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Aiming better: government support for households and firms during the energy crisis

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Abstract/Résumé

Aiming better: government support for households and firms during the energy crisis

Governments rapidly provided large support to help households and firms face the 2021-22 energy price crisis. Drawing on the OECD Energy Support Measures Tracker and country case studies, this paper documents countries' policy responses and draws lessons for enhancing countries' preparedness to future energy price shocks. Support implemented or announced by countries so far has been largely untargeted and often fiscally costly. As such it might add to inflationary pressures and in many cases reduce incentives to save energy and transition away from fossil fuels. Reliance on imported energy, technical obstacles to implement a targeted approach and political economy constraints help explain the type of support countries provided. There is now a case for withdrawing broad-based energy support, given the recent moderation in energy prices and ongoing or planned minimum-wage and welfare-benefit increases to compensate for high inflation. Digitalisation would help improve the quality of support countries can provide to face a future energy or other crisis by speeding up payment delivery and facilitating a more targeted approach based on vulnerability factors beyond low income, such as the inability to renovate an energy-inefficient home. Ensuring that support measures maintain incentives for energy savings and encourage energy diversification, combined with investments to accelerate the green transition, is key to reducing vulnerability to energy price shocks.

Keywords: energy prices, fiscal policy, government budget, government expenditure, environment, energy demand, energy supply, welfare programmes, social assistance, digitalisation

JEL Classification: H31, H32, H53, P18, Q41, Q43, Q48, I38, H61

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Mieux cibler : soutien des pouvoirs publics aux ménages et aux entreprises pendant la crise de l'énergie

Les gouvernements ont rapidement apporté un soutien important pour aider les ménages et les entreprises à faire face à la crise des prix de l'énergie de 2021-22. S'appuyant sur l'Outil de suivi des mesures de soutien à l'énergie de l'OCDE et sur des études de cas nationales, ce document présente les réponses politiques apportées par les pays de l'OCDE et en tire des leçons pour mieux préparer les pays à des futurs chocs des prix de l'énergie. Les mesures de soutien mises en œuvre ou annoncées par les pays jusqu'à présent n'étaient pas pour la plupart bien ciblées et étaient le plus souvent coûteuses sur le plan budgétaire. Ainsi, elles risquent d'accentuer les pressions inflationnistes et, dans de nombreux cas, de réduire les incitations à économiser l'énergie et à abandonner les combustibles fossiles. La dépendance à l'égard des importations d'énergie, les obstacles techniques à la mise en œuvre d'une approche ciblée et les contraintes liées à l'économie politique expliquent en partie le type de soutien apporté. Il est aujourd'hui justifié de retirer l'aide générale à l'énergie, compte tenu de la récente modération des prix de l'énergie ainsi que les augmentations en cours ou prévues du salaire minimum et des prestations sociales mises en place pour compenser l'inflation élevée. La numérisation permettrait d'améliorer la qualité de l'aide que les pays peuvent apporter pour faire face à une future crise énergétique ou autre, en accélérant le versement des paiements et en facilitant une approche plus ciblée fondée sur des facteurs de vulnérabilité autres que le faible revenu, comme l'incapacité à rénover un logement énergivore. Pour réduire la vulnérabilité aux chocs des prix de l'énergie, il est essentiel de veiller à ce que les mesures de soutien maintiennent les incitations aux économies d'énergie et encouragent la diversification énergétique, en combinaison avec des investissements visant à accélérer la transition verte.

Mots clés : prix de l'énergie, politique fiscale, budget public, dépenses publiques, environnement, demande d'énergie, approvisionnement en énergie, programmes d'aide sociale, assistance sociale, numérisation

Classification JEL : H31, H32, H53, P18, Q41, Q43, Q48, I38, H61

Main Findings

This policy paper documents countries' responses to the energy crisis, following the disruption in energy markets caused by the Russia's war of aggression against Ukraine, and draws lessons for the future. The paper provides policy insights to enhance countries' preparedness to future energy price shocks and guide countries to design and implement more targeted policy responses. The main messages of the paper are:

- Across 41 OECD and non-OECD countries, the estimated cost of announced measures is about USD 400 billion for 2022 and 405 billion for 2023. The gross fiscal costs of support measures are large and vary widely across countries, exceeding 2.5% of GDP in some countries.
- Recent and ongoing increases in minimum wages and welfare benefits, often as a result of inflation indexation, combined with the recent normalisation in energy prices, allow governments to withdraw the exceptional support measures introduced in the wake of the crisis.
- Renewed spikes in energy prices may warrant targeted support measures as indexation systems are often subject to delays and do not account for specific vulnerabilities to energy price shocks. Programmes addressing such vulnerabilities (e.g., housing energy efficiency improvements) are complementary to energy support measures.
- Improving countries' preparedness to future energy market shocks requires identifying clear policy objectives, policy levers and targeting methods, and establishing a monitoring and evaluation system for the design and effective implementation of targeted energy measures.
- An emergency top-up payment to beneficiaries of social assistance programmes can often be the simplest and fastest response to a crisis.
- Digitalisation of the public administration can improve the design and implementation of targeted measures by expediting payment delivery and the identification of those most in need. Further digitalisation of energy systems, through for instance smart meters, can encourage energy savings by providing consumers timely information on energy use.
- Reducing vulnerability to future energy crises hinges on diversifying energy sources and accelerating the green transition.

Introduction

1. Russia's war of aggression against Ukraine and the curtailment of Russian gas exports to Europe have roiled energy markets worldwide. In Europe and Asia, wholesale gas and electricity prices started rising noticeably in 2021 and reached all-time highs during 2022, while in the United States gas prices tripled at their peak. Global oil prices hit their highest level in nearly a decade. These steep energy price increases contributed to high inflation rates, resulting in a cost-of-living crisis (OECD, 2022[1]). Energy prices have moderated since their 2022 peaks but will likely remain high and volatile for some time (IEA, 2022).

2. The large and sudden energy price increases motivated governments to implement a range of relief measures. These fall into two broad categories: price measures (e.g., reduced taxes on energy and capped energy prices) and income measures (e.g., transfers and tax credits to consumers). Untargeted measures account for 77% of the estimated total gross fiscal cost of support in 2022-23 as governments responded to the necessity of providing a rapid policy response that protected households' purchasing power and the viability of firms. Technical difficulties, such as the lack of comprehensive linked databases on income and energy use, have also significantly hampered the widespread design and implementation of measures targeted at those most in need of help. The energy crisis however has also shown that even if governments have the tools to design and implement targeted policies, they are unlikely to do so if a large share of the population and firms is severely and suddenly affected by a shock.

3. However, untargeted measures often entail large fiscal costs and may disproportionately support better-off households. Moreover, by providing stimulus to aggregate demand, they risk further stoking energy and consumer price inflation, requiring central banks to tighten monetary policy more than they would do otherwise. Untargeted price measures are especially problematic as they weaken incentives to save energy and, depending on the energy mix, may sustain the demand for fossil fuels. As such, untargeted measures are not a durable solution to tackle high and volatile energy prices and may be inconsistent with other policy objectives such as the energy transition, debt sustainability and price stability.

4. Recent and ongoing increases in minimum wages and welfare benefits and the retrenchment in energy prices strengthen the case for withdrawing untargeted energy relief measures, while improving targeted support for vulnerable households inadequately covered by the social protection system. Making strides in this direction, further increasing the share of clean energy in the energy mix, and diversifying energy sources would strengthen countries' preparedness to cope with future energy price shocks, bolster energy security and accelerate the energy transition.

5. This policy paper documents countries' responses to the energy crisis, based on the information in the updated OECD Energy Support Measures Tracker and country case studies, and draws lessons for the future. The paper also provides policy insights to guide countries in their targeting efforts, accounting for different factors affecting vulnerability to energy price shocks.

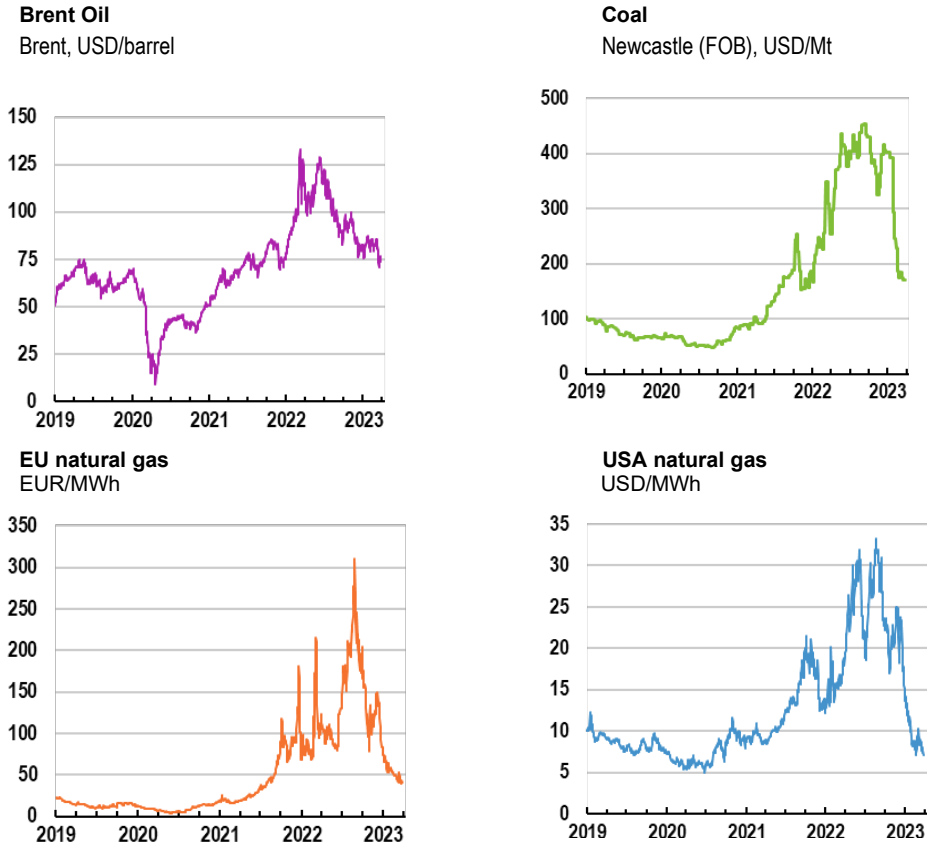
6. The main messages of the paper are:

- Governments moved quickly to provide support for firms and households to help them cope with rising energy costs. Across 41 OECD and non-OECD countries, the estimated cost of announced measures is about USD 400 billion for 2022 and 405 billion for 2023.
- The gross fiscal costs of support measures are large and vary widely across countries, amounting to about 0.7% of GDP in 2022 and 0.8% in 2023 in the median OECD economy but exceeding 2.5% of GDP in some countries.
- An emergency top-up payment to beneficiaries of social assistance programmes can often be the simplest and fastest response to a crisis. However, countries have made limited use of such top-up payment schemes during the energy crisis
- Renewed spikes in energy prices may warrant targeted support measures as indexation systems are subject to delays and do not account for specific vulnerabilities to energy price shocks. These vulnerabilities include not only low income, but also the inability to renovate an energy-inefficient home, limited access to cheaper forms of energy or higher-than-average energy needs due to age, illness or geographical location. Programmes addressing these vulnerabilities (e.g., housing energy efficiency improvements) are complementary to targeted energy support measures.
- Improving countries' preparedness to future energy market shocks requires identifying clear policy objectives, policy levers and targeting methods, and establishing a monitoring and evaluation system for the design and effective implementation of targeted energy measures. Making strides in this direction will contribute to allaying informational and political economy constraints that hamper the implementation of targeted support.
- Digitalisation of the public administration can improve the design and implementation of targeted measures by expediting payment delivery and the identification of those most in need. Further digitalisation of energy systems, through for instance smart meters, can encourage energy savings by providing consumers timely information on energy use.
- Reducing vulnerability to future energy crises hinges on diversifying energy sources and accelerating the green transition. In contrast, most of the implemented or announced measures have reduced incentives to save energy or switch to low-carbon alternatives.
- Regarding firms, the general principle to guide policies should be to provide support, which is both temporary and restricted to companies that would have been financially viable in the absence of the energy price shock. Concrete actions leading to durable energy saving and adjustment to higher and more volatile energy prices should be a precondition for accessing such support schemes.

An overview of energy support measures and their fiscal costs

7. Wholesale energy prices started rising noticeably in 2021 and soared further in the wake of Russia's war of aggression against Ukraine, especially in Europe (Figure 1). A full pass-through to retail prices would have made energy end-use expenditures in OECD economies reach magnitudes not seen since the early 1980s (Figure 2). Sharp rises in energy prices boost inflation and typically have a contractionary impact on economic activity through both demand and supply channels, eroding the purchasing power of households and lowering firms' output. Swift government action to cushion the impact of high energy prices on households and firms helped to prevent sizeable output declines in many countries but has often come with high fiscal costs and has not always preserved incentives to reduce energy consumption. Energy prices have moderated since their 2022 peaks but are still generally above pre-pandemic levels and will likely remain high and volatile for some time (IEA, 2022). How best to design energy policy support therefore remains highly relevant.

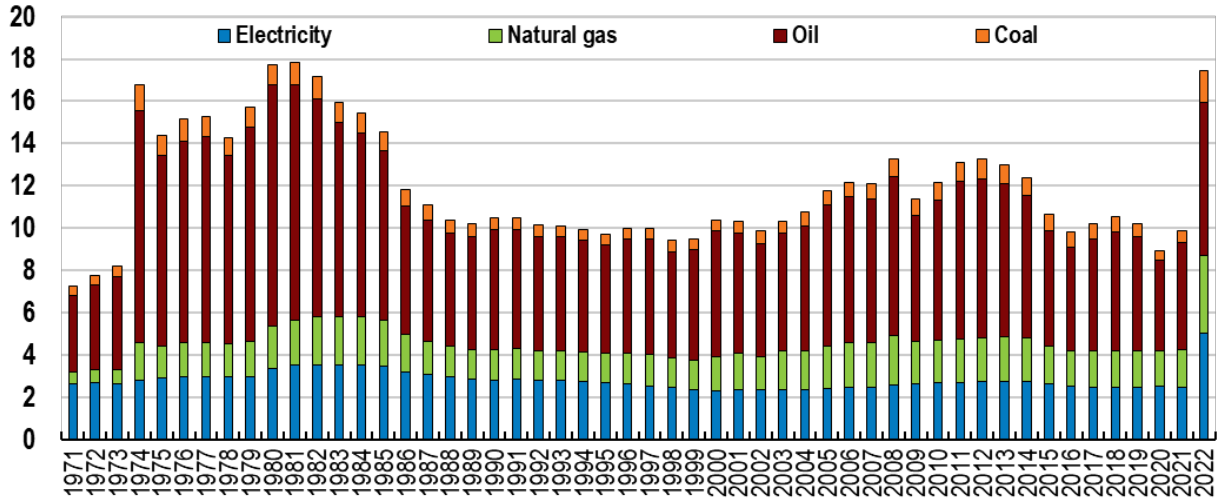
Figure 1. Energy prices reached historical highs, but have since come down



Note: The figure for coal shows weekly prices for Newcastle FOB 6000kcal/kg NAR. Newcastle refers to Newcastle, Australia. Figures in the bottom panel show the evolution of TTF Neutral Gas Price for Europe and Henry Hub for the United States. Data as of 27 March 2023.
Source: Refinitiv.

Figure 2. Energy end-use expenditures have reached early 1980s levels

% of GDP



Note: Estimates of the level of energy expenditure, computed as end-use prices in local currency multiplied by volumes consumed, are produced at the country level for 29 OECD countries. GDP shares are then aggregated using moving GDP weights in PPP terms. End-use prices (defined as the average unit price effectively paid by industrial and household consumers as well as for electricity generation) include taxes. Prices start in 1978 in the IEA database; they were backcast to 1971 using the Brent price for oil, and prices for coal products and natural gas, and the rate of increase of the electricity price in the US CPI for electricity. Prices are extended to 2022 using the growth rate of reference prices converted in local currency (average of 2022 data compared to 2021): Brent for oil, ICE Newcastle futures for coal, and wholesale prices for electricity and natural gas (available for 25 and 27 OECD countries, respectively). For 2022, the volumes consumed correspond to the average of 2019 and 2021.

Source: International Energy Agency; OECD Economic Outlook database; Refinitiv; US Energy Information Administration; Japanese Power; German Federal Network Agency (SMARD); Korea Electric Power Statistics Information System; Canada Independent Electricity System Operator; and OECD calculations.

8. To document government responses to the rise in energy prices and expand the evidence basis for better policy action in the future, the OECD has developed the OECD Energy Support Measures Tracker (henceforth the Tracker, Box 1). This database reflects a systematic stocktaking exercise of support measures in 41 countries by means of a common classification and common criteria to quantify the implied budget costs. This paves the way for the analysis summarised in this paper and also provides a tool for the regular monitoring of fiscal policy developments. The analysis based on the information drawn from the Tracker is complemented by national case studies providing further qualitative information and institutional detail (Annex A) and the Tracker is compared with other available databases on energy support, especially as regards the quantification of fiscal costs (Annex B).

9. Governments rapidly scaled up support measures to energy consumers, announcing around USD 400 and 405 billion of support in 2022 and 2023 respectively in the OECD and non-OECD countries covered. This corresponds to a gross budget cost of 0.7% of GDP in 2022 and 0.8% of GDP in 2023 in the median OECD economy, and above 2.5% of GDP in some countries (Figure 3).[1] These costs exceed

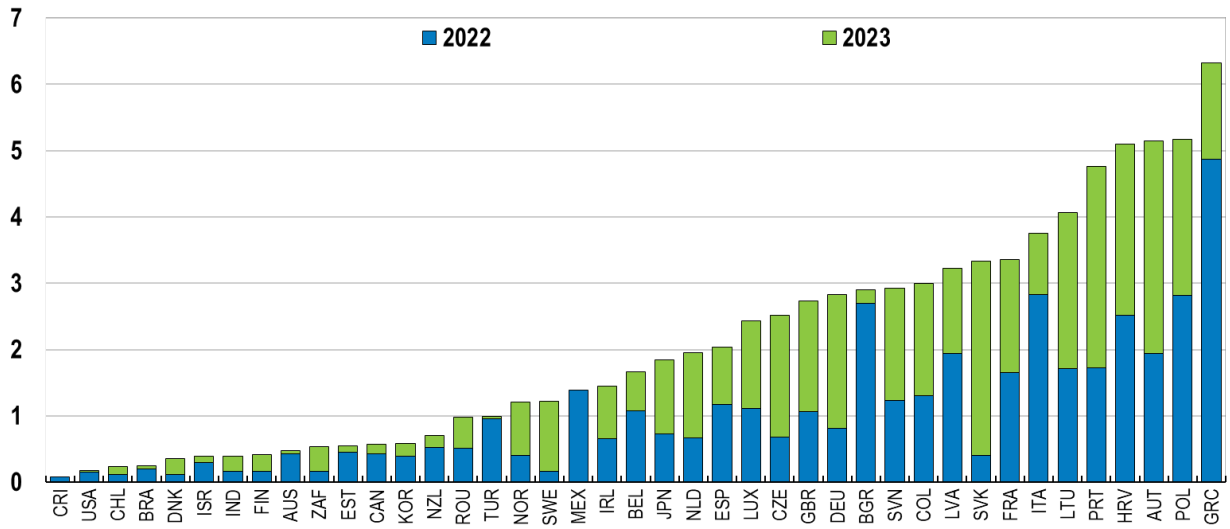
[1] Budget costs are assessed in gross terms, without deducting revenue increases from possible accompanying measures (e.g. windfall profit taxes on energy firms). They aim to quantify the impact of support measures on general government revenue or expenditure, and thus on net lending, as defined in the national accounts. For this reason, measures which in general do not impact net lending, at least immediately, such as those consisting in credit and equity support (see Box 1), have been excluded from the cost quantification. The Tracker includes measures and associated costs from 2021 to 2024. However, all figures and references to fiscal costs shown in this paper only refer to 2022-23, unless otherwise specified, since fewer countries implemented support in 2021 or announced plans for 2024.

what the median OECD country spends on unemployment benefits and are roughly half of the expenditure on social protection for family and children.[2]

10. In 2023, the fiscal costs of support measures will heavily depend on the evolution of energy prices (see below), and could turn out lower than anticipated if prices remain below their recent peaks. Still, large-scale energy support adds to the pressures on public finances, already saddled by higher debt ratios in the aftermath of the pandemic and rising debt service costs. In addition, untargeted energy support packages buttress aggregate demand and may add to inflationary pressures. In many countries, recent and ongoing increases in minimum wages and welfare benefits, often reflecting automatic indexation to inflation, are now an effective mechanism to provide necessary support to lower-income households. Phasing out or letting expire broad-based energy support, while improving targeted support for vulnerable consumers inadequately covered by the social protection system ,would thus help address the macroeconomic and fiscal challenges many countries face.

Figure 3. The fiscal response to the energy crisis has been substantial, especially in Europe

% of GDP



Note: Support measures are taken in gross terms, i.e., not accounting for the effect of possible accompanying energy-related revenue-increasing measures, such as windfall profit taxes on energy companies. Where government plans have been announced but not legislated, they are incorporated if it is deemed clear that they will be implemented in a shape close to that announced. Gross fiscal costs reflect a combination of official estimates and assumptions on how energy prices and energy consumption may evolve when the support measures are in place. Costs are estimates for both 2022 and 2023, naturally subject to greater uncertainty in the current year. Measures corresponding to categories "Credit and equity support" and "Other" in Table 1 have been excluded. When a given measure spans more than one year, its total fiscal costs are assumed to be uniformly spread across months. For measures with no officially announced end-date, an expiry date is assumed and the fraction of the gross fiscal costs that pertains to 2022-23 has been retained.
Source: OECD Energy Support Measures Tracker; and OECD calculations.

[2] In 2019, the latest available pre-pandemic year in the OECD Public Finance Dataset, spending on unemployment benefits and family and children amounted to respectively 0.6% and 1.7% of GDP in the median OECD economy.

Box 1. The OECD Energy Support Measures Tracker

The Tracker is a dataset taking stock of all government interventions to support energy users since February 2021 and the associated budgetary costs. The current vintage of the database has a cut-off date of 23 May 2023 and covers 41 countries, of which 35 are OECD economies (all member countries except Iceland, Hungary and Switzerland) and 6 non-OECD economies (Brazil, Bulgaria, Croatia, India, Romania, and South Africa).[3] To date, the Tracker is the most comprehensive source of data on energy support measures in OECD economies. *[The tracker will be made available later on the OECD website.]*

To enhance cross-country comparability, the Tracker classifies measures according to a common taxonomy (Table 1). For each measure, it also contains information on start and end dates, gross fiscal cost, main beneficiaries (identifying whether vulnerable households or firms from specific sectors are targeted, as well as, if applicable, summary information about the differentiation of support across recipients) and main energy carriers.

Table 1. Summary of categories in the OECD Energy Support Measures Tracker

Type of support	Mechanism of support	Example from the Tracker and case studies (Annex A)
Energy price support	Tax measures	Spain: In June 2021, the government lowered a special consumer tax on electricity from 5.1% to 0.5%.
	Reduced, regulated or capped marginal energy prices	Netherlands: In November 2022, the government introduced a scheme to hold down the energy bills of energy-intensive SMEs.
Income support – energy related	Tax measures	Italy: In January 2022, fuel support from firms to employees was allowed to be tax exempt.
	Budgetary transfers	France: In December 2022, a one-off top-up to the means-tested energy voucher was introduced.
	Reduced, regulated or capped average energy prices	Poland: Power prices for 2023 have been announced to be frozen at their 2022 levels for household consumption up to 2000 kWh. with higher thresholds for large families, households with disabled people and farmers.
Income support – non-energy related	Tax measures	Canada: In September 2022, the existing federal goods and services tax credit to low-income households was doubled for a six-month period.
	Budgetary transfers	Costa Rica: In September 2022, a monthly transfer to poor households of around EUR 85 (renewable for three months) was introduced.
Credit and equity	Deferred tax payments	Portugal: In March 2022, an extension to the entire transport sector of the flexibility of tax payment of SMEs

[3] The Tracker also includes information on another 5 countries (Argentina, China, Hungary, Indonesia and Switzerland), for which it was either not possible to quantify the gross fiscal cost of the energy support measures or these were deemed to have no impact on the general government net lending as defined in the national accounts, as is the case of measures providing credit and equity support.

support		was introduced.
	Loan guarantees	Romania: In January 2023, loan guarantees worth EUR 500 mn were granted to companies in all sectors.
	Loans (subsidised or not) or credit lines	Austria: In August 2022, a credit line of EUR 2 bn was introduced for the main power supplier in the greater Vienna area.
	Equity injections	Germany: In September 2022, the energy company Uniper was nationalised.
Other	Any mechanism not classified elsewhere	Slovak Republic: In 2022, a special windfall tax of 55% was levied on excess profits of companies related to the extraction and processing of oil and natural gas.

Note: Income support measures that are non-energy related are those that do not affect average energy prices (e.g., cash transfers to low-income households with no energy-related conditions to access support).

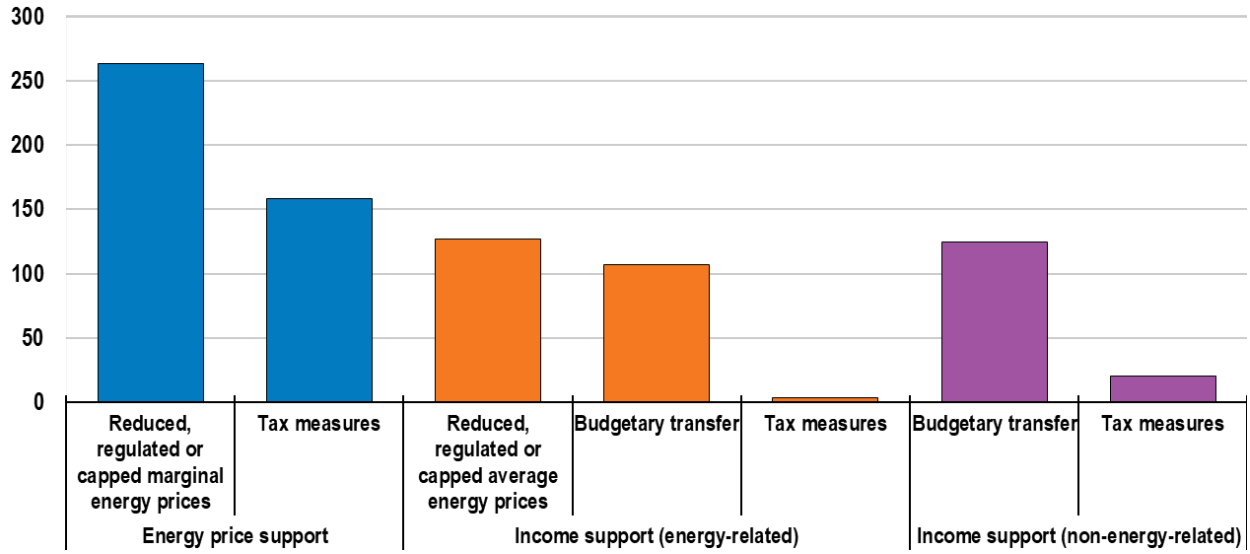
An important class of measures, further analysed in Box 3, are those which regulate, reduce or cap energy prices only up to an energy consumption threshold. They are classified either as price or energy-related income support measures depending on the threshold level. If the threshold is above average household consumption, these measures are classified as price support measures as most consumers benefitting from the measure then face a marginal price of energy below the market price. In contrast, if the threshold is below average consumption, they are classified as energy-related income support.

11. Price support measures reduce the marginal energy prices paid by households or firms – i.e., the prices paid for consuming an additional unit of energy, such as an extra kWh of electricity. These measures lower energy bills but may also decrease incentives to save energy. Income support measures are split into two categories: 1) energy-related income measures, which support the income of the beneficiaries by discounting energy payments; 2) non-energy related income measures, which work via channels not related to energy use, such as cash transfers to households or reductions in income taxes. Energy-related income support reduces energy bills by lowering the average energy price, but leaves marginal prices, and hence incentives to reduce energy consumption, unaffected.

12. Energy price support accounts for about 52% of the total cost of relief measures over 2022-23, followed by energy-related income support (estimated at about 30%, Figure 4). Reduced, regulated or capped energy prices have been the predominant support mechanism. Tax measures, such as reduced VAT or excise rates, have also been often used. These mechanisms typically imply expenditure or foregone revenue that depend – to at least some extent – on the evolution of the market prices of energy, thus highlighting the importance of the latter for the ultimate budget costs of support measures.

Figure 4. Support measures have mainly aimed at reducing energy prices

Total measures, USD billions in 2022-23

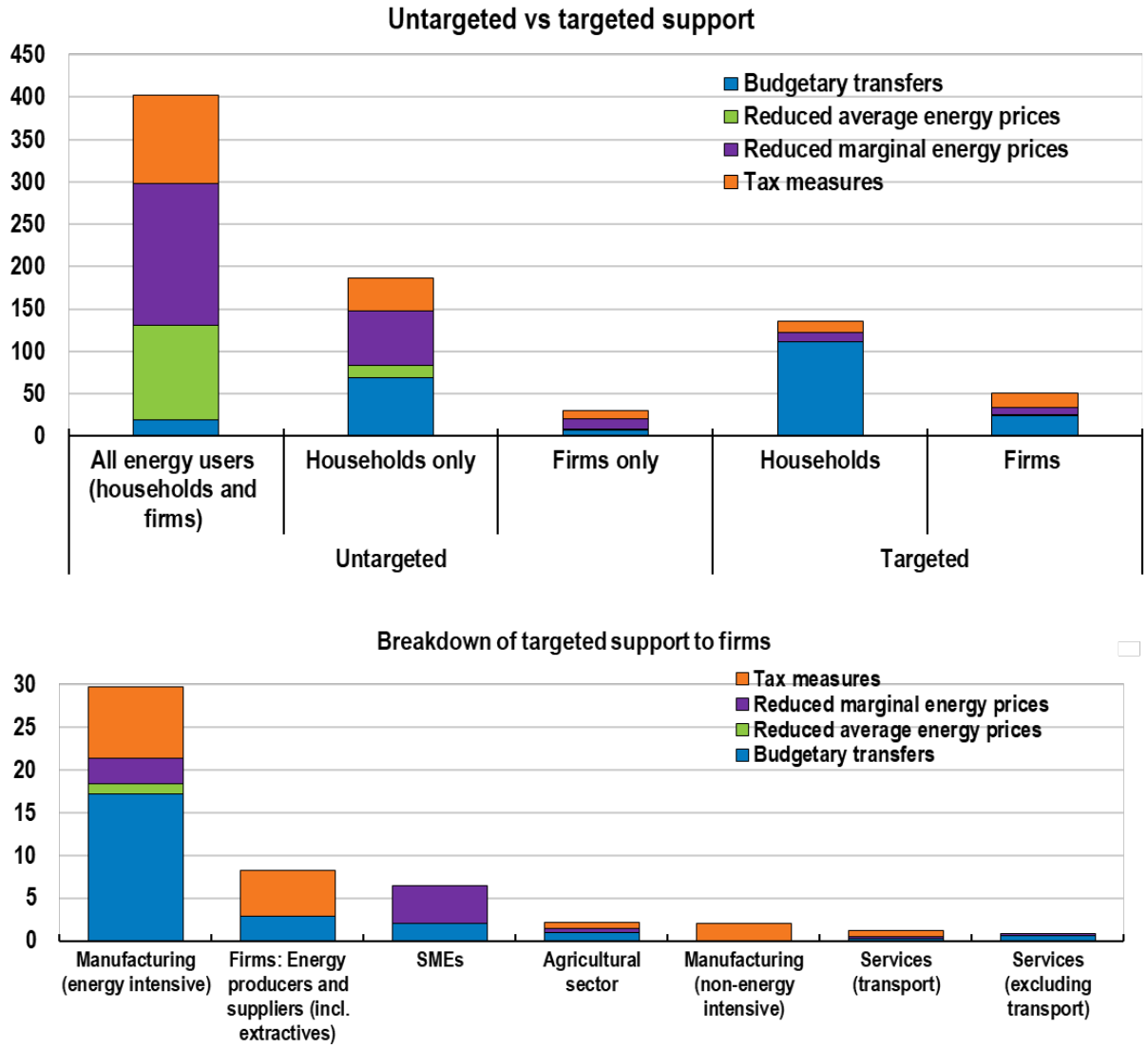


Note: Support measures are taken in gross terms, i.e., not accounting for the effect of possible accompanying energy-related revenue-increasing measures, such as windfall profit taxes on energy companies. Where government plans have been announced but not legislated, they are incorporated if it is deemed clear that they will be implemented in a shape close to that announced. Gross fiscal costs reflect a combination of official estimates and assumptions on how energy prices and energy consumption may evolve when the support measures are in place. Costs are estimates for both 2022 and 2023, naturally subject to greater uncertainty in the current year. Measures corresponding to categories "Credit and equity support" and "Other" in Table 1 have been excluded. When a given measure spans more than one year, its total fiscal costs are assumed to be uniformly spread across months. For measures with no officially announced end-date, an expiry date is assumed and the fraction of the gross fiscal costs that pertains to 2022-23 has been retained.
Source: OECD Energy Support Measures Tracker.

13. Untargeted support measures, defined as those benefitting all households, firms or energy users, account for the vast majority (about 77%) of the estimated costs over 2022-23 (Figure 5). This finding is only slightly nuanced by the fact that some of those measures do not support all beneficiaries to the same degree (e.g. energy bill reductions in Belgium, the Energy Price Guarantee programme in the UK and energy price caps in Greece, all of which are more generous in the case of vulnerable households). Thus, broad coverage explains the high costs reported above, rather than especially generous relief per beneficiary. Within firms, targeted support has mainly been aimed at energy-intensive manufacturing companies.

Figure 5. Energy-related support has been largely untargeted

Total measures, USD billions in 2022-23



Note: Support measures are taken in gross terms, i.e., not accounting for the effect of possible accompanying energy-related revenue-increasing measures, such as windfall profit taxes on energy companies. Where government plans have been announced but not legislated, they are incorporated if it is deemed clear that they will be implemented in a shape close to that announced. Gross fiscal costs reflect a combination of official estimates and assumptions on how energy prices and energy consumption may evolve when the support measures are in place. Costs are estimates for both 2022 and 2023, naturally subject to greater uncertainty in the current year. Measures corresponding to categories "Credit and equity support" and "Other" in Table 1 have been excluded. When a given measure spans more than one year, its total fiscal costs are assumed to be uniformly spread across months. For measures with no officially announced end-date, an expiry date is assumed and the fraction of the gross fiscal costs that pertains to 2022-23 has been retained.
Source: OECD Energy Support Measures Tracker.

The design, rationale, and objectives of support measures

14. Countries' responses to the energy crisis differ greatly in size and scope largely reflecting differences in the severity of the shock they faced. The responses can be broadly divided into two groups based on whether they faced high energy price increases that affected a broad cross-section of households and firms, or whether they were more sheltered from these shocks. Of the countries falling into the first group, most needed to provide rapid support to a large share of the population and firms. This helps explain why untargeted measures, which are typically fast to implement, dominated spending, making up over 75% of total support in 2022.

15. Several factors meant that some countries were more vulnerable than others. These include the dependence on imported fossil fuels (especially from Russia), the presence of alternative energy supply routes (e.g., via seaborne LNG), the availability of non-fossil fuel energy supplies (e.g., nuclear), the link between spot gas prices and wholesale electricity prices, and the structure of the manufacturing sector and its dependence on gas and other fossil fuels as inputs to production processes. These factors determined the degree of vulnerability of countries to the energy crisis, the size of the shock they faced and their priorities in responding to it. The same structural features also make countries vulnerable to future energy supply and price shocks.

Country-specific factors have led to varying responses to the energy crisis

16. Countries with high energy import ratios have implemented some of the costliest support measures, especially in Europe (Figure 6). A higher dependence on energy imports from countries that do share the same values makes an economy more vulnerable to the impacts of energy geopolitics. For instance, Greece, Lithuania, and Italy have energy import dependency ratios of over 80% and rank in the top five spenders (over 3.8% GDP over 2022-23). Since Russian energy imports made up a significant share of their imports, it has been particularly challenging for these countries to immediately replace these imports, while keeping energy prices down and maintaining energy supply security.

17. The difficulties of finding alternative sources and ensuring energy security were particularly acute in the Czech Republic, the Slovak Republic, Poland and Romania when the war broke out, largely due to geographical constraints. These countries mainly announced large, untargeted measures set to last well into 2023. The energy price shock affected a significant portion of the population, increasing the appeal of fast, untargeted measures. In addition, decisions to continue these measures into 2023 are partly due to heightened uncertainty and structural challenges to energy security in Europe.

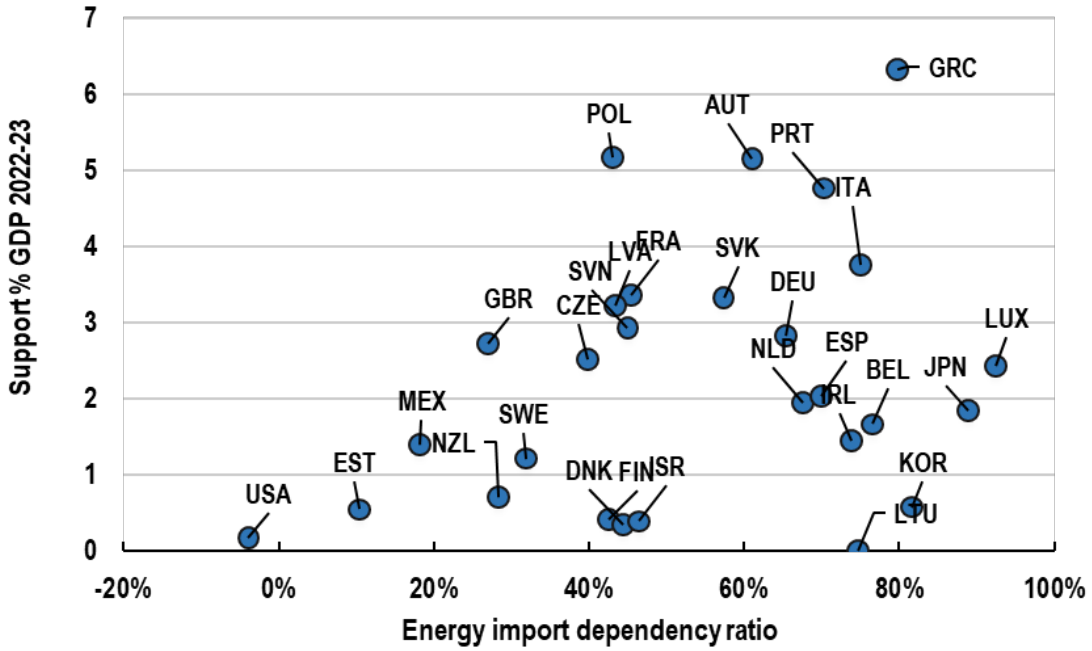
18. The extent and resilience of existing energy infrastructure has represented a major determinant of countries' exposure both to the 2022 energy crisis and future volatility. Despite experiencing price spikes following the war, Portugal and Spain have major gas pipeline connections to North Africa that helped to shelter them from energy disruptions. By contrast, France's vulnerability to the energy crisis rose after increasing reliance on LNG imports in 2022, with an unprecedented number of temporary nuclear reactor outages. As a result, France experienced some of the highest wholesale electricity price

increases over 2022. If these had been passed on fully to consumers, they would have severely impacted a wider share of the population. Untargeted measures made up over 80% of total announced spending in 2022-23, of which energy price caps accounted for over 52% of spending.

19. In contrast, fossil fuel producing countries, such as Australia, Canada, the United States and Norway have been less affected by the energy crisis and have benefitted from higher commodity prices. These countries have experienced lower energy price increases and generally announced comparably smaller and more temporary support than European countries. Canada introduced a variety of measures, but at a total cost of about 0.1% of GDP for the Federal Government and 0.3% of GDP for the four largest provinces.

Figure 6. The costs of energy support measures and their dispersion rises with countries' energy import dependency ratio

Energy support measures



Note: The figure shows on the vertical axis the support measures as share of GDP and on the horizontal axis the energy import dependency rate in 2020 which is calculated as the ratio of net imports (imports minus exports) to gross inland energy consumption (production plus net imports). Excludes Chile, Costa Rica, Hungary and Türkiye due to limitations in data.
Source: IEA Extended World Energy Balances database; and OECD calculations.

The main objectives of support measures and the obstacles to targeting

20. Ensuring energy affordability by stabilising energy prices has been an important policy objective of governments' emergency responses to the energy crisis, reflecting the widespread nature of the shock. This can help explain why most countries covered in the Tracker (29 out of 41) have adopted some form of marginal or average energy price reduction measure, often accounting for more than half of total support costs (Figure 7). For some countries, this objective is maintained for 2023 and 2024, possibly because governments are wary of renewed spikes in energy prices. For example, the Slovak Republic announced a cap on energy prices for 2023, stating that, without intervention, electricity prices would increase by 380%, gas prices by 225% and heating costs by 80%.

21. The Tracker indicates that the decision to use untargeted support for firms largely resulted from the two main objectives: to keep afloat SMEs vulnerable to high energy prices and to secure the competitiveness of strategic industries. Slovenia indicated this objective with their EUR 350 million grant programme that aims to ensure the continuity of economic activities by covering increased costs of energy of firms of all sizes and sectors.

22. However, while support has been largely untargeted, some countries have made important efforts to mitigate the budgetary costs of their interventions by simultaneously implementing energy saving campaigns that have contributed to a significant drop in energy demand. Most notably, the mandatory measures announced by Germany's Energy Saving Ordinance, France's energy sobriety plan and Italy's Operation Thermostat sought to reduce energy consumption, mainly through the regulation of heating and lighting in public buildings.

23. In most countries, administrative burdens relating to developing and introducing targeted measures often explain decisions to use untargeted support measures. Such hurdles include costs associated with the timely and consistent collection and verification of necessary information to determine vulnerable consumers. For example, the German government noted that due to a limited rollout of smart meters across the country, they lacked the necessary data on current energy consumption and household details to better design and deliver support. These factors, together with the inadequacy or total absence of accounting information, make the task of verification of eligibility challenging for national and sub national administrations.

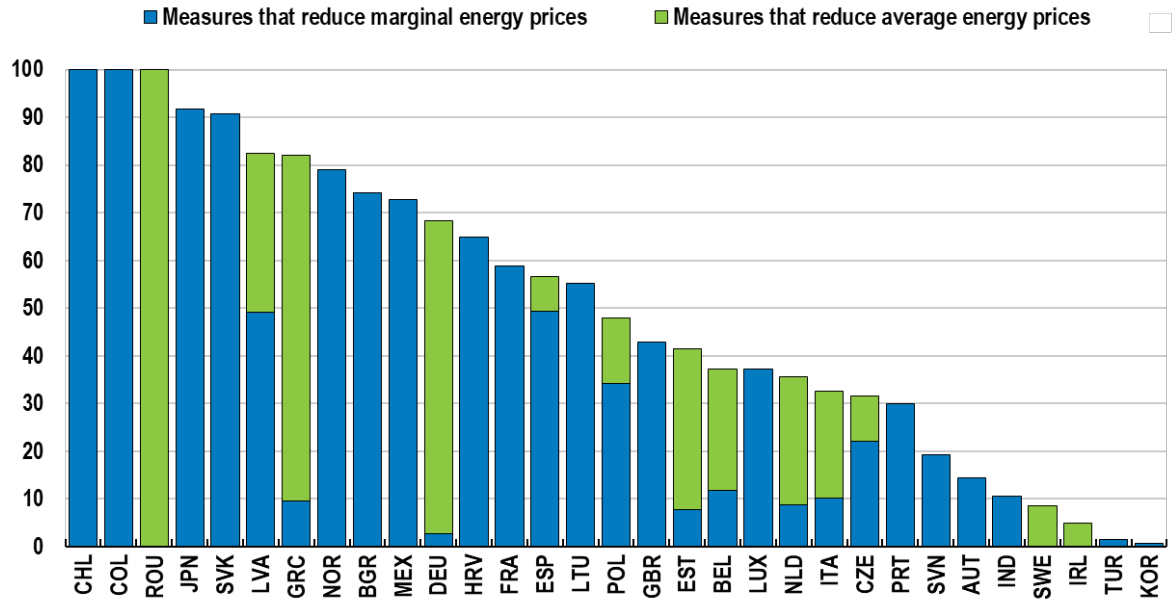
24. An additional technical difficulty arises when targeting support to firms. It is difficult to identify vulnerable yet viable firms in need of temporary support. This was also a problem during the Covid-19 pandemic response. Nonetheless, governments have made efforts to design increasingly precise criteria for support measures targeting firms, such as the "Ailing or Insolvent Economic Actor'' requirement of the UK Energy Intensive Industry exemption scheme. Under this scheme, eligibility is limited to those businesses which would almost certainly exit the market if left without a subsidy. However, this only with ensures that firms that really need help receive it; it does not ensure firms that would have failed anyway.

25. Even when administrative or digital tools are available to overcome these technical burdens, the severity of the energy crisis became a political constraint on establishing temporary and targeted support measures. For example, although the United Kingdom has innovative administrative and digital tools for targeting, one of the government's main policy interventions, the Energy Price Guarantee and the Energy Bill Support Scheme is a untargeted support measure to help keep down energy bills of all households (Annex A). In this case, the vulnerability of the economy to international energy markets is a direct result of the role natural gas plays in driving the price of electricity. Also, the high share of low energy-efficient households renders consumers particularly exposed to higher energy prices.

26. In cases where administrative and political constraints prevented better targeting, some countries still incentivised energy saving in their untargeted measures. For example, Poland used financial incentives as part of their 2023 electricity price cap by rewarding households that successfully lower their electricity use by 10% with a 10% energy bill discount. Japan introduced a similar measure, offering households the benefits equivalent to JPY 1000 (EUR 7) per month for energy consumption reductions of more than 3% based on the previous year from December 2022 to March 2023. In other instances, countries such as Estonia have established price caps on energy bills that apply up to a certain consumption threshold, which has been set well below average energy consumption levels. Consumers wishing to maximise saving on their energy bills will have to reduce consumption below this threshold.

Figure 7. Share of measures affecting energy prices

% of total cost of measures in 2022-23



Note: The bars show energy price support delivered by reduced, regulated and capped marginal energy prices and energy-related income support delivered by reduced, regulated and capped average energy prices as a share of total measures. Total measures exclude those classified as "Credit and equity support" and "Other" in the Tracker. The value for Korea is 0.6% for share of measures reducing marginal energy prices.
Source: OECD Energy Support Measures Tracker; and OECD calculations.

27. The large size, breadth and suddenness of the energy shock many countries faced created a political need to provide support quickly. The objective of providing rapid, widespread support as well as technical challenges faced by governments to design more targeted support largely explain why countries opted for a mostly untargeted approach, especially when energy prices were at their peak. Overcoming these obstacles requires country-tailored solutions that incorporate digitalisation to reduce administrative burdens and long-term strategies to reduce reliance on fossil fuels. This process would be aided by a structured approach to policy design and implementation discussed in the next section.

Table 2. Summary of case studies

Country / Policy objective	Supporting households vulnerable to energy price shocks	Limiting budgetary costs	Limiting administrative costs	Energy savings
Canada	✓ 81% of the total value of support measures has been allocated to vulnerable households. Degree of targeted support varies across provinces. *Example: Quebec's one-time payment to low- income households*	✓Energy support measures for 2022 and 2023 amount to 0.42% and 0.14% of GDP, respectively. Most of the support has been targeted.	✓Most of the support is delivered automatically and based on eligibility to existing welfare benefits. Administrative costs are expected to be limited.	✕Most of the announced measures aim to alleviate the extra burden of high energy prices via transfers and tax measures. The lack of restrictions to the benefit based on high or low energy use erodes energy saving incentives. *Example: Alberta provided monthly rebates on electricity bills to households and businesses.*
Costa Rica	✓ 60% of the total value of support measures has been allocated to vulnerable households. *Example: Inflation benefit to poor households.*	✓Support measures implemented in 2022 have an overall small effect on state budget (0.1% of GDP). A large part of the support has been targeted.	✓Delivering support through a digital system may have helped to reduced administrative costs. *Example: SINIRUBE digital database*	✕No measure has been established that attempts to incentivise energy savings. The lack of restrictions to the benefit based on high or low energy consumption erodes energy saving incentives. *Example: Monthly transfer of USD 90 to low-income households.*
France	✕ 15% of the total value of support measures has been allocated to vulnerable households.	✕ Budgetary costs have been large, amounting at 1.65% of GDP in 2022 and they are expected to increase to 1.70% in 2023. Most of the energy support is untargeted. Close to 40% of the total value of measures has been allocated to reduce marginal energy prices for all energy users. *Example: Cap on regulated retail gas price*	✓Most of the support is delivered automatically and based on eligibility to existing welfare benefits. Administrative costs are expected to be limited. *Example: Energy vouchers to low-income households.*	✕Price caps and budgetary transfers have limited exposure to wholesale energy prices and may have failed to incentivise energy saving. *Example: EUR 65 billion has been announced to cap electricity and gas prices in 2022 and 2023.*
Germany	✕ 2% of the total value of support measures has been allocated to vulnerable households.	✕ Budgetary costs accounted for 0.8% of GDP in 2022 and are estimated to rise to 2.1 % of GDP in 2023. About 70% of the total value of support aims to ensure affordability by subsidising the energy bills according to past consumption (reducing average prices but keeping marginal prices and energy saving incentives in place). The energy support for households is not targeted to vulnerable households. However, as the subsidy is tied to contract prices, it declines when retail energy prices fall due to decreasing wholesale prices, thus reducing fiscal costs of the measure.	✓ Administrative costs are expected to be limited given that most of support reduces the average cost of energy. Targeted support has been largely automatic and based on eligibility to existing welfare benefits. *Example: The increase of the one-time COVID-19 subsidy of EUR 100 to EUR 200, covering increased heating costs. Beneficiaries include the recipients of some unemployment benefits and social security and welfare benefits.*	✓A main advantage of the price support schemes is that the subsidised price levels for households and SMEs remain much above pre-crisis, which preserves incentives to save energy. Moreover, the lump-sum nature of the subsidy preserves saving incentives even below the level of 80% of past average consumption. *Example: To maximise benefits from the lump-sum electricity and gas price subsidy, consumers are incentivised to remain below 80% of their historical consumption levels.*

		Example: A subsidy of gas and electricity bills for households and firms (up to EUR 99 billion depending on developments of retail energy prices).		
Italy	✕36% of the total value of support measures has been allocated to vulnerable households. *Example: Increase in social bonus to help low-income households pay for bills*	✕Italian support packages accounted for 2.8% of GDP in 2022 and are expected to be reduced at 0.93% in 2023. Overall, support has been untargeted. *Example: Reduced VAT for fuels*	✓ Targeting has been implemented using alternative indicators, such as the income indicator. Administrative costs are expected to be limited.	✕ Most measures lack of restrictions to the benefit if the beneficiary is a high energy user. This erodes energy saving incentives. *Example: Reduced VAT for fuels*
Ireland	✕ 41% of the total value of support measures has been allocated to vulnerable households.	✕ Budgetary costs of energy support measures amount at 0.65% of GDP in 2022 and are estimated to increase at 0.79 % in 2023. A considerable share of the measures (33%) has been targeted to SMEs. *Example: Temporary Business Energy Support Scheme*	✓ Most of the support is delivered automatically. Ireland delivered top-ups of existing fuel allowances and automatically applied energy price subsidies on bills of domestic electricity consumers. Administrative costs are expected to be limited.	✕ Automatic reduction of energy bills and distribution of cash transfers was applied to all domestic electricity accounts. The lack of restrictions to the benefit based on high or low energy consumption erodes energy saving incentives. *Example: A 600 EUR credit paid to all domestic electricity customers (total cost EUR 1.2 billion).*
Japan	✕ At least, 8% of the total value of main support measures has been allocated to vulnerable households.	✕Budgetary costs of the energy support measures amounted to 0.72% of GDP in 2022 and are expected to be around 1.1% of GDP for 2023. *Example: Subsidy to oil distributors to cap oil price*	✓Most of the support is delivered automatically and based on eligibility to existing welfare benefits. Administrative costs are expected to be limited.	✕ Caps on fuel and oil prices, and subsidies on electricity and city gas prices benefit most energy users. The lack of a pre-defined consumption threshold for beneficiaries limits energy saving incentives. *Example: Extension of the oil price cap until September 2023.*
Mexico	✕ Measures have not been explicitly designed to support vulnerable households.	✕ Government expenditure amounts to around 1.39% of GDP in 2022. Measures financing is highly reliant on oil revenues. *Example: Complementary tax credit on fuel excise duties which can be used against other tax payments*		✕The measures implemented are not expected to promote energy saving incentives. *Example: Fiscal stimulus to reduce fuel excise duties*
Netherlands	✕ 16% of the total value of support measures has been allocated to vulnerable households.	✕Budgetary costs amount to 0.6% of GDP in 2022 and 1.29% of GDP in 2023. *Example: VAT reduction from 21% to 9%*	✓ The ceiling on energy prices is automatically delivered as a rebate on energy bills. Administrative costs are expected to be limited.	✕/✓ The price cap attempts to encourage energy savings by enforcing seasonal consumption thresholds and preventing leftover usage rollovers between periods. However, the annual threshold is close to average household consumption and could limit energy saving incentives. *Example: The price cap on energy bills, which only applies up to a threshold set at 96% of average consumption.*

Poland	✕ 11% of the total value of support measures has been allocated to vulnerable households.	✕ Budgetary costs amounted to 2.8% of GDP in 2022 and they are projected to be 2.3% of GDP in 2023. *Example: 0% VAT rate on food*	✓ Most measures, such as the ceiling on energy prices and distribution of budgetary transfers are applied automatically to eligible households. However, some measures require eligible beneficiaries to apply for their benefits. *Example: Households predominately using coal for heating must apply with their local municipality to receive the stated coal allowance (EUR 630).*	✓ The largest measures freeze price caps at consumption levels that may not incentivise energy saving behaviours. However, inclusion of financial incentive to reduce energy may have encouraged energy saving incentives. *Example: Price caps apply up to a consumption threshold, however, the threshold (at 90% of average consumption) is not sufficiently low to induce substantial energy saving.*
Portugal	✕ 31% of the total value of support measures has been allocated to vulnerable households.	✕ Budgetary costs amounted to 1.7% of GDP in 2022 and are expected to increase to over 3% in 2023. *Example: reduction in energy tax for firms and households.*	✓ The delivery of targeted support has used the already existing social security system. Administrative costs are expected to be limited.	✕ Most of the announced measures aim to shield households and some firms from wholesale energy prices via price caps on marginal energy prices or tax measures. The lack of restrictions to the benefit based on high or low energy use erodes energy saving incentives. *Example: Lowering of the special tax on fuels*
Spain	✕ 5% of the total value of support measures has been allocated to vulnerable households. *Example: Increase in social bonus for vulnerable households.*	✕Budgetary impacts amounted to 1.2 % of GDP in 2022, are projected to remain about the same in 2023 (0.9%). *Example: Reduced VAT rate on energy bills.*	✓Administrative costs are expected to be limited given that most of the measures aim to reduce marginal energy prices via caps and tax measures. *Example: Cut on VAT rate on gas from 21% to 5%.*	✕Most of the announced measures aim to shield households and some firms from wholesale energy prices via price caps on marginal energy prices or tax measures. The lack of restrictions to the benefit based on high or low energy use erodes energy saving incentives *Example: Untargeted rebate on motor fuels.*
United Kingdom	✕ 30% of the total value of support measures has been allocated to vulnerable households.	✕Budgetary costs amounted to 1.1% of GDP in 2022 and are expected to be around 1.7% of GDP in 2023. *Example:* Energy Price Guarantee	✓ The large untargeted electricity and gas bill reducing measures are applied automatically. Some targeted measures use existing databases on energy consumption and sources to deliver support. *Example: The Cold Weather Payment.*	✕ Most of the announced measures aim to shield households and some firms from wholesale energy prices via price caps on marginal and average energy prices or tax measures. The lack of restrictions to the benefit based on high or low energy use erodes energy saving incentives. *Example: Energy price guarantee communicates the average household energy consumption but does not limit the benefit to this level. Consumers are not exposed to wholesale electricity prices.*

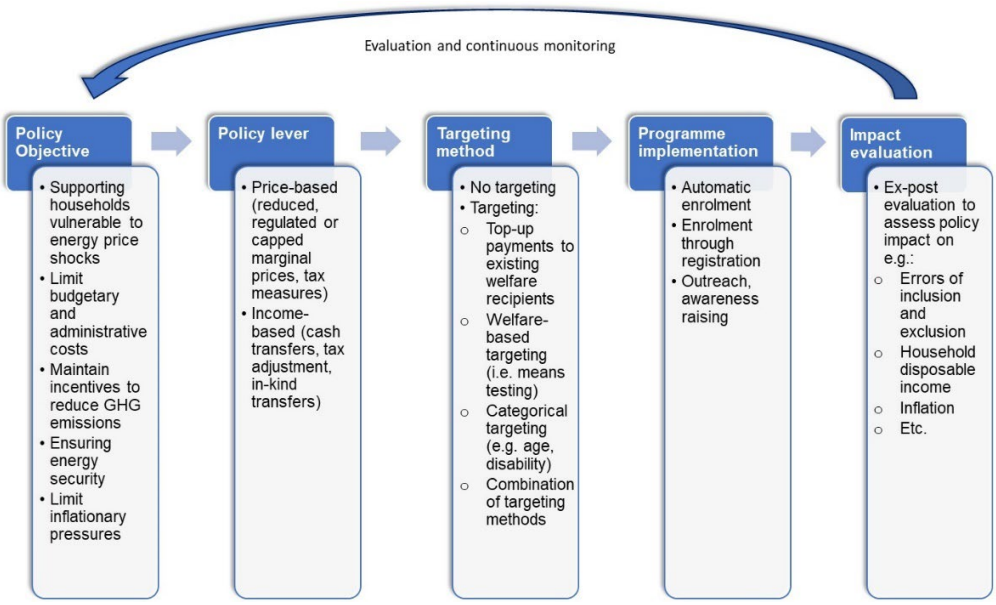
Note: See annex A for more information. Note that budgetary costs represent upper-bound estimates of government spending. As energy prices have declined, fiscal spending might have also declined compared to the foreseen initial costs. Estimates in column 1 (Supporting households vulnerable to energy price shocks) refer to the share of measures targeting vulnerable households in the total gross fiscal cost of support measures over 2022-23.
Source: OECD.

Improving targeting of support measures for households

28. The recent moderation in energy prices offers a window to governments to reform and improve the energy support measures implemented so far. This could involve withdrawing untargeted measures or letting them expire and establishing a data infrastructure system that enables governments to deliver timely and targeted support in the future when needed. Renewed spikes in energy prices may result in a "heat-or-eat" dilemma for vulnerable households if they do not have liquid financial buffers to absorb the shock. It may also force them to sell assets or take up high-interest-rate debt to afford a minimum level of energy consumption. Such actions can adversely affect the individual or family's welfare for years and across generations (Hallegatte and Rozenberg, 2017[2]; Hill, Skoufias and Maher, 2019[3]).Vulnerable households may therefore need temporary support to avoid these effects.

29. The design and implementation of targeted policies require a comprehensive approach (Figure 8). The first two steps involve determining the high-level objectives of policymakers and choosing the preferred policy lever, such as targeted versus untargeted measures and price versus income support measures (Table 2). Identifying the population of focus (i.e., households most in need of support) and choosing the targeting method is the next step. Then, careful programme implementation is crucial to reach the targeted population and minimise leakage. Finally, impact evaluation can then shed light on whether the policy reached the desired objectives and provide information for future improvements.

Figure 8. Key steps for the design and implementation of targeted policies with an application to energy support measures



Source: OECD.

30. Choices will likely differ across countries depending on policy priorities, the macroeconomic conjuncture, social preferences (relating to equity and efficiency issues) and political economy constraints. Setting choices within a comprehensive framework can nonetheless help countries to make better choices based on key common steps. The following paragraphs will discuss these steps with respect to energy price relief policies.

Policymakers' objectives and policy levers

31. Shifting to more targeted measures would allow governments to keep supporting those most in need while reducing budgetary costs. In addition to containing budgetary costs, targeted measures can achieve other policy objectives (Table 3). By allowing for energy demand to adjust to supply constraints in the current context of high inflation, they limit price pressures and ensure complementarity between fiscal and monetary policies. By preserving price signals for most of the population, targeted measures can also complement (rather than offset) other policies aiming at encouraging the adoption of energy efficiency improvements to reduce energy use and GHG emissions.

32. Speeding up energy efficiency improvements in the building and transport sector would durably mitigate exposure to high energy prices and contribute to longer-term climate change mitigation objectives. Subsidies and tax breaks to retrofit buildings and renovate vehicle fleets complement the strengthening of energy performance standards that is progressively taking place in many countries. Targeting might prevent the benefits accruing only to certain population segments, such as landlords and car-owners. For example, subsidies to improve energy efficiency in social housing and public buildings, such as the recently established Social Housing Decarbonisation Fund and Home Upgrade Grant in the United Kingdom, can help local authorities and vulnerable households cover the fixed costs necessary to invest in energy efficiency measures. Accelerating transformative transport policies, such as road space reallocation to favour biking and walking, and investing in sustainable public transport, including in electrified transport, reduce the exposure to fuel price volatility and help to reduce emissions.

Table 3. Policymakers' objectives and targeted and untargeted measures

Policymakers' objective	Untargeted price-based measures	Untargeted income-based measures	Targeted price-based measures	Targeted income-based measures
Supporting households vulnerable to energy price shocks	**X** (for a given budget constraint, provide less support to the most in need, rendering government spending less efficient and potentially less effective)	**X** (for a given budget constraint, provide less support to the most in need, rendering government spending less efficient and potentially less effective)	✓ (add to the efficiency and potentially the effectiveness of government spending as scarce resources will be concentrated on those most in need)	✓ (add to the efficiency and potentially the effectiveness of government spending as scarce resources will be concentrated on those most in need)
Limiting budgetary costs	**X** (tax reliefs reduce revenues; fiscal costs of price controls increase further the more the market price exceeds the price cap)	**X** (broad-based support measures entail large budgetary costs for meaningful support levels)	✓ (narrow eligibility to most affected households and firms limits budgetary costs)	✓ (narrow eligibility to most affected households and firms limits budgetary costs)
Limiting administrative costs	✓ (easy to implement due to limited or no screening)	✓ (easy to implement due to limited or no screening)	**X** (requires an administrative infrastructure and information that can be complex and costly to establish and obtain)	**X** (requires an administrative infrastructure and information that can be complex and costly to establish and obtain)
Maintaining incentives to reduce energy demand and emissions in line with climate change mitigation goals	**X** (reduces incentives to save energy; if the energy mix is based on fossil fuels, it will increase emissions)	✓ (preserves price signals, and hence incentives to save energy)	✓ (may complement and reinforce other policies to encourage the adoption of technologies to reduce emissions, e.g. specific incentives to insulate housing or invest in energy-efficient equipment) **X** (reduces incentives to save energy for the target population)	✓ (preserves price signals, and hence incentives to save energy or to invest in cleaner energy sources) ✓ (may complement and reinforce other policies to encourage the adoption of technologies to reduce emissions, e.g. specific incentives to insulate housing or invest in energy-efficient equipment)
Ensuring energy security	**X** (little or no incentives to save energy; if a high share of energy is imported, it will increase energy dependence)	✓ (preserves price signals, and hence incentives to save energy)	✓ (may complement and reinforce other policies to encourage energy savings) **X** (reduces incentives to save energy for the target population)	✓ (preserves price signals, and hence incentives to save energy or to invest in cleaner energy sources) ✓ (may complement and reinforce other policies to encourage energy savings)
Limiting inflationary impact	✓ (can temporarily relieve inflationary pressures by capping the increase in energy prices) **X** (may contribute to higher inflation by providing a stimulus to aggregate demand) **X** (do not allow for energy demand to adjust to supply constraints, which could exacerbate shortages)	**X** (may contribute to higher inflation by providing a stimulus to aggregate demand)	**X** (do not allow for demand to adjust to supply constraints, which could exacerbate shortages) ✓ (limits stimulus to aggregate demand in the current context of high inflation)	✓ (in the medium-to-long term, contribute to price stability by limiting the overall increase in energy demand and preserving market signals, allowing for demand for energy to adjust to supply) ✓ (limits stimulus to aggregate demand in the current context of high inflation)

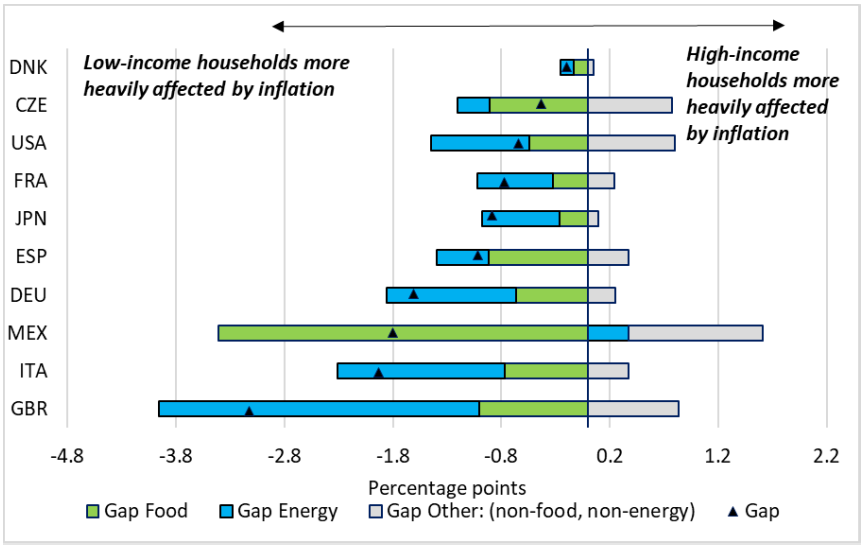
Note: A support measure is considered targeted if its main beneficiaries are not "all households" or "all firms" or "all energy users".
Source: OECD.

The design of targeting methods: policy insights from the literature and recent country initiatives

Which households are more vulnerable to high energy prices?

33. There are several reasons why some households may be more vulnerable to higher energy prices and hence rising heating costs. Higher energy prices place a heavier burden on most low-income households, who tend to spend a larger share of their budget on electricity and gas (Figure 9).[4] However, vulnerability to higher energy prices is not only related to income. Other factors of vulnerability include living in an energy-inefficient house, barriers to undertaking energy efficiency improvements, limited access to alternative and cheaper energy sources (e.g. lack of connectivity to gas infrastructure in rural areas), and higher-than-average energy needs due to for instance age, illness, household size or geographic location (i.e. colder winters) (Légendre and Ricci, 2015[4]; Chard and Walker, 2016[5]; Drescher and Janzen, 2021[6]). Living in rural areas can amplify these vulnerability factors due to limited transport alternatives to driving a car.

Figure 9. The energy price shock has a greater impact on low-income households



Note: How to read: in the United Kingdom, the decline in purchasing power following changes in consumer prices between August 2021 and August 2022 was 3.1 percentage points (pps) higher for low- relative to high-income households (a negative 3.1 pp gap). This total gap is driven by three effects: the effect of changes in energy prices (a negative 2.9 pps gap), the effect of changes in food prices (a negative 1 pp gap) and the effect of changes in non-energy non-food consumer prices (a positive 0.8 pps gap). Due to data limitations, low-income and high-income households are defined differently between countries. This may reduce the direct comparability of within-country income differentials. For some countries, low-income households are defined by the bottom third of the distribution, whereas for others, it is the bottom decile. See Causa et al. (2022[7]) and their Annex for more details.
Source: Causa et al. (2022[7])

34. The factors affecting vulnerability to high energy prices are likely to be similar among countries, although with different degrees of severity depending on country-specific circumstances. These include countries' policies, structural economic issues, and geographical factors. For example, some countries have social and affordable housing policies that provide houses of decent energy efficiency to low-income households and tenants. This limits their exposure to a sudden increase in heating costs

[4] Not all low-income households are necessarily vulnerable to high energy prices as some countries have social energy tariffs.

compared with similar households in countries without such policies and with other vulnerable groups in the same country (e.g. seniors). Structural economic issues can also shape the severity of vulnerability factors. In south-eastern Europe, for instance, vulnerability to higher energy prices may be especially pronounced due to a combination of a higher prevalence of energy-inefficient housing, higher barriers and limited access to alternative and cheaper energy sources, as well as higher poverty rates (Bouzarovski and Tirado Herrero, 2017[8]). Some of these vulnerability factors are particularly prevalent in certain rural areas of this region (Buzar, 2016[9]).

Countries' initiatives to better target energy support measures

35. Some countries have employed innovative methods or assembled comprehensive databases to overcome administrative and technical hurdles to targeting. The main innovations fall into two broad categories: digitalisation and the use of novel indicators based on categorical targeting methods.

36. Digitalisation of government services is an important enabling condition for implementing targeted measures. In general, integrating digital technologies systematically across the whole policy cycle allow policymakers to be more reactive to fast-changing environments, risks and opportunities and reach households in need of support. The increased possibility of monitoring outcomes in real-time and the availability of data that were previously imperfectly observable, or only observable at high administrative cost, can lower the cost of targeting and strengthen enforcement. However, the availability of more data, while useful, is not a panacea and comes with risks relating for instance to privacy and increased complexity (OECD, 2019[10]).

37. The detailed case studies in Annex B show that the availability and combination of different data sources was a key factor behind many countries' efforts to implement targeted support measures during this crisis. For instance, the Danish government has combined households' energy information available on the national real estate register with their income data to automatically identify and deliver heating cheques to households most exposed to high energy prices. The United Kingdom provides eligible households with an automatic Cold Weather payment for each 7-day period of very cold weather by linking postal code data to information from local weather stations.

38. Further digitalisation of the energy sector, for instance by increasing the use of smart meters, would also help governments to better target and assist households in managing their energy use. Better targeting could be achieved by linking smart meter information with other administrative data on incomes and household size, allowing for better identification of vulnerable households. Smart meters, and other digital monitoring technologies, can also improve households' energy efficiency by, for instance, helping them to manage energy consumption better (e.g. by identifying high energy-intensive appliances). The European Commission identified smart meters as a tool that could help households reduce their electricity bills by an average of 12% annually.5

39. New approaches to targeting also include the use of alternative indicators or a combination of indicators to determine eligibility, recognising the need to target factors beyond income. For example, France delivered a lump sum energy payment based not only on household income but also on household size and age structure (categorical targeting), thereby allowing for more precise identification of vulnerable households. In the same vein, the Italian social bonus not only discounts energy bills for families facing financial difficulties but also considers serious health conditions or physical discomfort. The Dutch government has taken a different approach by delivering a one-off energy allowance to consumers who do not receive social assistance and have an income up to 120% of the social minimum. This has enabled the Dutch government to extend support to some middle-income households and mitigated the problem of reduced incentives to work. Using new indicators will be made easier through digitalisation, including building new databases and electronic payment systems.

[5] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014DC0356&from=EN.

40. Countries have also adopted categorical targeting methods based on certain energy sources. Denmark, for instance, offered tax-free cheques to households that earn a combined annual income under DKK 550 000 (EUR 74 000) and have individual gas heating or live in an area with district heating systems heavily dependent on electricity generated by gas-fired power plants. In Luxembourg, the government subsidises up to 35% (subject to a maximum price) of the purchase of bulk wood pellets in 2023. In Latvia, a compensation scheme covered 50% of the price of granules and briquettes used for heating if costs exceed EUR 300 per tonne.

A comprehensive approach to improve targeting to those who need support

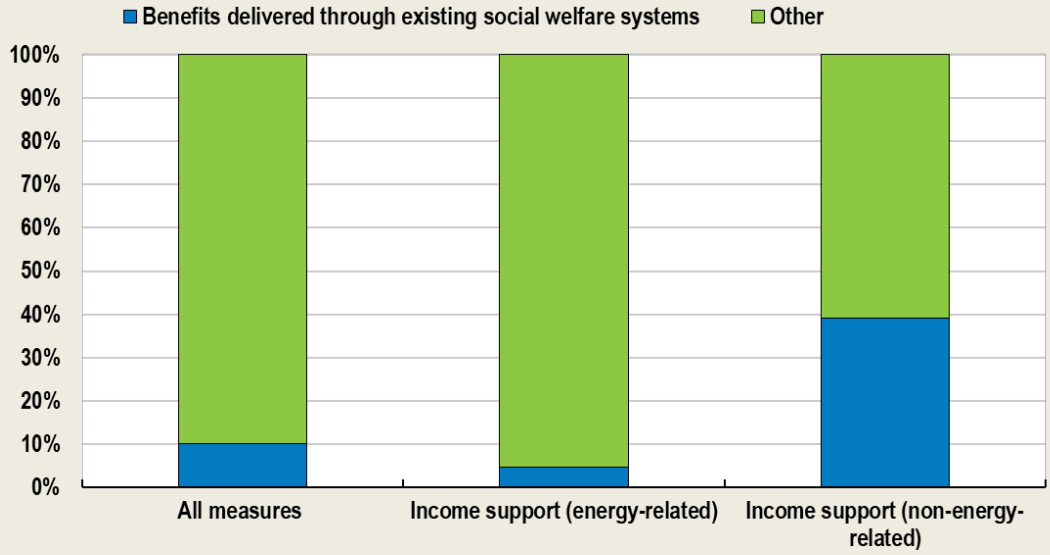
41. An emergency top-up payment to people already in social assistance programmes can often be the simplest and fastest social protection response to a crisis. As the most vulnerable are often already covered by social assistance programmes, the adjustment of existing benefits offers an easily implementable solution, lowering administrative costs. The indexation system that governs these programmes often does not account for specific vulnerabilities arising from energy price shocks and is subject to delays as it occurs only annually or at less frequent intervals (OECD, 2022[11]). Thus, discretionary (non-energy related) top-ups to existing social payments offer a more timely and effective way to target the most vulnerable households in the short run (Box 2). Top up payments could, however, be politically difficult to reverse once implemented. Indexation of social benefits and minimum wages to inflation can as well take on a greater role for providing support after the initial shock has passed and can facilitate the withdrawal of the exceptional support measures introduced as an emergency response to the crisis.

Box 2. Exploiting existing social transfer programmes to provide targeted support

Evidence from the Tracker shows that only around 10% of the total costs of all energy-price relief measures have exploited existing social transfer programmes to deliver support (Figure 10). Support that utilises existing social transfer programmes can be provided through energy-related income support, such as an energy bill voucher, or non-energy related income support, such as a top-up of existing cash payments. The main disadvantage of energy bill vouchers is that they could weaken incentives to save energy if the voucher covers the entire energy bill. Top-ups of cash payments, instead, preserve these incentives as they are not earmarked for energy use. Indeed, to date, countries have mainly relied on the top-up of non-energy related payments when exploiting existing welfare systems (Figure 10).

Figure 10. Countries have made limited use of existing social transfer programmes

Fiscal cost share of benefits delivered through existing welfare systems, %



Note: Only measures that lead to quantifiable gross fiscal costs are considered. Cost shares refer to the period of 2022-23.
Source: OECD Energy Support Measures Tracker; OECD calculations.

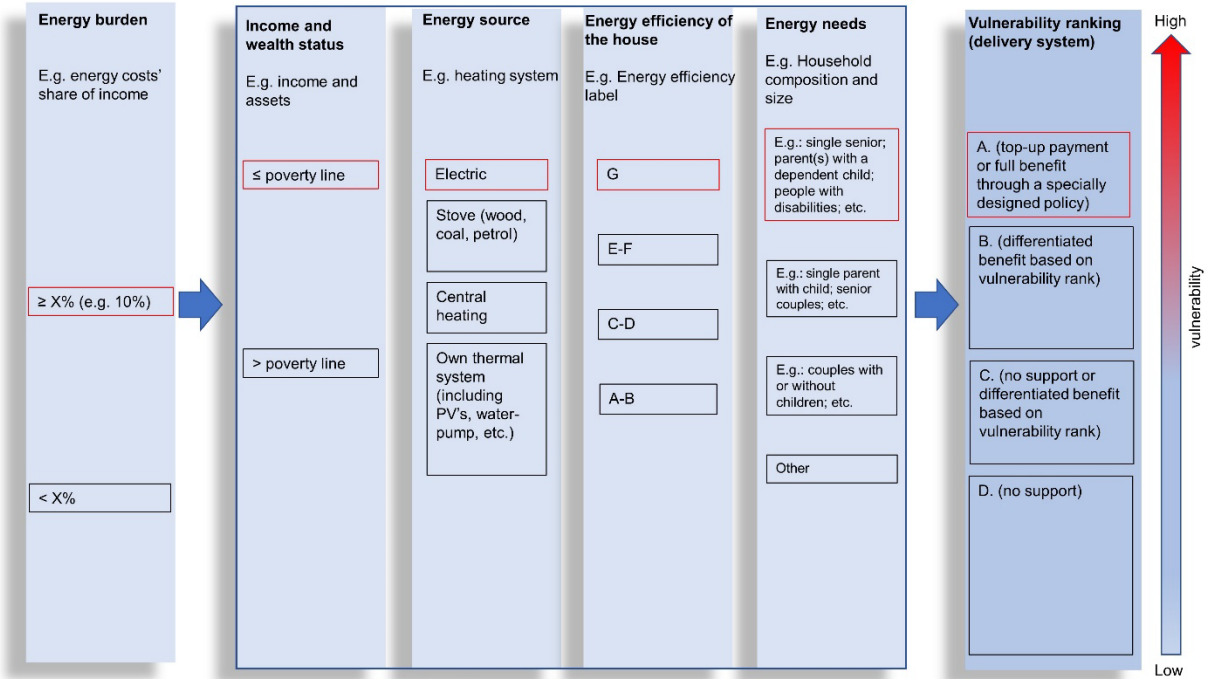
42. However, limiting support to existing welfare recipients may be insufficient. Vulnerability to high energy prices is a multi-dimensional concept as it depends on factors other than income. Hence, means testing may miss a share of non-poor households who are vulnerable to high energy prices because of other factors (as discussed above). This highlights the need to use a combination of targeting methods. Furthermore, there is no one-size-fits-all solution to target assistance as the impact of the energy price shock on vulnerable groups varies across countries.

43. A comprehensive approach based on vulnerability to high energy prices could help to guide countries in their targeting efforts (Figure 11).6 This approach is adaptable to country-specific circumstances and employs a combination of targeting methods to identify households vulnerable to energy price shocks. It also pinpoints the data needed to determine eligibility, building on the energy

[6] As this approach builds on the energy poverty literature, it could also guide countries in improving their energy poverty policies.

poverty literature (Bouzarovski, 2014[12]; González-Eguino, 2015[13]; Simcock et al., 2021[14]) and the countries' obstacles and initiatives to better target support discussed above. The vulnerability segmentation does not consider vulnerabilities resulting from higher transport costs, as other (complementary) policies can address those.

Figure 11. A comprehensive approach to identifying vulnerability to energy price shocks



Note: The vulnerability segmentation divides vulnerability to energy price shocks into five layers. The layers encircled in blue capture the main drivers of households' energy burden. In each layer, households are assigned to a category (rectangles), reflecting their degree of vulnerability based on different characteristics. The rectangles highlighted in red provide an example of a household with the most vulnerable characteristics to energy price shocks. Combining the different layers and their categories by means of weights would result in households' vulnerability ranking.
Source: OECD.

44. This approach divides the factors affecting vulnerability to energy price shocks into five layers. The first layer considers households' energy burden. The subsequent layers (encircled in blue) capture the main drivers of households' energy burden. In each layer, households are assigned to a category (rectangles), reflecting their degree of vulnerability based on different characteristics. Combining the different vulnerability layers by means of weights would assign household types a vulnerability rank (Figure 10, rightmost column). The weights used to combine the different vulnerability layers could reflect the value judgment of policymakers and social preferences.

45. A similar approach relying on vulnerability categories to compensate vulnerable households has been recently adopted by Moldova. Moldova assesses households' vulnerability by assigning coefficients to several parameters, including households' income, their share of energy expenditure in consumption, type of heating system, and size. Combining these coefficients results in distinct vulnerability categories, with compensation increasing for more vulnerable households. Alternatively, countries could use econometric or analytical tools to categorise households. For instance, the United Kingdom's "Low Income Low Energy Efficiency" indicator is not based on *actual* energy costs, but on *modelled* estimates of households' required energy costs (for sufficient heating) depending on the energy efficiency of their home, energy prices and household characteristics (BEIS/bre, 2022[15]).

46. More specifically, this proposed vulnerability segmentation considers the following layers as determinants of energy price vulnerability:

- The first layer (Figure 11, first column) considers households' energy burden. It can be measured by the energy-expenditure share and categorised by threshold values such as 10% of household income or double the national median.[7] This measure provides a first indication of vulnerability to high energy prices. Yet, it may not be sufficient to identify households in need of help as some financially distressed households may be forced to reduce energy use, thus appearing to have a low energy burden. Equally, affluent households could consume more energy than needed to adequately warm their home (e.g. using energy for amenities), resulting in an apparent high energy burden. The subsequent layers, therefore, are necessary to control for these factors.
- The second layer considers households' income and wealth status. Means testing on income and, if feasible, also on assets (Best et al., 2021[16]), could help determine vulnerability. For the sake of simplicity, the second layer in Figure 11 only considers two categories (above or below the poverty line). A more complex and exhaustive system could consider more categories, such as different thresholds (e.g., 90%, 100%, 110%, etc.) relating to the social minimum, akin to the Dutch approach to target assistance highlighted above.
- The third layer considers the energy sources that households employ (categorical targeting). Energy prices vary depending on the energy source of household heating systems. Although prices of different energy sources correlate, the impact of rising energy prices on affordability would be different for households already consuming expensive energy sources. An electric heating system is often the most expensive heating source (Martinopoulos, Papakostas and Papadopoulos, 2018[17]), but this may differ across countries.[8] A heat pump, on the other hand, is often the most affordable heating source.
- The fourth layer captures the energy efficiency of households' dwellings (categorical targeting). This can be measured using Energy Performance Certificates (EPCs), which consider many factors, such as the dimensions of the building, its insulation quality, and the efficiency of the heating system.[9] Households with a lower EPC score are likely to face a higher energy burden and are therefore more exposed to rising energy prices. EPCs are compulsory across several countries (e.g. the EU and the United Kingdom) for all new buildings and for existing buildings when sold or rented and thus an easily accessible source of information. However, targeting based on EPC scores may decrease incentives for renovation activities. To mitigate this effect, beneficiaries that renovate or move to more energy-efficient houses could maintain – for a limited period – the more favorable category for the purpose of claiming the benefit. If EPC scores are scarce, countries may want to resort to some other indicators as a proxy of the dwelling's energy efficiency, such as housing classes, construction year, floor size or heating system (Mulder, Dalla Longa and Straver, 2023[18]).
- The fifth layer considers how household size and characteristics affect vulnerability (categorical targeting). There are economies of scale in household energy use, and small households

[7] Using the median rather than the absolute energy expenditure share also allows identifying those that save energy use due to financial distress (hidden energy poverty). This can be done by considering those households that spend less than half the median energy costs-to-income ratio.

[8] Electric resistance heating is 100% energy efficient since all the incoming electric energy is converted to heat. However, in some countries, most electricity is produced from coal, gas, or oil generators that convert only about 30% of the fuel's energy into electricity. Because of electricity generation and transmission losses, electric heat is often more expensive than heat produced in homes or businesses that use combustion appliances.

[9] Several scholars have proposed to use EPCs in the identification of energy-poor households (Fabbri, 2015[76]; Drescher and Janzen, 2021[69])

consume more energy per capita. In addition, some households have a greater physiological demand for heat due to ageing or the presence of a disabled or ill household member.

47. Household types at the top of the vulnerability ranking based on the factors discussed above would be most exposed to energy price shocks. Most likely, they would include those with a high energy burden due to low income and high exposure to other vulnerability factors (highlighted by the red rectangles in Figure 11). These households could receive benefits through top-up payments if they benefit from some form of social assistance, or by means of a specially designed policy intervention. However, not every household living on a low income would necessarily end up at the top of the ranking as some may face a low energy burden due to, for instance, living in an energy-efficient house (e.g. because of housing policies or benefitting from social energy tariffs). The second highest ranking group might include households that are not in poverty but have a high energy burden due to a combination of poorly insulated homes and high energy needs. This ranking may include household types such as a median-income senior living in an energy-inefficient house using electric heating. Specially designed programmes may be the best way to reach these types of households as existing social benefit programmes may not cover them. Households in lower vulnerability ranking groups would have less exposure to one or more vulnerability factors. For instance, high-income couples living in an energy-efficient house would most probably have the lowest vulnerability score and receive no support, irrespective of their energy burden.[10]

48. The vulnerability ranking described above can help to differentiate support across vulnerable household types. Differentiating benefits according to the degree of vulnerability to shocks would add to the effectiveness and efficiency of government spending. Furthermore, delinking effective energy consumption from the benefit would reinforce incentives to save energy as it would preserve price signals. This can be achieved by basing the size of the benefit on household's required energy use, or (a fraction of) pre-crisis year's energy consumption.[11] If such household-level information is unavailable, countries may need to design measures based on an (average) energy consumption threshold, which should be set at a low-enough level to preserve energy-saving incentives (Box 3).

Box 3. The use of energy consumption thresholds in support measures

A key challenge for policymakers is to develop mechanisms that maintain adequate energy consumption levels for vulnerable households while avoiding reductions to energy-saving incentives. One approach is to reduce the cost of energy bills conditional on households' required energy consumption to keep their home adequately warm. Such household-level information is, however, difficult to obtain and often not available. Many countries have therefore based their energy support measures (often price caps) on energy consumption thresholds. Analysing cross-country differences in these thresholds can provide useful lessons for the design of support policies that preserve incentives to save energy.

Threshold-based measures account for a significant share of the total cost of energy support (13.2% or USD 106 billion during 2022-23), and most of them define thresholds that are slightly below average electricity consumption, leading them to be often classified as energy-related income support (Box 1 and Figure 12, Panel A). This is because for many households who consume above the threshold and face

[10] If these types of households were to have a high energy burden, this would most likely be the result of consuming more energy than required to cover essential needs.

[11] This fraction could be based on the vulnerability ranking group, which reflects the weights of the different components.

market prices, the measures would only reduce the average energy price, preserving incentives to save energy.[12] There is nonetheless considerable variation across countries (Figure 12, Panel B).

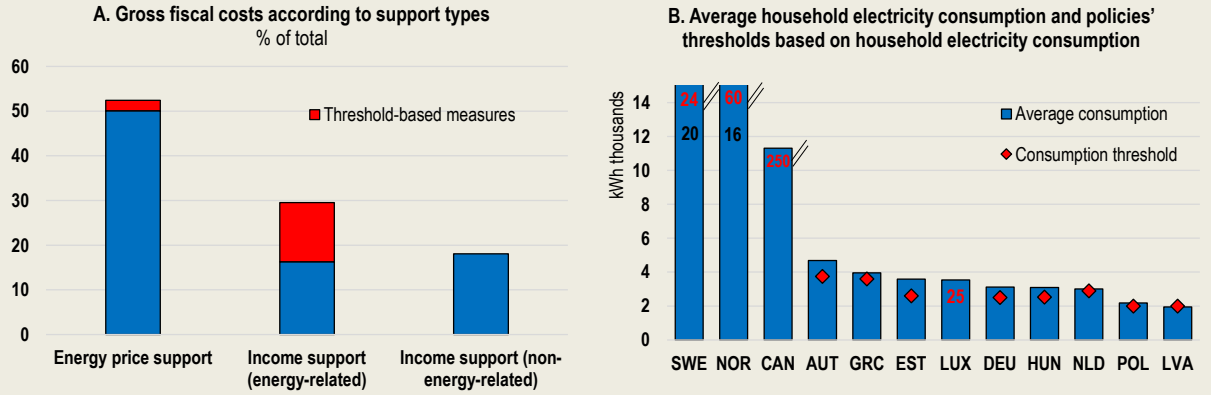
Announced electricity consumption thresholds are comfortably below 2019 average household consumption levels in Austria, Germany and Estonia (Figure 12, Panel B). Austria introduced an automatic electricity price subsidy on 80% of average pre-crisis consumption (based on the use of a three-person household) as of December 2022. This percentage-based threshold could induce incentives for energy savings, although these incentives are smaller for one- or two-person households compared to larger households. In Greece, the electricity consumption threshold was set at around average consumption between the fourth quarter of 2021 and June 2022. From July 2022, the consumption thresholds were completely phased out, with higher subsidy levels for vulnerable households and households with lower electricity consumption.

In contrast, announced electricity consumption thresholds in Canada, Luxembourg, Norway, and Sweden are relatively generous, thereby limiting incentives to save energy as many consumers benefitting from the measure face a marginal price below the market price. In Luxembourg, the threshold is around seven times the average consumption levels respectively (Figure 12, Panel B). Sweden introduced an exceptional subsidy that defines an electricity consumption threshold between 1.2 and 12 times the average consumption levels, depending on energy and housing type. The monthly electricity bill rebates offered to households by the province of Alberta in Canada have a consumption threshold for eligibility that is more than 20 times the average consumption.

Consideration of seasonality of energy consumption can improve threshold-based measures. The Netherlands applied different thresholds over warmer and colder months to create incentives for energy savings throughout the year. In this manner, consumption above the announced seasonal thresholds will be charged at the market rate, even if the full-year average usage is below the largest (winter) threshold.

Another feasible improvement of measures using energy consumption thresholds would be to set the threshold well below the average household consumption level by using small-enough percentage-based thresholds instead of absolute consumption levels, or to incorporate targeting considerations to prevent middle-to-high-income households from benefitting from the support.

Figure 12. Threshold-based price caps are often too generous



Note: The left panel covers threshold-based measures over 2022-23 linked with both electricity and natural gas consumption of all beneficiaries. Diamonds on the right panel indicate announced thresholds for the electricity consumption level of households below which

[12] In the absence of data on the distribution of energy consumption across households, comparing the announced policy thresholds with average household energy consumption levels is an illustrative approximation. Admittedly, households with below-average consumption could consume below the threshold (and thus see marginal energy prices reduced) even if the threshold is smaller than average consumption.

electricity price ceilings or subsidies are in effect. Bars denote the average annual household electricity consumption in 2019. For countries where thresholds are defined as percentages of potentially varying historical benchmarks, 2019 average consumption levels are used to obtain corresponding threshold levels to maintain comparability across countries. For Canada, Luxembourg, Norway and Sweden, black and red text within the bars represents the respective levels of the average electricity consumption and the announced electricity consumption threshold.
Source: OECD Energy Support Measures Tracker; IEA World Energy Balances dataset; World Bank World Development Indicators; UN Department of Economic and Social Affairs, Population Division Database on Household Size and Composition, 2022; The Swedish Consumer Energy Markets Bureau; and OECD calculations.

49. Countries may need to adapt the vulnerability segmentation discussed above to their specific circumstances and data availability. For some countries, this may necessitate investment in data collection and analytical capacity. Progress in this area will enhance countries' preparedness to respond in a timely fashion to future energy price shocks without resorting to untargeted support measures. In contrast, some countries may already have access to additional data that would further enhance this vulnerability segmentation. For instance, governments with access to household tenure status data could include this information in their vulnerability segmentation to encourage homeowners to invest in energy efficiency measures. In the same vein, governments with access to data on households' energy contracts (i.e., fixed, variable or social tariff) or data from local weather stations (linked to postal codes) could use this to complement the vulnerability assessment presented above.

Programme implementation and policy evaluation

50. Efforts to address households' vulnerability to energy price shocks would benefit from close coordination between different public administration agencies covering energy, environment, social policy and housing. Closer coordination may also help in the longer run to meet climate change mitigation targets and to reduce energy poverty. The benefits, however, need to be balanced against the additional complexity and higher coordination costs that such an approach may entail. Solutions may vary across countries depending on the investments made and the results already achieved in strengthening coordination across government agencies, improving database interoperability and IT infrastructure, and overcoming legal and regulatory obstacles (e.g. privacy protection laws).

51. Careful choices concerning the delivery system can limit errors of inclusion and exclusion. Common phases in the delivery chain of support include outreach, intake and registration, assessment of needs and conditions, eligibility and enrolment, and the payments of benefits and provisions. A key element of outreach involves communication to inform the targeted population about the programme. Active outreach, for instance at the local level, can promote the inclusion of marginalised groups who could otherwise be unaware of the programme and of how to enrol. Luxembourg provides a good example in this regard, using a whole-of-government approach to provide information at the local level (Box 4).

Box 4. Luxembourg's whole-of-government information programme to combat energy poverty

Several sections of Luxembourg's government administration are working together with local authorities to launch projects aimed at tackling energy poverty. One such project identifies the problems of low-income households regarding energy poverty and offers them support through the provision of information and advice (behavioural advice and investment proposals for energy efficiency measures, among others). The programme aims to combat the root causes of energy poverty by improving the energy efficiency of affected household's energy use. Based on a checklist, the situation of vulnerable households is assessed with the help of an energy adviser. If energy-

intensive appliances (freezer, washing machine, etc.) are identified, the affected household can apply for a public subsidy to cover the costs of new, more energy-efficient appliances.

52. Programme enrolment can be broadly categorised into automatic and voluntary enrolment. Automatic enrolment mitigates problems related to non-participation due to, for instance, inertia, lack of information, and administrative costs associated with applying for the programme. For example, in Poland, there has been a lower-than-expected take up in applications for the household inflation benefit (i.e., a voluntary enrolment programme targeting low-income households). At the beginning of 2021, and in response to the low uptake of previous voluntary programmes, Italy introduced an automatic, means-tested bonus for families experiencing economic hardship. The automatic bonus relies on the cross-referencing of data between the Social Security Institute (INPS) databases and the energy, gas and water databases, following a regulatory intervention to ensure the consent of beneficiaries.

53. A systematic and robust policy evaluation of energy price relief packages can help to monitor and quantify their effectiveness and collect data to inform future improvements. The wide differences in evaluation techniques and practices between countries call for the sharing of good practices and the development of common methodological frameworks, including using robust and independent policy evaluations and making such evaluations a mandatory component of policy making (Agrawala, Dussaux and Monti, 2020[19]; OECD, 2020[20]). Lessons can be learnt from the evaluation of green recovery packages introduced in response to the COVID-19 pandemic.[13] Whole-of-government coordination can help mitigate potential divergence in the achievement of different policy objectives. For example, it is important that governments carefully manage the potential trade-offs between reducing vulnerability to energy price shocks and maintaining incentives to reduce energy consumption.

[13] For example, Popp et al., (2020[78]) evaluate the employment impacts of green fiscal policies within the American Recovery and Reinvestment Act finding little evidence of significant short-run employment gains.

How can measures supporting firms be improved?

54. The case for supporting firms when a large shock such as an energy cost crisis hits the economy is more complex than the case for supporting households as support measures may impinge on reallocation between firms and industries and distort competition. However, the experience with government support to firms in the wake of the COVID-19 crisis can offer useful lessons (OECD, 2020a[21]; OECD, 2020b[22]; OECD, 2020c[23]; OECD, 2021[24]). First, it is essential to ensure that support measures are temporary and transparently targeted towards the most affected and otherwise viable firms. Firm support during COVID-19 was often aimed to help to ensure firms' solvency and to avoid widespread defaults, while avoiding prolonging the life of structurally weak but financially unviable firms. Second, support should not come at the expense of business dynamism, for instance by being accompanied by business-friendly framework conditions to enable experimentation and resource reallocation. Third, governments need to ensure that support measures should not distort competition in the domestic market. It should also be consistent with longer-term objectives (e.g., reducing CO^2 and other emissions).

55. Applying these lessons, relief schemes should have several features. First, for a firm to receive support to cope with an energy price shock it should meet two criteria: 1) be otherwise viable, i.e., the firm would have been solvent if energy prices had not spiked; 2) vulnerable to the energy price shock, i.e., as user of energy at risk of financial distress (e.g. insufficient liquidity) due to the spike in energy prices. Second, the support provided by the schemes should always be temporary and coupled with requirements and incentives (e.g., to innovate) to improve energy efficiency, including in industrial processes. Promoting this adjustment over time rather than letting these firms fall into bankruptcy or relocate abroad may also help to reduce international carbon leakage. For example, Croatia has provided an electricity cost subsidy for energy-intensive firms conditional on an energy audit and investing in energy efficiency projects that either substantially reduce their greenhouse gas emissions or raise the share of renewable energy sources in electricity consumption to at least 60%.

56. Regarding being otherwise viable, identifying which firms are more vulnerable to the rise in energy costs but would have been otherwise viable in the long run is challenging. A consistent record of past profitability could be one criterion, albeit imperfect as past performance is not always a good guide to future profits. In their Subsidy Control Act 2022, the United Kingdom developed a comprehensive set of criteria to determine eligibility for rescuing firms, including that a subsidy i) is given during the preparation by the enterprise of a restructuring plan; ii) consists of temporary liquidity support in the form of a loan or loan guarantee; and iii) contributes to an objective of public interest by avoiding social hardship or preventing a severe market failure. In April 2023, the United Kingdom further increased the degree of targeting of the business energy support scheme.

57. Regarding vulnerability to energy price shocks, small and medium-sized enterprises (SMEs) are likely to be more exposed to this type of shocks as they tend to be more liquidity-constrained and tend to have weaker balance sheets than larger companies. They are also generally less diversified in their economic activities, have fewer financing options and often bear the brunt of the difficulties of large firms

in global value chains.[14] According to the Business at OECD (BIAC) SME Survey, SMEs have already reported reductions to production and/or commercial business (BIAC, 2022) due to high energy prices and consumer price inflation.[15]

58. Despite the vulnerabilities of SMEs mentioned above, limited support has been targeted towards them so far. One specific support scheme is the programme developed by the Bulgarian Development Bank to help SMEs with the persistent rise in electricity prices. The Bank provided loans to SMEs to cover 75% of their electricity costs for four consecutive months in 2022 of the firms' choice. The Dutch government also set up a scheme for small but energy-intensive firms such as bakeries, with caps on gas and electricity prices up to a threshold consumption level. Ireland's support was targeted at small and medium businesses – including the self-employed – carrying on a trade or profession that experienced a 50% or more increase in their energy bills. From September 2022 to February 2023 the scheme covered 40% of the increase in the energy bill reported by the eligible firm, up to EUR 10 000 per month. The scheme was made more generous from March 2023 to May 2023, covering 50% of the increase in costs up to EUR15 000 per month.

59. Policymakers may, however, also want to target large, energy-intensive firms or industries for strategic or national security reasons. Targeting of fiscal support to firms is often based on energy sources used in production processes and on the degree to which energy prices (e.g. price of gas or oil) impact companies' costs. For example, the Czech Republic's temporary electricity and gas support measure was targeted towards energy intensive companies and aimed to safeguard the cost competitiveness of the industries. Germany has established a tiered support scheme to better target firms operating in highly energy intensive and trade intensive sectors. More support is provided to firms who have experienced financial losses above a threshold and demonstrate a high share of energy spending in their value of production. Additional resources have been allocated to those enterprises affected by operating loss.

60. Concerns about cascading effects of production shortages leading to a shortage of raw materials, semi-finished products, and significant disruptions in supply chains of essential products have also motivated targeted support to energy-intensive firms in some countries such as Latvia and Poland. In the EU, state aid rule considerations, economies of scale and efficiency demand co-ordinated actions across member states in these areas.

Future directions

61. Governments have now responded in quick succession to two major crises, the COVID-19 pandemic, and the energy price spike, with broad based support to households and firms. The analysis in this policy paper suggests that reducing technical obstacles, such as a lack of data, through investment in greater digitalisation can help facilitate better design and implementation of targeted polices. While the policy considerations involved in designing household support are relatively well developed, there is also a need to better identify and understand the conditions for supporting firms in ways that preserves resource allocation, do not unduly impinge on competition in domestic and international markets or undermine longer term green transition goals.

62. Ultimately, government responses during crises show that even with the best technical tools available, countries are unlikely to target support if most of the population or firms are severely and suddenly hit by a shock. Reducing the share of the population and firms vulnerable to future shocks is an

[14] https://www.oecd.org/industry/smes/49316499.pdf.

[15] https://25159535.fs1.hubspotusercontent-eu1.net/hubfs/25159535/website/documents/pdf/SMEs/2022-12-FIN%20Business%20at%20OECD%20SME%20Survey%20-%20Energy%20crisis%20impact%20for%20SMEs.pdf.

important and necessary lever for facilitating rapid and targeted support to those in need and for building synergies with other policy objectives.

63. The OECD Energy Support Measures Tracker by documenting and comparing countries' policy responses to changes in energy markets. can help policy makers to plan for and better respond to new energy price spikes. Better informed policy design and implementation would safeguard energy affordability for all, while being consistent with other priorities such as reducing greenhouse gas emissions, managing fiscal pressures, and contributing to price stability. Monitoring support measures for firms could help to develop a policy framework striking a balance between the need to protect some firms and not others, preserve fair competition and encourage development and deployment of clean production processes. Furthermore, the Tracker provides a novel and structured data source that, once linked with firm or household micro-data, could enable policies' impact evaluation. This in turn will facilitate learning and help inform good practices across countries.

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Annex A. Case studies

Case studies of 13 countries and one region were conducted to document the energy price relief measures introduced by countries in more detail than in the Tracker, and to better inform cross-country comparisons and peer learning. Overall, the Case Studies confirm that the support has been largely untargeted by income level or vulnerability and has had a significant budgetary impact. Measures have been more successful in sustaining energy savings and there has been a moderate degree of innovation in targeting. Administrative costs were often minimised by using existing welfare and other systems. The case studies are summarised in the individual country notes.

Canada

Summary of measures

The economic impact of Russia's war of aggression in Ukraine has been more muted in Canada than in Europe, as Canada was not dependent on fossil fuel imports from Russia before the war and is a major producer and exporter of gas and oil. Nevertheless, the global rise in energy commodity prices following the invasion has put pressure on household purchasing power and firm profit margins.

Provincial and federal governments have responded to the rise in the cost of living with a variety of measures (Table).[16] In general, Canada's policy response to the cost-of-living crisis differs from that of a number of European countries in that it has not centred on a national energy bill subsidy scheme. Instead, the federal government has provided additional support to low-income households in the form of an increased goods and services tax (GST) credit and a one-time additional housing benefit.

Energy bill subsides have been introduced by some provinces, reflecting the decentralised nature of Canada's energy market (and its regulation) and the varying affordability issues. Alberta, for example, has introduced a one-off electricity bill subsidy for a subset of households and businesses. Natural-gas fired plants produce more than half of the electricity generated in Alberta, which has a competitive wholesale electricity market. Meanwhile, in Quebec, where abundant locally-produced hydroelectric power is sold at regulated low prices to the province's households and businesses, there is less need for electricity bill support. Other provincial measures are aimed at reducing the cost of road transport. For example, fuel taxes have been reduced in Ontario and Alberta.

[16] The table describes the measures taken by the federal government and a selection of those taken by the provincial governments, focusing on the four most populous provinces (together accounting for about 85% of Canada's population). More detailed information is available in the OECD Economic Survey of Canada 2023.

Key fiscal measures taken by the Federal and Provincial governments to alleviate the cost-of-living increase

Measure	Cost (CAD billion)	Time horizon
Federal Government		
Doubling of GST Tax credit and increased housing benefit	3.6	Tax credit November 2022 - April 2023 and housing benefit one off
Provincial Governments		
Quebec: Two Lump sum payments to households earning less than CAD 100 000 per annum	6.7	2022
Ontario: cuts in fuel taxes, road tolls and vehicle registration fees	0.6	Fuel tax cuts July 2022 - December 2023. Road toll cuts permanent.
British Columbia: tax credits and welfare payments increased, car insurance premium reduced, energy cost subsidy for households	1.9	Energy cost subsidy one off in the 2nd half of 2022.
Alberta: Electricity cost subsidy on consumption under a threshold, cuts in fuel taxes and increased welfare payments	1.6	Electricity subsidy July 2022 - April 2023

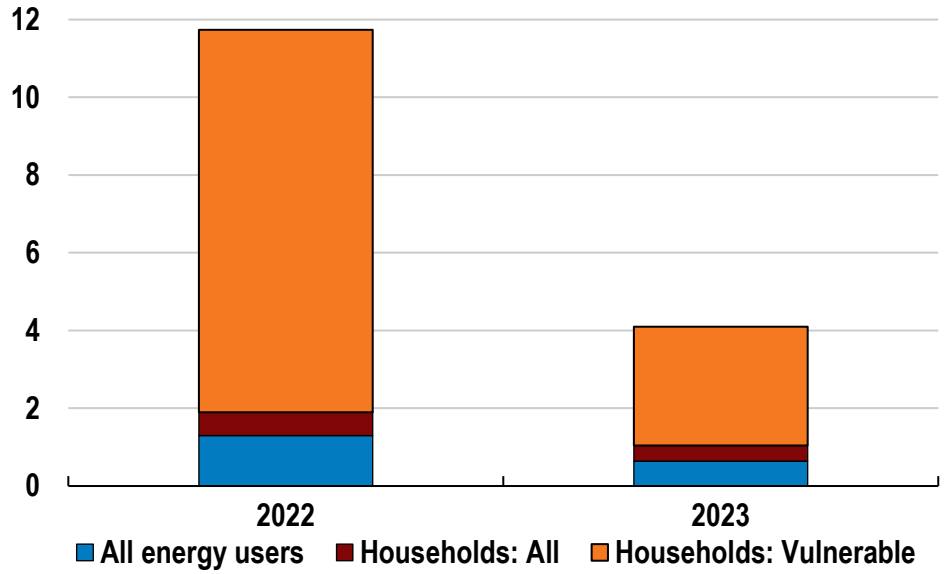
Note: More details available at the end of the country note.

Targeting of measures

The measures are mainly targeted, with most of support going to vulnerable households (see figure).

Cost of energy related fiscal support by beneficiary

CAD billions



Note: Measures classified as "Credit or Equity Support" or "Other" are excluded.

However, some support has been directed at all consumers. Direct support to motorists (e.g., gasoline tax cuts in Ontario and Alberta) tends to benefit everyone, including the wealthy. Examples of targeted support include the federal government's temporary increases in the goods and services tax credit and the one-off grocery rebate for families with children. While targeted support is preferable to untargeted support, even targeted support has potential downsides if sustained over time. For example, British

Columbia has introduced a cap on housing rent increases that, if sustained over time, could discourage private rental supply, leading to a shortage of rental units and increased pressure on social housing.

Fiscal implications

Total spending on support measures is modest by international standards, reflecting the smaller energy shock facing Canada. At the federal level, the large cost-of-living support measures have a small budgetary impact relative to the fiscal boost from higher tax revenues in 2022. The combined value of the increased GST credit and the one-off increase in the housing benefit (CAD 3.6 billion) is less than ¼ percentage point of 2022 GDP. Combined spending and revenue foregone of about 0.4% of GDP was provided by Canada's four most populous provinces. Many of the programmes are temporary, further reducing the impact on the governments' fiscal positions.

Environmental implications

Some provincial measures reduce the cost of petroleum-based transportation fuels, natural gas used for residential heating and electricity. This undermines incentives to save energy while prices are high, which would otherwise result in lower greenhouse gas emissions. If temporary, the environmental impact of such measures should be limited. In some cases, provinces have announced extensions that would continue energy relief measures even after fossil fuel energy prices have fallen from peak levels. For example, Ontario has extended its gasoline tax cuts until the end of 2023.

Obstacles to targeting and innovation

There were no major obstacles. The federal government has been able to use existing instruments to support low-income households. For energy bill subsidies, greater use of technology, such as smart electricity meters, would allow more precise targeting based on current energy consumption rather than on past annual consumption, as in Alberta, or allow British Columbia to better target vulnerable households and businesses rather than a one-off payment to all households and businesses, as is now the case.

Country recommendations

Although relatively easy to introduce and communicate, blanket measures to reduce energy costs are costly and fail to target support to the most vulnerable. They also weaken incentives to reduce energy use when prices are high and supply is tight. As highlighted in the 2023 *Economic Survey* of Canada, especially if prices remain high for an extended period, governments should better target household support to those most in need of cost-of-living relief, including through greater use of direct income support. The *Survey* also suggests structural improvements that could help households and businesses cope with longer-term increasing trends in the cost-of-living beyond acute crises. In particular, it recommends increasing the timeliness of benefit updates for households – two major federal government benefits are already indexed on a quarterly basis – as benefit updates are typically annual. The *Survey also* supports ongoing efforts to improve financial education.

Costa Rica

Summary of measures

The cost of living in Costa Rica has continued to rise in 2022, partly due to the war in Ukraine, the container shipping crisis and the resulting increase in freight costs, and the heavy rains that have

affected the country's productive areas, significantly increasing the prices of fertilisers, agricultural inputs and raw materials. Household inflation rate has remained well above the upper end of the inflation tolerance range of 2-4%, while the annual inflation rate has reached 7.9% as of December 2022. These circumstances have prompted the government of Costa Rica to act by implementing different measures aimed at mitigating the impact of the surge in energy and food prices on households and businesses.

In 2021, the Costa Rican authorities started to design different measures to reduce the single tax on fuels to boost economic activity, employment, and prosperity.

In January 2022, the Costa Rican government established a reduction of the single tax on LPG gas, to help the economy of industry and households. This measure is expected to run until end-2027.

Furthermore, the government froze the quarterly inflation adjustment of fuel tax for six months in July 2022. This was aimed at reducing the impact of higher oil prices on the retail price of fuel.

Additionally, the authorities have designed a monthly subsidy to mitigate the negative impact of high inflation on poor households. The subsidy, which was introduced in September 2022, amounts to USD 90 and is renewable for up to three months. It is estimated to benefit 100 000 households across the country.

The table below summarises the main measures implemented and their corresponding fiscal costs as a percentage of 2021 GDP and in CRC billions.

Measure	Cost (CRC billion)	Time horizon
Freezing of the inflation adjustment of the fuel tax for six months	13.5	Jul 22 - Dec 22
A monthly subsidy of around USD 90 for poor households	20	Sep 22 – Nov 22

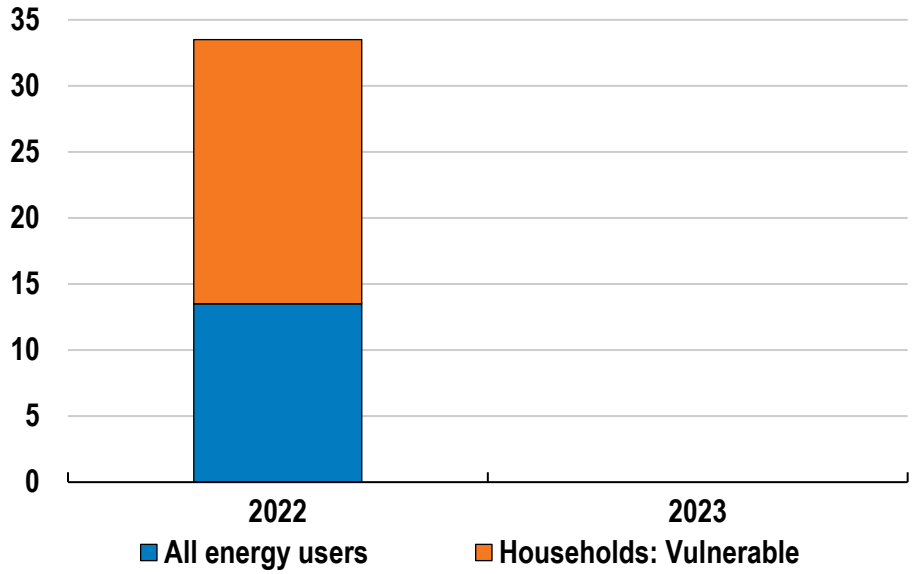
Targeting of measures

The targeting of the above packages of support measures is mixed, as highlighted in the figure. On the one hand, the first fuel tax measure is untargeted, as it applies to all users of fuel without distinction, by automatically preventing the fuel price increases due to the adjustment of fuel tax to inflation.

The inflation benefit, on the other hand, is targeted to poor households that are registered in a digital database that records all past and present beneficiaries entitled to any type of social transfer (Sistema Nacional de Información y Registro Único de Beneficiarios del Estado, SINIRUBE). Households therefore do not have to apply to receive the benefit.

Cost of energy-related fiscal support by beneficiary

CRC billions



Note: Measures classified as "Credit or Equity Support" or "Other" are excluded.

Eligible households will receive the subsidy directly into their bank account. If eligible beneficiaries do not have a bank account, they can still receive the subsidy by withdrawing it from any branch of the National Bank of Costa Rica. The targeting process was carried out on a household basis after October 2021.

Fiscal implications

Fiscal prudence remains a high priority for the government, which is committed to keeping public spending under control. In this context, the overall impact of the cost-of-living measures on the government budget is estimated to be small. The combined value of the fuel tax freeze and the inflation subsidy is worth around 0.1 % of GDP. Moreover, both measures are temporary and will be phased out as energy prices and the cost of living come down from their exceptionally high levels.

Environmental implications

The measures described do not create or strengthen incentives for households to save energy, nor do they induce significant emission reductions. In particular, the fuel tax freeze keeps the market price of fuel at a lower level than it would otherwise be, thus reducing incentives for energy saving by keeping fossil fuel prices affordable.

Obstacles to targeting and Innovation

The targeting process has mainly concerned the inflation benefit measure and has been carried out thanks to the administrative capacity and information available to the government to analyse and process requests for assistance. In particular, the inflation benefit was provided based on the administration's extensive use of the SINIRUBE database. Therefore, no obstacle was encountered in the targeting process of this policy initiative. Indeed, the use of the digital database SINIRUBE has been a facilitating and innovative element in the design and targeting of the inflation benefit. The disbursement of the monthly subsidy has been made automatic by using current and pre-collected information on households eligible for social transfers.

France

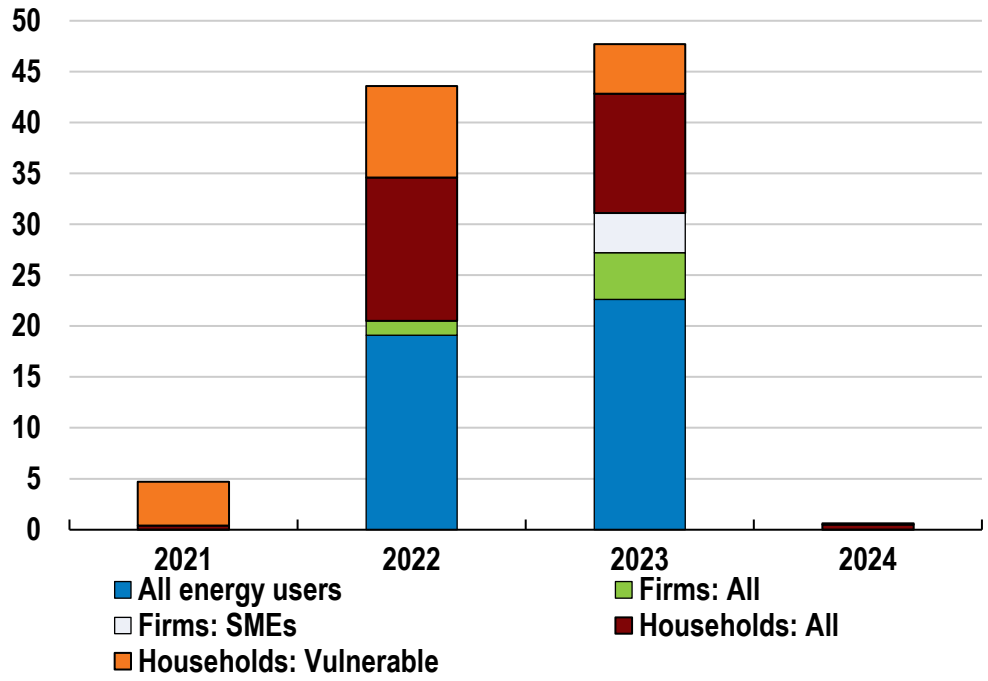
Summary of measures

The energy crisis has acutely increased the cost-of-living burden in France, mainly due to the increased commodity and food price growth and historically high supply constraints in manufacturing. Although natural gas accounts for only about 20% of the country's total energy supply and exposure to direct shortages from Russia has been limited, increased reliance on imported energy sources has increased sensitivity to wholesale energy prices elsewhere.

French government policy has been one of the most reactive to rising energy prices. From late 2021, significant transfers to households and fuel price freezes were announced and extended as prices continued to soar. For example, the French government introduced means-tested vouchers for households, extended support to individuals under existing social assistance programmes and introduced discounts on electricity for firms. Overall, the measures in 2022-23 largely benefited all energy users, mainly due to the decision to regulate prices consistently in 2022-23 (see figure).

Cost of energy-related fiscal support by beneficiary

EUR billions



Note: Measures classified as "Credit or Equity Support" or "Other" are excluded.

The main measures are the partial freeze of regulated retail prices for electricity and gas, the increase in social benefits and the reduction in taxes on road fuels (*bouclier tarifaire*).

Key measures

Measure	Cost (EUR billion)	Time horizon
The authorities have announced a temporary cap on regulated retail gas prices in 2023.	2.3	Jan - 23 – Dec - 23
Cap on the regulated price of gas until April 2022. The measure was then strengthened on 21 October as the price cap was extended to the end of 2022.	0.4	Oct- 21 – Dec - 21
The authorities announced an increase of social benefits in 2022.	6.7	Jun - 22 – Dec - 22
A one-off subsidy of 30 cents by litre from September to October 2022 and 10 cents by litre from November to December 2022.	4.9	Sep - 22 – Dec - 22
The government announced EUR 4 billion additional targeted subsidies for firms.	4.0	Jan - 23 – Dec - 23
Temporary cap of the electricity tariffs (280/MWh) for VSEs	0.3	Jan - 23 – Dec - 23

Targeting of measures

The main measures described above benefit the majority of energy consumers (excluding firms and households who subscribed to contracts without regulated prices). According to the French energy regulator (CRE), 28% of households' electricity consumption (44% of total electricity consumption) and 75% of households' gas consumption (76% of total gas consumption) were not subject to direct price control (regulated prices) in mid-2022.

There have been some smaller measures targeted towards low-income households. For example, the 2022 transfers were assessed on gross income, the receipt of social benefits and energy consumption. The one-off EUR 100 energy check was made available to 5.8 million households determined to be the most vulnerable to energy price rises (totaling approximately EUR 500 million) to be used to pay direct energy bills, heating costs and renovations for energy efficiency.

An increasing number of resources is scheduled to be allocated to support small and medium enterprises over 2023. This includes a guaranteed cap on electricity prices for small businesses (EUR 3.6 billion), additional subsidies to help pay for the cost of electricity (EUR 4.5 billion) and other sectoral subsidies for firms.

According to the French statistical institute (INSEE), the key measures (bouclier tarifaire) have reduced French inflation by 3.1 percentage points (year on year in June 2022). The same study finds that the impact of the measures has been stronger for low-income and high-income households (first and last three deciles of disposable income). This does not take into account the more targeted transfers. Moreover, in France, the level of indexation of low-household income to inflation is higher than for middle- and high-income households.

Fiscal implications

Consumer prices show significant increases compared to December 2019, despite the authorities' support package. Harmonised consumer prices have increased by 15% for electricity, 77% for gas, 78% for heat and 15% for road fuels. The fiscal costs of energy price caps and support measures will amount to 1.65% of GDP in 2022 and 1,7% in 2023, with a 15% increase of regulated electricity and gas prices in 2023, an assumed similar increase in 2024, and the end of road fuel tax cuts in January 2023. In addition, one-off taxes on electricity producers and oil refineries (worth EUR 7 billion) will help finance additional temporary energy support measures for firms in 2023. The direct energy support measures amount to around EUR 49 billion (1.9% of GDP) in 2022 and around EUR 56 billion (2.08% of GDP) in 2023.

Environmental implications

Energy consumption has broadly declined, except for transport fuel consumption, which has increased partly in response to the reduction of excise tax rates. Although the price cap did not provide a strong incentive to reduction consumption, according to the French statistical institute (Insee), household energy

consumption (proxied by the energy, water, waste category in volume) has declined by 16.5% year-on-year in November 2022 and 7.2% year-on-year on average over January-November 2022. The government's communication plan on energy sobriety (announced October 2022) may have contributed to this. Furthermore, between mid-December to mid-January, aggregate electricity consumption was down by 8.2% year-on-year according to the network manager (RTE). Aggregate gas consumption was down by 17.6% over August 2022 – mid-January 2023 compared to 2018-19 according to the network manager (GRTgaz), or 12.8% once corrected for climate conditions. lower consumption helped ensure no The decline in consumption meant no emergency load shedding was required.

Obstacles to targeting

The government had to adapt the initial emergency measures to include large multi-unit buildings with collective heating, notably social housing and multi-unit buildings including both households and businesses. The national statistics office (INSEE) has also acknowledged that due to limitations to socio-fiscal data, it is difficult to calibrate support to best compensate low- and middle-income households without overcompensating households with the ability to adapt to higher prices.

Innovation in targeting

To limit the price of electricity for SMEs in 2023, the government is implementing a new scheme (*amortisseur d'électricité*). The scheme targets small firms, and it will reimburse them over 2023 for half of their consumption based on their contracts' price difference with a fixed level of 180 EUR/MWh (up to a maximum subsidy of 320 EUR/MWh).

To account for varying household situations, the exceptional fuel energy check delivered in November 2022 with eligibility determined by household income in relation to the size and age structure of the household. This allows for standards of living and inequalities to be better assessed across income groups. Under this calculation, both a single person receiving the minimum wage (without a child) and a single woman with 2 children receiving a salary of about EUR 3000 net/month will both receive a cheque of EUR 100.

Country Recommendations

The last Survey was published in November 2021. The Economic Outlook country note (November 2022) recommended phasing out progressively unconditional energy price support measures, notably price caps, as they have high fiscal costs and create economic distortions. Instead, it recommended that any additional support to the most vulnerable households and firms should remain temporary and become more targeted.

Summary of fiscal support measures

Cost of support measures (EUR billion)	2021	2022	2023
One off transfer (Indemnité inflation)	3.8	-	-
Temporary increase to energy vouchers (Chèque énergie)	0.5	1.8	-
Froze of regulated gas prices	0.4	8.1	11.1
Increase in gas storage	-	1.4	- 1.3
Lower taxes on electricity	-	7.4	9.4
Froze of regulated electricity prices (compensation of producers)	-	11.3	24.4
Lower taxes on road fuels	-	7.6	-
Subsidies to energy-intensive sectors	-	1.5	1.5
Other subsidies to sectors	-	1.1	-
Higher Personal Income Tax deductions for road transport.	-	0.4	0.4
One-off transfer (Aide exceptionnelle de rentrée)	-	1.1	-
Higher pensions and social benefits	-	6.7	1.6
Support for households using oil heating	-	0.2	-
Reported tax increase on off-road diesel	-	-	0.8
Lower electricity costs for SMEs (amortisseur électricité)	-	-	3
Lower electricity and gas costs for SMEs (guichet)	-	-	4
Other	-	-	1.6
Total, gross (EUR billion)	4.7	48.6	56.5
Total, gross (% of GDP)	0.2	1.9	2.1
A - Higher receipts from renewables electricity producers	- 2	- 18.7	- 29
B - One-off tax on oil producers and refineries	-	-	- 0.2
C - One-off tax on electricity producers	-	-	- 6.8
Total, net of A+B+C (EUR billion)	2.7	29.9	20.5
Total, net of A+B+C (% of GDP)	0.1	1.1	0.8

Source: Rapport Économique Social et Financier - Annexe au projet de Loi de Finances pour 2023 and updates.

Germany

Summary of measures

The impact of Russia's war in Ukraine has been felt strongly by German households and firms, largely due to the country's high pre-war dependence on imported Russian fossil fuels and its consequent vulnerability to the weaponisation of energy by Russia. In the months following the invasion, the economy experienced high inflation, a surge in energy prices and increasing uncertainty about future energy supplies, which caused consumer and producer confidence to plummet.

Three relief packages estimated at EUR 95 billion (2.6% of GDP) and an energy support fund of EUR 200 billion (5.5% of GDP) financed by credit allowances were put in place. The relief packages include various measures to support real incomes, comprising both targeted transfers through social assistance and housing allowances, and non-targeted ones such as one-off payments to all employees, pensioners and students as well as a temporary VAT tax reduction for gas and hospitality services. Besides temporary measures and one-off transfers for 2022 and 2023, the three relief packages also include

many permanent policy changes, which had been planned by the government in the 2022 and 2023 budgets, such as an inflation adjustment of the income tax schedule, the abolishment of the renewable energy surcharge and a reform of the housing allowance system. These measures can be executed within the current budgets for 2022 and 2023, as high inflation led to upward revisions for tax revenues.

The debt-financed energy support fund will finance liquidity support, equity injections and grants for firms as well as a subsidy of electricity and gas bills until December 2023, with an option to prolong it until April 2024. The subsidy scheme preserves incentives to save energy and adapt to potentially permanently higher prices, but it is not well targeted at vulnerable households and highly exposed firms. Excluding permanent policy measures that are not related to the energy crisis as well as equity injections, total energy price support is estimated at about 1% of GDP in 2022, 2.4% in 2023, and 0.6% in 2024, although falling retail energy prices resulting from falling wholesale prices, as observed since December 2022, would strongly reduce the fiscal costs (Figure).

To stabilise the gas market, the government nationalised the biggest gas importer, which was on the brink of default due to the stop to Russian gas imports and high spot market prices, with an estimated budgetary cost of EUR 40 billion (around 1% of GDP). Uniper SE was responsible for more than half of Germany's gas imports from Russia and supplied municipal energy providers, ensuring basic access to gas for households. Allowing for the adjustment of contract prices for its clients to reflect higher purchasing costs could help to reduce fiscal costs and provide additional incentives for gas savings, but could also imply a higher number of gas consumers applying for energy price support.

Key fiscal measures taken by the government to alleviate the cost-of-living increase

Measure	Cost (EUR billion)	Time Horizon
To support real incomes		
Reduction of VAT on gas prices	11.3	Oct 22 – Mar 24
One-off payment to pensioners of 300 Euros (subject to income tax)	6.3	Dec 22 – Dec 22
Employees are to receive a €300 one-time payment to cover increased energy costs. The payment would constitute taxable income for the recipient.	10.4	Oct 22 – Oct 22
Direct energy cost subsidies		
Discount on the gas bill to subsidise 80% of previous gas consumption at a reduced price for households and 70% for industrial clients. Additionally, gas suppliers waive the monthly upfront payment in December 2022 and get reimbursed by the government.	56	Dec 22 – Apr 24
Discount on the electricity bill to subsidise 80% of previous electricity consumption at a reduced price for households and 70% for industrial clients.	43	Jan 23 – Apr 24

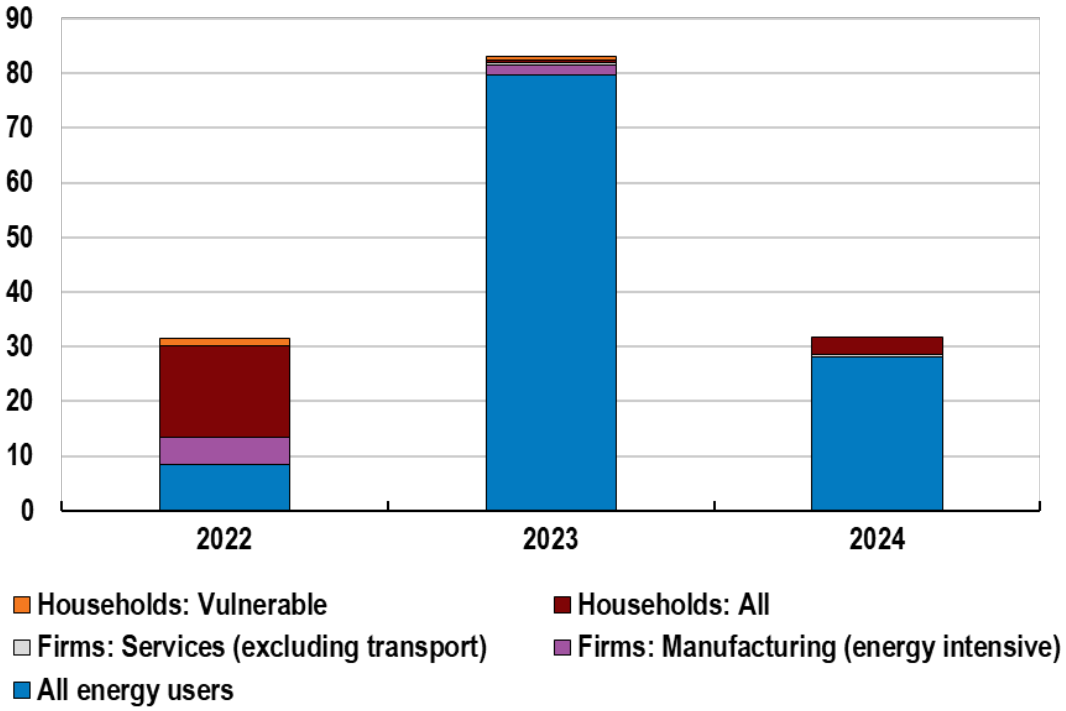
Targeting of measures

There is a mix of both targeted and untargeted measures, but support is dominated by the latter as can be seen from the high share of support directed at all consumers and all households (see figure). In the relief package, untargeted measures included: a reduction of the VAT on gas from 19% to 7% (expires in March 2024); the postponement by 1 year of the 2023 annual increase of the national carbon tax from EUR 30 to 35 per tonne of CO2. There is also no direct targeting of the energy cost subsidies according to household income or needs. All households that pay more than the reference price for electricity or gas receive the subsidy. However, the energy cost subsidy is subject to income taxation above a certain income threshold (yearly income of EUR 67,000), which gives an element of progressivity to the support. All firms are eligible for energy costs subsidies but there is an element of targeting in two respects. First, support is less generous for large industrial enterprises as a smaller share of past consumption will be

subsidised (70% of past consumption instead of 80% for smaller firms). Second, for all companies, the subsidy amounts are capped according to certain criteria. The subsidy is capped between 2 and 150 million euros, depending on whether a company is part of an energy-intensive sector, proves to have suffered a sufficiently high rise in energy costs and drop in earnings, accepts restrictions on paid bonuses and dividends, and agrees to keep its employment in Germany at current levels until 2025.

Cost of energy-related fiscal support by beneficiary

EUR billions



Note: Measures classified as “Credit or Equity Support” or “Other” are excluded.

Fiscal implications

The support measures are financed by a special fund, which received 200 billion Euros (around 5.5% of GDP) in credit allowances in 2022. Spending out of the special fund will not be subject to the national debt brake (this limits the structural Federal Government budget deficit to 0.35% of GDP), which shall be reinstated in 2023 after it was suspended for the past three years due to the pandemic. Actual spending from the special fund is likely to be lower than the total envelope and will depend on the evolution of energy prices. The support will automatically be withdrawn if energy prices fall below the reference price. The fiscal cost of support is also limited as measures expire on 30 April 2024. There are also some offsetting revenue increases. The relief provided by the electricity price support is partly financed by taxing windfall profits in the electricity market without affecting the federal budget and the special fund as revenues are netted out with reimbursement claims of electricity suppliers for support they have to grant to their customers according to the electricity price brake. As revenues from taxing windfall profits are likely to be lower than projected as well with lower electricity prices, the net costs of the electricity price brake for the government will be less affected by lower energy prices than the costs of the gas price brake.

Environmental implications

Households and SMEs will receive a discount equal to the difference between their contract price and the targeted subsidised price level (12 cent/kWh for gas) multiplied by 80% of past average consumption. This lump-sum scheme fully preserves gas savings incentives, as lower consumption reduces the final gas bill without affecting the transfer. For large industrial clients, a gas price subsidy based on 70% of past average consumption is in place since January 2023. A main advantage of the schemes is that the subsidised price levels for households and SMEs remain about 100% and 33% above pre-crisis levels for gas and electricity, respectively, which preserves incentives to raise energy efficiency and adapt to permanently higher fossil energy prices that will come along with carbon pricing. Moreover, the lump-sum nature of the subsidy preserves saving incentives even below the level of 80% of past average consumption, which is key to bring down energy wholesale prices and reduce the likelihood of gas rationing. As the subsidy is tied to contract prices, this ensures that the subsidy declines if retail energy prices fall as a consequence of decreasing wholesale prices.

Obstacles to targeting

The government faced two main obstacles to targeting: no government institution could disburse the energy cost subsidies due to a lack of data on energy consumption and appropriate IT systems; and timely information on consumption and incentives for consumers to save energy are delayed by the limited rollout of smart meters so monitoring current consumption is not possible. As a result, energy providers are required to calculate and pay out the transfer. This solution helped to keep government administrative costs reasonable, albeit by partially raising energy company administrative costs, and allowed a rapid delivery of support. Further targeting based on means would not have been possible even using private sector information as their customer accounts, unsurprisingly, do not provide detailed information on socio-economic characteristics of gas consumers (e.g., household size, income).

Innovation in targeting

The short-term delivery of support using available private sector information appears to make the best use of available information and avoided delays in support due to a lack of IT systems and data. However, beyond the short-term, the government is working on implementing a cash transfer system that could be used in the future to target relief measures to vulnerable households during the green transition. The roll-out of smart meters is also a government priority.

Country recommendations

The support measures and notably the energy cost subsidy scheme preserves incentives to save energy and adapt to potentially permanently higher prices. Although the government made the subsidies subject to personal income taxes above a threshold of EUR 67 000, which introduced a progressive element, improving energy use data, for example by accelerating the roll-out of smart meters, and allowing linking this with other household data is key to improve the targeting of future support measures. While the planned cash-transfer system could also have helped to better target energy price support, its development has been hampered by IT and data protection issues and a lack of coordination and cooperation across ministries and levels of government. Allowing for accessing, linking and analysing administrative datasets across levels of government, while ensuring adequate data protection and confidentiality standards, is key to accelerate the development of effective and targeted policy support tools. Developing short-term monthly indicators on the financial situation and cost structures of firms, such as indicators used for the German Business Panel, could help to better target firm support

measures ex-ante. Early-warning systems to detect firms at risk of insolvency can help to target support during and after a crisis and have been implemented in Denmark and France.

The government should further augment incentives to save energy. This should include gradually phasing out fossil fuel subsidies, replacing them with abatement subsidies or direct transfers to households if needed. Untargeted building subsidies should be phased-out quickly, as high energy prices provide sufficient incentives for renovations, and should be replaced by subsidies targeting vulnerable and credit constrained households. Energy savings should also be further incentivised by a gas auction mechanism for firms to supply their excess gas capacity. To ensure affordable and stable energy supply in the medium run, it is key to accelerate the expansion of renewable energy supply, upgrade the grid and storage infrastructure and better integrate European electricity and energy markets.

Ireland

Summary of measures

Russia's war of aggression in Ukraine has affected the Irish economy due to the surge in energy and food prices and the ensuing slowdown in global demand, which has undermined business confidence and investment. Rising cost of energy and fertilisers has put upward pressure on home heating, transport, and food prices, which are among households' largest spending items.

Public support measures to limit the adverse impact of surging energy bills have been sizeable. They have been sequentially delivered, in 2022-23, in the context of the broader 'Cost of Living' package, about a total of EUR 12 billion (2.4% of 2022 GDP). The first set of measures, introduced through Budget 2022 and its later adjustments, equalled EUR 1.13 billion (around 0.2% of 2022 GDP), out of a EUR 3 billion package. They included means-tested fuel allowances and some additional lump-sum payments to recipients, electricity credits, temporary reductions in fuel excise duties and VAT rates on electricity and gas, and a 20% reduction in public transport fares. A second package was announced in Budget 2023. It comprised permanent tax and income support measures worth EUR 3.1 billion, and a set of one-off and temporary cost-of-living measures, totalling EUR 4.6 billion. Among these measures, support of around EUR 5.1 billion (0.9% of 2023 GDP) was introduced to directly respond to the energy crisis. The latter extended initial policies, but also introduced additional welfare payments to all social protection recipients, an additional child benefit payment, support to eligible students, additional allocation of funds to support public services and community organisations (EUR 300 million) and a new business energy support scheme for SMEs (EUR 1.3 billion). In February, on the back of persistent inflationary pressures, the government put in place additional measures, mitigating the adverse income effect of high retail energy prices (EUR 908 billion – 0.2% of 2023 GDP - out of a broader EUR 1.3 billion new cost-of-living package). In addition to delaying the phasing out of temporary reductions in energy-related VAT rates and excise duties to October, the new measures included additional welfare payments to more vulnerable households and a revamp of the business energy support scheme launched in Budget 2023.

Fiscal measures taken by the government to alleviate the cost-of-living increase

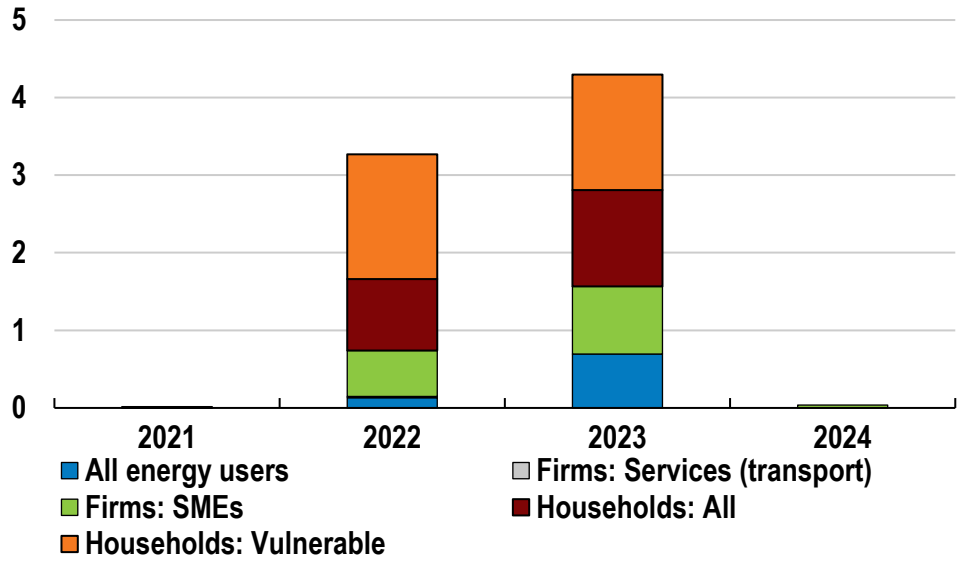
Measure	Cost (EUR billion)	Time Horizon
Budget 2022 and post-budget 2022 Cost of Living Package: means-tested transfers, cuts in fuel excise taxes, reduction in public transport fares and electricity credits	3	Dec 21 – Jun 22
Budget 2023: higher welfare payments to existing beneficiaries, eligible students and a business support scheme	7.7	Nov 22 - Mar 23
Post-Budget 2023: additional welfare payments to vulnerable households, further extension of temporary cuts in energy-related taxes	1.3	Mar 23 – Oct 23

Targeting of measures

As shown in the figure, support has been largely targeted to support vulnerable households, as well as small and medium enterprises, over 2022. The targeted actions were largely made up of increased payments – both regular and lump sums – to the recipients of the existing means-tested fuel allowance. However, wider non-targeted measures were also adopted to ensure that support could be quickly implemented and delivered to exposed consumers. For example, Electricity Costs Emergency Benefit Scheme provides every domestic electricity consumer with a total EUR 600 credit to help reduce electricity bills. To reduce the risk reduce inflationary pressures trisks associated wth generalised demand-side support, the Government focused a good part of its Budget 2023 initiatives on limiting the effect of spiking energy and consumer prices on the income of the more vulnerable households and firms.

Cost of energy-related fiscal support by beneficiary

EUR billions



Note: Measures classified as "Credit or Equity Support" or "Other" are excluded.

According to Central Bank of Ireland estimates, the relative share of targeted measures in the 2023 cost-of-living budgetary package rose to about 40% of the total, from around 11% in the previous one. Such targeted support, rather than through new ad-hoc mechanisms, was largely pursued through increases in existing welfare payments and the provision of lump sums to the recipients of specific schemes (i.e., Working Family Payment, Fuel and Living Alone Allowance). Budget 2023 also committed to extend GP Visit Cards, a scheme ensuring access to free GP visits, to all those on or below the median income (340 000 additional people).

As for the Temporary Business Energy Support Scheme, this is targeted at small and medium businesses – including self-employed – carrying on a trade or profession that experienced a 50% or more increase in their energy bills in the reference period. The scheme has so far covered 40% of the increase in the energy bill amount reported by the eligible firm, up to a EUR 10 000 monthly cap. The TBESS has been extended until the end of May 2023 and its application procedure has been simplified

to encourage higher take-up. Moreover, the threshold for qualification has been lowered to a 30% increase in the costs of energy bills.

Fiscal implications

Overall expenditure is sizeable. The government put in place a combined package of one-off and budgetary measures worth around EUR 12 billion over 2021-23 (Budgets and post budgets 2022-23). Direct energy-support measures account for around EUR 7.6 billion out of the overall packages. This was funded by continued buoyancy of tax revenues, particularly from corporate taxes – driven by the strong profitability of the country's multinational sector. However, relatively high public debt levels – in percent of the modified measure of GNI, and the potentially transient nature of a significant part of the corporate tax gains, warranted caution. Therefore, the government made a mitigating simultaneous commitment to replenish the National Reserve Fund by EUR 6 billion in 2022-23, of which EUR 4 billion was transferred in February.

Environmental implications

The packages overall appear to not markedly undermine reaching environmental objectives. According to Ireland's Department of Finance, the government aimed to introduce measures that maintain the incentive to reduce fossil fuel consumption through the preservation of price signals. For example, reductions in fuel excise duties and VAT rates on electricity and gas, as well as electricity credits and increases in fuel allowances increase demand for fossil fuels and encourage greater energy use. However, these effects are mitigated by the measures being temporary. In addition, despite the severe increase in energy and consumer prices, the Government stuck to the planned EUR 7.5 annual increase in the carbon tax (on a gradual path to achieve EUR 100 per tonne of carbon dioxide by 2030), in a bid to preserve the tax price signal as a key tool towards an effective green transition.

Obstacles to targeting and innovation

The targeted measures were channelled to the recipients of various types of existing welfare support, including those who receive existing energy cost transfers and thereby the government did not face obstacles in targeting. However, more refined targeting methods to identify the most vulnerable by circumstances need more sophisticated tools, such as databases that link both current energy consumption information, for example obtained from smart electricity meters, with information on income and household size and composition.

Country recommendations

The green transition and the rise of European gas prices following Russia cutting off its gas exports to Europe are long-term shocks and therefore households and firms ultimately need to adjust to this. The measures to cushion the blow of higher energy prices should not become an obstacle to this process of reducing fossil fuel dependency, or create permanent, unfunded expenditure commitments. To ensure greater environmental and fiscal sustainability, such measures should be withdrawn or phased out, and additional persistent stimulus to demand should be avoided in the current context of high inflation. Any further fiscal measure, if needed, should be temporary and better target poorer households, particularly in the event of major increases in food prices, keep the impact on domestic activity broadly neutral and be designed not to distort price signals so that incentives for energy savings are maintained.

Italy

Summary of measures

Italy was highly exposed to the energy price shock, especially via its high dependence on gas fired electricity generation and the significant share of gas imports that came from Russia prior to Russia's invasion of Ukraine.[17] As a result, Italy has faced large increases in energy prices that have been spread into overall price pressures. Despite a rapid replacement of Russian supplies of natural gas with supplies from other sources, energy price inflation has spilled into core inflation that has accelerated to a record high 5.8% at the end of 2022.

The Italian government has adopted several measures to shield households and firms from the increase in energy prices through ad-hoc decrees and laws. All measures implemented have been designed to be temporary. Many had already expired before the end of January 2022, such as the excise tax reduction on fuel. Some others have been renewed through new decrees, often with slight amendments. Increases in the social bonus for gas and electricity bills and business tax credits have been repeatedly extended.

The measures enacted are in four main areas: (i) reduction of fixed costs and VAT charges on gas and electricity bills for households and firms (firms (only for those with maximum capacity of 5000bcm per year for gas and 16.5kWh for electricity); (ii) extension of the social bonus (in force since 2008) to reduce electricity and gas bills for low-income households; (iii) tax credits for firms that experienced a 30% quarter-on-quarter increase in energy bills, in proportion to their electricity and gas bills (initially only for energy-intensive firms, later extended to all firms, although at a lower rate); the reduction of excise taxes on gasoline and other fuels.

Additionally, the government has provided targeted income support to low- and middle-income workers that was not strictly related to gas and electricity bills. These initiatives aim at mitigating the negative effects of inflation on real incomes more broadly, rather than being limited to the energy price inflation narrowly. These consist of two one-off payments (EUR 200 and 150 respectively) to low- and middle - income workers and pensioners (annual income up to EUR 35,000 and 20,000 respectively) and recipients of social protection programmes, as well as a two-percentage point increase in the pension benefit of low- and middle-income pensioners (pension benefit up to EUR 2,692) in Q4-2022.

The above-mentioned measures are summarised in the table below, which provides additional information about duration and costs.

Measure	Cost (EUR billion)	Time Horizon
Reduction of fixed costs and VAT charges on electricity and gas bills of households and firms	28.6	Apr 21 – Mar 23
Expansion of the social bonus to reduce electricity and gas bills for low-income households	7.2	Oct 21 – Mar 23
Tax credits for firms in proportion of their electricity and gas bills	14.9	Jan 22 – Mar 23
Reduction of excise taxes on gasoline and other fuels	10.1	Mar 22 – Dec 22

Targeting of measures

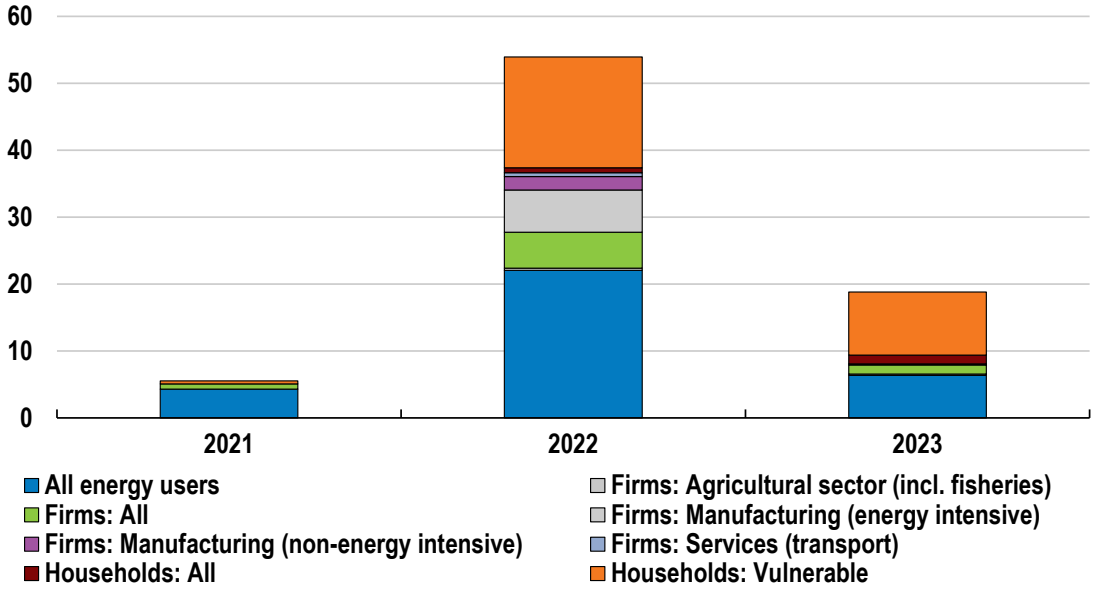
The packages adopted by the government constitute a mix of targeted and untargeted measures. Overall, support packages the Italian Government has implemented have mainly benefited energy consumers, more broadly (Figure). Yet, financial aid has been largely disbursed to firms in the

[17] Replacement of Russian supplies of natural gas have been rapid.

manufacturing industry, while companies in the agricultural sector have been partially neglected, despite being significantly affected by the global increases in fertilizer prices.

Cost of energy-related fiscal support by beneficiary

EUR billions



Note: Measures classified as "Credit or Equity Support" or "Other" are excluded.

Several policies implemented have specifically targeted vulnerable households. For instance, the social bonus is well targeted, as it considers only households below a low-income threshold. The one-off payments were targeted to low- and middle-income workers rather than low-income households (low- and middle-income workers may be part of a high-income household).

Other targeted support programmes, for example tax credits, were exclusively directed to support energy intensive firms. The lower tax credits for other firms are targeted in terms of the level of support, which increases along with the energy bills. However, they may include firms that do not need support since energy bills only account for a low share of their operating costs.

Some measures, such as the reduction in fixed costs and VAT charges on electricity and gas bills, as well as the reduction of excise taxes on gasoline and other fuels were untargeted. However, the government did phase out the reduction of excise taxes at the end of 2022, to devote resources to more targeted interventions. This has, nonetheless, generated turmoil and discontent, both among the general public and sector associations.

Fiscal implications

The support measures so far adopted amount to about 3.8% of GDP, for 2022 and 2023. The government implemented them without significantly deviating from its deficit targets, thanks to the higher direct and indirect revenues from higher-than-expected nominal GDP growth. Nonetheless, maintaining the same support level without renouncing current deficit targets will be challenging, as the interest bill grows and the boost from high nominal growth fades. In 2023, fiscal measures are estimated to strike a balance between the need for continuing to shield the economy and fiscal consolidation, with current support measures forecasted to be maintained in the first months of 2023 and then gradually removed by

mid-2023. This tapering of support is expected to generate a fiscal saving of around 2% of GDP over the full year relative to 2022.

In order to raise additional revenues, at the beginning of 2022, the Italian government introduced a windfall tax targeting energy companies. The tax was designed to be paid if the increase in firms' VAT balances in the October 2021 - April 2022 period relative to the October 2020 - April 2021 period was higher than 10% and EUR 5 million. The part of the increase exceeding EUR 5 million was taxed at a rate of 25%. The tax was therefore calculated on VAT revenues rather than actual profits, and for this reason, many of the targeted firms refused to pay and questioned its constitutional compliance. As a consequence, the final revenues generated by the measure as of December 2022 only amounted to EUR 2.7 billion falling short of the EUR 10 billion the measure was projected to raise.

The 2023 budget includes a new tax equal to 50% on profits declared for 2022 in excess of 110% of the average profits of 2018-2021. This new tax is only to be applied to businesses that produce, import and supply electricity, gas or petroleum products. Micro and small firms in the retail sector are not included. This new tax will be due by June 2023 and it cannot exceed the 25% of the companies' net worth in the fiscal year of 2021. It is estimated that about 7000 firms will be affected by the new measure and that it will generate EUR 2.5 billion EUR for 2023.

Environmental implications

Some of the measures, including the social bonus and the reduction of fixed charges, did not alter marginal prices. These measures kept incentives for energy savings intact. On the other hand, cuts in excise taxes on fuels, reductions on VAT and tax credits on electricity and gas bills contributed to decrease marginal gas and electricity prices, thus reducing incentives for energy savings.

Obstacles to targeting

In Italy, tax evasion represents a major obstacle to the effective implementation of targeted measures. As targeting is usually performed by taking account of taxable income, workers and households that evade taxes may potentially end up receiving higher support than lower-income workers and households who fully declare their income. This represents a problem for the social bonus and the one-off payments measures discussed previously.

In addition, the phase out of the reduction in excise taxes on fuels in December 2022 has generated public turmoil and tensions within the government coalition. In case of further increases in petrol prices, the Italian government may be pressured to reintroduce the excise taxes reductions.

Innovation

The Italian social bonus for households is innovative because it targets low-income households based the whole household rather than the individual income indicator (ISEE). Moreover, it increases with the households needs, while not compromising the price signals (i.e. marginal prices are not distorted). However, tax evasion remains problematic since evaders would also potentially benefit from it.

Country recommendations

The Italian Government should tighten the targeting of energy support measures. Household support should continue to take account of the standard income indicator of household income and installed capacity (or pre-2020 consumption). Business support should be based on the pre-2020 patterns of consumption to maintain price signals intact and the reduction of VAT on gas and electricity bills should be phased out. The targeted measures should be phased out as the gas and electricity prices decrease from exceptionally high levels.

Japan

Summary of measures

The economic effects of Russia's invasion of Ukraine have been more moderate in Japan than in Europe as Japan is less dependent on Russian fossil fuels. However, supply chain disruptions, repeated and long lasting COVID-19 restrictions in Japan and neighbouring countries, depreciation of the Japanese yen and Japan's dependency on imported fossil fuels contributed to increases in the cost of living, mostly due to the increase of food and energy prices. Japan put in place several public support measures from late 2021, including a subsidy to oil distributors to cap the oil price and a further subsidy to lower energy costs as well as one-off transfers to alleviate the cost-of-living increase targeted at low-income households.

Key fiscal measures taken by the government to alleviate the costs of living increase

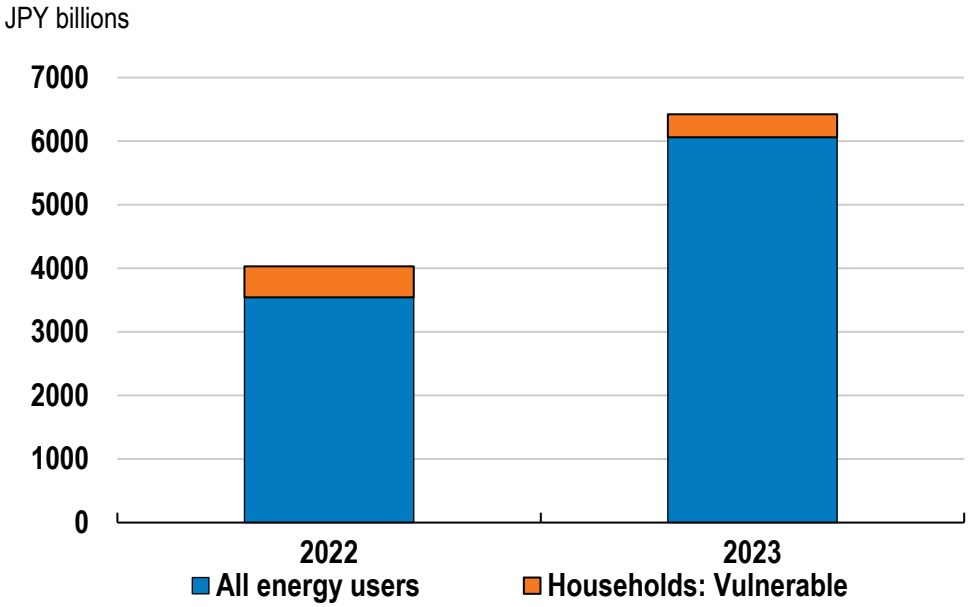
Measure	Cost (JPY billion)	Time Horizon
Mitigation measure for drastic fuel price increases	6 200	Jan 22 – Sep 23
Special benefits to mitigate rising electricity, fuel and food costs	854	Sep 22 – Mar 23
Mitigation measure for electricity and city gas price increases	3 107.4	Jan 23 – Sep 23

Targeting of the measures

The special benefit of JPY 50 000 per household was targeted to low-income households exempted from residential tax (annual income less than around JPY 1 million for households of a single person, if no spouse or dependent relatives, or less than JPY 2.6 million for a two-parent household with two children). No additional means-test was conducted for the targeting as both criteria have been used for other types of existing benefits.

The subsidy to lower electricity and city gas bills starts from January 2023 and targets users who receive electricity at low or high voltage and city gas users with annual contracts of less than 10 million cubic meters, which is provided to each end user through retailers. The special grants to local governments for supporting households and firms may be targeted but its criteria depend on each municipality.

Cost of energy-related fiscal support by beneficiary



Note: Measures classified as "Credit or Equity Support" or "Other" are excluded.

Fiscal implications

Main public support measures to limit the adverse impact of surging energy bills have been sizeable totalling 1.84% of GDP, in 2022 and 2023. The initial interventions of 2022 focused on moderating the price surge and support vulnerable households and firms. This included the extension of the subsidy for the oil price cap until the end of December 2022, the freezing of the government selling price of imported wheat at the April level, a one-off special cash benefit to low-income households, and a special grant to local governments to help them support vulnerable households and firms. The measures in the new economic policy package and supplementary budget for 2022 to moderate prices included a further extension of the oil price cap subsidy until September 2023. It also included the introduction of a new scheme to reduce electricity and city gas bills from January to September 2023, which is estimated to cost around JPY 3.1 trillion (0.6% of GDP).

Environmental implications

The measures implemented by the Japanese government have aimed at reducing the burden of the steep price increases on those who use electricity and city gas. However, to be compatible with decarbonization goals, support is scheduled to be reduced in September.

Part of the broader package of reforms to deal with the energy crisis and particularly energy security is a new plan adopted in December to revive the use of nuclear energy by accelerating restarts of existing plants, extending the lifespan of nuclear reactors beyond 60 years, and developing advanced reactors to replace those that are decommissioned. This would be indirectly related to current measures through energy price, consumption, and composition.

Obstacles to targeting and innovation

The government did not encounter any obstacles to implement existing measures because it used existing benefits criteria to the targeted part of the support and the rest was untargeted.

Limited data availability and barriers to e-government would be an obstacle if the government planned to do more sophisticated targeting. Digital government has many challenges in Japan such as boosting training and re-skilling to lower the digital divide, enhancing public trust, augmenting digital literacy, improving connectivity between different platforms, and strengthening data privacy, consumer protection, and cybersecurity.

Country assessment and recommendations

Current measures to protect purchasing power are mostly untargeted. Yet, the aims of the Japanese government reflect a goal of reducing the burden of rapid price increases on those who use electricity and city gas. As a result, prolonged price caps may inadvertently discourage efforts to decrease energy demand and transition to renewable energy sources. However, it's important to note that the support provided is intended to be temporary and will be accompanied by measures promoting energy savings and the adoption of renewable energy.

Support in the form of special grants to local governments could be used inappropriately or inefficiently and needs to be carefully controlled. There is no ex-ante checking of how the funds will be utilised, but an ex-post survey of the use of funds can be conducted. Announcing in advance that such an ex-post survey will be done can lower the possibility of the misuse of funds by local governments.

Mexico

Summary of measures

The energy crisis has triggered an acceleration in Mexican domestic inflation. Despite not being directly affected by the Russia's war against Ukraine and its consequences, food and energy prices in Mexico have been soaring due to supply chains disturbances. The Mexican government has adopted different measures to respond to inflation expectations and to the erosion of workers' real incomes and purchasing power.

In the first place, the government appointed the Energy Regulatory Commission to regulate the maximum price for liquefied petroleum gas that could be imposed on the end consumer. This measure was initially implemented in August 2021, and it was ended in January 2022.

In January 2022, an increase in tax credits on fuel excise duties was implemented. Specifically, the tax credits were acting on imported gasoline, gasoil and non-fossil fuels. The tax credits rates were reviewed and adjusted on a weekly basis by the Ministry of Finance. This measure ended in March 2022.

Additionally, the government has designed and implemented since March 2022 a complementary tax credit on fuel excise duties which can be used by taxpayers against other tax payments. This measure exists in the scheme of an already functioning 100% tax credit and it consists of a specific amount per litre of fuel. The targeted taxpayers (energy producing and supplying firms) may credit the excise tax incentive against income, or in the annual tax return. Excess credit might also be offset against VAT due, or it may be requested as a refund by taxpayers within 1 year from the month in which the excess credit was produced. This measure is set to expire in December 2024.

The central government took a proactive approach in addressing broad-based inflation by planning a retail fuel price stabilisation mechanism, introduced in March 2022 and expired in December 2022. This substantially contributed to reduce cost pressures for the Mexican economy, estimating an inflation reduction between 2% and 4%. The above-mentioned mechanism has not been targeted; thus it may have benefited high income households. The approach has sped up the required adjustment in gasoline demand by muffling price signals.

The table below outlines the most important policies adopted, including periods of implementation and, when available, fiscal costs.

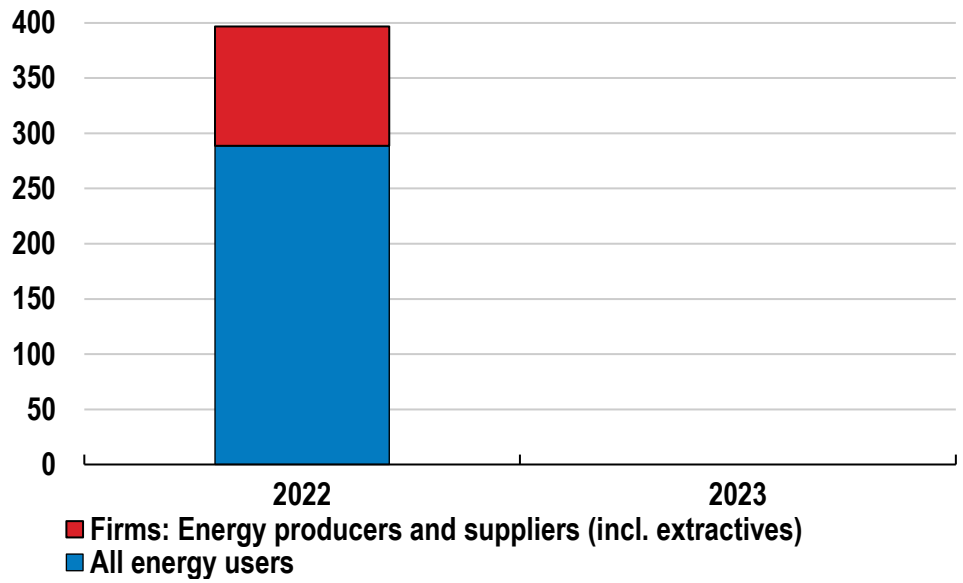
Measure	Cost (MXN billion and % of GDP)	Time Horizon
Energy Regulatory Commission regulating the maximum price for liquefied petroleum gas	-	Aug 21 – Open ended
Fiscal stimulus to reduce fuel excise duties	288.6 (1)	Mar 22 – Open ended
Complementary tax credit on fuel excise duties which can be used against other tax payments	108 (0.4)	Mar 22 – Dec 22

Targeting of measures

Most of the measures described are not targeted (Figure). In most of the cases, they apply to all energy consumers, without providing any particular support to the most vulnerable households.

Cost of energy-related fiscal support by beneficiary

MXN billions



Note: Measures classified as "Credit or Equity Support" or "Other" are excluded.

The complementary tax credit on fuel excise duties is instead targeting energy producing and supplying firms exclusively, providing them with a substantial relief from the exceptional rise in costs.

Fiscal implications

The budgeted measures implemented by Mexican government to contrast the surge of energy and food prices account for around 1.4% of GDP. The increasingly higher oil revenues contribute to cover cost of fuel prices stabilisation mechanism. As the global fuel prices start to align with domestic retail prices, the budgetary cost of stabilisation interventions will reduce while simultaneously providing better incentives for energy savings. These circumstances would create the conditions for the government to enhance

social programmes and ensure more targeted support to vulnerable households. ***Obstacles to targeting***

Most of the measures implemented by Mexican government have not provided support to those most in need. Mexican policy action suggests that the Government intervened based on an assessment that price volatility for energy and food results from supply chain related issues. Therefore, the authorities have primarily aimed to attenuate distribution and production bottlenecks, in order to stabilise prices for firms and households alike. The intuition behind this approach indicates that Mexico's fiscal stands remains prudent, and it prioritises other social programs, including non-contributory pensions and priority infrastructure projects in the south of the country, assuming current supply chain disruptions and high prices as temporary.

Netherlands

Summary of measures

The Netherlands experienced rising energy prices much like other European economies following the onset of the war in Ukraine. Although direct dependence on Russia is limited and natural gas storage were high in 2022, the country's reliance on imported fuels exposes the economy to increased price volatility in wholesale energy markets. Headline inflation rose in 2022 mostly due to rising energy prices.

In direct response to high energy prices, the government will introduce an energy price cap from 2023 to protect households and other small energy consumers, as well as a separate measure totalling EUR 1.65 billion (0.2% of 2023 GDP), that provides an allowance to energy-intensive SMEs.

The government will also introduce a purchasing power package in 2023 to help households with the high cost of living. Thus, it is a bit wider in its objective than "just" addressing high energy prices. This package comes in addition to the energy price cap and amounts to about EUR 11 billion, of which around EUR 6 billion are provided through temporary measures, such as an energy discount for lower-income households, and about EUR 5 billion are allocated to structural measures, such as a decrease in labour taxation and an increase in child and rental allowances.

Key measures

Measure description	Cost (EUR billion)	Time horizon
Temporary reduction in excise duties on fuels by EUR 0.17/litre for petrol and EUR 0.11/litre of diesel and cut VAT rate on energy. Total cost includes home insultation investment (EUR 150 million)	3.2	Jan 22 – Dec 22
VAT reduction on energy from 21% to 9%. Total cost includes increase in energy allowance to EUR 800 and additional energy-saving measures of 150 million.	2.8	Jul 22 – Dec 22
Ceiling on energy prices of 1200 m3 for gas and 2900 kWh for electricity which the government will compensate.	5.1	Nov 22 – Dec 23
Support package to SMEs who experience high energy costs and consume a minimum amount of electricity annually. 50% of the energy cost increase will be compensated above a certain threshold price. Maximum compensation is EUR 160 000 per firm.	1.65	Nov 22 – Dec 23
Vulnerable households will receive energy support of EUR 1 300.	-	Nov - 22

Targeting of measures

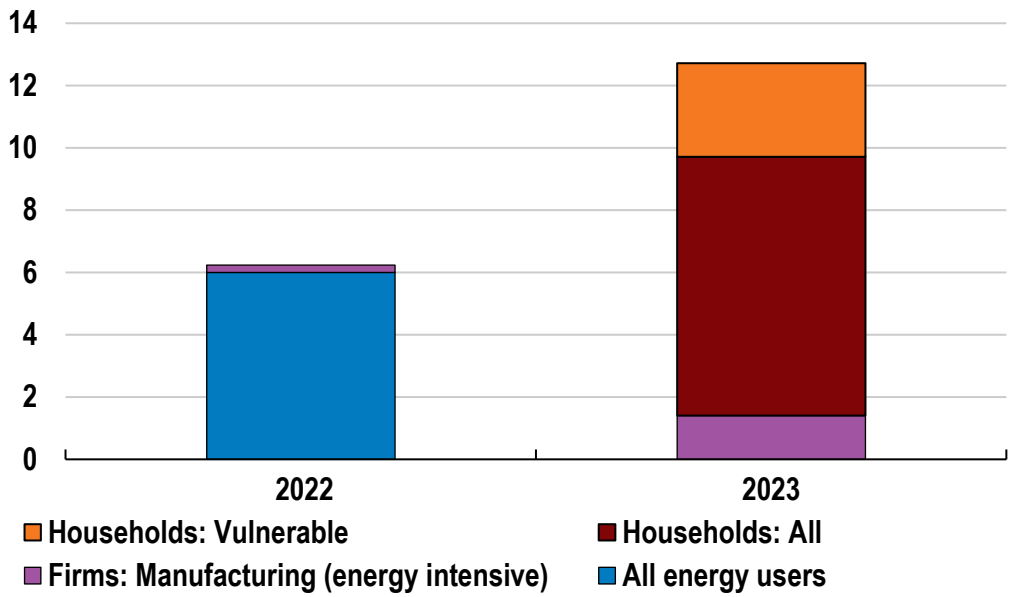
The figure shows a drastic development in the main beneficiary of Dutch support since 2022, where energy tax cuts that lowered the marginal cost of energy was to the benefit of all users. As of 2023, households will be the main recipient of the price ceiling on energy (with the inclusion of other small energy consumers), marking the largest spending program to date. Due to the nature of the cap, the reduction in marginal energy prices for gas and electricity is not classified as targeted since households considered most vulnerable to energy price increases do not benefit from special conditions or tailored support.

Smaller and more targeted measures were introduced to support low-income individuals and energy-intensive SMEs address higher energy costs. For individuals, the one-off energy allowance was available if households earn less than 120% of the social minimum (EUR 1 310.05 (single) or EUR 1 871.50 (cohabiting couple)) per month. Notably, this threshold targets low- middle-income earners, a vulnerable household category that faces similar burdens to the energy crisis but is often difficult to target. Individuals already receiving bijstandsuitkering (social assistance benefit), IOAW, IOAZ or Bbz benefit will automatically receive the allowance.

For energy-intensive SMEs, such as bakeries and spas, the government introduces a scheme to pay part of the energy costs: the Energy cost contribution scheme TEK. The temporary support is intended to give businesses room to make their company more sustainable or to change their business model. The main criterium to establish if an SME qualifies as an energy-intensive SME is that the energy costs must be at least 7% of the turnover, which will be checked in advance.

Cost of energy-related fiscal support by beneficiary

EUR billions



Note: Measures classified as “Credit or Equity Support” or “Other” are excluded.

Fiscal implications

The announced energy support measures such as the energy price cap and the energy discount are temporary, available only for 2023. Total costs are expected to amount to around EUR 19.9 billion (2% of GDP for 2022 and 2023) but will depend on the energy price development. As for the purchasing power package and energy price cap, they will be partially funded by an extra contribution from oil and gas

companies as well as higher corporate and asset taxes. The total cost of the energy price cap will depend on energy price developments, but is estimated at approximately EUR 5.1 billion (0.5% of GDP). As temporary energy support measures are scheduled to be phased out by end 2023, the fiscal deficit will decrease to 2.4% of GDP in 2024.

The government has not formally communicated fiscal implications of the measures, but the Netherlands Bureau for Economic Policy Analysis (CPB) estimates that without the price cap, inflation would have been 2.5 percentage points higher than baseline estimates.[18] The CPB also raised concerns that the expenditure ceiling - which is set at the start of the government period for at least 4 years - outlined within the trend-based fiscal policy framework were not met without clearly defining current exceptions and the expected path to return to the budget rules.

Environmental implications

According to Statistics Netherlands (CBS), in the first six months of 2022, the Netherlands consumed 17.6 billion cubic metres of natural gas (approximately 25% less than in the first half of 2021).[19] Across energy-intensive industries, gas consumption decreased by over 30% compared to the same period in 2021. The decrease was particularly visible in the petroleum (less 59%) and chemical (less 32%) industries. Power stations used 28% less gas, greenhouse horticulture used 23% less, and households consumed about 16% less.[20]

The price cap on energy bills only applies up to a stated threshold, after which households and small energy users are exposed to market prices. Households may be encouraged to reduce consumption to below this threshold (1,200 m3 for gas and 2,900 kWh for electricity). According to IEA consumption data, approximate annual averages of consumption between 2019 and 2021 are 910 m3 and 3000 kWh for gas and electricity respectively. Arguably, the thresholds announced could be considered too high to provide significant energy saving incentives.

However, the design of the price cap could encourage energy saving in the short-term. The price ceiling is applied over two periods according to the biannual energy price reviews typically conducted for Dutch households. To calculate the benefit amount, the government has divided the gas and electricity thresholds across the whole year, accounting for extra use in the colder months. For example, if annual reviews take place in April, households will be entitled to a price cap on a maximum of 610 m3 of gas and 976 kWh of electricity at the maximum rates of the price cap (from January 1). Consumption above these thresholds will be charged at the market rate, even if the full year usage is below the yearly threshold maximum.[21]

Obstacles to targeting

The Dutch government have claimed that due to the difficulty of quickly delivery support through the energy price cap, certain small users will be less supported by the energy measures. For example, households with block heating benefit less from the price cap because the building is considered as one household.[22] The government is currently investigating options to support these households outside the scope of the energy measures.

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[18] https://www.cpb.nl/sites/default/files/omnidownload/CPB-Publication-Energy-Price-Scenarios.pdf

[19] https://www.cbs.nl/nl-nl/nieuws/2022/35/gasverbruik-25-procent-lager-in-eerste-halfjaar-2022

[20] https://nltimes.nl/2022/08/30/gas-consumption-netherlands-fourth-year

[21] https://www.rijksoverheid.nl/onderwerpen/koopkracht/plannen-kabinet-met-prijsplafond-voor-gas-en-elektriciteit#anker-4-verdeling-maximaal-gebruik-voor-en-na-energierekening

[22] https://www.government.nl/topics/energy-crisis/cabinet-plans-price-cap-for-gas-and-electricity

Innovative targeting

The Dutch government have adopted an income benefit scheme that supports households with an income of up to 120 percent of the social minimum. This use of a threshold around the social minimum enables the government to target middle-income households that face their own unique challenges in light of the energy crisis. Increasingly, middle-income households are at risk of not being able to pay higher energy bills and descending into the low-income category.

Country recommendations

Well-targeted fiscal policy support to aid vulnerable households with high living costs is needed as long as high energy prices persist and significantly erode households' disposable income. The government should carefully monitor the energy price cap, and revise it as needed, to ensure that it is targeted at households in need and that incentives to save energy are in place. An acceleration of the green transition, to ensure energy security and reduce fossil fuel dependence should be a priority.

Poland

Summary of measures

Since the outbreak of Russia-Ukraine war, Poland has been facing numerous challenges, such as inflows of refugees from Ukraine, increasing pressures to diversify its energy imports and reduce its direct trade relationship with Russia, Belarus and Ukraine. As other countries in Europe, Poland has been experiencing surge in food and energy prices, which account for most of the raise in headline inflation rates.

Therefore, in 2022, the Polish government introduced the so called "Anti-Inflation Shields", together with additional measures aimed at softening the impact of high inflationary pressures. These support packages contributed to temporarily lower VAT rates on energy, food, fertilizers, froze natural gas tariffs, introduced means-tested subsidies to low-income households and universal subsidies for heating, as well as the exclusion of fuels from retail sales tax. The 2022 Anti-inflation shield builds on the first version of this support package (anti-inflation 1.0), which was introduced in December 2021, and extends it. Indeed, in the frame of the anti-inflation shield, the Polish government has provided heating subsidies of 630 EUR for coal heaters, per household and heating subsidies for solid fuel heaters.

Furthermore, allowances for schools, hospital and other public institutions have been ensured to compensate up to 40 % of extra energy costs and they have also been granted gas tariff protection, previously targeting households exclusively.

The government has discussed a windfall tax that targets energy companies, while energy-intensive industries were offered the possibility to apply for compensation for high electricity and gas prices. Additionally, electricity and gas prices have been capped for households and firms up to a level based on the average energy consumption. The basic foodstuff VAT rate has been brought down to zero. Moreover, some subsidy schemes have been specifically designed for farmers and energy intensive companies. The maximum electricity price for farmers and households is set at PLN 693 per MWh when consumption is above the limit set in a previous law that froze prices in 2023 at 2022 levels for average consumption. The plan establishes a maximum price of PLN 785 per MWh for SMEs, local governments, and public institutions like hospitals and schools. A freeze in power prices for 17 million households has been planned for 2023 and it will maintain prices at their 2022 levels, for consumption up to 2000 kWh.

The aggregated fiscal cost of these support measures is estimated to be around 5.17% of GDP, for 2022 and 2023.

The described Anti-Inflation Shield has expired at the end of 2022, and it has been replaced by a system revolving around electricity and gas price caps which includes:

- Electricity price and distribution fees for households are kept at the 2022 level for consumption up to 2000 KWh (around average household consumption), with higher thresholds for large families, households with disabled and farmers. The electricity price for consumption over 2MWh is capped at PLN 693 (EUR 147/MWh, as net price).
- For households, gas prices are capped at PLN 200,17 (EUR 44,1)/MWh in 2023.
- The zero VAT rate on basic foodstuff continues to apply in 2023.
- The price of coal for residential heating is also regulated.

The table below summarises the characteristics of the energy and food support package.

2023 fiscal supports to address the cost-of-living crisis

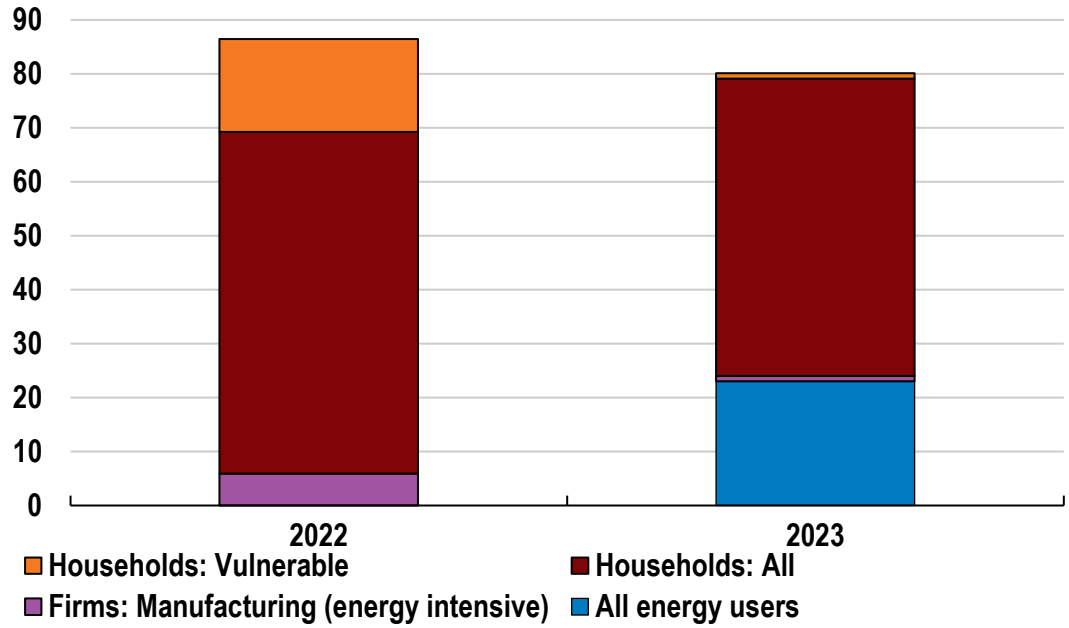
Measure	Cost (PLN billion)	Time Horizon
Freeze in maximum price for farmers, households and SMEs	23	Jan 23 – Dec 23
Zero VAT on basic foodstuffs	10.3	Jan 23 – Jun 23
Freeze on natural gas prices	46	Jan 23 – Dec 23
A subsidy to be paid to households heating with gas.	2	Jan 23 – Dec 23
Compensation for 2022 energy costs for energy-intensive companies.	6.9	Jan 22 – Feb 23

Targeting of measures

The measures described above are mostly untargeted, except for the compensation for energy costs targeting energy intensive firms only and a small number of policy initiatives targeting vulnerable households. Also, the maximum electricity price has been established primarily aiming to support households and farmers. The latter have benefited from supplementary financial aid to face the increase on fertiliser costs caused by Russia's war against Ukraine. In order to effectively support the most hard-hit businesses, the subsidies to energy intensive companies are provided to large, small and medium enterprises particularly affected by the increase in price of energy, thus in their operational costs. The financial support given by the government comes in the form of direct grants.

Cost of energy related fiscal support by beneficiary

PLN billions



Note: Measures classified as "Credit or Equity Support" or "Other" are excluded.

Fiscal implications

Polish fiscal policy has been estimated to further expand in 2023 to increase support to households and firms in the aftermath of Russia-Ukraine war, before tightening in 2024. This is justified by the inflation estimations, which is expected to remain above the central bank's target range, until 2024.

The Anti-Inflation shields of 2022 are estimated to have cost 1.9 % of 2022 GDP, with an estimated resulting reduction in headline inflation of around 3-4%. Support measures are assumed to be continued in 2023, with heating subsidies being introduced and price caps being renewed. The 2023 support measures are forecasted to have a fiscal cost of about 2.35% of GDP.

Environmental implications

Price caps on gas and electricity prices are assumed to contribute to decrease incentives for households and firms to reduce their energy consumption. However, this may not be the case for those price caps which also presents consumption limits, set below average consumption. This, indeed, incentivises households to maintain consumption level below the average, to avoid incurring the full increase in real wholesale energy prices. However, incentives to save energy may not be very high: power prices for 17 million households will be frozen up to 2000 kWh of consumption level, which is almost pre-pandemic average households' consumption level (2175.5 kWh). In addition, the Polish government has also established a second system to incentivize energy reductions, which consists of a 10% bill reduction if household uses 10% less electricity in 2023, compared to 2022.

Despite these mechanisms, the expectation is that energy consumption in Poland will continue to heavily rely on fossil fuels, especially coal, in the short to medium term.

Obstacles to targeting and innovation

Governmental evidence shows that there has been a lower-than-expected take up in applications for the household inflation benefit, which targets low-income households. However, there is no evidence the government has undertaken innovative approaches to tackle this issue and make the targeting process more effective.

Country recommendations

As described, governmental policy support is being provided to manage the current increase in living costs. It is therefore recommended to focus action and resources to ensure future support to be better targeted to the most vulnerable. Moreover, the energy related support measures to both households and firms should remain temporary. Fiscal policy should be controlled to prevent additional inflationary pressures.

Portugal

Summary of measures

Record high energy and commodity prices are causing costs for households and firms to rise significantly. Central government has taken proactive action to halt the erosion of workers real income and shield households and businesses against high inflation.

Intervention has consisted of different measures for households, namely one-off cash transfers, reduction in taxes and tariffs of fuels and electricity, and support for public transport.

Support measures targeting firms differentiate programmes for industries with high gas usage, which are offered the possibility to switch to the regulated electricity and gas market for firms with low usage. Additionally, a rebate on gas prices for firms with high usage is applied up to 80% of their 2021 level of consumption. Authorities have also designed an increased tax credits system for electricity, gas, fertilizers and agricultural feed expenses.

Supplementary support to firms includes a 600 million EUR credit line for businesses hit by the disruptions in energy prices and commodity prices. This credit line is estimated to run over 8 years.

It is worth noting that, since European commission approval of the project in June 2022, Portugal and Spain have been jointly allowed to artificially lower their wholesale electricity prices through the so-called Iberian exception, which caps the price of gas employed for the electricity production. The overall average capped price is set to EUR 48.8/MWh. The establishment of a similar system has been made possible by the fact that that both Spain and Portugal are marginally interconnected to the European grid. However, this mechanism may alter market response by limiting demand reduction, thus only tackling high prices while exacerbating consequences on demand.

The table below summarises the main measures adopted by the Portuguese government, as well as their fiscal costs.

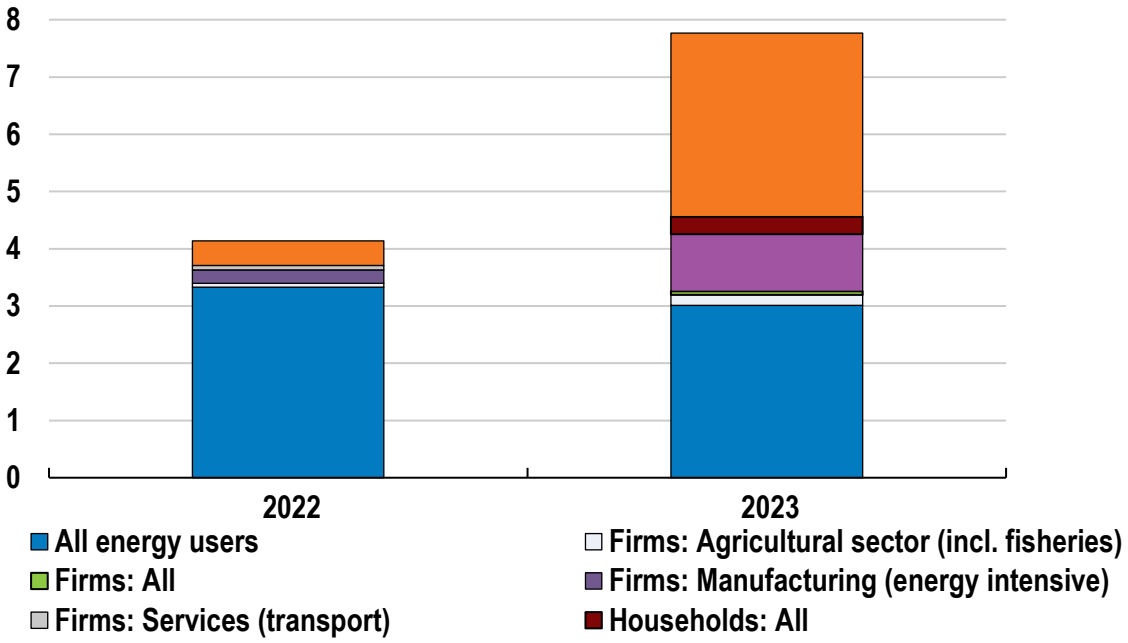
	2022		2023	
	Million EUR	% of GDP	Million EUR	% of GDP
Cash payments to households	2200	0.9	580	0.2
Reduction in the energy products tax (ISP), including reduction equivalent to a decrease of the in VAT rate from 23% to 13% and delayed increase in the carbon tax	1485	0.6	385	0.2
Reduction of the VAT rate on electricity from 13% to 6%	20	0.0	67	0.0
Fuel subsidies for public transport and price freezes on consumer prices	75	0.0	66	0.0
Extraordinary electricity support to firms			2500	1.0
Rebate on gas consumption for high-usage firms (over 10 000m³ annually)			1000	0.4
Gas support to companies in high-usage industries	235	0.1		
Revision of income tax brackets			560	0.2
General increase in pensions			1820	0.7
Inflation-related increase in wages for civil servants			1060	0.4
Elimination of VAT on basic foodstuffs			410	0.2
Support for rent and interest payments for low-income households under the More Housing programme			450	0.2
Other measures	420	0.2	964	0.4
Total measures	4435	1.9	9862	3.8

Targeting of measures

As shown in the figure, government action has significantly benefited energy consumers, as a whole. However, estimates for 2023 suggest that a better targeted approach to support will take place.

Cost of energy-related fiscal support by beneficiary

EUR billions



Note: Measures classified as "Credit or Equity Support" or "Other" are excluded.

Some support measures have been targeted to households. For instance, in 2022, the one-off cash payments have largely benefited all pensioners, with an intervention worth EUR 1 billion, for adults with an income below the 2700 EUR per month (EUR 730 million), and families with dependent children (EUR 110 million). The support to adults, despite originally targeting below average income earners, has also benefited adults with income above the average salary for 2022 (EUR 1350).

Extra support, worth EUR 350 million, has been offered to low-income households. Moreover, additional resources have been devoted to fare reductions to incentivise public transport by offering financial aid worth 140 million EUR in 2022 and 190 million EUR 2023.

Central government has also designed support schemes to reduce prices and taxes, for both households and firms. These measures have mostly been untargeted and they include: reduction in energy tax, reductions in network access tariffs for 2023 aimed at lowering final electricity bills by 35% for industry and by 80% for households, rebate on gas prices for firms with high usage and tax credits for companies for electricity, gas and other highly priced items.

Fiscal implications

Energy support measures implemented by the government to shield households and firms from the raising costs are estimated to be 1.9% of GDP in 2022 and 3.8% of GDP in 2023. In particular, the one-off cash payments to households amounted at around 0.9% of GDP (1.9 billion), while the total costs for support to firms and other measures for 2022 accounted for 0.8 % of the annual GDP. Estimates for 2023 suggest that some energy measures will be extended, such as the reduction in taxes on fuels and electricity as well as the support for public transport. Policy packages for energy-related matters are expected to be phased out by 2024.

Environmental implications

Environmental implications of Portugal support measures against rising energy prices are mixed. On the one hand, reductions in the energy tax and the delay of the planned increase in carbon tax represent a failure in keeping the ambition high to substantially decrease emissions and incentivize an increase in replacement rate of fossil fuels with renewable source. Similarly, the price cap introduced through the Iberian exception reduced incentives to lower consumption in a moment of tight supply. However, on the other hand, financial help offered to those who use public transport has encouraged them to switch away from private vehicle use.

Yet, energy support measures are expected to be temporary, therefore their adverse effects on environment and environmental commitments of the country are assumed to be limited and well contained. Investments to increase energy efficiency, green infrastructures and renewables will need to be prioritized in the following years, to offset the potential damage generated by the current energy measures.

Obstacles to targeting and innovation

No obstacle has been raised by authorities in terms of designing an effective targeting system for the delivery of support to the most vulnerable households and most affected firms. For the cash transfers to low-income households, Portuguese administration transferred the sum directly to eligible beneficiaries, who had their IBAN registered in the social security system. For those who were not included in this system, postal vouchers have been used for the benefit transfer.

Country recommendations

Additional support measures against rising energy prices should remain temporary, become increasingly targeted on the most vulnerable households and firms and maintain incentives for energy reductions. The Government should resume the planned increases in the carbon tax with transitory support measures for vulnerable households and firms in order to meet Portugal's ambitious emissions targets.

Spain

Summary of the measures

Since the exceptional surge of prices in 2022, the Spanish government pursued the objective of containing inflation, through a massive and often untargeted support intervention.

Two following sets of fiscal initiatives have been implemented to achieve this goal.

The first set, started in April 2022 and ended in June 2022, consisted of tax rebates and aid to businesses and households, like the rebate on motor fuels (20-cent per litre). This support package had an estimated cost of 6 EUR billion, accounting for about 0.5% of the annual GDP of the country. In addition, in June 2022, the European Commission approved a price cap on gas used for electricity production for Spain and Portugal. This measure, the Iberian Exception, sets the price cap at around EUR 48.8/MWh and it is expected to remain in place until May 2023.

The second set of measures became effective in the second half of 2022, with a fiscal cost of around 9 billion EUR, divided in spending measures (5.5 billion EUR) and tax cuts (3.6 billion EUR). Additionally, the government approved a reduction of the VAT rate on gas from 21% to 5%, effective from October until December 2022.

At the end of 2022, as inflation decreased from 10.7% to 5.6%, the government adopted a more targeted approach in the drafting and delivery of support measures, also aligning with some of its long-term environmental goals. Indeed, starting from 2023, the rebate of 20 cent per litre of motor fuels has been narrowed in terms of targets, by exclusively applying to hauliers, farmers, shipping companies and fishers. However, this evolution appears to be very gradual as, for instance, the VAT cut on gas has been extended until the end of June 2023.

The government has also announced an addition of 3 billion EUR to be devoted to new measures, including the regulation of gas prices for collective residential heating systems, new subsidies for heating and electricity bills for low-income households.

The table below presents the main measures adopted, with information about costs and periods covered.

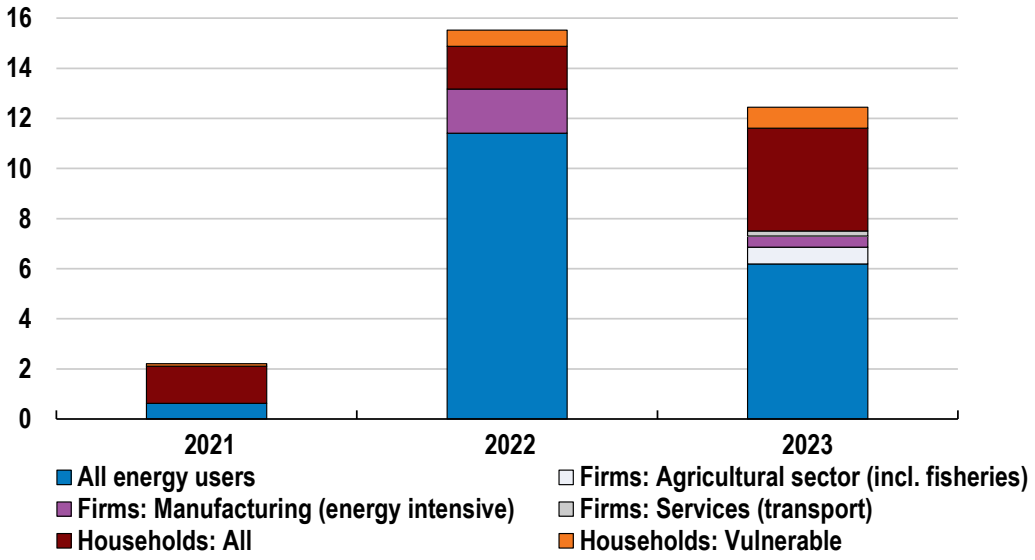
Measure	Cost (EUR billion)	Time Horizon
First set of support measures (tax rebates and untargeted rebates on motor fuels)	6	Apr 22 – Jun 22
Second set of support measures (spending measures and rax cuts)	9	Jul 22 – Dec 22
Iberian Exception	6.3	Jun 22 – May 23
Regulated gas prices for collective heating systems, new subsidies	3	October 22 – end of 23

Targeting of measures

Most of support has been delivered to all energy consumers and households, indifferently. Targeted interventions have been scarce in volume and magnitude. These have been in part directed towards vulnerable households, and in part addressed towards energy intensive firms, as shown in the figure.

Cost of energy-related fiscal support by beneficiary

EUR billions



Note: Measures classified as "Credit or Equity Support" or "Other" are excluded.

Fiscal implications

After an increase in government deficit in 2022, progressive decline is expected in the following years. Estimations for 2023 suggest that fiscal support will be adjusted: direct aid will not be renewed in 2023, tax rebates will continue in 2023 and they are estimated to be gradually phased out in the first half of 2024. No additional measure to shield from the impact of Russia-Ukraine war has been included in 2023 fiscal plan. Given these assumptions, Spain's fiscal stance is expected to tighten by 1.2% of GDP, during 2023.

Environmental implications

In face of an exceptional surge in prices, the top priority of Spanish government since 2022 has been to contain inflation, which explains the massive and untargeted interventions. Some of the measures enacted to this aim, such as the 20 cent per litre rebate on motor fuels or the VAT rate cut, have represented a step back from the previous policy commitment to substantially lower fossil fuels consumption and fight climate change.

Obstacles to targeting

No precise obstacle has been raised by authorities and officials about targeting households in need. It is therefore assumed that targeting has been carried out without encountering issues in data collection and delivery of the support.

Innovation

There has been no evidence notified about the use of particularly innovative systems of targeting in Spain.

Country recommendations

The tightening stance of Spain fiscal policy, despite the continuously high inflationary pressures, suggest that fiscal support measures need to be better targeted towards the most vulnerable, while simultaneously aligning with the medium-term fiscal consolidation. Additionally, incentives for energy savings need to be preserved. This may require the establishment of efficient regulatory frameworks and additional incentives to stimulate private investment in non-polluting energy sources.

United Kingdom

Summary of measures

Since late 2021, the United Kingdom has been grappling with significant risks associated with a cost-of-living crisis. This situation has been exacerbated by various factors, including the substantial strain placed on supply chains, the labour market, and household purchasing power due to the robust resurgence of economic activity. To address this pressing issue, the UK government launched the Household Support Fund in October 2021 to help vulnerable households cover the cost of essentials such as food and energy (additional funding has been announcing, bringing the total to GBP 2.5 billion).

By March 2022 headline inflation had already experienced 8 months of continued year-on-year growth and the war in Ukraine had skyrocketed wholesale energy prices. To protect households and businesses from high energy prices, the government introduced two large support packages, the Energy Price Guarantee (EPG) and the Energy Bill Relief Scheme (EBRS), which cap the cost per unit of energy[23]. As of publication, the EPG has been extended to 2024 and the EBRS ended for households in March 2023. The EBRS has been replaced by the Energy Bills Discount Scheme, offering GBP 500 million support to firms until March 2024.

These measures came on top of support packages announced earlier in the year to help households, including a two Cost-of-living payment programs (totalling GBP 21.3 billion) to support those on means-tested benefits from 2022 to 2024, as well as a one-off GBP 150 energy bill discount paid to eligible households in 2022. Moreover, the government reversed the 1.25 percentage points increase in national insurance contributions previously planned to take effect from November 2022.

Overall spending from 2022 to the end of 2023 is estimated to total of 3.17% of GDP. The key measures are described in the table below:

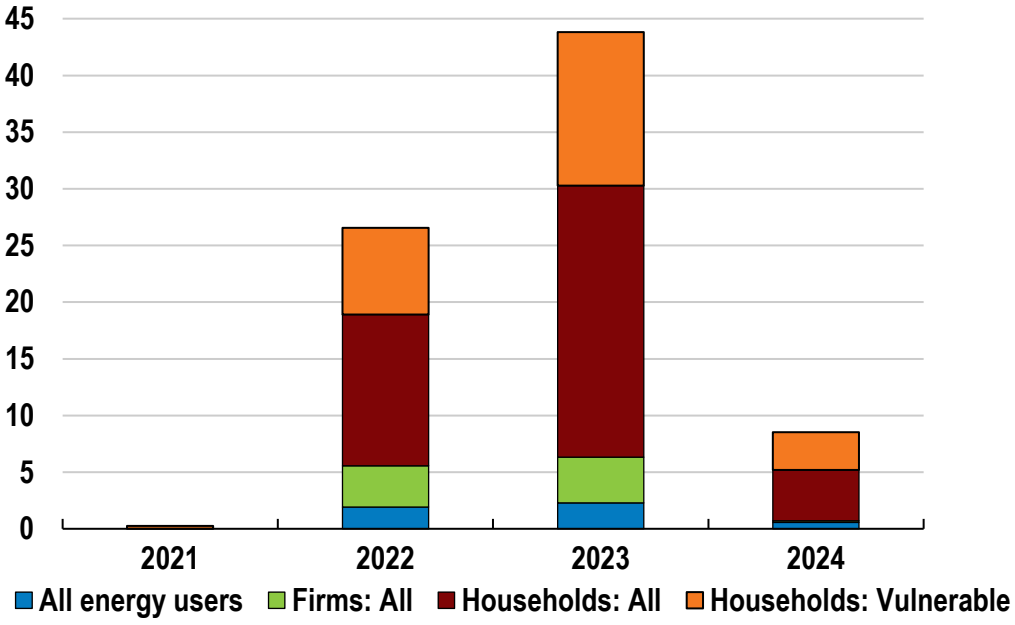
[23] The UK government covers the difference to the market price (effective from October 2022 until end-March 2023).

Description of support measures	Cost (GBP billion)	Time horizon
Household Support Fund: Local welfare grant to support vulnerable households in England with the cost of essentials, including food and energy.	2.5	Oct 21 – Mar 24
Cost-of-Living Payments (2023-24): up to £900 in Cost-of-Living Payments for those on means-tested benefits, plus an additional £300 for pensioner households and £150 for individuals on disability	9	May 22 – Mar 23
Discretionary funding will be provided to support vulnerable people and individuals on low incomes that do not pay Council Tax, or that pay Council Tax for properties in Bands E-H.	0.14	Feb 22 – Apr 23
Fuel duty excise tax reduced by GBP 0.05/litre for 12 months	4.8	Mar 22 – Mar 24
Council taxpayers in England in bands A to D would receive a rebate of GBP 150 from their bills in April, which will not have to be paid back (affects about 80% of households).	2.9	Apr 22
The Energy Bill Relief Scheme to support businesses for a six-month period.	7.3	Oct 22 – Mar 23
The Energy Bills Discount Scheme	0.5	Apr 23 – Mar-24
Energy Price Guarantee scheme.	27	Oct 22 – Mar 24

Households were the main beneficiary of the announced measures, supported predominately through budgetary transfers that either supplement income or directly reduce the energy bill (figure). This suggests that, although specific measures were created to benefit the groups separately, there was little distinction across firms and households by vulnerability and energy exposure.

Cost of energy-related fiscal support by beneficiary

GBP billions



Note: Measures classified as “Credit or Equity Support” or “Other” are excluded.

In response to growing public pressure to respond to soaring energy prices, the United Kingdom government established the temporary Energy Price Guarantee scheme eventually costing about GBP 27 billion. The scheme sets the maximum unit costs of gas and electricity and compensates energy suppliers for providing these at below cost prices. The main measures include:

- A cap on gas and electricity unit prices to ensure that a typical household[24] in Great Britain pays no more than an average announced amount per year on their energy bills. Initially set at £2,500 for a two-year period spanning from October 2022 to September 2024, the cap underwent a revision. It was later changed to £2,500 for the first nine months (October 2022 to June 2023) followed by an increase to £3,000 for the following nine months (July 2023 to March 2024).
- A suspension on green levies, accounting for £150
- Equivalent support to businesses and other non-household energy users was provided through the Energy Bill Relief Scheme. Support comparable to the Energy Bill Relief Scheme was also provided to non-domestic energy customers who receive gas or electricity via public networks from non-licensed providers.
- Retaining the £400 energy bill discount delivered automatically to households.

Targeting of measures

The measures announced by the United Kingdom aim to protect consumers from the significant increases witnessed in wholesale gas prices. So far, the largely untargeted support suggests that – in the short-term – the government prioritised quickly minimising the direct impact of large energy bills for millions of households and a broad range of firms. For example, the Energy Price Guarantee does not differentiate the size of benefits delivered based on considerations of household size or income. This structure successfully supports households as intended but fails to recognise the unequal impact of energy bills by household type on household budgets. This means that low-income households that would struggle the most to cover rising energy costs, middle-income households that are more at risk of falling into the low-income category, or generally households with less energy efficient properties do not receive proportionate support. Rather, only individual consumption influences the final cost of energy bills.. However, it should be noted that the Guarantee also supports households with less standard energy arrangements, such as those in park homes, those paying to their landlord, and those reliant on LPG or heating oil.

There have been a few smaller cost-of-living support measures aimed at vulnerable households in 2023. For example, up to GBP 900 is available for individuals already on a low-income benefit, GBP 300 for pensioner households and GBP 150 for individuals on an eligible disability benefit. The Warm Home Discount, originally worth GBP 150, has been expanded support more households across Great Britain (totalling 3 million). There are now two separate schemes – a Warm Home Discount scheme in Scotland and a Warm Home Discount scheme in England and Wales. Eligibility for a rebate depends on location.

Over late 2022 and 2023, revisions to measures were announced to better target support to vulnerable households and businesses. For example, following a HM Treasury-led review of the EBRS, it was announced that households will no longer benefit from the scheme from March 2023. Rather, cost-of-living payments will be disbursed to households on means-tested benefits cover energy costs. For businesses, the new Energy Bills Discount Scheme was announced with a cap set at £5.5 billion based on estimated volumes. Higher level of support will be provided to businesses in sectors identified as being the most energy and trade intensive.

The Treasury has announced another review into how energy support could be continued in a targeted manner after April 2024, when the initial blanket support is scheduled to come to an end.

[24] Defined by OFGEM as a household of 2–3 people using approximately 12 000 kWh of gas and 2 900 kWh of electricity annual. Information on the calculations are outlined here.

Fiscal implications

The UK government has stated that the announced measures are temporary, with formal re-evaluation to be conducted in Spring 2024. As of April 2023, two policy amendments have been announced to support public finances. There has been an increase in the corporate income tax rate from 19% to 25% and a decrease of the income threshold for taxation at the additional rate of 45% for higher earners from GBP 150,000 to GBP 125,140.

An analysis of the impact of the Energy Price Guarantee by the Office for Budget Responsibility in March 2023 estimated that annual consumer price inflation would have been around 2 percentage points higher in 2023 without the Guarantee. Other analysis suggests that without the Energy Price Guarantee, the average annual electricity and gas costs for a typical household would have risen to GBP 4 279 in January 2023, relative to the long-run average of around GBP 1 200 for a dual fuel user[25]. Other official statements attest that the EPG the EPG has safeguarded jobs, prevented insolvencies, and allowed businesses to address high energy costs effectively.

Environmental implications

The measures adopted by the UK support households and firms by either delivering transfers to bolster income to pay for higher energy costs, or by directly controlling the wholesale unit price of gas or electricity. The nature of both mechanisms fails to incentivise a reduction in consumption since the level of government intervention is not conditional on individual energy demand. For example, the Energy Price Guarantee can be criticised for delivering an enormous transfer across the economy without prioritising clear signals for energy efficiency and overall consumption reduction. Although the mechanism does not place a cap on annual bills, it can be argued that providing a price cap on every unit of consumption is less effective than providing a cap up to a stated consumption amount or monetary value.

By shielding consumers from market prices, the marginal increase in consumption per kilowatt becomes less detrimental compared to measures that expose consumers to market prices beyond a certain threshold. This is despite the efforts of public message campaigns to remind households that the final bill is determined by the way energy is paid, location, meter type and individual household consumption.

Obstacles to targeting

There have been concerns that energy suppliers have been mistreating the Energy Bills Support Scheme (EBSS) by failing to automatically apply the GBP 400 of support to energy users[26] or educate users to redeem their vouchers. To remedy this, the government published figures on voucher redemption rates for the EBSS broken down by supplier to hold them accountable.

For certain support programmes, energy consumers must determine if their own eligibility and submit their own applications. Lack of online access or technological understanding may present a buffer to reaching the largest number of vulnerable households. For example, the extension of Warm Home Discount to Scotland can be considered difficult to access because even though Ofgem sets the basic criteria for suppliers who offer the Warm Home Discount, energy suppliers can also pick additional options and criteria for their customers to qualify for the scheme. Since suppliers can pick their criteria, there isn't a single version of the broader group that applies to all suppliers. In certain cases, energy users may be eligible with one supplier and not another, and the criteria can change each year.

[25] https://fraserofallander.org/energy-price-guarantee-is-now-less-generous-but-will-play-a-role-in-fighting-inflation/

[26] https://www.gov.uk/government/news/new-government-figures-shine-a-light-on-which-suppliers-are-supporting-households-this-winter

Innovation in targeting

The UK Government has measured fuel poverty using the low-income low energy efficiency (LILEE) indicator. The measure depends on the interaction between energy efficiency, household income and energy prices.[27] It is unclear if these metrics were used to influence the design of the broad support measures adopted.

The Cold Weather Payment in the United Kingdom has been providing households with £25 for each 7-day period of very cold weather between 1 Nov (excl. Scotland). The "very cold weather" condition is met if the average temperature in the recipient's area is recorded as, or forecast to be, zero degrees Celsius or below over 7 consecutive days. Additionally, the payment is distributed automatically so households do not need to apply.

European Union

Summary of measures

In response to the energy crisis, the EU relaxed state-aid rules to help EU states protect businesses and households from episodes of excessively high energy prices in the EU. Notably, the EU raised the amount of state aid that governments can give to companies affected by high energy prices or sanctions without approval by the EU from half a million to two million euros.

In addition, price-targeting policies, such as energy price caps and varying business subsidies were approved by the EU in several countries. For instance, Germany announced EUR 200 billion over two years (or 2.5% of GDP) to limit gas price increases for households and businesses. EU countries also agreed to cap gas prices at EUR 180 per megawatt hour at the Dutch Title Transfer Facility gas hub, which serves as the European benchmark for wholesale gas prices.

New EU-wide energy taxes provide EU countries with additional fiscal resources to finance income support schemes for households and businesses. Such EU-wide tax measures include

- a new EU-wide levy on excess market revenues made by non-gas-powered electricity generation plants (revenues above EUR 180 per megawatt hour) and,
- a solidarity mechanism to partially capture the excess profits made by fossil fuel companies (oil, gas, and coal). Under this solidarity mechanism, national tax authorities can impose retroactively a 33% levy on profits made by these companies in the 2022 and 2023 fiscal years, provided that the profits represent a 20% increase compared to the average for the 2018-2021 period.

The tax measures are temporary and will be subject to review in June 2023. However, such sectoral taxes make business planning more difficult and risk lowering investment needed for the green transition.

Key measures

Measure	Cost (EUR billion)	Time horizon
33% levy on profits in 2022 and 2023 if the profits represent a 20% increase compared to the average for the period 2018-2021	EUR 25 billion[28]	June 2023, with potential extension

[27] The LILEE indicator considers a household to be fuel poor if it is living in a property with an energy efficiency rating of band D or below and its disposable income after housing costs and energy needs would take it below a disposable income of less than 60% of the national median.

[28] Estimate of the European Commission. The exact amount of revenues per Member State will depend on the implementation of the tax at national level.

Obstacles to providing support frameworks

Targeting of the support schemes are under the responsibility of the EU countries. However, the EU advocates for targeting support towards the most vulnerable users and to limit more general subsidies of consumer energy prices.

An uncoordinated approach to the state-aid framework could increase risks of fragmentation and undermine competition on the bloc's single market. There are concerns that if support is provided in an asymmetrical manner that promotes imbalances in the competitive positions of the EU member states, a "race to the top" reaction in providing budgetary support could increase risks to fiscal sustainability especially of the more vulnerable Member States.[29]

Fiscal implications

The EU estimates that the levy on non-gas-powered electricity generation plants and the windfall tax on fossil-fuel companies will generate fiscal revenues of about 0.9% of EU GDP. However, the exact amount of revenues will depend on the implementation at the national level.

Environmental implications

According to the 2023 Report on the euro area[30], there are concerns that current energy measures adopted by some member states to provide energy-related income support or regulate energy prices to prevent wholesale price pass-through may reduce energy saving and energy efficiency incentives.

Another key concern is that the price cap may reduce gas supply to Europe should international gas prices rise above the cap. In such situation, gas flows will be redirected to regions competing with Europe for gas, such as Asia. Another concern is that gas trade will move away from the Dutch Title Transfer Facility gas hub which could result in an increased risk of rationing in winter 2023/24.

Exceptional taxes on renewable energy-based renewable generation could also have negative consequences on investment in renewables.

[29] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52022SC0382.

[30] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52022SC0382

Annex B. Comparing fiscal costs in the OECD Tracker and other databases on energy support measures

The fiscal cost of energy-related support measures that are reported in other sources may vary from that reported in the Tracker due to differences in cut-off dates and methodological or definitional reasons. To explain such differences, this annex compares the gross fiscal cost of measures (in per cent of GDP) of the Tracker with the similar databases of Bruegel[31], Eurostat and the International Energy Agency (IEA). This exercise revealed discrepancies in the valuation of measures (e.g., due to different definitions) and consequently aggregate spending.

Comparison with Bruegel

The Bruegel database covers 28 countries (EU member countries, Norway and the UK), 13 fewer than the Tracker.[32] The time horizon of the measures assessed starts from September 2021 and end in January 2023, with the latest update recorded on March 24, 2023. In contrast, the Tracker covers measures that have been in effect from February 2021 and has a cut-off date of 23 May 2023 for announcements of energy-related support measures.

A comparison reveals significant differences in total costs for several European countries, including Germany, Romania, Poland and the Netherlands (Figure A.B.1). These discrepancies are due to differences in the methodology used to estimate the cost of measures, which depends on uncertain estimates of energy consumption levels and price trends. These estimates have a direct impact on the actual fiscal impact of the measures, which may be lower than the announced allocated funds (the envelope). Another important source of discrepancies is the classification of measures. For example, the Tracker does not include credit and equity support measures in the cost calculations, as these measures typically increase government financial assets and do not immediately increase budget deficits. The Tracker also adopts a more restrictive definition of what constitutes energy-crisis relief. In particular, the Tracker excludes from fiscal costs the part of tax bracket adjustments that were introduced to address the cost-of-living crisis caused by the rise in headline inflation rates.

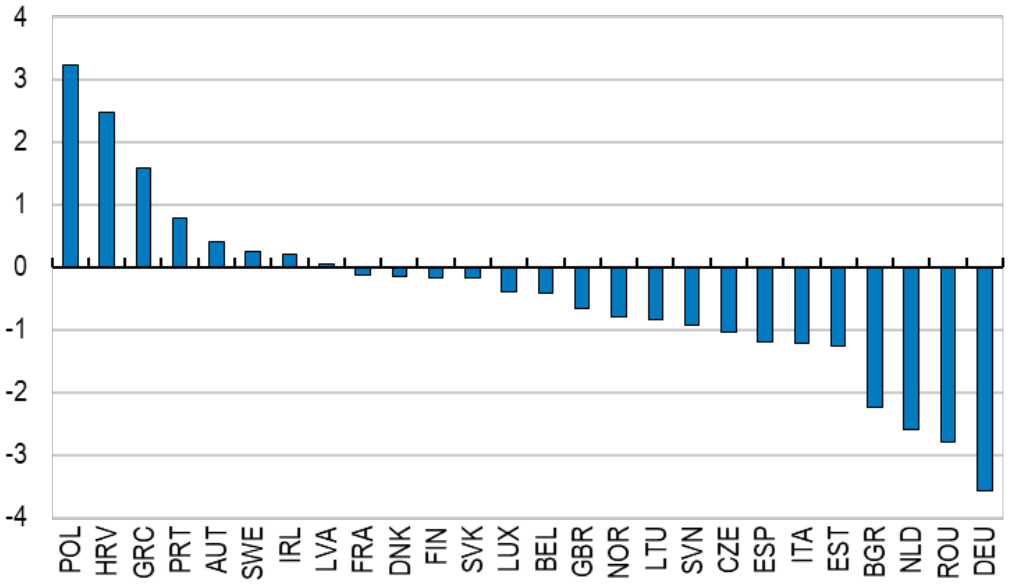
In addition to total fiscal costs, the taxonomy in the Tracker also deviates from the Bruegel database. For instance, while the definition of targeted and untargeted measures coincides for both Bruegel and OECD databases, the classification of price and income support policies use different definitions. The Tracker defines those measures that discount energy up to a limit or decrease average costs of energy bills as income support initiatives as users continue to be exposed to market prices. By contrast, the Bruegel database includes in the price support category energy bills and tariffs discounts, which affect average prices. This has a generally limited impact on total costs.

[31] National fiscal policy responses to the energy crisis (bruegel.org)

[32] Among the countries covered by Bruegel, Malta and Cyprus are not covered by the Tracker.

Figure A B.1. Fiscal costs reported by Bruegel tend to be larger than those reported by the Tracker

Difference in the total cost of measures between the Tracker and the Bruegel database, % of GDP



Note: The discrepancies originate from different cut-off dates for measure announcements, differences in the estimated fiscal impact of the allocated funds, the exclusion by the Tracker of credit support and equity measures from the calculation of fiscal costs and the exclusion by the Tracker, the non-energy relief component of measures that aim to address the cost-of-living crisis (e.g. tax bracket adjustments in Germany amidst rising headline inflation).
Source: OECD Energy Support Measures Tracker; Bruegel; and OECD calculations

The comparison of differences in the cost of measures in percentage of GDP terms (Table A.B.1) reveals several common issues:

- When support packages are announced different criteria to aggregate or separate measures can lead to large changes in the final total cost. For example, one-off payments or special sub-measures may be included in totals over multiple periods if measures are not disaggregated in the database.
- Different costs associated with the same measures. This is typically due to different assumptions and sources;
- Absence of cost information;
- Different handling of measures with no announced end-dates when annualising data.

Table A B.1. Examples of differences between the Bruegel and OECD costing of measures

Country	Source of discrepancy	Measure	Fiscal cost and the applicable period (OECD)	Fiscal cost and the applicable period (Bruegel)	Classification of the support type (OECD)	Classification of the support type (Bruegel)
Germany	Different costs and Classification	Nationwide public transport ticket	EUR 6 bn (Jan 23 – open ended)	EUR 3 bn (Jan 23- Dec 23)	Other	Income
Romania	Absence of costs	Companies support	No costs	0.4 bn		Income (Untargeted)
Austria	Different costs and periods	Reduction of tax on electricity and natural gas	EUR 875 mn (Jun 22 - Jun 24)	EUR 1 100 mn (May 22 - Jun 23)	Energy price support	Price

Finland	Absence of costs and different classification	Reduction on obligation for biofuels	No costs (April 22-Dec 23)	EUR 149 mn	Other	Price
United Kingdom	Different costs	Energy Price Guarantee – Energy Relief Scheme	GBP 34.3 bn (Oct 22 – Mar 24) (Oct 22 – Mar 23)	GBP 68 bn (Oct 22 – Mar 23)	Energy price support	Price
Netherlands	Different costs	VAT reduction from 21% to 9%	Part of a EUR 2.8 bn package[33]	EUR 1 bn	Energy price support	Price

Comparison with the Eurostat

The comparison is based on data derived from the calculations of the budgetary impact of energy measures and the analysis of countries' measures list. As evidenced in Figure A.B.2, some of the available differences are minor. The latest update of these calculations of budgetary impact is from November 2022, which likely also explains most of the large discrepancies. Furthermore, Eurostat is confined to only EU countries and, thus, a full benchmarking of the Tracker against Eurostat is not possible.

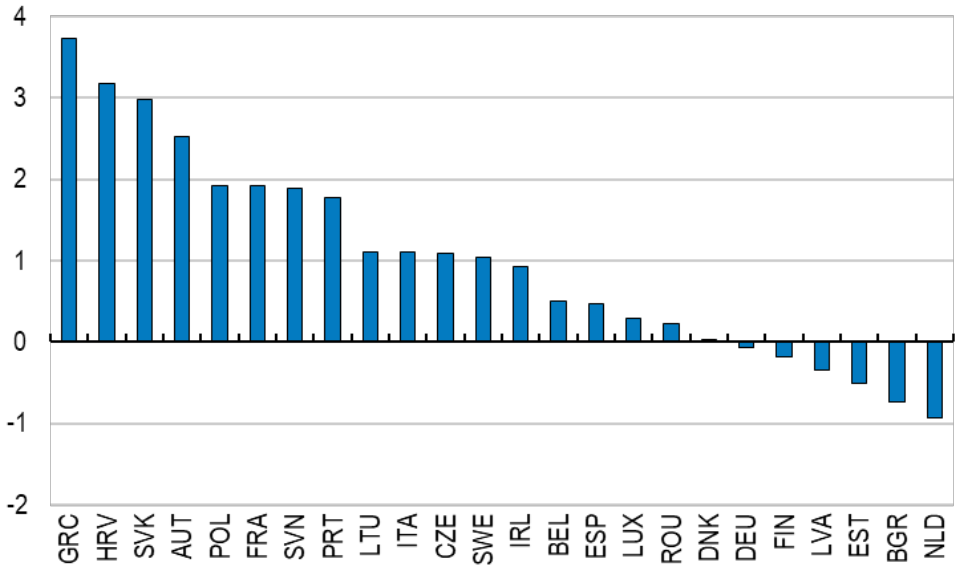
Definitions of targeted and untargeted measures used in the Eurostat database are similar to those employed in the Tracker. Indeed, Eurostat considers measures targeted to households when there is some form of means-testing involved and if the measure is not expected to benefit the majority of the population. For firms, a measure is considered targeted if it applies to specific energy-intensive activities.[34]

[33] Individual cost of the vat reduction initiative is not available. The cost of this measure is included in the total costs of all support measures announced in March 2022.

[34] Gerrit Bethuyne, Wojciech Balcerowicz and Miklos Erdei, Budgetary policy measures to mitigate the impact of high energy prices on households and firms: methodology and budgetary impact, Commission services internal working document, DG ECFIN, 29 November 2022.

Figure A B.2. Fiscal costs reported by the Tracker tend to be larger than those reported by the Eurostat

Difference in the total cost of measures between the OECD Tracker and the Eurostat, % GDP in 2021-23



As shown in figure A.B.2, the largest discrepancies arise in the case of Greece, Croatia, Slovakia and Austria. Some examples of differences are summarised in the Table A.B.2, for which a measure-by-measure analysis has been performed. The differences might be driven by the fact that OECD calculations are based on data in gross terms, while the Eurostat data considers the net impact on countries' budgets. This is evident in the case of Greece, which has financed large part of the costs of measures through levies and taxes imposed on windfall revenues of electricity producers. Additionally, OECD calculations include estimates of fiscal costs also for 2024, while EUROSTAT data consider costs only until 2023.

Table A B.2. Examples of differences between the Eurostat and OECD costing of measures

Country	Source of discrepancy	Measure	Fiscal cost OECD (%GDP)	Fiscal cost Eurostat (%GDP)	Classification OECD	Classification Eurostat
Austria	Differences in costs and classification	Increase of commuter subsidy	0.1 (jun-22-jun 24)	0.05 (May 22-Jun 23)	Income support (Non-energy related) (Untargeted)	Changes to levies and subsidies on energy products / production (Price) (Untargeted)
Austria	Differences in classification, costs and period	Reduction of the Elektrizitäts- und Erdgasabgabe (reduction in electricity and natural gas taxes)	0.24 June 2022- Dec 23	0.23 May 22-June 23	Energy price support (Untargeted)	Indirect taxation (Non-price) (Untargeted)
Portugal	Difference in cost and classification	Reduction of VAT on electricity	0.22 (2023)	0.05 (2022-23)	Energy price support (Untargeted)	Indirect taxation (Non-price) (Untargeted)

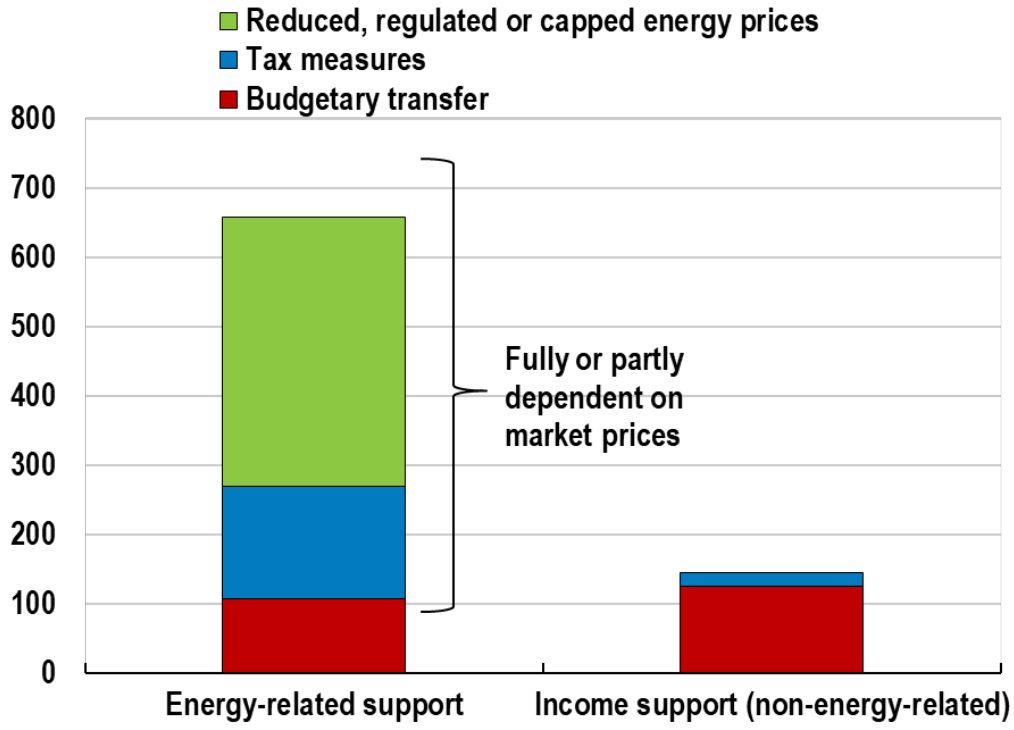
Italy	Difference in cots	One-time allowance (EUR 200) for pensioners with annual income below EUR 35,000	0.18 (2022)	0.14 (2022)	Income support (Non-energy related) (Targeted)	Social transfers to households (Non-price) (Targeted)
Greece	Differences in costs	Subsidies for natural gas for both households and firms.	0.2 (Jan -22-Dec-22)	0.38 (Jan – Dec 2022)	Energy price support (Untargeted)	Changes to levies and subsidies on energy products / production (Price) (Untargeted)
Greece	Differences in costs and classification	Subsidies on electricity consumption for households and businesses	3.8 (Sep-21-Dec-22)	5.66 (Sep 21-Dec-22)	Income support (energy related) (Untargeted)	Changes to levies and subsidies on energy products / production (Price) (Untargeted)

Note: According to the OECD Energy Support Measures Tracker, a support measure is considered targeted if its main beneficiaries are not "all households" or "all firms" or "all energy users".
Source: OECD Energy Support Measures Tracker; Eurostat; and OECD calculations.

Across all databases, inherent differences are expected based on assumptions and estimations of fiscal costs. Some of the analysed measures have been implemented for less than a year. The fiscal costs of similar measures for 2023 could be higher. Further, we find that a large share of measures is contingent on market prices (Figure A B.3). Uncertainty about future price developments is high and changes in prices relative to the assumptions used in the Tracker and other databases could significantly change the final cost (Figure A B.3).

Figure A B.3. Estimated costs of support measures and whether they depend on market prices

USD billion



Note: Reduced, regulated or capped energy prices includes measures that are classified as Energy price support: Reduced, regulated or capped marginal energy prices, and Income Support – energy-related: Reduced, regulated or capped average energy prices.

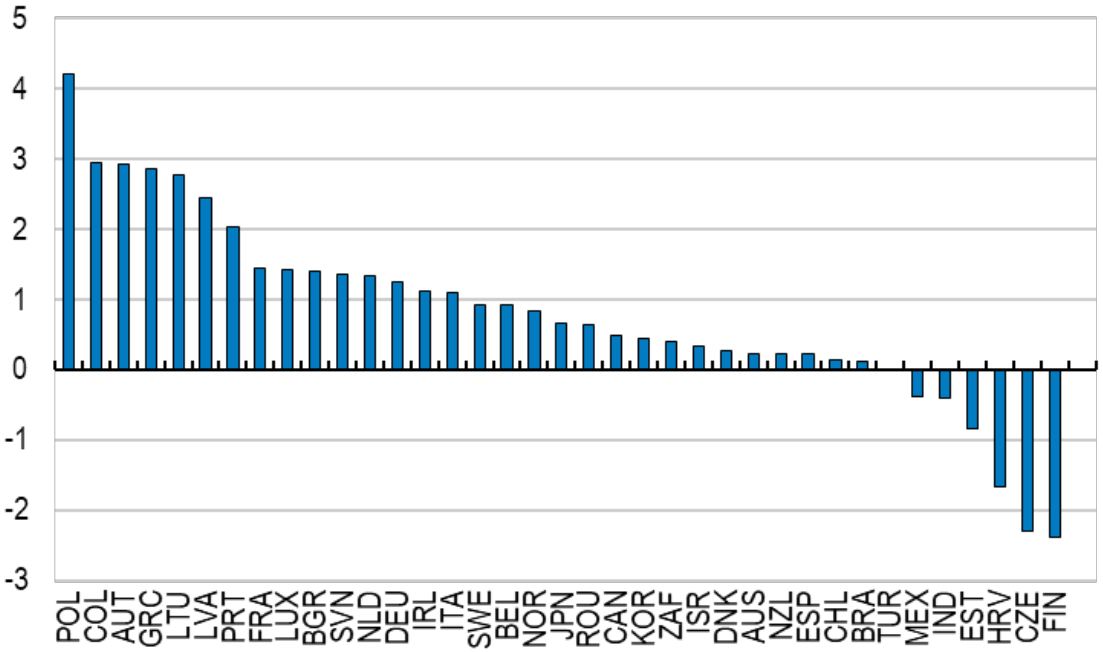
Comparison with the IEA database

The International Energy Agency (IEA) database contains energy support measures of 43 different countries. It takes into consideration measures implemented by governments from 2020 to 2023. All measures presented in the IEA database are costed, while the Tracker also includes measures for which gross fiscal costs were not available.

The comparison highlights structural differences between the two databases. While the IEA database only accounts for categorisation criteria such as jurisdiction and status of the measure (with a binary taxonomy of “In force” and “ended’’), the Tracker presents a more granular taxonomy, which allows the categorisation of measures with respect to several dimensions such as support type, mechanism of support delivery and the main beneficiaries. In particular, the latter criteria help to distinguish between targeted and untargeted measures. This difference appear partly driven by the different purposes of the two databases: while the IEA database helps inform the overall breadth of support, the Tracker aims at documenting the pattern of current energy support and whether it is targeted or not to inform detailed policy advice.

Figure A B.4. Fiscal costs reported by the Tracker tend to be larger than those reported by the IEA

Difference in the total cost of measures, % GDP of 22-23, OECD Tracker versus the IEA



The largest differences arise in the case of Poland, Colombia, Austria and Greece. Some of examples of sources of discrepancies are provided in the table below.

Country	Measure	Source of discrepancy	OECD	IEA
Colombia	OCAD paz	Out of time horizon (measure excluded from the OECD database)	-	COP 84.718 billion
Colombia	Fuel price stabilisation fund/Fuel subsidies	Difference in cost	COP 19 trillion (2022)	COP 14.1 billion (2022) (Fuel subsidies)
Czech Republic	Energy price cap	Difference in cost	CZK 40.2 billion	CZK 130 billion
Finland	Lending facility for energy companies	Different classification	10 bn Credit and equity measure (excluded from calculations)	10 bn (included in calculations)
Poland	Allowance to vulnerable households	Different costs	PLN 17.2 bn (Mar-Dec 2022)	PLN 4.10 bn (2022)
Indonesia	2021-23 energy subsidies	Absence of costs	-	IDR 771.7 tr