXSvdwZFuQi2XKzXoGmKbN7JJNTupJAHKuE-ryl-yPMNdmzJA>.

¹⁹ Vilém Janouš, "Jak ušetřit za plyn? Experti zmiňují zateplení budov či obnovitelné zdroje," *Denik.cz*, May 9, 2022, <https://www.denik.cz/ekonomika/jak-usetrit-za-plyn-20230506.html>.



Finally, policies are also being adopted at the local level. For instance, the city of Děčín (50,000 inhabitants) decided to switch thousands of bulbs in 7500 public city lamps to LED bulbs to decrease energy consumption.²⁰

France

By Phuc-Vinh Nguyen, Research Fellow, Jacques Delors Institute

In France, the political debate on energy prices started to gain momentum in **late summer 2021**. At first, media coverage focused on the rise in gas prices as French regulated tariffs for gas, - which are updated monthly, started skyrocketing in July (+10%).²¹

The French government, still politically traumatised²² by the Yellow Vest protests that occurred in 2018-2019, was quick to realise the inflammatory nature of an energy price surge in France,²³ and acted accordingly in order to avoid being caught short as this would have been politically devastating in the run-up to the French elections. In this regard, the Presidential election (April 2022) acted as a catalyst and prompted the entire political class to take up this issue and propose solutions to deal with soaring prices. Consequently, “*purchasing power*” became the number one priority for French voters²⁴ and remained as such during the entire electoral campaign.

In France, the price of **oil** has a symbolic value²⁵ as rising crude oil and fuel prices²⁶ induced by the foreseen increase in the carbon tax triggered the Yellow Vest movement²⁷. Indeed, on average, 11% of the total available revenue for households is dedicated to “individual transportation”²⁸ with 24% of that budget accounting for fuel purchase. As the price often fluctuates, is visible, and is paid regularly, these variations are closely monitored by politicians, journalists and consumers especially as concerns rise about an embargo on Russian oil. France relies on Russia for about 19% of its refined products, 9% of its crude oil, 21% of its gas imports, and 29% of its coal.²⁹ Taking into account these constraints,³⁰

²⁰ “Ceny energií letí vzhůru, Děčín chce ušetřit desítky milionů výměnou lamp,” iDnes, accessed May 18, 2022, https://www.idnes.cz/usti/zpravy/decin-energie-zdravovani-led-lampy-osvetleni.A220506_140326_usti-zpravy_grr.

²¹ Gas prices went up in August (+5,3%), September (+8,7%) and October (+12,6%); “Tarifs réglementés du gaz : + 8,7 % au 1er septembre 2021,” Service Public, accessed May 18, 2022, <https://www.service-public.fr/particuliers/actualites/A15134>.

²² Benjamin Doodman, “A year of insurgency: How Yellow Vests left ‘indelible mark’ on French politics,” *France 24*, November 16, 2019, <https://www.france24.com/en/20191116-a-year-of-insurgency-how-yellow-vests-left-indelible-mark-on-french-politics>.

²³ Jean-Michel Bezat, “L’irrésistible hausse des prix de l’énergie,” *Le Monde*, August 10, 2021, https://www.lemonde.fr/economie/article/2021/08/10/l-irresistible-hausse-des-prix-de-l-energie_6091026_3234.html.

²⁴ “Le pouvoir d’achat, priorité absolue des Français pour la présidentielle, selon un sondage,” *Le Figaro*, accessed May 18, 2022, <https://www.lefigaro.fr/conso/le-pouvoir-d-achat-priorite-absolue-des-francais-pour-la-presidentielle-selon-un-sondage-20211129>.

²⁵ Damien Dole, “Prix de l’énergie : les chiffres fous d’une flambée,” *Liberation*, September 21, 2021, https://www.liberation.fr/economie/prix-de-lenergie-les-chiffres-fous-dune-flambee-20210921_RIKKXPJJGVAVHFZKVCQUS4HIA/?redirected=1.

²⁶ Before the first Yellow Vest protest gas oil was at 1.53€.

²⁷ Daniel Driscoll, “Populism and Carbon Tax Justice: The Yellow Vest Movement in France,” *Social Problems*, August 11, 2021, <https://academic.oup.com/socpro/advance-article-abstract/doi/10.1093/socpro/spabo36/6354100?redirectedFrom=fulltext>.

²⁸ Thierry Mainaud, “En 2017, les ménages consacrent 11 % de leur revenu disponible à la voiture,” *INSEE*, April 26, 2021, <https://www.insee.fr/fr/statistiques/5358250>.

²⁹ “Bilan énergétique de la France en 2021 - Données provisoires,” Ministère de la Transition écologique, accessed May 18, 2022, https://www.statistiques.developpement-durable.gouv.fr/sites/default/files/2022-04/datalab_essentiel_275_bilan_energetique_provisoire_2021_avril2022.pdf.



Emmanuel Macron backed an oil embargo since early April³¹ but remained silent on a potential gas embargo. As France's dependence is less pronounced than its German or Italian neighbours, the French debate comes with a false sense of security.³² As a result, the number one priority currently is to rely on a diversification of supply strategy. In the meantime, France has slowly started to ramp up the promotion of some limited energy sufficiency measures (asking for public administration and services to reduce the heating temperature by 1°C). However, energy efficiency measures, deployment of renewables and mobility-related measures are being left out of the equation for now.

In parallel, nuclear power is (as always) prominent in the French public debate when talking about energy. Nuclear energy is often placed in opposition to renewables, especially to wind power. Opposing wind-power even became a political trademark for the far-right as well as for some mainstream conservative politicians.³³ Historically, nuclear energy has been presented as a means to achieving energy independence, with the ongoing war in Ukraine only strengthening that narrative. However, French nuclear power plants are currently facing availability issues³⁴ and will have a low-output by next winter.³⁵ Thus, fast permitting for renewable energy projects and sufficiency measures might gain even more attention as France gears up for winter.

Starting in September 2021, the French government adopted a series of policies to mitigate the price surge. In mid-September, French Prime Minister Jean Castex decided to grant an extra €100m through a pre-existing scheme: an energy voucher for 5.8m poor households, to help them pay their energy bill. To date, this measure has been the only genuinely targeted policy, while most of the public funding to mitigate the energy price surge (nearly €30bn³⁶ overall) was poorly targeted, or not targeted at all.

In late September, the government froze the gas tariffs³⁷ for 16m beneficiaries (cost estimated from €6.8bn to €10.3bn) and capped the increase in electricity tariffs at 4%³⁸ for 21m consumers (€8bn) by means of a tax reduction until the end of April. The French Prime Minister was betting on gas prices

³⁰ "The Economic Consequences of a Stop of Energy Imports from Russia," Conseil d'Analyse Economique, accessed May 18, 2022, <https://www.cae-eco.fr/the-economic-consequences-of-a-stop-of-energy-imports-from-russia>.

³¹ Pauline Dumonteil, "Emmanuel Macron appelle à de nouvelles sanctions après le massacre de boutcha en Ukraine," *BFM Business*, April 4, 2022, https://www.bfmtv.com/economie/international/emmanuel-macron-appelle-a-de-nouvelles-sanctions-apres-le-massacre-de-boutcha-en-ukraine_AV-202204040224.html.

³² Jacques Sayagh, "Pourquoi la France est moins dépendante au gaz russe que ses voisins, Ouest-France, Pourquoi la France est moins dépendante au gaz russe que ses voisins (ouest-france.fr).

³³ Such as Xavier Bertrand, who presides over France's northern region (Hauts de France), where 6 million people live, and that has an important wind power potential.

³⁴ Adrien Pécout, "French energy supplier EDF shows concern over corrosion problems at its nuclear plants," *Le Monde*, April 22, 2022, https://www.lemonde.fr/en/economy/article/2022/04/24/french-energy-supplier-edf-shows-concern-over-corrosion-problems-at-its-nuclear-plants_5981437_19.html.

³⁵ "EDF ajuste son estimation de production nucléaire en France pour 2022," EDF, accessed May 18, 2022, <https://www.edf.fr/sites/groupe/files/2022-02/5c9aa66cd253dc8deb73da5ac2b429d5.pdf>.

³⁶ Renaud Honoré, "Avec le plan de résilience, la facture de la crise énergétique grimpe à 30 milliards d'euros pour l'Etat," *Les Echos*, March 16 2022, <https://www.lesechos.fr/economie-france/budget-fiscalite/avec-le-plan-de-resilience-la-facture-de-la-crise-energetique-grimpe-a-30-milliards-deuros-pour-letat-1394113>.

³⁷ "Décret n° 2021-1380 du 23 octobre 2021 relatif aux tarifs réglementés de vente de gaz naturel fournis par Engie et faisant application du dernier alinéa de l'article R. 445-5 du code de l'énergie," Légifrance, accessed May 18, 2022, <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000044239204>.

³⁸ "Un bouclier tarifaire pour faire face à la hausse des tarifs du gaz et de l'électricité," Gouvernement, accessed May 18, 2022, <https://www.gouvernement.fr/actualite/un-bouclier-tarifaire-pour-faire-face-a-la-hausse-des-tarifs-du-gaz-et-de-l-electricite>.



plummeting by then.³⁹ But as that wish did not materialise, these measures are now on the verge of being extended again until the end of the year.⁴⁰ In October, the Prime Minister announced the payment of an “inflation check” of €100, sent to 38m people (€4bn) in order to face the energy price spike. Finally, in mid-March, an 18 c/L fuel discount (€2.8bn) was adopted until the end of July and could potentially be extended until a more targeted measures for heavy users is launched.⁴¹ Measures for companies were also adopted for those who underwent operating losses and to finance partial unemployment (€4bn).

To get rid of Russian energy imports, France first decided to bet on LNG as France already has four operational LNG terminals and recently announced its intention to acquire a floating LNG terminal. France also has experience in storage and management of gas since French law⁴² requires gas storage to be 85% full by November 1st. As a result French storage capacity is currently above 45%⁴³ thanks to massive LNG imports from the USA, but also from Russia. In the meantime, to avoid an electricity shortage, the French government might postpone the closure of a coal plant as coal-fired generation has proven useful recently given the constraints in nuclear electricity generation France is undergoing. Moreover, quite coincidentally, the load shedding decree was recently adopted in order to organise temporary disconnection from the network of industrial intensive gas consumers, a scheme that might be used next winter. Finally, the decision to build new nuclear power plants was taken in February by President Macron, but no such new nuclear reactor is expected to be operational before 2035 at best.

When it comes to sufficiency, the ongoing discussions are rather mature compared to other member states. Various modelling scenarios done by think tanks or public agencies also helped to popularise the concept.⁴⁴ Additionally, some mainstream French economists and business leaders underlined the role of sufficiency in getting rid of Russian fossil fuels.⁴⁵ Consequently, the French Prime Minister recently adopted a circular calling for the reduction of gas consumption in state-owned buildings.⁴⁶ While it is not measurable to what extent the various calls for action helped raise awareness among citizens, an 8% decrease in gas demand was recorded in March compared to last year. Another lever to be activated by next winter is the fast deployment of renewable energy sources. So far, only solar PV has

³⁹ Catherine Viette, “French government to block further natural gas, electricity price hikes,” *France 24*, September 30, 2021, <https://www.france24.com/en/france/20210930-french-pm-castex-says-government-will-block-natural-gas-price-hikes>,

⁴⁰ “Pouvoir d’achat : le gouvernement présentera le projet de loi après les élections législatives,” *Le Monde*, accessed May 18, 2022, https://www.lemonde.fr/elections-legislatives-2022/article/2022/05/11/le-gouvernement-annonce-que-le-projet-de-loi-sur-le-pouvoir-d-achat-sera-presente-apres-les-elections-legislatives_6125650_6104324.html.

⁴¹ Nelly Moussu, “French politicians silent on EU’s oil embargo plans, fear Yellow Vests,” *Euroactiv*, May 6, 2022, <https://www.euractiv.com/section/energy-environment/news/french-politicians-silent-on-eus-oil-embargo-plans-fear-yellow-vests/>.

⁴² “Le stockage de gaz en France,” Commission de régulation de l’énergie, accessed May 18, 2022, <https://www.cre.fr/Actualites/le-stockage-de-gaz-en-france>.

⁴³ “Status at end of GasDay,” GIE AGSI, accessed May 22, 2022, <https://agsi.gie.eu/>.

⁴⁴ See: “Scénario négaWatt 2022,” Association négaWatt, accessed May 18, 2022, <https://negawatt.org/Scenario-negaWatt-2022>; “Transition(s) 2050,” ADEME, accessed May 18, 2022, <https://transitions2050.ademe.fr/>.

⁴⁵ Jean-Michel Glachant and Christian Gollier, “Jamais la sobriété énergétique de nos concitoyens n’a été aussi cruciale pour notre,” *Le Monde*, March 11, 2022, https://www.lemonde.fr/idees/article/2022/03/11/russie-jamais-la-sobriete-energetique-de-nos-concitoyens-n-a-ete-aussi-cruciale-pour-notre-destin_6117022_3232.html.

⁴⁶ “Circulaire n° 6343-SG du 13 avril 2022 relative à l’ajustement des conditions de chauffage des bâtiments de l’État, de ses opérateurs et accompagnement des projets en cours permettant des réductions de consommation de gaz,” Légifrance, accessed May 18, 2022, <https://www.legifrance.gouv.fr/download/pdf/circ?id=45321>.



benefited from a fast-tracking procedure⁴⁷ and offshore wind might benefit from a simplified approach by the end of the year.

Due to the electoral reserve period and the presidency of the Council of the EU, no major announcement could be made regarding the upgrade of the objectives of the *FitFor55* package following the invasion of Ukraine. Still, Emmanuel Macron has voiced his willingness to strengthen both French and EU energy sovereignty by respectively making France the “first major economy to get rid of fossil fuels”⁴⁸ and Europe by “getting rid of Russian fossil fuels”.⁴⁹

Italy

By Davide Panzeri, Europe programme lead, ECCO

In Italy, the reaction to the crisis has so far focused on the diversification of gas sources. This includes diversification through agreements to increase supplies through existing gas pipelines (TAP from Azerbaijan, Transmed from Algeria) or in the form of LNG (from Egypt, Congo, Angola and Qatar), a proposal to increase regasification capacity in Italy, and to increase production both in Italy and in third countries. To date, much less has been done to accelerate the substitution and reduction of fossil fuel use, especially with regards to energy efficiency. There has also been a lack of an overall vision capable of linking the actions taken in this area with Italy’s climate plans, including the Italian National Energy and Climate Plan.

Without this vision, there is a risk that short-term fixes on the diversification of gas sources will undermine medium and long-term solutions by causing lock-ins in the form of investments in infrastructure, such as new LNG terminals, new gas pipelines, or substantial investments in new gas extractions in third countries. Such investments are incompatible with the 1.5°C target and risk rapidly becoming obsolete as Italy and Europe move towards their climate goals. There is, therefore, a real risk of crystallising Italy’s dependence on fossil fuels, with all the economic and geopolitical risks that the war in Ukraine has now made clear.

The first and fundamental element of *REPowerEU*, which can provide a long-term solution to the crisis, is the development of renewable energy sources, which in Italy could produce direct gas savings replacing 25% of Russian gas well before 2030, as explained below.

Italian targets for the development of renewables are currently set out in the Italian National Energy and Climate Plan, although this has not yet been updated in accordance with *Fit for 55* and is still set at the previous European target of 32% renewables. Renewable development targets aligned with *Fit for 55* are contained in the Plan for Ecological Transition⁵⁰ and envisage 70-75GW of new generation.

According to GSE statistics, the gross installed capacity in Italy in 2019 was 55.5 GW and in 2021 it was 58 GW. The construction of 75 GW by 2030 therefore means more than doubling the installed capacity of renewables in the next nine years, and corresponds to an installation rate of 8.3 GW per year.

⁴⁷ “Barbara Pompili présente 10 mesures pour accélérer le développement du photovoltaïque,” Ministère de la Transition écologique, accessed May 18, 2022, <https://www.ecologie.gouv.fr/barbara-pompili-presente-10-mesures-accelerer-developpement-du-photovoltaique>.

⁴⁸ “Reprendre en main notre destin énergétique!,” Élysée, accessed May 18, 2022, <https://www.elysee.fr/emmanuel-macron/2022/02/10/reprendre-en-main-notre-destin-energetique>.

⁴⁹ Perrine Storme, “Macron: “sortir des énergies fossiles russes”,” *BFM TV*, March 25, 2022, https://www.bfmtv.com/replay-emissions/bfmtvsd/macron-sortir-des-energies-fossiles-russes-25-03_VN-202203250647.html.

⁵⁰ “Proposta di Piano per la transizione ecologica,” Senato, accessed May 18, 2022, <https://www.senato.it/service/PDF/PDFServer/BGT/1310524.pdf>.



REPowerEU advocates a 20 per cent increase in the speed of renewable development compared to *Fit for 55*, in order to accelerate the break from dependence on Russian gas, bringing the target installation rate to no less than 10 GW per year. At this rate, Italy would replace 7.5 billion cubic metres of gas by 2025, which corresponds to more than a quarter of Italian gas imports from Russia.

The increases in renewables actually achieved by Italy in recent years (1 GW in 2020 and 1.5 GW in 2021) are far below the desired threshold of 10 GW per year: at the current rate, the 2030 targets would only be reached in 2071. However, a clear awareness of the discrepancy between the targets set and the initiatives actually implemented has so far been lacking in the government's statements and actions. According to the industry association *Elettricità Futura*, the main association of companies operating in the Italian electricity sector, it would be possible⁵¹ to install 60 GW of renewable energy in three years, exploiting the maximum installation capacity in Italy, which is estimated⁵² at 20 GW per year. This would mean reaching almost the entire 2030 renewables installation target in three years, at double the rate of installation required by *REPowerEU*, with half of the Russian supply replaced by 2025.

To achieve the *REPowerEU* targets, the 10 GW development target must, however, be confirmed through legislation by the government, including through an update of the National Energy and Climate Plan. The government must commit to the quantitative development of renewables as well as to simplifying (or unblocking) authorisations. The latter is being tackled through various decrees, the effectiveness of which is not yet clear.

The second fundamental element of the *REPowerEU* crisis response is energy efficiency. Two thirds of the energy consumed in homes is used for heating, predominantly through burning gas (60% of the energy supplied). Some 16.7 million homes use gas boilers as their main heating system in Italy, while just under one million use electric heating systems.⁵³ Approximately 70% of the Italian building stock was built without energy efficiency criteria, before the entry into force of the first law on energy saving in 1976 and is therefore characterised by high energy consumption (on average over 200 kWh/sqm).

Although the savings achieved by the tax deduction mechanisms currently in place are in line with the trajectory set by the Italian National Energy and Climate Plan for the sector to 2030, these are insufficient to achieve the objectives of the *Fit For 55* and *REPowerEU* packages. There is a need to accelerate energy efficiency and to increase electrification, in order to ensure reliable and sustainable energy, especially for the lower income households which are the most exposed to rising energy prices.

To achieve these goals, it is necessary to create an incentive mechanism that considers the efficiency increase of the building as a whole and becomes a structural and permanent element of energy policy. The current 'Superbonus' does just that by covering up to 110% of the renovation costs. While overall this is a good incentive mechanism, it is beset by some problems. Firstly, its narrow time horizon inevitably causes problems in terms of cost and access to materials: the uncertainty over the future of the incentive concentrates a large number of applications in a short period of time. Secondly, its access conditions are too weak, considering the size of the incentive and the objectives of *REPowerEU*, since they require an improvement of only two energy classes (out of ten), and do not exclude second

⁵¹ "Corriere della Sera, Re Rebaudengo: 60 GW in 3 anni si possono realizzare," *Elettricità Futura*, accessed May 18, 2022, https://www.elettricitafutura.it/News-/News/Corriere-della-Sera-Re-Rebaudengo-60-GW-in-3-anni-si-possono-realizzare_4245.html.

⁵² "La Soluzione strutturale all'emergenza caro energia," *Elettricità Futura*, accessed May 18, 2022, https://www.elettricitafutura.it/public/editor/Press_Room/CS/2022.02.25_EF_CONFERENZA%20STAMPA_SOLUZIONE%20STRUTTURALE_CARO%20ENERGIA.pdf.

⁵³ "Libro Bianco Sulle Pompe Di Calore," *Assoclima*, accessed May 18, 2022, https://www.assoclima.it/media/files/1699_assoclima_libroBIANCO_11_2020.pdf.



homes or the installation of gas boilers. Thirdly, the Superbonus, but in general all incentives, is a socially regressive instrument that tends to be more accessible to wealthier households living in detached buildings and cottages than to those living in apartment blocks and council houses. Reorganising this mechanism to better target those most in need of support would also make it less burdensome for the state and thus more sustainable as a permanent instrument.

A reorganisation of the entire Italian incentive system for the building sector over a time horizon of at least 2030 is therefore necessary, and it should guarantee greater access to financing for the most vulnerable social classes and ensure adequate levels of deductions for deep renovations. This system must be able to promote energy efficiency and reduction of consumption as a priority, harmonise the size of deductions by placing a higher value on energy efficiency, and avoid the suboptimal use of public finances for interventions not aimed at improving energy performance - e.g. the 90% facade bonus introduced for aesthetic and decorating purposes. In addition, with a view to protecting energy-poor households and the poorer classes, an alternative incentive mechanism for social housing should be created to support local administrations through a dedicated financing system.

Germany

By Leon Leuser, Research Fellow, Jacques Delors Institute

The discussion on rising gas prices in the German media started about mid-september 2021.⁵⁴ Compared to other countries the political debate was very calm for a long time until the first government package was adopted at the end of February, with a peak in media coverage in mid-March 2022.⁵⁵ This silence might have been caused by the coalition talks after the elections in September 2021 being the focus of media attention until December 2021.

The central topic of the public discussion in early 2022 was Germany's dependence on Russian gas and Nord Stream 2. Further topics debated include the deployment of more renewable capacities, the construction of LNG terminals, a debate on abolishing the EEG levy, the government's plan to reduce taxes on gasoline and the embargo on Russian energy.

With the green party in government, climate change is a central topic. The government immediately started working on two large policy packages to accelerate renewable deployment as well as decarbonising the building and transport sectors. This happened independently of the energy crisis and Vladimir Putin's second invasion of Ukraine. The implications of the war, namely the phase-out of Russian gas, only led to changes to medium-term planning with an earlier gas phase-out and the goal of a nearly 100% renewable electricity system in 2035.⁵⁶

The German government is holding a cautionary position on a possible embargo, arguing that Europe should not hurt itself more than the embargo would hurt Russia. At first, any embargo was rejected, then an embargo on coal and now on oil was accepted. The debate on the embargo is fierce particularly among German economists, some arguing based on models that an embargo would only lead to small GDP reductions, whilst another camp urged the government to keep

⁵⁴ Google Trends shows clearly the media coverage on energy prices and gas prices: "Energiepreise," Google Trends, accessed May 18, 2022,

<https://trends.google.de/trends/explore?geo=DE&q=energiepreise>; "Gaspreise," Google Trends, accessed May 18, 2022, <https://trends.google.de/trends/explore?geo=DE&q=gaspreise>.

⁵⁵ Media coverage on the fiscal relief: "Entlastung Energiepreise," Google Trends, accessed May 18, 2022, <https://trends.google.de/trends/explore?geo=DE&q=entlastung%2oenergiepreise>.

⁵⁶ Kerstine Appunn, "100% green power by 2035 - high hopes for Germany's next renewables reform," Clean Energy Wire, March 1, 2022, <https://www.cleanenergywire.org/news/germany-aims-100-green-power-2035-will-present-gas-reduction-plan>.



its cautious line, arguing that a gas embargo would have incalculable effects and could kick off chain reactions.⁵⁷

The German government passed two relief packages. The first, passed on 24th February, includes the abolition of the renewables levy on electricity on 1st of July (-3,5 ct/kWh), an increase in commuter allowance (+3ct to 38 ct/km), €135/person for students and citizens who receive support for paying their rent, tax reductions on income tax, increased payments for poor children (+€20/month per child), welfare recipients (Hartz IV) receive €100 per person.

With prices further increasing in the weeks that followed a second package was agreed by the coalition on March 24th. It included,⁵⁸ €300 for every taxpayer, €100 for citizens who receive transfer payments, €100 for every child, a public transport ticket (for local and regional transport) at €9/month for the next three months, a reduction of the energy tax to the EU-minimum level (this means -30ct/l for gasoline, -14ct/l for diesel, for the next three months).

The government also decided to slow down the coal-phase out, to reduce gas use in electricity,⁵⁹ while keeping its objective of achieving a phase-out by 2030.

In order to diversify gas supply the construction of two LNG terminals was announced in early April 2022. Both projects have already been discussed in previous years, but not realised yet, because of higher LNG prices compared to pipeline gas. Pipeline gas is coming from Russia, Norway and the Netherlands. The government announced at least 50 percent co-financing for one of the two terminals and passed an “LNG Acceleration Act” in order to speed up the permit and construction processes. Both terminals should be according to the Economic Ministry “H₂-ready”.⁶⁰ Additionally, the government plans to lease so-called Floating Storage and Regasification Units (FSRU). These could be installed already in winter 2022/23.

Alongside fiscal and supply-side measures, the German government also announced a large-scale campaign to save energy, including subsidies for low-cost investments (e.g. smart thermostats) within the package presented on March 24th. But no details are public yet.

The plans detailed in the government’s coalition treaty on the deployment of renewable energies and efficiency measures were anyway highly ambitious. With two policy packages the transformation of the electricity system and the heating and transport sectors will be accelerated. Within the first package, which has already been adopted by the cabinet, the government plans to significantly speed up renewables deployment aiming to increase photovoltaic installations to 22 GW/year (5GW/y currently), including an obligation for new built commercial buildings to include photovoltaics, to increase onshore wind installations to 10 GW/year (1.7 GW/y currently) and is aiming for 30 GW offshore wind in 2030 (7.8 GW in 2021).

Additionally, on March 24th the government announced a new subsidy program to replace gas boilers with heat pumps, the increase of the energy efficiency standard for new buildings to KfW55⁶¹ by 2023, an alignment of current

⁵⁷ “How would an energy embargo affect Germany’s economy?,” *The Economist*, accessed May 18, 2022, <https://www.economist.com/finance-and-economics/2022/04/30/how-would-an-energy-embargo-affect-germanys-economy>.

⁵⁸ Zuzanna Szymanska and Joseph Nasr, “Cheaper petrol, extra cash to help Germans amid soaring energy costs,” *Reuters*, March 24, 2022, <https://www.reuters.com/business/energy/germany-unveils-energy-relief-package-2022-03-24/>.

⁵⁹ “Ukraine crisis forces Germany to change course on energy,” *DW*, accessed May 18, 2022, <https://www.dw.com/en/ukraine-crisis-forces-germany-to-change-course-on-energy/a-60968585>.

⁶⁰ While it is often not clear what this means, State Secretary Patrick Graichen said: “It’s mostly about the infrastructure around it. The LNG terminal itself is only suited for gas, it’s not suited for hydrogen”; Julian Wettengel (@J_Wettengel), Twitter post, April 25, 2022, https://mobile.twitter.com/J_Wettengel/status/1518545416098398210/photo/1.

⁶¹ “What is an ‘efficiency house?’,” Federal Ministry of Economic Affairs and Climate Action, accessed May 18, 2022, <https://www.bmwi->



renovation programs towards the EU's "worst performing buildings first" approach, the obligation that newly installed heating systems need 65 % renewables by 2024, and an increase in biogas production.

Those governmental plans were partly criticised. The criticism focuses on two key topics: building LNG terminals, and subsidising fossil fuels.⁶²

Environmental NGOs⁶³ criticise the construction of LNG terminals as creating lock-in effects, and as likely not to be needed.⁶⁴ Lock-ins might be created for example by new long-term contracts, while environmental groups say that fossil gas needs to be phased out by 2035.⁶⁵ Environmental Action Germany (DUH⁶⁶) called⁶⁷ Scholz's decision "premature" and said such installations create more dependence on fossil energy.

After its announcement, the reduction of energy taxes on gasoline received harsh criticism from economists and environmental NGOs. Both maintained that reducing prices in times of shortage sends the wrong signal leading to higher demand. Missing long-term structural change was also a criticism of the €gticket for public transport.

Spain

By Jorge Galindo, Director of Economic Policy and Data Visualisation, EsadeEcPol

Spanish energy prices have been rising since the beginning of 2021, and simultaneously becoming important public debate topics well before Putin's second invasion of Ukraine. October 2021 saw the most expensive electricity bills in history, and that record was subsequently surpassed. Moreover, the connection of the energy price debate with the broader inflation debate is inextricable: 80% of the 2021 inflation came from energy prices.⁶⁸ This context is fundamental to understanding the amplified impact of post-invasion price escalation on the Spanish debate. This debate manifests itself through three lines of argumentation, not mutually exclusive but to some extent competing for attention and relevance.

energiawende.de/EWD/Redaktion/EN/Newsletter/2015/14/Meldung/dricet-answers-what-is-an-efficiency-house.html.

⁶² Julian Wettengel, "Germany lowers petrol and public transport prices to relieve citizens," Clean Energy Wire, March 24, 2022, <https://www.cleanenergywire.org/news/germany-lowers-petrol-and-public-transport-prices-relieve-citizens>.

⁶³ Benjamin Wehrmann, "Environmental groups reject German finance minister's fuel price subsidy plan," Clean Energy Wire, March 15, 2022, <https://www.cleanenergywire.org/news/environmental-groups-reject-german-finance-ministers-fuel-price-subsidy-plan>.

⁶⁴ Franziska Holz, Robin Sogalla, Christian von Hirschhausen and Claudia Kemfert, "Energieversorgung in Deutschland auch ohne Erdgas aus Russland gesichert," DIW Berlin, April 8, 2022, https://www.diw.de/de/diw_01.c.838843.de/publikationen/diw_aktuell/2022_0083/energieversorgung_in_deutschland_auch_ohne_erdgas_aus_russland_gesichert.html.

⁶⁵ Apparently new contracts with Qatar might be 20-year contracts.

⁶⁶ "EXPERT DUH - Environmental Action Germany," Clean Energy Wire, accessed May 18, 2022, <https://www.cleanenergywire.org/experts/duh-environmental-action-germany>.

⁶⁷ "Bundesregierung muss energiepolitische Konsequenzen aus Krieg in der Ukraine ziehen: Deutsche Umwelthilfe fordert Ausstieg aus fossilem Gas und hält Entscheidung für neue LNG-Terminals für verfrüht," Deutsche Umwelthilfe, accessed May 18, 2022,

https://www.duh.de/presse/pressemitteilungen/pressemitteilung/bundesregierung-muss-energiepolitische-konsequenzen-aus-krieg-in-der-ukraine-ziehen-deutsche-umwelt/?no_cache=1.

⁶⁸ Natalia Collado, "¿Es la transición verde la responsable de que suba el precio de la gasolina?," EsadeEcPol, November 26, 2021, <https://www.esade.edu/ecpol/es/blog/es-la-transicion-verde-la-responsable-de-que-suba-el-precio-de-la-gasolina/>.



→ First, the central strand of the arguments is also the most empirically accurate: the combination of Spain's high energy dependence with sudden supply reduction effects (supply problems) and increased demand (bad weather and colder than expected, such as the storm that froze Spain in early 2021) creates a crisis situation even if only 8% of Spanish gas imports come from Russia. The central transmission mechanism for the price increases which have followed the Russian invasion of Ukraine is the international wholesale price of these fuels. As those international oil and gas prices rise, the price paid by Spanish end consumers for electricity, heating and transportation also rises. The pairing of external dependence and the electricity pricing system monopolizes much of the Spanish debate. Indeed, the marginalist system for electricity prices amplifies this chain by, de facto, linking the price of electricity with the price of fossil gas, as gas power plants are used in Spain - and almost everywhere in Europe - as the marginal power plant that produces the marginal electron - and thus sets the price

→ Second, an alternative argument, more diffuse but with growing acceptance, especially among left-leaning voices, argues that the price escalation is a product of the oligopoly prevailing in the Spanish markets. This oligopoly exists in both electricity⁶⁹ and fuel distribution.⁷⁰ Even if this situation may amplify price increases, there is not enough evidence to support the increasingly popular narrative that portrays such oligopolies as ultimately setting the prices increases.

→ Third, the latest current to join the debate attributes price increases almost exclusively to the costs of the green transition. Still incipiently, the idea of "greenflation" is gaining ground, with particular resonance with the right-wing side of the political debate. As with the previous argument, this idea is only partially supported by the evidence: prices would be rising even in the absence of decarbonization targets such as those set by Spanish and EU policy in the long term (as a matter of fact, it could be argued that, if the country had done more in structural terms, e.g. through efficiency-oriented housing renovation or a more decided shift towards decarbonization in the transport realm, it would be less exposed to inflation now); however, the commitment to incentive systems for the transition will affect the fossil fuel price signal upwards (this is, in fact, the explicit intention), at least as long as the transition is not completed in the coming decades.

Energy poor households suffer the most drastic effects of price increases, primarily through electricity prices. The data indicate that while the probability of owning a car decreases with decreasing income,⁷¹ consumption of electricity at home remains necessary regardless of income. The degree and quality of consumption do, of course, vary. These households have the possibility (chosen today by 4 out of 10 customers) of keeping a final electricity price set by the Ministry of Industry for 12

⁶⁹ José Luis Ferreira, "Manipulación del precio en el mercado eléctrico español," Nada es Gratis, October 22, 2021, <https://nadaesgratis.es/jose-luis-ferreira/manipulacion-del-precio-en-el-mercado-electrico-espanol>.

⁷⁰ Jordi Perdigueiro and Juan Luis Jiménez, "¿Competencia o colusión en el mercado de la gasolina?," Revista de Economía Aplicada, No. 50 (2009), 27-45.

⁷¹ Hidalgo Pérez, Manuel Alejandro, Natalia Collado, Jorge Galindo, Ángel Martínez and Carlos Victoria. "La invasión de Ucrania en España: impactos y políticas," EsadeEcPol Policy Insights, April 7, 2022, <https://www.esade.edu/ecpol/es/publicaciones/la-invasion-de-ucrania-en-espana-impactos-y-politicas/>.



months, tied to the ups and downs of the market but with specific limits. The rest of the contracts only see their price change substantially when renewed. This gives rise to the paradox that the most vulnerable segments suffer more quickly from immediate price increases than the less vulnerable, who feel them with a delay. For households on regulated tariffs, 2021 brought an average increase in the price of electricity of 35.6%, with its peak in December at 72%.⁷²

However, these population segments are not monopolizing political and media attention. Rising Spanish media attention is dedicated to a still ill-defined coalition of lower-middle to middle-income workers and small business owners or self-employed. In the second half of March, a series of protests led by semi-organized 'outsider' guilds and coalitions of transport workers took place all over Spain. At the centre of demands was the price of gasoline. All the three above-mentioned strands of argumentation interacted to put those protests in motion, but greenflation as an impulse stood out as a novelty. These demonstrations were sufficiently massive and constant that the central government (a coalition of moderate social democrats and the radical left) went from accusing the protests of being politically driven by the extreme right, to reacting with a package of measures aimed mainly at cutting the escalation of prices.

Fuel discount of €0.2/l. until June. This measure damages the central intention of the energy transition to incorporate the negative externalities of energy sources into the prices. It is also socially regressive as higher-income households consume much more fuel. The main intention behind the policy was to deactivate the protests - which it did - as well as to limit the rise of the Consumer Price Index, to which most public transfers such as pensions are indexed in order to minimize the public deficit and the risk of a vicious inflation cycle.

Subsidies to electricity consumers. The continuation of the tax rebate (approved during last Summer) and the extension of a 60% discount for low-income consumers on the electricity bill (enacted in October 2021) constitute the second round of measures and are undoubtedly more progressive and less damaging to price signals. However, as price increases seem to have already overwhelmed these discounts, and access to the bonus presents significant barriers, their effect will be limited. Several additional social-oriented measures were adopted (e.g. a limited increase of anti-poverty transfers; extensions of temporary layoff systems, limits on house rents, etc.), but most of them are expected to have moderate effects and be less significant than the fuel discount.

The 'Iberian exception'. Spain crafted a deal with all other EU countries for Spain and Portugal to obtain an exception to the price-setting system for electricity. The exception is meant to be temporary (~12 months) and allows the government to cap the wholesale natural gas price for the regulated stream of the market, from €80/cubic metre to €40 in the very short term and €50 in the coming months. While the government expects that this system will decrease the price of electricity from €200/MWh today to €130/MWh, analysts and private companies see €170 as a more realistic outcome figure.

As the Spanish government invests a lot of political capital in these measures (both within Spain and in Brussels), it has little capacity to think beyond stopping the current price escalation. Whilst these measures have been taken, the public debate within Spain has raged on, with three policy discussions in particular building steam:

1. The complete disconnection of Russian supply by the European Union. A ban on Russian gas and oil imports would have little effect on Spanish supplies, but will increase the international prices, and thus impact Spain. Even so, a mid-April poll

⁷² Ignacio Fariza, "Los hogares con tarifa regulada pagaron un 72% más por la luz en diciembre que un año antes," EL PAIS, January 14, 2022, <https://elpais.com/economia/2022-01-14/los-hogares-con-tarifa-regulada-pagaron-un-72-mas-por-la-luz-en-diciembre-que-un-ano-antes.html>.



revealed that 64% of citizens supported this measure.⁷³ This majority, plus the government's victory concerning the 'Iberian exceptionalism', makes eventual Spanish support for the disconnection probable.

2. The optimal mix to ensure a future with less volatility and more independence. Two questions have been running through the Spanish energy debate for more than a decade: is it worth continuing to invest in nuclear energy? And why has Spain still not managed to fulfil its renewable generation potential (especially photovoltaic)? Both questions are usually pitched against each other so that the voices in favour of nuclear (usually from the political sphere of the centre or right, but also from the more moderate centre-left) raise the insufficiency of renewables in their current state (which makes it difficult for them to cover significant demand peaks). On the other hand, the defenders of renewables (usually on the left side of the political spectrum) question the economic sustainability of nuclear and underline the potential of solar energy. Current decision-makers lean towards the latter position: carry on with the planned nuclear phase-out between 2027 and 2035, and maximize the use of renewables. But there is no clear or dominant answer to this question beyond a vague insistence on the need for more European and private investment. The accumulated cost of past public investment in renewables and its effects over households' electricity bills (only now being translated into a newly designed Fund aimed to balance the accumulated costs⁷⁴) casts a political cost over the possibility of investment led by the central government.

Thus, the more centrist portions of the government are adding a third question: should Spain become a liquefied natural gas and hydrogen hub? This would require more gas infrastructure to connect Spain to France, a plan that has been on hold for years. The arguments in favour are the geographical position and the regasification capacity installed in Spain. The points raised against, in addition to the delay in decarbonization and the need to find a place for the strategy within the European Green Deal, come from the question of who would supply the gas. The two most obvious candidates are the USA (which is currently the source of almost half of the gas reaching Spain) and Algeria (30% of imports, but with bilateral relations at a particularly delicate moment due to Spain's decision to support Morocco in its plan for a disputed sovereign territory, Western Sahara).

3. Improving energy efficiency/demand adjustments. Despite repeated commitments to improving the efficiency of housing and industrial buildings in Spain over the last decade, and despite the systematic detection of points of potential improvement in regulation affecting energy demand, implementation efforts on this front have historically fallen short of their potential (Sweetman, 2022). A growing part of civil society, as well as some local and regional government bodies (which could benefit from this effort with extra funds from the NextGenEU program, currently being distributed), are increasing their pressure on the central government.

⁷³Álvaro Carvalaj, "El 64% de los españoles apoya dejar de comprar gas ruso aunque eso provoque más inflación," *El Mundo*, April 18, 2022, <https://www.elmundo.es/espana/encuestas/2022/04/18/625c21dc21efao885c8b45c1.html>.

⁷⁴Pedro Linares, Marta Suárez-Varela and José Carlos Romero Mora, "Evaluación de las implicaciones distributivas del Fondo Nacional para la Sostenibilidad del Sistema Eléctrico," *EsadeEcPol*, September 24, 2021, <https://www.esade.edu/ecpol/es/publicaciones/evaluacion-de-las-implicaciones-distributivas-del-fondo-nacional-para-la-sostenibilidad-del-sistema-electrico/>.



Sweden

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In September 2021, Swedish Prime minister Stefan Löfven stated that energy prices were not yet affecting consumption in Sweden. Instead of advocating for short-term mitigation measures for consumers like some of his European counterparts, **he urged the EU to come up with long-term plans on how to produce more electricity.**⁷⁵ Since then, as the energy price crisis has continued, its impacts have reached Swedish citizens, and captured media attention. While maintaining a strategy to increase renewable electricity production, the government has introduced short term fiscal mitigation measures. Before outlining the policy measures taken, three contextual factors are important to consider in order to understand the Swedish debate.

First, Sweden's relative independence from fossil fuels protected citizens from sharp electricity price increases last winter. In 2021, Swedish electricity production was made up of 60% renewables (43% hydro, 17% wind), 31% nuclear, and 9% thermal.⁷⁶ **However, the Swedish energy market is characterised by large geographical differences when it comes to electricity.** Sweden is divided into four electricity price zones to incentivise greater balance between demand and supply in the grid.⁷⁷ The northern parts of the country generally have a surplus of electricity production, whereas the south has a deficit. Moreover, the transfer capacity from the north to the south is limited. As a consequence, the south is more dependent on energy imports and vulnerable to price volatility on the European electricity market. The current energy price crisis has mirrored these differences with average price increases varying from +184% to +19% depending on the price zone.⁷⁸

Second, the ongoing energy price crisis has intensified the longstanding energy debate on nuclear power, bringing the topic to the forefront of the campaign for the Swedish parliamentary elections in September 2022.⁷⁹ The Social Democrats and the Environmental Party who have ruled with a minority coalition government (2014-2021), are being accused by the

⁷⁵ James Ludden "Swedish Economy Can Withstand Surging Energy Prices, Lofven Says," *Bloomberg*, September 19, 2021, <https://www.bloomberg.com/news/articles/2021-09-19/swedish-economy-can-withstand-surging-energy-prices-lofven-says?sref=awPI3UV1>;

⁷⁶ "Elproduktion och förbrukning i Sverige," Statistiska Centralbyrån, accessed May 10, 2022, <https://www.scb.se/hitta-statistik/sverige-i-siffror/miljo/elektricitet-i-sverige/>;

Total energy supply by source, 2020, data from International Energy Agency: oil (21%), natural gas (3%), coal (3%), biofuels and waste (27%), wind, solar, etc. (6%), hydro (13%), nuclear (27%). Gas networks only exist in the southern electricity zones, mainly used in industry, for cogeneration and district heating production, vehicle fuel and in households that use gas for heating and cooking; The majority of the oil is used for the transport sector, making up more than 75% of the energy used in the transport sector in 2019; "Energy in Sweden 2021 - an overview," Swedish Energy Agency, accessed May 10, 2022, <https://energimyndigheten.sve.w2m.se/FolderContents.mvc/Download?ResourceId=198022>.

⁷⁷ The boundaries of the zones correspond to areas where the grid needs to be rebuilt and improved to enhance transfer capacity. The grid is old and has insufficient capacity for both current and future needs. The rationale between the division was that the surplus electricity production in the north of the country, and the subsequently lower electricity prices, would stimulate industry establishment in the sparsely populated northern parts of the country, and the electricity shortage and the higher prices would incentivise the construction of power plants in the densely populated south.

⁷⁸ "Stigande elpriser varierar kraftigt i norr och söder" Statistiska Centralbyrån, accessed May 10, 2022, <https://www.scb.se/hitta-statistik/redaktionellt/new-stigande-elpriser-varierar-kraftigt-i-norr-och-soderpage/>.

⁷⁹ Sweden is a parliamentary democracy, and given the current situation with no strong majority, policy making is currently characterised by coalition-making and compromises; "Rapport: Viktigaste politiska frågan," Novus, accessed May 10, 2022, <https://novus.se/wp-content/uploads/2022/03/novusviktigastefraganmars2022.pdf>.



opposition of making Sweden dependent on unreliable energy sources by shutting down nuclear plants, thus creating a higher dependence on imported energy and increasing prices for households, especially in south Sweden.⁸⁰ A report from Swedenergy shows that the arguments on the decommissioning of nuclear plants lack evidence. Several factors have contributed to the increased electricity prices in Sweden: high prices on natural gas, coal, and EU carbon emission allowances; periodically low wind power production; a large deficit in the hydrological balance; an increased demand for electricity due to the post-Covid recovery; and the restricted transfer capacity from north to south.⁸¹

Third, at the same time, in 2021, Sweden had a net export of electricity.⁸² A common question posed in the media has therefore been: “Why does Sweden export electricity when households are experiencing a price increase?” The Left Party is the only party that attributes the impacts of the crisis in Sweden to the integrated European electricity market, and has advocated a return to energy nationalism.⁸³

In February, the Swedish government presented an electrification strategy for 2022-2024 to create a secure, competitive and sustainable electricity supply. The narrative of creating the right conditions for the innovative and green industry in Sweden is especially prominent. The key points are the expansion and improvement of the electricity grid (effect and capacity), the fast deployment of wind power on land, and preparation for the development of offshore wind.⁸⁴ Interesting to note however, in 2021, 78% of all wind power projects were stopped by municipalities, particularly in the southern parts of the country.⁸⁵ This questions the social acceptability of the government’s plan, and further pinpoints the importance of the upcoming elections to determine Sweden’s future energy path.

Aside from the long-term electrification strategy, the Swedish Government adopted a series of measures to financially support households impacted by the rise of the oil and electricity prices in the beginning of March. On transport, from May 1st, **the tax on petrol and diesel has been reduced by €0.05 per litre.** The government has furthermore suggested that the tax should be further reduced to the lowest level allowed by the EU regulatory framework, with an additional €0.12 from June to October 2022.⁸⁶ In the long term, additional funds of

⁸⁰ It is important to note that the energy objectives in Sweden are based on a broad political agreement between a majority of all political parties to ensure a long-term perspective in energy policy. The overarching goal is to have an energy mix of 100% renewables by 2040. However, this does not include a firm date for an exit from nuclear power; “Ramöverenskommelse mellan Socialdemokraterna, Moderaterna, Miljöpartiet de gröna, Centerpartiet och Kristdemokraterna,” Regeringen, accessed May 10, 2022, <https://www.regeringen.se/49cc5b/contentassets/b88fod28eboe48e39eb4411de2aabe76/energioverenskommelse-20160610.pdf>.

⁸¹ Nuclear power production actually increased by 7% from 2020 to 2021, despite the decommissioning of the reactor Ringhals 1 in 2020; “Elåret 2021. Från rekordlåg till rekordhög elpris,” Energiföretagen, accessed May 24, 2022, <https://www.energiforetagen.se/pressrum/pressmeddelanden/2021/elaret-2021-fran-rekordlagt-till-rekordhogt-elpris/>.

⁸² “Fortsatt hög elproduktion och elexport under 2021,” Energimyndigheten, accessed May 10, 2022, <https://www.energimyndigheten.se/nyhetsarkiv/2022/fortsatt-hog-elproduktion-och-elexport-under-2021/>.

⁸³ “Stoppa utbyggnaden av elkablar till Europa,” Dagens Nyheter, accessed May 10, 2022, <https://www.dn.se/debatt/stoppa-utbyggnaden-av-elkablar-till-europa/>.

⁸⁴ “Nationell strategi för elektrifiering,” Regeringen, accessed May 10, 2022, https://www.regeringen.se/4999ce/contentassets/8761973413204121b91d01089fbd1e91/nationell-strategi-for-elektrifiering_2022_webb.pdf.

⁸⁵ “Allt fler kommunala nej till vindkraft – nu behövs ökade incitament,” Svensk Vindenergi, accessed May 10, 2022, <https://svenskvindenergi.org/pressmeddelanden/allt-fler-kommunala-nej-till-vindkraft-nu-behovs-okade-incitament/>.

⁸⁶ The Swedish government has applied for an exemption from the EU rules on minimum levels of taxation of petrol and diesel; “Ansökan om undantag från EU s energiskattedirektiv,”



€370 million will be allocated to the climate bonus allowance⁸⁷ for electric vehicles. The bonus allows a person who buys an electric car €6660 in financial support. Additional measures are currently being examined by the Council of Legislation. One example is a €95 compensation for individuals who own a car. The compensation would be targeted to a certain degree, by providing an extra €48 to those who live in sparsely populated and/or rural areas where travel distances are more significant.⁸⁸

Concerning electricity prices, the government introduced an electricity price mitigation package of €570 million for the winter months. The compensation was set to be in relation to the amount of energy consumed per month with a cap at 2000kWh corresponding to a transfer of €190 per month, applicable to households in the entire country, automatically administered. The 2000kWh/month roughly corresponds to the average electricity consumption of a single unit house during the winter months.⁸⁹ The direct financial support was modified for the month of March, the transfer was halved and limited to households in the south.⁹⁰ Furthermore, the housing allowance for families with children will be temporarily increased during the period July-December 2022, which targets economically vulnerable households. The transfer will be automatic and consist of 25% of the amount received every month, at a maximum level of €131 per month.⁹¹

Furthermore, the Swedish Government has tabled proposals with a longer term vision, and these should enter into force in 2023. They contain a combination of both targeted and non-targeted measures: A simpler travel allowance system that replaces the current system with a tax reduction based entirely on the distance between home and work (neither taking means nor costs of travel into consideration), a frozen greenhouse gas reduction mandate⁹² for diesel and petrol and a paused GDP indexation of diesel and gasoline prices in 2023.

In the beginning of May, when European discussions on sufficiency and efficiency were gaining momentum, **the Swedish energy minister highlighted the need for Swedish government agencies and bodies to be prepared for future disruptions in the energy system, and urged citizens to prepare as well.** One suggested measure for households was to look over their energy needs and energy consumption. Energy efficiency was presented as a factor of crisis preparedness and a means to decrease vulnerability from external threats to our energy supply.⁹³

Regeringskansliet, accessed May 10, 2022, <https://www.regeringen.se/artiklar/2022/05/ansokan-om-undantag-fran-eus-energiskattedirektiv/>.

⁸⁷ "Bonus - for low emission vehicles," Transport Styrelsen, accessed May 10, 2022, <https://www.transportstyrelsen.se/en/road/Vehicles/bonus-malus/bonus/>.

⁸⁸ Anyone who owned or leased a car the 28th of February 2022 will be granted compensation for maximum one car per person. "Frågor och svar särskild drivmedelskompensation," Regeringskansliet, accessed May 10, 2022, <https://www.regeringen.se/artiklar/2022/03/fragor-och-svar-sarskild-drivmedelskompensation/>.

⁸⁹ "Normal elförbrukning och elkostnad för villa," Konsumenternas, accessed May 10, 2022, <https://www.energimarknadsbyran.se/el/dina-avtal-och-kostnader/elkostnader/elforbrukning/normal-elforbrukning-och-elkostnad-for-villa/>.

⁹⁰ "Elpriskompensation för mars månad kan inledas," Regeringskansliet, accessed May 10, 2022, <https://www.regeringen.se/pressmeddelanden/2022/05/elpriskompensation-for-mars-manad-kan-inledas/>.

⁹¹ "Tillfälligt bostadsbidrag till barnfamiljer med bostadsbidrag," Försäkringskassan, accessed May 10, 2022, <https://www.forsakringskassan.se/privatperson/foralder/bostadsbidrag-till-barnfamiljer/tillfalligt-tillaggsbidrag-till-barnfamiljer-med-bostadsbidrag>

⁹² "Greenhouse gas reduction mandate," Swedish Energy Agency, accessed May 10, 2022, <https://www.energimyndigheten.se/en/sustainability/sustainable-fuels/greenhouse-gas-reduction-mandate/>.

⁹³ "Pressbriefing med energiminister Khashayar Farmanbar 6 maj 2022," Regeringskansliet, accessed May 10, 2022, <https://www.regeringen.se/pressmeddelanden/2022/05/pressbriefing-med-energiminister-khashayar-farmanbar-6-maj-2022/>.



Conclusion

The European Union is experiencing the worst energy crisis since the 1973 oil shock. When fossil fuel prices began to rise ten months ago, most national and EU policymakers thought that this rise would only last for a few months. However oil, gas and electricity prices continued to be high throughout the autumn and the winter.

Vladimir Putin's second invasion of Ukraine has highlighted once more the risks linked to Europe's dependency on Russian fossil fuels. However, the short term need for diversification away from Russian sources has led to calls for investments in new fossil fuel infrastructure. The invasion only marginally increased support for energy sufficiency, energy efficiency and the deployment of renewables in the public discourse - despite the fact that they are the only economically and environmentally sustainable options for getting out of the fossil fuels price crises, as the Commission's REPowerEU plan highlights.

National emergency measures in response to the energy price crisis have so far remained largely uncoordinated, but they share a commonality: they favour short-term spending which can have counterproductive medium-term impacts and seem less focused on medium- and long-term solutions aligned with the climate transition. This seems to be true of countries that just had elections, like Germany, and countries that are running towards elections, like France, as well as countries which inherited inefficient Soviet-era energy systems, like Czechia, and countries with the longest and most advanced climate policies, like Sweden.

Of the six member states studied in this paper, all of them - and many more in the Union, chose to cut taxes on diesel and gasoline, with such tax cuts ranging from 0.06ct/L in Czechia to 0.30ct/L in Germany. Other measures with a similar impact were also adopted for the gas sector. Economically, such distortions reduce the price signal, thus disincentivizing behaviours and investments that reduce energy consumption, and thereby indirectly contribute to prolonging the crisis. Fiscally, they are immediately costly and unsustainable in the medium run. Geopolitically, they support higher oil and gas demand, thus boosting Vladimir Putin's revenues. Environmentally, they worsen climate change. Socially, they are regressive as they favour the wealthiest Europeans who, on average, drive more and use heavier, more energy-intensive cars.

Against this backdrop, the 18 May 2022 REPowerEU package proposed by the European Commission should be the starting point for more effective and sustainable medium- and long-term actions that are effective in keeping energy prices in check, reducing demand for the next winter, and building the institutional capacity to overcome this crisis while supporting those who need it the most in a targeted way. This paper therefore recommends that the European Council meeting of 30th-31st May 2022 shows unity and determination to overcome this crisis.

Recommendations

- Fully endorse the energy savings, and renewable energy parts of the REPowerEU package proposed by the European Commission, and work to further increase the overall ambition of the package.

- Put energy savings first, taking inspiration from the 2011 Japanese energy savings campaign, and introduce legal, economic and behavioural changes to reduce each country's energy demand by at least 5% (as proposed by REPowerEU), and at least 10% in the coming months. The greater the energy saving, the more those actions will help keep prices in check, and ensure security of energy supply during the next winter.



- Declare that building renovation and renewables installation now constitute a national security priority, and therefore organise, mandate and/or finance the largest building renovation and renewables installation operation in European history.
- Provide a mandate to the European Commission so that the 27 Member States remain united in their foreign energy policy relations and develop solidarity schemes amongst themselves.. Having member states coordinating their external energy actions through multilateral dialogues together with the European Commission is paramount to ensure that Europe remains united in this severe crisis.
- Anticipate in their national legislations the implementation of key components of the Fit for 55 negotiations, especially regarding energy efficiency and renewables.
- Lead by example, by cutting the public sector's energy demand and deploying renewable energy generation on as many public sites as possible without negatively affecting other EU priorities such as the protection of biodiversity.
- Guarantee that the European Commission and each national government has the institutional capacity to understand the severity of the current situation, and prepare for the next winter (2022-2023), including scenarios with a cold winter and full disruption of Russian oil and gas supplies.
- Adopt economic policies accounting for energy prices staying above the historic average also in the foreseeable future. Implied gas imports (for example of ammonia and aluminium) have already increased and might further rise in the next months. Subsidies to energy-intensive sectors of the economy might therefore be financially unsustainable in the medium to long term. A redistribution of employment and resources across sectors of the economy will likely materialise and it may be both too costly and unwise to try preventing market reallocation going forward.
- Ensure that any short term policies to substitute fossil fuel imports from Russia do not lead to a lock in of new fossil fuel infrastructure and long term contracts that could negatively impact the medium and long term policies of demand reduction and substitution with renewable generation.
- Ensure that the cost of these actions is not disproportionately borne by those less able to afford it by developing adequate and targeted support measures for the poorest households.
- Support a socially-fair and fiscally-sustainable support to European citizens, and share best practice in terms of public policies (such as means-tested vouchers, cash transfers, reduced public transport fees, etc.) that constitute the most adequate tools to target the financial support to those most in need.



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