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SME policy responses to the 2022/2023 energy crisis

POLICY HIGHLIGHTS AND COUNTRY EXPERIENCES

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OECD SME and Entrepreneurship Papers

SME policy responses to the 2022/2023 energy crisis

Policy highlights and country experiences

Marco Marchese

This paper takes stock of one year of policy responses to the 2022/2023 energy crisis triggered by Russia's war of aggression against Ukraine from the perspective of small and medium-sized enterprises (SMEs). In this paper, "SME policy responses" are defined as all government policies, whether SME-specific or not, which have lowered or affected in other ways the price of electricity and natural gas paid by SMEs. The paper discusses three broad policy categories and related approaches implemented across countries: price-support measures; income-support measures; and complementary policies fostering the green transition. Overall, while emergency measures were initially centred on energy-intensive sectors, a larger number of SMEs were eventually covered as governments ramped up the scale and scope of their action due to the protraction of the Russian war in Ukraine. Going forward, as wholesale energy prices return to pre-war levels, price-support measures should be withdrawn. Income support could be used in some cases to help companies deal with still high retail energy prices, but the main policy focus should shift towards measures that improve the energy efficiency and environmental performance of SMEs.

JEL codes: H25, H32, L25, L52, L53, M21, Q48
Keywords: Small and medium enterprises (SMEs); energy policy; energy crisis; climate change.

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Executive summary

Russia's war of aggression against Ukraine has caused large-scale destruction, the death of thousands of people and the displacement of millions more. From an economic perspective, the main consequence of the war has been the first major energy crisis in decades, which has fuelled pre-existing inflationary pressures. Although the wholesale price of natural gas, which directly affects the price of electricity, has significantly dropped since the peaks of summer 2022 (nearly EUR 340/MWh), returning in April 2023 to levels close to those observed before the war (i.e., between EUR 40-50/MWh), the latest OECD Economic Outlook (June 2023) shows that core inflation, which excludes food and energy products, remains stubbornly high and suggests that monetary policy will need to remain restrictive in economies in which high core inflation is proving persistent.

This paper takes stock of one year of policy responses to the energy crisis from the perspective of small and medium-sized enterprises (SMEs). In this context, "SME policy responses" are defined as all government policies, whether SME-specific or not, which have lowered or affected in other ways the price of electricity and natural gas which SMEs have paid during the energy crisis. Although the price of gas has declined since its highs, most of the measures presented in this paper were still in place as of April 2023, often until the end of the year. This reflects the delay with which wholesale prices are passed into retail contracts (i.e., pass-through effects), which has also mitigated the impact of wholesale prices on retail users and introduced a possible risk of overcompensation, as well as continued uncertainty in energy markets.

Not all OECD countries have been affected by the energy crisis in the same way. European countries most reliant on Russian gas before the war were the most exposed to the increased cost of energy and have, accordingly, seen larger packages of support. On the other hand, net energy exporting countries have felt the impact of the crisis less, so they have generally avoided large interventions in domestic energy markets. Other countries (e.g., Korea and Switzerland) have also followed this approach even though they are net energy importing countries.

In line with previous OECD analysis, SME policy responses to the energy crises are grouped into two main categories: i) price-support measures, notably gas/electricity price caps and rebates on levies drawn from gas/electricity bills; ii) income-support measures, such as energy-related tax credits, transfers, subsidised loans, and credit guarantees. In addition, the paper also looks at complementary measures that supports the green transition of the business sector, including both monetary and non-monetary incentives.

The paper shows that at the beginning of the crisis, in the first half of 2022, government interventions mostly focused on energy-intensive sectors where SMEs are generally underrepresented. Furthermore, outside energy-intensive sectors, energy consumption thresholds in programme eligibility requirements were set at levels that excluded most SMEs. However, as the war continued, many governments in the most affected countries ramped up the scale and scope of their action, reaching more sectors and types of enterprises, including many more small businesses. To achieve this objective, two common approaches were adopted by many countries: i) extending the energy price caps initially conceived for households to micro enterprises; and ii) lowering the electricity and gas consumption thresholds that companies needed to meet in order to claim a relief.

Price-support measures, especially price caps, have been the main and most expensive policy implemented by governments during the crisis, amounting to between 2% and 4% of GDP in the largest European countries. Although these programmes were initially planned with a short duration of 6-12 months, as of April 2023 most of them were still in place and set to last at least until the end of the year, which reflects the protraction of the Russian war in Ukraine but may also point, in some cases, to the difficulty of phasing out emergency policies. Energy price caps have progressively moved from “full” (i.e., fully covering the increased cost of energy) at the beginning of the crisis, to “partial” (i.e., covering only part of the increased cost of energy), although many of them continue to be generous. Price caps have also sometimes differed depending on the sector and/or firm-size, often being more generous for energy-intensive and trade-exposed sectors. A second, less common, type of price-support mechanism has been rebates or withdrawal of levies from gas and electricity bills. The most common tax to be suspended from energy consumption has been value added tax (VAT) and excise duties (mostly on petroleum products), although some countries have also temporarily lifted “green levies” meant to finance the green transition.

Income-support measures have been used less often than price-support measures to face the energy crisis, although there have been exceptions. Italy, for example, has extensively used energy-related tax credits, while Austria and Ireland have used state transfers more often than other countries. Transfers, in particular, have mostly been used in the first phase of the crisis for companies in energy-intensive and trade-exposed sectors. In addition, they have also sometimes been made conditional on the achievement of other relevant objectives, such as improved energy efficiency. On the downside, there is some evidence that eligibility requirements in some transfer programmes were initially too complex, which has led governments to adapt them to ensure faster delivery. Income-support measures also includes subsidised loans and credit guarantee programmes. While these programmes, especially credit guarantees, are obviously less expensive than price-support measures and direct transfers, they come at a time of already high levels of SME debt, a legacy of the Covid-19 crisis when governments introduced large emergency liquidity programmes to help SMEs cope with the pandemic.

Finally, many governments have introduced new programmes or strengthened existing ones to help SMEs become more energy-efficient or, more broadly, to accelerate the green transition of the business sector. Programmes have taken different forms, including tax incentives, grants, preferential loans and non-financial measures such as business advice and training.

Overall, evidence on one year of policy responses to the energy crisis suggests that liquidity support in the form of untargeted price-support measures has played a major role in avoiding a major fall in output by reducing the retail price of energy products. Nonetheless, trade-offs have also emerged in relation to the need to accelerate the transition towards more sustainable business models and practices. For example, as noted earlier, one way in which governments have reduced electricity and gas bills is through the suppression of green levies. Although governments have sought to make up for this loss through other budgetary sources, it is important that these levies be reinstated as soon as possible to avoid undermining the green transition. Furthermore, given the decline of wholesale energy prices in early 2023, blanket price-support measures should soon be withdrawn as they delay the green transition and weigh on public finances. If necessary, more targeted income-support measures could temporarily be used to tailor support to sectors and companies which may need further help due to still high retail energy prices. Nonetheless, in the longer run, the policy focus should shift towards measures that improve the environmental performance of SMEs, thus bringing to an end the emergency measures introduced at the peak of the energy crisis

1 Introduction

This paper analyses government policy responses to help SMEs cope with the increased cost of energy following the Russian invasion of Ukraine in February 2022. “SME policy responses” include both SME-specific policies, which are relatively uncommon in the context of energy policies, and any policy which has affected SMEs, either because the policy targeted the business sector as a whole or because micro and small enterprises have been assimilated to households, thus receiving the same preferential energy price treatment from the government. The paper draws inspiration from the recent analysis by the OECD of SME policy responses to the Covid-19 crisis (OECD, 2020[1]) (OECD, 2021[2]) and intends to support countries to understand the range of responses introduced by governments to protect SMEs from the exceptionally high energy prices of the second half of 2022. The paper also builds on existing OECD analysis of the broader measures (i.e., beyond the SME business segment) adopted by OECD countries in response to high energy prices (OECD, 2022[3]) (OECD, 2022[4]).

The paper consists of three sections[1]. The first section presents the main findings of the analysis, bringing out high-level messages from the more detailed analysis articulated in the third section. The second section briefly presents the evolution and main features of the energy crisis. The third and longest section of the paper discusses in detail the main “SME policy responses”. Subsections focus on specific policy instruments, illustrating main findings from country experiences and providing an overview of such experiences.

[1] This paper draws on two main sources of information: desk research by the OECD secretariat and written inputs and comments provided by CSMEE delegates. In addition, the analysis benefited from two reviews of emergency measures prepared by the EU SME Envoy Network (EU SME Envoy Network, 2022[21]) and the European Association of Mutual Guarantees (AECM) (AECM, 2023[22]).

2 Main findings

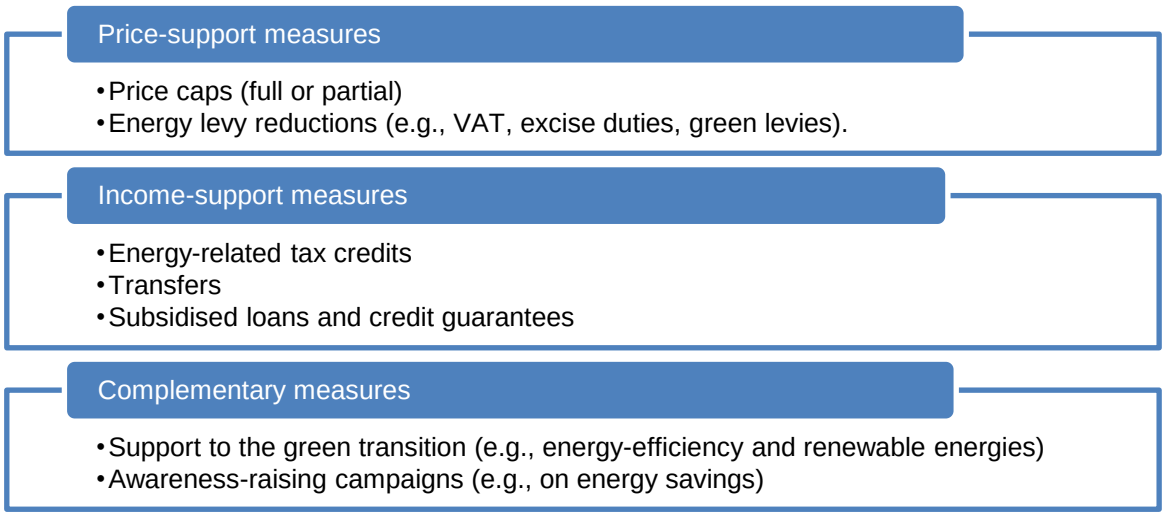
Russia's war of aggression against Ukraine struck when the global economy was on the recovery from the Covid-19 pandemic and has triggered a large energy crisis, propelling the price of natural gas, of which Russia is the largest exporter worldwide, to unprecedented levels. Because the price of the marginal supplier sets the final price in electricity markets, the high price of gas has also entailed very high electricity prices (OECD, 2022[5]).

Contrary to initial expectations the energy crisis did not trigger a major recession in 2022, including in European countries most reliant on Russian gas before the war, although it did result into lower growth rates than those originally forecast before the onset of the war. This has partly been the outcome of a milder-than-usual winter in the northern hemisphere in 2022/2023, which helped reduce gas consumption and left gas stocks at acceptable levels, as well as of the emergency measures introduced by many governments to help families and businesses cope with the increased cost of energy. In addition, the time it takes for wholesale energy prices to be transmitted into retail energy contracts (i.e., pass-through effects) has also played a role (OECD, 2023[6]).

This paper collects evidence on some of the emergency measures taken by governments to support SMEs during the energy crisis and draws main policy conclusions on their design and implementation. Although these policies share some similarities with those introduced during the Covid-19 crisis (OECD, 2021[2]), there are also some major differences. First, the most common instruments have not been the same. While during the Covid-19 crisis governments had mostly used wage subsidies and income-support measures (e.g., transfers, soft loans, and credit guarantees) to keep companies alive, to address the energy crisis governments have mostly relied on price-support measures, especially energy price caps. Second, the sizeable budgets engaged to support companies during the pandemic have implied lesser fiscal space for most countries, with governments increasingly wary of the cost of energy-related emergency measures. As a result, governments have often adapted the duration and scope of their policies to the evolution of global energy prices; for example, especially after summer 2022 when the gas price reached its peak, most governments have only introduced partial, rather than full price caps. In a similar vein, most energy price caps have a short duration of between two/three months and one year, although the length of the war in Ukraine has meant that short-term price caps had to be repeatedly renewed.

In line with other OECD work on policy responses to the increased cost of energy (OECD, 2022[3]) (OECD, 2022[4]), SME policy responses to the energy crisis are grouped in two main categories: price-support measures and income-support measures. Price-support measures have included price caps on natural gas and electricity, as well as temporary tax rebates (e.g., VAT, excise duties and green levies) on the final tariff of electricity and gas bills. Income-support measures have included energy-related tax credits, transfers, subsidised loans, and credit guarantees. In addition, many governments have "seized" the opportunity of the energy crisis to fast-track the green transition of the business sector so as to make their economies less reliant on fossil fuels and more resilient to future fossil fuel supply shocks . Similarly, some countries have introduced campaigns to raise awareness about importance of energy savings in the business sector and society at large. In the context of the energy crisis, these measures are defined as "complementary", although they will clearly play a pivotal role to achieve net zero emissions in the future (see Figure 1).

Figure 1. Typology of SME policy responses to the energy crisis



Source: OECD elaboration

Overall, untargeted price support mechanisms, such as energy price caps, have been the most common response across OECD countries, although some countries (e.g., Italy) have used more extensively other instruments such as tax credits. Transfers, which had been widely deployed during the Covid-19 crisis, have been relatively less common on this occasion and mostly used in the first phase of the crisis, with a focus on energy-intensive sectors or on the few companies which had close business relationships with the three countries directly involved in the war. Nonetheless, there are some exceptions, like Austria and Ireland, where direct transfers have been more common.

During the first months of the war, emergency measures were mainly directed at sectors most affected by the crisis, such as energy-intensive industries and transport. Moreover, outside energy-intensive sectors, energy consumption thresholds in programme eligibility requirements were often set high enough to exclude the largest majority of SMEs. However, as the war continued, governments rapidly expanded their action, covering more sectors and businesses especially through price-support measures. In doing so, governments have reached many more SMEs than in the first phase of the crisis. Two common approaches to achieve this objective have been including micro-enterprises in the policies initially devoted to households (e.g., France) and lowering the annual energy consumption threshold for companies to be able to claim energy-related benefits (e.g., Italy). As to complementary policies, most programmes have offered fiscal and financial incentives, as well as business advice and training to help companies invest in energy efficiency and renewable energies[2].

Government policies to help companies (and families) during the energy crisis have often implied large budget allocations. This has especially been the case with price caps, through which governments pay the difference between the wholesale and retail prices of gas and electricity. According to estimates by the Bruegel Think Tank, between September 2021 and February 2023, EU countries had earmarked EUR 768 billion to shield household and non-household consumers from rising energy costs (Sgaravatti, Tagliapietra and Zachmann, 2022[7]), corresponding to 5.3% of the EU GDP in 2021[3].

[2] Green transition measures have included programmes supporting industrial decarbonisation; carbon-capture technologies; fuel switching; energy efficiency, including building retrofitting and the installation of more efficient heating and lighting systems; investments in renewable energies, including solar panels and the use of waste heat to generate electricity; and the purchase of electric vehicles.

[3] It should be noted that these figures are estimates based on government budget allocations, whereas the full cost of these policies will finally depend on the evolution of global energy prices.

Not all OECD countries have felt the consequences of the energy crisis in the same way. Net energy exporting countries (e.g., Canada and the United States) and countries whose national energy mix strongly relies on renewable sources of energy have not suffered as much as European countries which heavily relied on Russian gas before the war (e.g., Germany, Italy, and several Eastern European countries). It follows that these countries have not offered much energy price relief to the business sector. In addition, some countries (e.g., Korea and Switzerland) have refrained from direct interventions in energy markets even if they are not net energy exporting countries.

From a macroeconomic perspective, energy price caps and other price-support measures have been instrumental in avoiding a major fall in output (OECD, 2022[5]). However, blanket price-support measures also have a series of drawbacks. First, by keeping retail energy prices artificially low, they stimulate energy demand, thus keeping up wholesale energy prices. Second, they may discourage business investment in the green transition by making fossil fuels cheaper. In this regard, the temporary suppression of green levies from energy bills (e.g., see section on energy tax measures) is particularly sensitive, as it undermines public investment in renewable energies while propping up energy demand regardless of its source. Third, price-support measures are expensive because of their untargeted nature, thus adding further pressure on the strained budgets of some European countries. Fourth, they often have a regressive nature as they tend to give bigger financial rewards to larger energy consumers, with negative implications for a level playing field between larger companies and SMEs (OECD, 2021[8]). Finally, they also limit pass-through effects between wholesale and retail energy prices.

It follows that untargeted price-support measures should be withdrawn as soon as possible, especially considering that the price of natural gas had returned to pre-war levels in April 2023. If necessary, as long as retail prices remain significantly above the historical average, more targeted income-support measures could be used to support some businesses, such as those in trade-exposed or energy-intensive sectors. However, while income-support measures blunt less the energy price signal than price-support measures, they can still discourage investments in the green transition once customers factor in the expected reimbursement. It follows that these measures should also be eventually lifted, with savings that could be used to speed up the transition of SMEs towards more sustainable business models and practices.

Country experiences presented in this paper also show that it may not be easy for governments to phase out emergency support measures, which have indeed often been renewed. This partly reflects the short-term nature of some of these policies, which have closely followed and adjusted to the evolution of global energy prices. However, it is also important that governments set out exit policies, taking into consideration future market conditions and budgetary allocations.

More broadly, the following issues need to be considered when describing and eventually assessing the emergency policy measures which have protected businesses and households from high energy prices between 2022 and early 2023.

- Targeting – To what extent have these policies been targeted, for example in relation to the population of beneficiaries?
- Marginal incentives – To what extent have they changed the marginal incentive associated with energy conservation?
- Dynamic effects – What have been the possible effects of these policies on business entry-exit dynamics, which is a key driver of productivity growth?
- Fiscal sustainability – What have been the public finance implications of these measures?
- Public-private burden allocation – To what extent has the private sector been called to contribute and pay for some of the increased cost of energy? And what have been the consequences in terms of business turnover and profits?

3 An energy crisis in the making

The war in Ukraine has triggered the largest energy crisis in decades. Energy prices had already been on the rise since the third quarter of 2021 due to a combination of demand- and supply-side factors, including the early recovery from the Covid-19 pandemic, supply-chain disruptions and long-term under-investments in clean sources of energy (OECD, 2022[3]). However, the war propelled energy prices to unprecedented levels. The wholesale price of natural gas reached nearly EUR 340 per megawatt/hour (MWh) at the end of August 2022, compared with less than EUR 40 at the end of 2021, when the global economy was still on its way to recover from the Covid-19 pandemic (OECD, 2022[3]), pushing some countries to introduce windfall taxes on the profits of energy producers (OECD, 2022[4]). Because the wholesale price of electricity is linked to its marginal source of production[4], the increased cost of natural gas had an immediate and direct effect on wholesale electricity prices. Since the outset, the energy crisis has therefore not only affected gas-intensive sectors but the economy as a whole, further fuelling pre-existing inflationary pressures (OECD, 2022[5]).

The increased cost of energy has had a clear impact on the activity of SMEs. The OECD pilot dashboard of SME greening and green entrepreneurship indicators (OECD, 2023[9]) has estimated the "energy price burden for SMEs", an indicator that gauges the weight of the cost of electricity and natural gas on SME turnover[5]. OECD estimates show that the energy price burden increased significantly for many SMEs in Europe between 2018 and 2022 (first semester). At the EU aggregate level, for example, it increased from 4% to 6.4%. Figure 2 illustrates the increase in the price burden in percentage terms. The largest proportional increase is observed in Greece (+142%) while the smallest in Slovakia (+37%), which had already a high price burden at the beginning of the observation period (2018).The price burden more than doubled in five countries (Greece, Lithuania, Ireland, Italy, and the Netherlands) and nearly did so in another two (Belgium and Estonia) out of the twenty for which data is available.

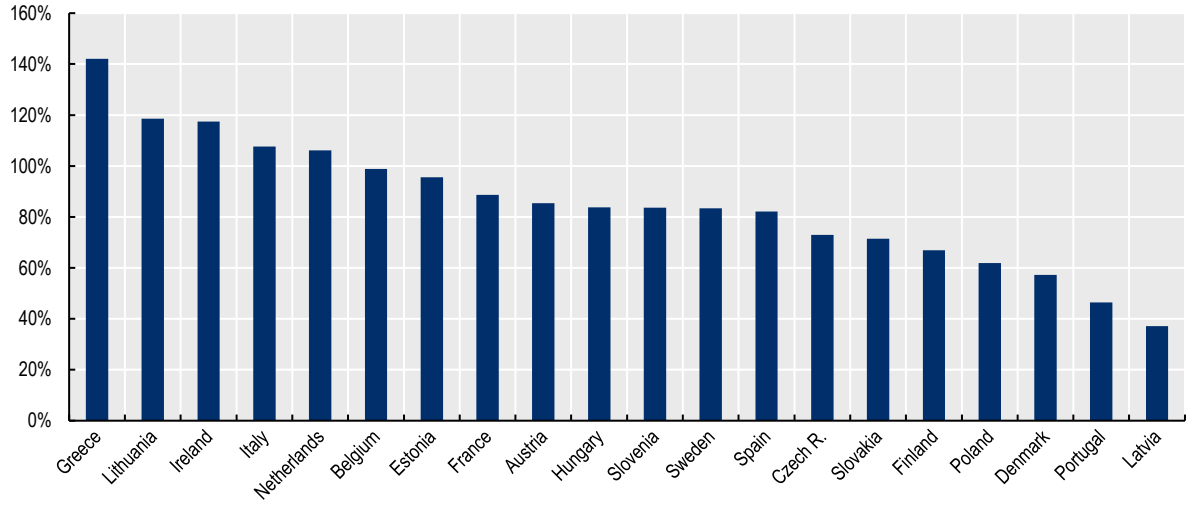
This has important budgetary implications for businesses, especially in countries where SME energy intensity (i.e., energy consumption over value added) is comparatively high. The OECD pilot dashboard exercise, for example, estimates that across OECD European countries, SME energy intensity in the business sector mostly ranges between 2 MWh per US dollar of value added (Latvia) and 0.7 MWh (Denmark), with the EU aggregate level being 1.27 MWh.

[4] The wholesale electricity price is set by the most expensive source of electricity generation, which is currently gas. .

[5] The OECD pilot dashboard on SME greening indicators is working on the generation of estimates of the environmental footprint of SMEs through the application of value-added weights to aggregate statistics of greenhouse gas emissions and energy consumption at two-digit sector level.

Figure 2. Variation in the SME energy price burden in the business sector between 2018 and 2022 (1st semester)

Percentage variation



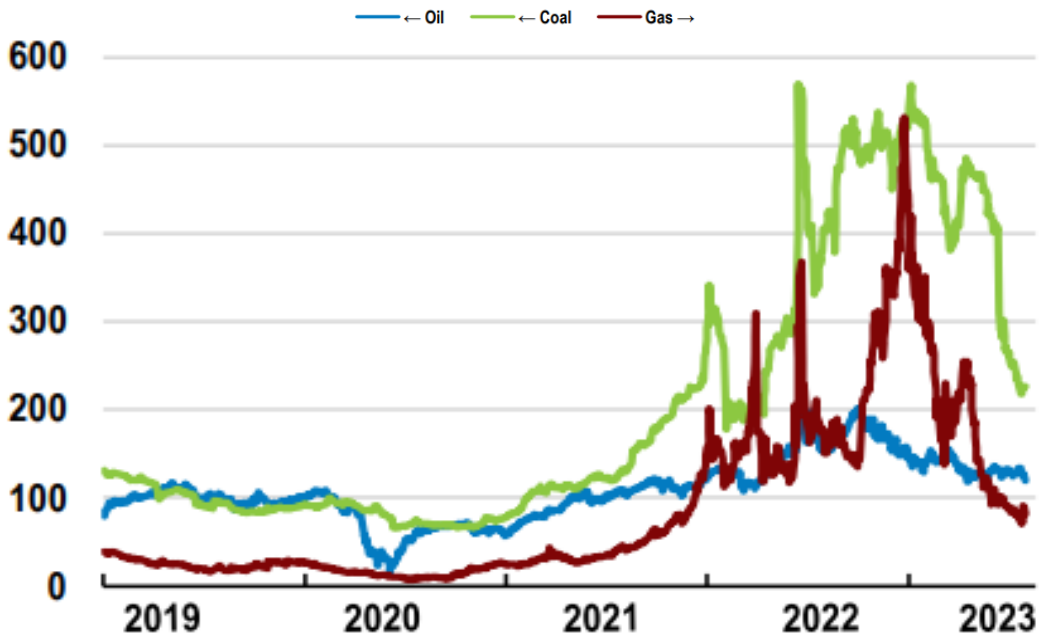
Note: The energy price burden is measured as the ratio of the cost of electricity and natural gas over business turnover.
Source: OECD project "Towards a pilot dashboard of SME greening and green entrepreneurship indicators" (OECD calculations based on Eurostat's Energy Balances Accounts and OECD Structural and Demographic Business Statistics database).

Since the last quarter of 2022, the price of natural gas has significantly declined and come back to levels similar to those before the war, which has been the outcome of high levels of gas stocks and a milder-than-usual winter in the northern hemisphere (Figure 3). However, the latest OECD Economic Outlook released in June 2023 shows that core inflation, which excludes food and energy, remains stubbornly high and suggests that monetary policy will need to remain restrictive in economies in which high core inflation is proving persistent (OECD, 2023[10]). Furthermore, there is still a risk that energy prices suddenly increase in the second-half of 2023, as gas inventories progressively deplete and electricity demand increases in summer months[6], Europe continues to do without Russian gas, and past high wholesale gas/electricity prices fully trickle down into retail prices. In fact, as of September 2022, there was still a large gap between the wholesale and retail prices of electricity and natural gas, which is the outcome of pass-through effects (i.e., the delay with which wholesale prices are transferred into retail contracts) and the government emergency policies meant to help businesses and families deal with the increased cost of energy (Figure 4).

The following section of the paper focuses on these measures and how they have affected SMEs, illustrating implementation arrangements, budget allocations (when available) and potential trade-offs.

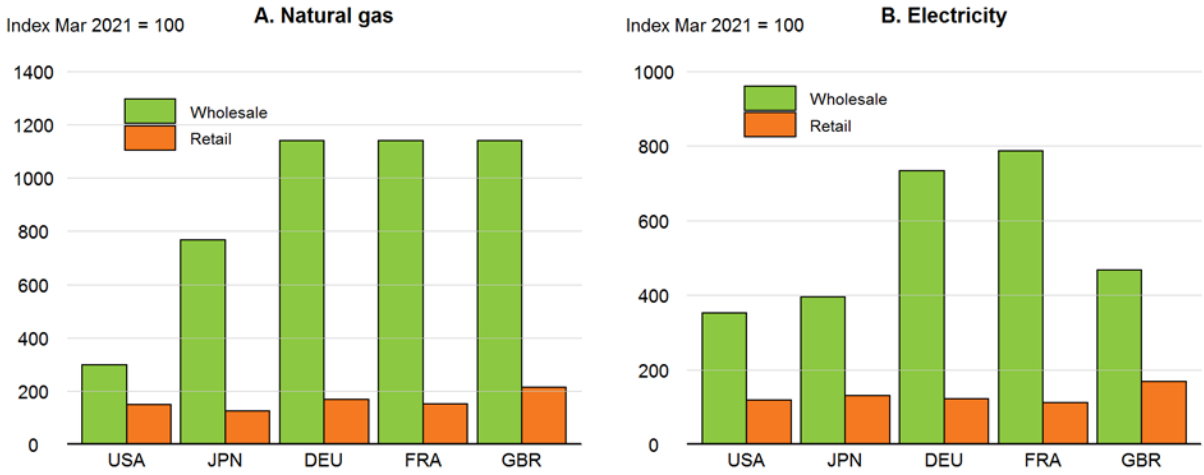
[6] In the month of June 2023, for example, there was a surge in electricity consumption in some European countries due to warm weather and relatively high use of air conditioning.

Figure 3. Evolution of main energy prices, 2019-2023



Source: (OECD, 2023[6])

Figure 4. Wholesale and retail energy prices in selected OECD countries, September 2022



Source: (OECD, 2022[5])

4 SME policy responses to the energy crisis

As noted earlier, SME policy responses to the 2022-23 energy crisis are gathered into three groups: price-support measures, income-support measures, and complementary measures. The first two sets of policies have helped companies pay electricity and gas bills, while complementary measures have sought to encourage behavioural change in the business sector, promoting business investments in the green transition and more environmentally conscious behaviour. This section deep-dives into these measures, explaining key operational aspects and bringing examples from different OECD countries, mostly from Europe, which is the region where the energy crisis has been felt the most.

Energy price caps

Policy highlights

Energy (electricity and natural gas) price caps have been the most common policy response by governments to the energy crisis. Initially conceived to protect households, they have soon been extended to the business sector. Some schemes have specifically been targeted at SMEs (e.g., France's electricity price shock-absorber) or even micro-enterprises (e.g., Hungary), while others have encompassed the whole business sector (e.g., Germany and United Kingdom), although the specific price cap has sometimes changed depending on the size of the firm, measured either in terms of employment or energy consumption volumes.

Especially in large European economies, price caps have generally engaged sizeable budget allocations, often totalling 2-4% of national GDP on an annual basis. In some cases, part of the cost of the price-cap policy has been financed through windfall taxes on energy suppliers. However, cross-country comparisons of price-cap measures from an SME perspective are difficult, given the different target audiences across countries. In some cases, the same price-cap policy has covered both families and businesses, like in Germany. In other countries, like the United Kingdom, this has not been the case, but in addition to the business sector, the policy has also covered the public administration and civil society organisations. Still in other cases, like in France, micro-enterprises have been included in the same price-cap programme aimed at households, contrary to mid-sized firms, thus making it further complicated to extrapolate the overall budget for SMEs. Despite these caveats, these measures are generally considered expensive and should be withdrawn as soon as possible for different reasons, notably to keep the energy price signal strong and to reduce the fiscal burden on government budgets (OECD, 2022[5]).

Governments are generally aware of these risks and have therefore closely monitored price-cap policies, preferring to set initial short-term durations (i.e., generally 6-12 months) and eventually extend them in line with the evolution of global energy prices. As of the first quarter of 2023, all price caps analysed in this paper were still in place and generally set to last until the end of the year. This is the result of the delay in pass-through effects which means that, despite global energy prices had considerably fallen by the first quarter of 2023, retail energy prices might stay high for some time or even reach new peaks, given that high wholesale energy prices have not fully trickled down in retail energy prices (see previous section). In

this respect, it is also worth noting that in some cases where price caps were supposed to become less generous over time, they have failed to do so, which might also denote an inability by governments to change this policy once the regulated price has been factored in the behaviour and expectations of customers.

Energy price caps for the business sector have been "full" or "partial", i.e., fully or only partly covering the increased cost of energy. At the beginning of the energy crisis, when global energy prices had reached unprecedented levels, some countries had opted for full price caps. Examples include the UK Energy Business Relief Scheme (EBRS) and the first version of the French energy tariff shield, which regulated that electricity and gas bills could not increase by more than 4% compared to the pre-crisis period. As the war prolonged, most countries have moved towards partial price caps, although some of them remain quite generous, covering 70-80% of energy consumption (e.g., Germany). Partial price caps have also come in different forms. In some cases, they kick in when the energy price reaches a certain threshold (price threshold), like in the case of the UK Energy Business Discount Scheme (EBDS) or France's latest version of the tariff shield, while in other cases they apply only to a given share of energy consumption (consumption threshold), like in Germany. Partial price caps leave consumers with an incentive to save energy, since the full market price applies to a portion of energy consumption. Nonetheless, they still blur the price signal, especially when the share of full-market-price is small.

Price caps introduced during the energy crisis have also sometimes had a sector and firm-size dimension. For example, in the case of the UK EBDS, the policy has been more generous for energy-intensive and trade-exposed sectors, with a view to protecting companies and jobs from international competition. Governments have also introduced different levels of price support depending on the size of the company, where this has been measured either in terms of employment (France) or energy consumption (Germany). In this last case, the sector and firm-size dimensions are clearly interwoven, as energy intensity changes significantly by sector.

It can, therefore, be argued that price caps have also been used as a form of industrial policy to protect national industries at a time of high energy costs, although the effects of this policy on domestic competition should not be overlooked, especially when larger companies and SMEs receive a different treatment in the same sector. Similarly, when price caps are based on consumption volumes, they have a regressive nature which gives bigger rewards to energy-intensive companies. This may simply reflect different energy intensities across sectors, but within the same sector it can give a competitive advantage to less efficient companies, with negative effects on domestic competition and industry productivity.

From an environmental perspective, price caps, especially the full form, blunt the energy price signal (OECD, 2022[3]) and, as such, risk delaying the green transition by keeping demand for energy, including energy generated by fossil fuels, unchanged. Furthermore, like other blanket policies, price caps can delay the exit of unviable companies, which can weaken entrepreneurial dynamics and act as a constraining factor on productivity growth. On the upside, however, electricity and gas price caps, at a time of exceptionally high energy prices, may have also succeeded in keeping many viable companies alive and helped the same companies save resources which could eventually be invested in the green transition. In this regard, the energy crisis might still unleash a new generation of green investments if small business owners and entrepreneurs see it as an opportunity to rapidly adapt to a near future in which they need to do their part in the achievement of net-zero emissions.

Finally, if price caps include different price thresholds (e.g., Chile), there is a risk that they cause "threshold effects" whereby small companies avoid growing not to pay higher energy prices, which provides an additional reason why price caps should be considered an exceptional pro-tempore policy.

The rest of this section provides a non-exhaustive overview of the experience of OECD countries in price-cap policies covering the business sector.

Country experiences

France

In 2022, France introduced two energy price caps for SMEs. The first, called *bouclier tarifaire* (i.e., tariff shield), covers households and micro-enterprises at the same time[7]. The second, called *amortisseur électricité* (i.e., electricity absorber), targets larger SMEs, as well as micro-enterprises with higher levels of energy consumption.

France's *bouclier tarifaire* is a price cap by which electricity and gas bills cannot increase by more than a predefined rate compared to the regulated energy sales price of 2021 (i.e., *tarif réglementé de vente*). In 2022 the rate was set at 4% which, given the sudden and rapid surge in wholesale electricity and gas prices, guaranteed large savings for families and households. Based on estimates by the French Energy Regulatory Commission, without the tariff shield, electricity bills for professionals (i.e., micro-enterprises in this case) would have increased by 98% in 2022, corresponding to approximate savings of EUR 1 512 on a yearly basis[8]. Since January 2023, the *bouclier tarifaire* has become less generous, as the government increased the fixed maximum rate to 15%. As of February 2023, the policy was set to last until the end of June 2023, although its continuation will depend on the evolution of wholesale energy prices in the second half of the year. Budget-wise, the French tariff shield had an initial budget allocation of EUR 45 billion (1.8% of GDP), although part of the costs was meant to be recovered through a windfall tax on energy producers, setting the net cost for the government at EUR 16 billion (0.65% of GDP). Budget estimates concern the whole policy which covers both households and micro-enterprises.

The second price cap, the *amortisseur électricité* (i.e., electricity price shock-absorber), is meant for small and medium-sized companies with between 10 and 249 employees and an annual budget lower than EUR 50 million[9]. This measure also covers those micro-enterprises whose electricity capacity is above 36 KWA (Kilowatt ampere), which are not covered by the tariff shield. The shock-absorber only applies to the variable part of the electricity contract, which changes in line with the wholesale electricity price and excludes subscription costs, delivery costs, network costs and taxes. More specifically, the French government has set a price cap of EUR 180 MWh (i.e., EUR 0.18/kWh) on 50% of the volume of electricity consumption, thus covering the difference between the wholesale price and the retail price cap. According to estimates by the French government, this should result in savings of 20% for electricity subscribers with annual energy costs of EUR 350/MWh[10]. The budget allocated to this policy, which also covers local authorities (i.e., not only the SME sector), is EUR 3 billion (i.e., 0.12% of GDP) and is meant to cover the whole 2023, contrary to the tariff-shield which is planned only until June 2023.

It is worth noting that these two price caps do not cover energy-intensive sectors, for which the French government has set up another transfer programme, called "help-desk for the payment of energy bills", which is discussed later in the income-support policy section of the paper.

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[7] The *bouclier tarifier* was originally conceived for households but was soon expanded to micro-enterprises with fewer than 10 employees, less than EUR 2 million in turnover, and an electricity meter with capacity below 36 KWA (Kilowatt ampere).

[8] «La CRE calcule l'évolution théorique des tarifs réglementés de vente d'électricité au 1er février 2023 avant application du bouclier tarifaire», . The estimate of EUR 1 512 builds on a previous estimate released in October 2022 by the CRE mentioning that savings on electricity bills were 35%, compared to the regulated electricity price, and corresponded to EUR 540. A simple direct proportion has been applied in this case.

[9] For further information on this measure: https://www.ecologie.gouv.fr/amortisseur-electricite-entreprises-et-collectivites-des-2023.

[10] For further information: https://www.economie.gouv.fr/entreprises/tpe-pme-aides-hausse-prix-energie

United Kingdom

The United Kingdom introduced the first price cap in October 2022 at the peak of the energy crisis, i.e., "Energy Bill Relief Scheme" (EBRS). This measure lasted until March 2023, when it was replaced by a less generous scheme called "Energy bill discount scheme" (EBDS), which will last until March 2024. Both price caps apply to the whole business sector, regardless of firm size, but also to public sector (e.g., schools and hospitals) and voluntary sector organisations (e.g., charities)[11].

Like for the French shock-absorber, the EBRS applied to the part of the electricity and gas bills that change in accordance with wholesale energy prices. The price cap was set at GBP 211/MWh (i.e., 21.1p/kWh) for electricity and GBP 75/MWh (i.e., 7.5p/kWh) for gas, compared to forecast full prices for the 2022/2023 winter of GBP 600/MWh for electricity and GBP 180/kWh for gas. This corresponded to savings of respectively 65% and 58% on the variable part of electricity and gas contracts. According to simulations by the UK government, thanks to this scheme, a mid-sized manufacturing company consuming 200 MWh of electricity and 1 600 MWh of gas per month paid GBP 345 000 instead of GBP 560 000 in monthly energy bills, corresponding to savings of 35%[12]. According to estimates by Consultancy Cornwall Insight, the cost of this policy was GBP 25 billion (i.e., 4.5% of GDP)[13]. This is more than the French tariff shield (i.e., 1.8% of GDP), although it is generally difficult to compare the impact of price caps on SMEs across countries due to the different targeted audience of these policies and different reference prices[14].

The EBDS shares some of the features of the EBRS but, with a maximum budget allocation of GBP 5.5 billion, it is comparatively less generous. The EBDS kicks in only when wholesale electricity and gas prices are above a given price threshold, which is set at GBP 302/MWh for electricity and GBP 107/MWh for gas. In this case, companies receive a per-unit price discount up to a maximum of GBP 19.61/MWh for electricity and GBP 6.97/MWh for gas. This makes the EBDS a partial price cap, whereas the previous EBRS scheme was a full price cap.

Importantly, the EBDS scheme offers a stronger discount to energy-intensive and trade-exposed sectors, which all fall under the manufacturing category[15]. First, the price threshold for these industries is lower (i.e., GBP 185/MWh for electricity and GBP 99/MWh for gas), especially in the case of electricity, which means that the measure will kick in earlier than for other companies if energy prices increase. Second, the maximum per-unit energy discount is significantly higher, amounting to GBP 89/MWh for electricity and GBP 40/MWh for gas, i.e., respectively 4.7 and 5.7 times higher than for all other sectors. Given the maximum budget allocation of GBP 5.5 billion, this suggests that the EBDS scheme will mostly favour energy-intensive and trade-exposed sectors.

[11] Further information for both schemes are available at: https://www.gov.uk/guidance/energy-bill-relief-scheme-help-for-businesses-and-other-non-domestic-customers & https://www.gov.uk/guidance/energy-bills-discount-scheme.

[12] See: https://www.gov.uk/guidance/energy-bill-relief-scheme-help-for-businesses-and-other-non-domestic-customers.

[13] See: https://www.theguardian.com/business/2022/sep/21/uk-government-sets-out-emergency-package-to-cut-firms-energy-bills.

[14] The French programme covered households and micro-enterprises, whereas the UK programme covered the whole business sector, regardless of firm size, as well as public sector and civil society organisations. Clearly, this leads to different energy consumption volumes.

[15] The UK government identified 121 4-digit ISIC sectors which met the condition of energy-intensive and trade-exposed sectors. Further information is available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1128033/230104_ETII_List_for_gov.uk.pdf.

Germany

Germany's Gas and Electricity Price Brake (i.e., *Gas Wärme und Strompreisbremse*) was first announced in October 2022, with an initial budget allocation of EUR 106 billion, corresponding to 2.7% of national GDP (EUR 3 867 billion)[16]. The policy covers both household and non-household electricity, gas and gas heating consumers, with *Mittelstand* companies expected to be amongst the main beneficiaries.

Two different electricity price brakes apply depending on the level of electricity consumption. Small companies with annual electricity consumption below 30 000 kWh (30 MWh) are assimilated to private consumers and benefit from a price cap of EUR 0.4/kWh, including levies and taxes, on a volume of energy consumption corresponding to 80% of previous consumption. In the case of medium-sized and large companies with annual electricity consumption above 30 000 kWh (30 MWh), the price cap is set lower, at EUR 0.13/kWh, but excluding levies and taxes, and applies to a volume of energy consumption corresponding to 70% of previous consumption. The difference in price cap partially levels off after controlling for taxes and levies. In both cases, regular market prices are paid for electricity consumption above the respective thresholds.

The gas price brake follows the same logic, although price caps are different: EUR 0.12/kWh, including levies and taxes, for small and medium-sized companies with less than 1.5 million kWh of gas consumption per year and EUR 0.07/kWh, excluding levies and taxes, for larger companies with annual gas consumption above this level, which are mostly found in gas-intensive sectors such as chemicals and pharmaceuticals where Germany has a world leading position.

Like the UK EBDS scheme, the German price brake is a partial price cap, as companies need to pay part of their energy bills at current market prices. Furthermore, the energy consumption volumes to which the price cap applies are based on past consumption, thus adding a further element of restraint on energy use. Nonetheless, the German price brake is also partly regressive, as it provides a larger subsidy to mid-sized and large companies over micro and small enterprises, although state-aid ceilings on government support (between EUR 2 million and EUR 150 million), which are in line with EU state aid law (i.e. related to drops in earnings, crisis-related rise in energy costs and restrictions for management bonuses and dividends) limit the degree of advantage from which large companies benefit.

Spain

Spain was one of the first countries to introduce an electricity price cap in the framework of the so-called Iberian Exception, which also involved Portugal and was approved in April 2020 in derogation of EU state-aid rules[17]. In particular, due to the limited grid connections of the Iberian peninsula with the rest of the European continent, both Spain and Portugal were allowed to decouple the price of gas from that of electricity, which is an exception from the system of marginal pricing that connotes energy markets. The measure, which applies to all electricity customers (households and non-households), was originally supposed to last until March 2023, but it was eventually prolonged until end-2023. In this respect, the Spanish government has also recently proposed that the policy be extended to the whole EU. The budget cost for the first year of implementation was EUR 6.3 billion, i.e., 0.5% of national GDP.

As of January 2023, the price cap was set at EUR 45/MWh, compared with the initial level of EUR 40/MWh, although the price cap was originally supposed to increase by EUR 5/MWh every month up to a maximum of EUR 70/MWh. This suggests that it might be difficult to follow original plans of progressively cheaper price caps once those have been factored in the behaviour of businesses and households. Thanks to this

[16] This measure is part of the wider Economic Defence Shield package, which is worth EUR 200 billion.

[17] For further information on the Iberian exception: https://www.lamoncloa.gob.es/lang/en/gobierno/news/Paginas/2022/20220608_gas-prices.aspx;

price cap, the government expected the average electricity price to fall from EUR 210/MWh in the first quarter of 2022 to EUR 130/MWh over the rest of the year (-40%)[18].

Hungary

In Hungary, a price cap has only been introduced for households and micro-enterprises. More specifically, micro-enterprises employing up to 9 employees are protected by a tariff reduction, which applies up to a maximum consumption of 4.6 MWh per year in the case of electricity and 54.8 GJ per year in the case of gas, after which normal market prices apply. In both cases, the consumption thresholds apply at the establishment rather than the company level, although in the case of micro-enterprises there should be little difference between the two. The government expects to protect around 126 000 micro-enterprises through this policy.

Poland

The cost of Poland's overall policies to tackle the energy crisis has been estimated at PLN 50 billion, which corresponds to about EUR 10.7 million (i.e., about 1.9% of GDP). One specific measure has consisted in electricity price caps directly aimed at SMEs, including micro-enterprises, which was introduced in December 2022 and will last until the end of 2023. SMEs, which are defined according to the standard EU definition, receive a fixed electricity price of PLN 0.785/kWh (i.e., about EUR 0.17/kWh). The price cap, however, only applies to the electricity consumed for core business activities. In addition, the price cap also applies retroactively for the period March-December 2022 for those companies that paid a higher price during that period due to the signature of an electricity contract after the onset of the war in Ukraine.

Romania

In April 2022 Romania introduced a gas price cap specifically targeting SMEs which will be in force until the end of August 2023. The price cap was set at EUR 0.75/kWh for small firms with an annual gas consumption up to 50/Mwh and is expected to cost RON 1 billion (i.e., about 2.2% of GDP).

Mexico

In May 2022 and October 2022, Mexico legislated two policy support packages against inflation and food poverty which introduced electricity price caps for households and businesses, in addition to extending the tax credit towards the purchase of fuels initially introduced in February 2022 (see section below on tax measures)[19]. In particular, the Federal Government mandated that the increase in the price of electricity do not exceed the inflation rate; indeed, in September 2022, the inflation rate was 8.7%, higher than the growth rate in the cost of electricity observed for domestic and industrial consumers (+5.9% and +6.3%). The Government compensated the state-owned electric company through an increase in the public subsidy by MXN 5.1 billion (compared to 2021), to reach MXN 68.8 billion in 2022.

Chile

In May 2022, as part of the broader national recovery plan (*Apoya Chile*), the Government introduced an electricity tariff stabilisation scheme to prevent a sharp rise in the price of electricity in 2022 and allow gradual increases over the following 10 years. According to this mechanism, in 2022, households and small businesses consuming less than 350 kWh/month would not see an increase in their electricity price, those consuming between 350-500 kWh would see a maximum increase of 5%, and those consuming

[18] For further information, see: https://www.lamoncloa.gob.es/consejodeministros/resumenes/Paginas/2022/130522-rp-cministros-extraordinario.aspx & https://ec.europa.eu/commission/presscorner/detail/en/ip_22_3550.

[19] *Paquete contra la inflación y la carestía*, PACIC, and *Acuerdo de Apertura contra la Inflación y la Carestía* (APECIC).

more than 500 kWh would see an increase between 5-15%. Micro and small businesses consuming less than 1 000 kWh/month will also be exempt from paying a public service charge, which will on the other hand be paid by large electricity consumers.

Japan

In October 2022, the Japanese government announced an anti-inflationary policy package worth JPY 29.1 trillion to mitigate the impact of rising prices on businesses and households, which also includes energy price subsidies for businesses. In particular, the "Electricity and Gas Price Fluctuation Mitigation Measure" offers a price discount on the energy bills for usage for the period January-September 2023. Although the price subsidy does not distinguish between businesses and households, the amount differs depending on the type of energy and subscriber's contract scheme. In the case of electricity, subscribers with low-voltage contracts receive a discount of JPY 7/kWh, while subscribers with high-voltage contracts, mostly businesses, receive a discount of JPY 3.5/ kWh. The price subsidy for gas contract is, on the other hand, fixed at JPY 30 per cubic meter for both businesses and households with annual gas consumption below 10 million cubic meters.

Energy tax measures (energy levy rebates and energy tax credits)

Policy highlights

Two main forms of energy tax measures have been introduced to address the 2022-23 energy crises, the temporary suppression or rebates of energy levies and energy tax credits.

Levies are deducted directly from energy bills; hence, their suppression/reduction can be considered a form of price support. However, levy reductions hide the price signal less than price caps, since energy prices can still increase despite the rebate, which is generally a proportion of the overall cost of the electricity/gas bill. One common type of tax which has been suppressed during the energy crisis has been the value-added tax (VAT) on electricity and natural gas. However, some countries, such as Germany and Italy, have also withdrawn energy levies meant to finance the green transition, which in both cases corresponded to about 20% of the electricity bill. In both countries, governments are planning to compensate the tax revenue loss from other budget sources, although in the case of Italy this is subject to future fiscal revenues meeting expected targets, thus adding an element of uncertainty on the full compensation. Going forward, in order not to divert from climate-change objectives, it would be important that "green levies" be reinstated as soon as possible, bearing in mind that the International Energy Agency (IEA) predicts that high prices of petroleum and gas products are likely to continue for some time (IEA, 2022[11]).

Energy tax credits, on the other hand, are calculated as a share of energy costs (i.e., the base of the tax credit) and claimed against personal or corporate income tax. Thus, they can be considered a form of income-support, as businesses (and individuals) can only claim a tax credit after they have paid in full their energy bills. It follows that energy tax credits, compared to price caps and energy tax rebates, can be more easily targeted to specific target groups in need of stronger support, including smaller businesses or businesses which are more exposed to the energy crisis, for example because they operate in energy-intensive or trade-exposed sectors[20]. For tax credits not to be regressive, it is generally important that they can also be claimed by companies which do not have enough taxable income, for example by allowing the credit also to be claimed against VAT or by offering cash-refunds[21], although this does make the policy more expensive. Energy-related enhanced tax credit rates, like the one introduced by Portugal, can

[20] Italy, for example, adopted different tax credit rates for energy-intensive and non-energy-intensive companies.

[21] Similar to what is done in some R&D tax credit schemes.

magnify the economic impact of the tax credit although, given their cost, they could target groups that governments consider particularly worth of support.

The rest of this section provides selected examples of OECD countries which have adopted energy-related tax measures to help businesses, including SMEs, weather the energy crisis. Like for price caps, the overview is not exhaustive, but rather aims to highlight common traits and major differences in policy approaches.

Country experiences

Italy

Italy is one of the OECD countries which has used tax support more extensively to help companies during the energy crisis, while it has refrained from the use of price caps. Relief measures have come into the form of three support packages called “Aid decrees” approved between May and September 2022. While the first “Aid decree” mostly focused on energy-intensive companies, the following two enlarged the scope of action to encompass many more SMEs.

The first Aid Decree strengthened tax credits for the purchase of electricity and natural gas by energy-intensive companies (i.e., the so-called energy bonus), raising the headline rate from 20% to 25% of the energy costs incurred over the last two quarters of 2022. The tax credit rate for non-energy intensive companies, but with an electricity meter power of at least 16.5 kWh was also increased: from 12% to 15% for electricity and from 15% to 25% for natural gas. In addition, a green levy (i.e., *oneri di sistema*), corresponding to about 20% of the cost of the average electricity bill and 4% of an average gas bill, was temporarily suspended to relieve price pressure on customers[22]. Finally, the government suspended the value-added tax (VAT) on natural gas consumption and reduced the excise tax on petrol by 30 cents per litre, all measures which covered both families and businesses.

The second and third Aid Decrees extended the abovementioned measures, but importantly lowered the electricity meter power needed to benefit from the tax credit, notably from 16.5 kWh to 4.5 kWh, thus including many more SMEs (i.e., an estimated number of 212 000) (Ciotti, Garlaschi and Scinetti, 2022[12])[23]. The tax credit for non-energy-intensive companies was lifted to 30%, while that for energy-intensive companies was raised from 25% to 40%. All these measures are temporary and reviewed bimonthly or quarterly to reflect the evolution of energy prices and control their impact on the government budget.

Budget-wise, the three aid decrees altogether have a budget of EUR 66.9 billion, i.e., about 3.2% of GDP, covering both families and businesses. The third Aid Decree, which has the strongest coverage of SMEs, has a budget of EUR 14.9 billion (0.7% of GDP), 67% of which targets the business and not-for-profit sectors (i.e., EUR 10 billion) (0.5% of GDP). Of these, EUR 2.4 billion are allocated to cover the tax credit for energy-intensive companies, EUR 3.2 billion to cover the tax credit for non-energy-intensive companies, and EUR 4 billion to cover the tax credit linked to the increase in the direct consumption of natural gas (mostly heavy industries). Between the second and third decrees, non-energy-intensive small companies saw government support increase from EUR 1 billion to EUR 3.2 billion, while government support doubled for mid-sized and large companies (from EUR 1.2 billion to EUR 2.4 billion). The Italian government plans

[22] The main purpose of this tax is to finance renewable energies and energy efficiency, although a small share (10%) also goes into supporting energy-intensive manufacturing. To compensate for this cut, in September 2022, the government approved a transfer of EUR 1.3 billion to the National Fund for Energy and Environmental Services (*Cassa per i servizi energetici e ambientali*).

[23] According to the Italian Observatory of National Accounts, the second and third aid decrees covered almost 188 000 small firms, almost 24 000 medium-sized companies, about 4 000 large companies and nearly 4 000 energy-intensive companies.

to cover increased spending through an expected increase in fiscal revenues in 2022 due to higher growth and inflation compared to 2021 and a windfall tax on energy suppliers (Ciotti, Garlaschi and Scinetti, 2022[12]).

Germany

In July 2022, before the introduction of the Gas and Electricity Price Break (see "price cap" section), Germany adopted the suppression of the "EEG-*Umlage*" (Renewable Energy Law Levy), i.e., a tax on energy consumption originally introduced in 2000 to finance the transition towards renewable energies. In 2021, this tax duty corresponded to about 20% of the electricity price for households and businesses, i.e., EUR 0.37/kWh. The German government allocated EUR 6.6 billion (0.7% of GDP) for this policy in order to compensate the national energy transmission system operator for the fiscal loss[24].

Austria

Austria also introduced the reduction of federal levies that apply to the sale of natural gas and electricity by 90% until end-June 2023, with a total cost for the government estimated at around EUR 900 million. By way of example, a bakery with 20 employees and annual electricity consumption of 180 000 kWh and natural gas consumption of 190 000 kWh was expected to make an estimated annual saving of EUR 760 (Sgaravatti, Tagliapietra and Zachmann, 2022[7]).

Portugal

Similar to the Government of Italy, the Government of Portugal also introduced, through Budget Law 2023, an energy-related tax credit, which, in this case, incorporates an enhanced rate. Portuguese companies can deduct from their corporate income tax 120% of the energy-related costs incurred over the previous year. The measure is expected to cover 500 000 companies, most of which are SMEs, and cost about EUR 60 million. In addition, the Government reduced the taxation of electric vehicles by a rate between 2.5% and 15%, depending on the type of vehicle. The measure is expected to cover 12 500 companies and cost about EUR 5 million.

Mexico

In March 2022, Mexico introduced a fuel subsidy in the form of tax credit covering any fuel price increase above the level of inflation. The tax credit could be claimed against the personal or corporate income tax and the value-added tax. If taxable income is below the tax credit claim, this can also be claimed as a cash refund. The budget for the fuel subsidy is MXN 397.3 billion (5.6% of GDP), most of which is paid through an expected increase in revenues for PEMEX, the state oil company (MXN 394.5 billion), due to the higher global price of oil[25]. The fuel subsidies were extended in May 2022 and October 2022 through two policy support packages against inflation and food poverty. In addition, these packages also included an electricity cap (see previous section).

[24] This policy is very similar to Italy's temporary suppression of *Oneri di Sistema*.

[25] For further information, see: https://www.finanzaspublicas.hacienda.gob.mx/work/models/Finanzas_Publicas/docs/paquete_economico/cgpe/cgpe_2023.PDF

Transfers

Policy highlights

Transfers have been used more sparsely than price caps and tax-related measures during the energy crisis, with their use mostly concentrated in energy-intensive sectors. In some cases, however, they have eventually been extended to other sectors and SMEs (e.g., France and Ireland), while in more limited cases they have also taken a prominent role from a budget point of view (e.g., Austria).

One clear advantage of transfers, compared to price-support policies, is that they can be targeted more easily at specific groups, as shown by their wider use in energy-intensive sectors. Because of their more targeted use, it has also been easier for governments to keep the budget of transfer measures smaller. In the context of transfers, EU countries have adopted a common definition of energy-intensive company (i.e., one with energy procurement costs of at least 3% of business turnover), following the guidelines of the European Commission's Temporary Crisis Framework (see Box 1 below).

On the downside, transfers have higher administrative costs for governments and higher compliance costs for companies, especially smaller ones which often find access more difficult. For example, in France, eligibility requirements for the "Help-desk gas and electricity" measure were initially considered too strict and were eventually relaxed to allow more companies to take advantage of this instrument. Similarly, in Ireland, as of February 2023, the Temporary Business Energy Support Scheme (TBESS) had only disbursed EUR 12.4 million of the initially budget of EUR 1.25 billion. In part, this could be due to a lower impact of the energy crisis than initially foreseen, but red tape could also be a concurrent factor, given that while more than 12 000 companies had registered for the scheme, only less than 5 000 had submitted fully completed claims (Irish Department of Finance, 2023[13]). Similarly, in Germany, the Federal Government was expecting 5 000 companies to apply for the EKDP transfer programme, but only 1 500 finally applied, probably due to the existence of requirements considered too strict by potential recipients. This recalls one of the lessons from the SME emergency measures adopted during the Covid-19 crisis, which is to ensure the rapid delivery of SME financing support, including through the simplification of eligibility requirements and procedures, while safeguarding programme accountability (OECD, 2021[2]) (OECD, 2022[14]).

It is also worth noting that transfer programmes have sometimes asked companies to submit energy efficiency plans (i.e., Ireland's Ukraine Enterprise Crisis Scheme), which is a positive development. Clearly, this adds to the complexity of a programme application, but in the longer run it helps companies prepare for the green transition.

Finally, at least in the case of transfers, it seems clear that initial budget allocations have not always matched the actual cost of programmes. This suggests that policy responses to the energy crisis are generally expensive, but the final cost will depend on the overall evolution of global energy prices and, in the case of transfers, also on the programme complexity.

The rest of this section provides selected country examples of energy-related transfers for the business sector, including SMEs. Like for the other two previous subsections, the overview is not exhaustive, but intends to highlight common traits and main differences in selected policy approaches.

Country experiences

Austria

Austria introduced a first transfer measure specifically aimed at energy-intensive companies in September 2022, with validity until the end of 2023. This measure, called Corporate Energy Cost Subsidy (*Unternehmens-Energiekosten-Zuschuss-Gesetz*), provides grants to companies whose energy procurement costs were at least 3% of turnover in 2021, in line with the guidelines set out in the European Commission's State Aid Temporary Crisis Framework (TCF) (see Box 1). Transfers are claimed against

additional costs incurred to pay for electricity, gas and other fuels and come with a maximum ceiling of EUR 400 000 per year. This policy had an original budget of EUR 450 million.

In early 2023 the Austrian government reformed this policy to extend it to companies which do not comply with the abovementioned definition of energy intensity. For 2023, there will be five different types of transfers, the first two of which no longer require proof of energy-intensity and, therefore, apply to a much wider range of sectors and companies. The first transfer will have a range of EUR 3 000-2 million, while the second will vary between EUR 2-4 million[26]. As a result of this extension, the new policy has a much larger budget of EUR 3.5 billion (i.e., about 3% of GDP). Very small companies non-eligible for this programme will receive a lump sum of EUR 2 000 per company.

The Austrian Fiscal Advisory Council reckons that this policy has the stated objective of enabling a level playing field with German companies benefitting from the "energy and gas price break" measure (see above) and will, indeed, result in a stronger subsidy for Austrian SMEs compared to German ones (Austrian Fiscal Advisory Council, 2023[15]).

France

Transfers in France are reserved for businesses in energy-intensive sectors through a measure called "help-desk for gas and electricity" (i.e., *guichet d'aide gaz et électricité*). In this case, eligibility requirements were originally considered too strict, which led to only EUR 50 million of the budgeted 3 billion being allocated in the first 6 months of the intervention[27]. Between September and November 2022, the French Government introduced a series of adjustments to simplify this policy, which was eventually able to reach more companies, including smaller enterprises in non-energy-intensive sectors[28].

Germany

One of the first policies introduced by the German government to tackle the energy crisis consisted in the "energy cost subsidy programme" (i.e., *Energiekostendämpfungsprogramm*, EKDP) , which was introduced in June 2022 and eventually extended (through the third relief package) until the end of 2022. Like in France, this policy was reserved for energy-intensive companies, i.e., those with energy procurement costs corresponding to at least 3% of turnover (in line with the European Commission's TCF). Transfers were paid to meet the increased cost of natural gas and electricity for the period February-December 2022, with a ceiling of EUR 50 million per company[29].

As of early 2023, this policy had been discontinued and replaced by the Electricity and Gas Price Brake (see section on price caps). The Federal Government initially expected applications from 5 000 energy-

[26] For example, companies can apply to the second type of transfer if energy prices in 2022 exceeded by 50% the value of the reference price in 2021. If so, the transfer would cover 70% of the energy costs in 2021.

[27] The following two conditions had originally to be met to benefit from the transfer: i) To be considered an energy-intensive company, i.e., having gas and/or electricity costs corresponding to at least 3% of business turnover in 2021; ii) to have experienced a doubling in the price of gas and/or electricity over the eligible period compared to the average price in 2021. The support was capped to an amount between 30% and 70% of the eligible costs, with ceilings between EUR 2 million and EUR 50 million, depending on the individual company's size and situation.

[28] For example, the 3% energy procurement cost rule no longer applies to the entire 2021, but only to the last three months of 2022, making it easier for companies to be eligible. In addition, the EUR 2 million ceiling for smaller companies was increased to EUR 4 million, and it will be enough for companies to have experienced lower profits in 2022 compared to 2021 to be eligible for the measure.

[29] The specific ceiling depended on industry and operating losses. For example, between February and June 2022, the transfer was limited to 30% of total monthly energy costs if these costs were lower than 50% of the monthly operating losses. However, if energy costs were higher than 50% of the monthly operating losses, government support would increase to 70%.

intensive companies; however, at the end of 2022, only 1 500 companies had applied, two-thirds of which were SMEs. One possible national deterrent factor, based on internal analysis by the Federal Government of Germany, was the introduction of a full CEO bonus waiver for companies benefiting from this policy, which might have discouraged applications by some companies. In addition, at the EU level, the TCF required that support recipients prove audited EBITDA (i.e., Earnings before interest, taxes, depreciation, and amortization) losses, which is administratively complex especially for SMEs[30].

Some transfer schemes have also been set up by the Länder, which decide on the scope and eligibility of their own programmes. In general, regional government support is offered not only to electricity and gas consumers, but also to consumers relying on other sources of energy, such as oil or LPG. As of April 2023, 13 Länder had energy-related programmes in place.

Ireland

Ireland has used transfers extensively to support companies during the energy crisis, more than tax credits or price caps. Most relevant measures are part of the Budget Law 2023. For example, the Temporary Business Energy Support Scheme (TBESS), initially budgeted with EUR 1.25 billion, supports small companies whose average energy unit price increased by more than 50% in 2022 compared to the same reference period in 2021, on a rolling monthly basis. If this condition is met, companies can ask for a refund corresponding to 40% of the increased energy bill, with a cap of EUR 10 000. The initial duration of the programme was 6 months (September 2022-February 2023), with its continuation depending on the evolution of energy prices. A recent assessment of this policy by the Government of Ireland shows that only 4 861 companies had already submitted claims as of January 2023, although more than 12 000 had registered in the relevant website. Seventy-two percent of all claims had a payment value of under EUR 2 000, while 5% of claims had a value in excess of EUR 10 000 (and are therefore subject to the cap). Above all, as of January, approved claims amounted to EUR 12.4 million (Irish Department of Finance, 2023[13]), suggesting that the policy has been less well received (or needed) than initially planned.

A second Irish transfer programme consists in the Ukraine Enterprise Crisis Scheme, which is operated by the national enterprise agency (Enterprise Ireland) and targets companies of all sizes in trade-exposed manufacturing sectors. This programme has two streams of funding. Stream 1 provides mixed funding (50% transfer, 50% loan) up to EUR 500 000 to companies which have experienced a drop of at least 15% in profitability between 2021 and 2022 as a consequence of the energy crisis. In addition, companies need to submit an “Energy Efficiency Plan” which sets out the main actions taken or to be taken towards improving energy efficiency. Stream 2 is aimed at energy-intensive companies, which are defined in the line with the EC TCF as those with energy procurement costs of at least 3% of business turnover in 2021. In this case, applicants must demonstrate unit energy costs which have doubled and a decline in profits of at least 15% over one year. The public transfer corresponds to 30% of the increased cost of energy.

Portugal

One of the first initiatives by the Government of Portugal to tackle the increase in energy prices was the transfer scheme “Support Programme for Gas-Intensive Industries” (i.e., *Programa Apoiar Indústrias Intensivas em Gás*), which was introduced in April 2022 for the following sectors: textile, paper products, chemicals, ceramics, steelmaking, cement, and agro-food[31]. The measure was retroactive since February 2022 and in force until the end of the year. Applicants needed to show that the unit cost of gas in 2022 was at least twice more expensive than the 2021 average unit price, and that the procurement of natural gas accounted for at least 2% of business turnover in 2021. The transfer covered 30% of the eligible cost,

[30] Insights offered by the German Federal Government in the form of written comments on this paper.

[31] Agro-food industry was added to the list in September 2022.

which was given by the difference between the monthly unit price in 2022 and the 2021 average unit price. The maximum support per company was initially EUR 400 000, but later lifted to EUR 500 000.

Spain

Spain has used state transfers mostly to support specific sectors. As part of the first National Response Plan approved in March 2022, which had an overall budget of EUR 6 billion until the end of 2022 (1.7% of GDP), EUR 1.5 billion were disbursed through transfers to specific sectors, notably over EUR 500 million for electricity-intensive industries, EUR 125 million for gas-intensive industries, EUR 362 million for agriculture and livestock, and EUR 68 million for fisheries. The transport sector was one of the main beneficiaries of the Plan, receiving EUR 450 million in direct aid and a subsidy of EUR 0.2 per litre of fuel, for a total of EUR 1.4 billion per semester[32]. More recently, in December 2022, within the new Temporary State Aid Framework approved by the European Union, the Government of Spain approved another EUR 450 million in direct aid which will be channelled to the ceramics industry and other sub-sectors. Altogether, since the beginning of the crisis, Spain has disbursed about EUR 2 billion in transfers for energy-intensive sectors and transport.

Poland

The Government of Poland also initially provided transfers mostly to large companies in energy-intensive sectors (i.e., about EUR 214 million disbursed to 92 large companies). However, as of early 2023, the Government was working on a new programme aimed at energy-intensive SMEs, to be budgeted with EUR 1.1 billion[33].

Hungary

Hungary's state transfer programme "SME Energy Cost and Investment Support Programme, 2022-2023" was a relatively small programme consisting of two components, one of which helped manufacturing SMEs pay half of the increase in electricity and gas bills between October 2022 and March 2023[34]. The other component offered support to companies in the accommodation and food service industry for three months, from January to March 2023.

Romania

With support from the European Commission, the Government of Romania has implemented a EUR 500 million state aid scheme for enterprises in sectors exposed to a risk of relocation and job losses due to high energy costs. This temporary framework will be in place until 31 December 2023 and aims to protect about 200 000 jobs, including high- and mid-skilled jobs in industrial sectors.

[32] Further information on Spain's National Response Plan is available here: https://www.lamoncloa.gob.es/lang/en/gobierno/councilministers/Paginas/2022/20220329_council.aspx.

[33] Further information at: https://www.gov.pl/web/rozwoj-technologia/800-mln-zl-dla-92-firm-energochlonnych & https://ec.europa.eu/commission/presscorner/detail/en/ip_22_7838.

[34] The second component supported small-scale green investments. Further information at: https://kormany.hu/hirek/a-kormany-jelentos-osszeggel-tamogatja-az-energiaintenziv-feldolgozoipari-kkv-kat.

Subsidised loans and credit guarantees [35]

Policy highlights

Subsidised loans and credit guarantees have been the most common form of income-support policies for the business sector during the energy crisis. While these programmes, especially credit guarantees, are generally less expensive for governments than transfers, tax-related measures and price caps, they come at a time of high SME indebtedness, which is the legacy of the Covid-19 crisis when governments introduced many public loans and debt moratoria schemes resulting into the extension of outstanding loans (OECD, 2022[16]) (OECD, 2021[2]). The main risk associated with this policy is, therefore, that it could further exacerbate SME indebtedness, although the interest-rate subsidy often involved in these programmes implies that any additional lending comes with interest rates lower than those available at commercial banks.

Public loans and credit guarantees have been operated by public development banks and national/regional guarantee institutions, often in partnership with commercial banks tasked with disbursing the loans. In the context of EU countries, these programmes have followed the guidelines of the European Commission's State Aid Temporary Crisis Framework (TCF) concerning the use of three different types of government support in temporary derogation of EU state-aid rules (see Box 1). The overarching aim of the TCF is to maintain a level playing field between businesses from different EU countries while preserving the competitiveness and social cohesion of EU economies at a time of high energy costs. For example, following the TCF guidelines, energy-related public loans and government-guaranteed loans could not exceed specific thresholds linked to past turnover (i.e., 15% of the average annual sales over the last three years) or energy costs (i.e., 50% of the energy costs over the last 12 months). Nonetheless, the TCF also provided enough flexibility for governments to adapt programmes to their specific national conditions, for example with respect to eligibility conditions, maximum or minimum interest rates, and level of government guarantee (i.e., coverage ratio).

In the case of government credit guarantees, the following differences among country experiences are worth mentioning. First, some programmes (e.g., Spain and Chile) have allowed refinancing existing debt, including loans originated during the Covid-19 crisis, while other programmes have only offered guarantees for new loans more closely related to the energy crisis (e.g., Latvia and Estonia). Second, most credit guarantee programmes have financed both business loans and credit lines, although the level of guarantee has changed according to the type of lending, with the coverage ratio higher for business loans. Similarly, the level of guarantee has also sometimes changed depending on the sector, for example with manufacturing companies receiving higher guarantees than construction companies in some cases (i.e., Estonia). This might reflect higher credit risk in some sectors than in others, but also a deliberate government strategy to support certain industries. Third, eligibility conditions have appeared to be in some cases somewhat strict, which might reduce the take-up of these programmes (e.g., Chile's guarantee programme and Lithuania's public loan programme). For example, in Chile, energy-related government guarantees were only available for those SMEs which had not benefited in the past from another government guarantee, even if the previous loan had been fully repaid. Finally, in some cases (e.g., Estonia and Chile), government guarantees have been made available only for bank loans whose interest rates would not exceed a certain threshold, thus effectively imposing an interest-rate ceiling on those loans. In principle, interest-rate ceilings should keep the cost of debt lower for SMEs, but they also come with some possible risks which governments should consider. Unintended side-effects include increases in non-interest fees and commissions, reduced price transparency, lower credit supply and loan approval rates for small and risky borrowers, as well as adverse impacts on bank profitability (Ferrari, Masetti and Ren,

[35] This section partly benefits from a report prepared by the European Association of Guarantee Institutions (AECM) which was kindly shared with the OECD secretariat before its public release (AECM, 2023[25]). In particular, information on guarantee programmes from the three Baltic countries (Estonia, Latvia and Lithuania) comes from this report.

2018[17]). An additional risk is that interest-rate caps lead to higher interest rates charged by commercial banks on other segments of the credit market, with the aim to cross-subsidise small business lending (OECD, 2020[18]).

In the case of public loans and other interest-rate subsidies (e.g., interest-rate freezes), the subsidy component has changed considerably across countries, with clear implications for the budget of the policy. In Hungary, for example, a government-backed overdraft facility came with a very low interest rate of 1% between July and December 2022, although the interest rate was eventually lifted to 5% in 2023. On the other hand, Baltic countries such as Latvia and Estonia have set interest-rates on public loans above 5% since the beginning. Interestingly, at least in one case (Latvia), the practice of credit mediation was embedded in one public loan programme; in this case, the government would grant the public loan only after verifying that there was no commercial lender willing to lend to the SME with the back-up of a government guarantee.

The rest of this section provides a non-exhaustive overview of OECD countries which have used public loans and government guarantee schemes to support SME financing during the energy crisis.

Box 1. The European Commission's State Aid Temporary Crisis Framework

The State Aid Temporary Crisis Framework (TCF) was launched by the European Commission (EC) in March 2022. Originally in place until the end of 2022, it was later extended until the end of 2023. The TCF provides for three types of aid to help EU economies during the economic turmoil caused by the Russian invasion of Ukraine.

- **Limited amounts of aid**: Member States can set up schemes to grant up to EUR 35 000 per company to businesses in agriculture, fisheries and the aquaculture sector, and up to EUR 400 000 per company in all other sectors. This aid does not need to be linked to an increase in energy prices, as the crisis and the restrictive measures against Russia affect the economy in multiple ways, including physical supply chain disruptions. This support can be granted in any form, including direct transfers.
- **Liquidity support in form of state guarantees and subsidised loans**: Member States can provide: (i) subsidised state guarantees to ensure banks keep providing loans to all companies affected by the current crisis; and (ii) public and private loans with subsidised interest rates, which nonetheless need to be at least equal to the risk-free base rate plus specified credit risk premiums applicable to SMEs and non-SMEs respectively. For both kinds of support, there are limits regarding the maximum loan amount, which are based on the operating needs of a company, taking into account its turnover, energy costs or specific liquidity needs. The loans may relate to both investment and working capital needs.
- **Aid to compensate for high energy prices**: Member States can partially compensate companies, in particular intensive energy users, for additional costs due to exceptional gas and electricity price increases. This support can be given in any form, including direct transfers. The overall aid per beneficiary cannot exceed 30% of the eligible costs, up to a maximum of EUR 2 million. In addition, Member States can provide aid exceeding these ceilings, up to EUR 25 million for energy-intensive users, and up to EUR 50 million for companies active in specific sectors, such as production of aluminium and other metals, glass fibres, pulp, fertilizer or hydrogen and many basic chemicals.

To reduce the negative consequences for the level playing field in the single market, the TCF includes a number of safeguards:

- **Proportional methodology**: There should be a link between the amount of aid that can be granted to businesses and the scale of their economic activity and exposure to the economic effects of the crisis, by taking into account their turnover and energy costs.
- **Eligibility conditions**: The definition of energy intensive users is set by reference to Article 17(1)(a) of the Energy Taxation Directive, that is to say, businesses for which the purchase of energy products amount to at least 3% of their production value.
- **Sustainability requirements**: Member States are invited to consider, in a non-discriminatory way, setting up requirements related to environmental protection or security of supply when granting aid for additional costs due to exceptionally high gas and electricity prices. The aid should therefore help businesses to tackle the current crisis while at the same time laying the ground for a sustainable recovery.

Some changes were also introduced at the time of the extension in October 2022, such as increased ceilings for direct aid (EUR 250 000/300 000 for agriculture and EUR 2 million for other sectors) and the possibility to give state guarantees exceeding 90% coverage of the credit risk.

Source: European Commission's press corner webpages: https://ec.europa.eu/commission/presscorner/detail/en/statement_22_1949; https://ec.europa.eu/commission/presscorner/detail/en/ip_22_6468.

Country experiences

Germany

In the first phase of the crisis, Germany's public development bank (*Kreditanstalt für Wiederaufbau*, KfW) launched a short-term liquidity measure dedicated to energy-intensive companies, i.e., companies whose energy costs accounted for at least 3% of turnover in 2021 (in line with the EC TCF). The maximum liquidity support was EUR 100 million per company, with state guarantees covering 80% of the lending risk. The Federal Government also allowed regional guarantee banks to raise the guarantee ceiling from EUR 1.25 million to EUR 2.5 million for companies directly affected by the war in Ukraine.

Italy

The Italian government has sought to involve the banking sector in its response to the energy crisis, encouraging banks to provide loans with an interest rate equal to the rate of the 10-year government bond and without additional fees to help companies pay for their energy bills. Loans with these conditions are guaranteed by the government without additional costs for the business.

Spain

As part of its National Response Plan adopted in March 2022 (see above), besides transfers for energy-intensive companies, the Government of Spain also introduced EUR 10 billion in new credit guarantees managed by the national public development bank (*Instituto de Credito Oficial*, ICO). In addition, outstanding guarantees linked to Covid-19 loans were extended. Finally, the Government has more recently approved EUR 500 million for a new liquidity line from ICO for the specific needs of the ceramics sector.

Poland

The Polish Development Bank (BGK) has established a Crisis Guarantee Fund endowed with PNL 400 million (EUR 86 million), which guarantees up to 80% of the loan amount, to support the liquidity needs of SMEs and large companies affected by the energy crisis.

Hungary

The Government of Hungary introduced an interest-rate freeze on variable-rate SME loans in June 2022, before the increase of the policy interest rate by the Central Bank from 5.9% to 7.75%. This policy will be in place at least until end-June 2023 and is expected to reach more than 60 000 SMEs, with average savings in the range of HUF 1.5-2 million. The overall budget allocation for this policy is HUF 80 billion.

The Government of Hungary also introduced an overdraft facility, called *Széchenyi* Energy Card, which is an adaptation of the longstanding overdraft facility *Széchenyi* Card[36]. The *Széchenyi* Energy Card was available from July to December 2022 and came with a net transaction annual interest rate of only 1%, thus effectively representing an interest-rate government subsidy on small business lending. In 2023, this programme was replaced by the *Széchenyi* Investment Loan MAX+ scheme, which comes with an interest rate of 5%. Loans under this scheme can help finance the expansion of existing capacity, the construction of new capacity, the implementation of energy and resource-efficiency development plans, the use of renewable sources of energy and the implementation of technology change. The investment loan size can range between HUF 1-500 million.

Finally, the national Guarantee Institution, *Garantiqa*, has also extended the emergency guarantee programmes introduced during the Covid-19 crisis which were to expire in 2022. Under the *Garantiqa* Crisis 2 Guarantee Programme, SMEs can receive a guarantee of up to 80% of the outstanding loan amount, with the maximum loan size set at either 15% of the average annual sales of the last three years or 50% of the energy costs of the last 12 months, in line with the EU TCF guidelines.

Latvia

The Government of Latvia, through its public financial institution ALTUM, has launched a public loan programme for companies affected by the war, which comes with lower-than-market interest rates and reduced collateral requirements. The maximum loan size is EUR 3 million, without exceeding the parameters set by the TCF: i.e., either 15% of the average enterprise turnover for the last three years or 50% of total energy costs in the last 12 months. The ALTUM public loan programme can be used for working capital requirements (maximum duration, 3 years) or investment purposes (maximum duration, 5 years), but cannot refinance existing debt. Interestingly, before disbursing the public loan, ALTUM seeks a credit mediation with different commercial banks to explore whether one of them is willing to lend with the back-up of a government guarantee.

Lithuania

The Government of Lithuania has introduced two different types of government guarantees. Individual guarantees are provided to businesses facing liquidity problems, where these are defined either by a ratio between short-term assets and short-term liabilities below 1 or by an over 10% drop in turnover compared to the previous year. Individual guarantees can cover loans up to EUR 5 million with maximum duration of 6 years, also in this case without exceeding either 15% of the average business turnover over the last three years or 50% of total energy costs in the last 12 months (TCF parameters). In parallel, portfolio guarantees have been issued to financial institutions for on-lending to SMEs, with the coverage ratio (*i.e.*, the share of lending risk covered by the programme) set at 90% for business loans and 35% for credit lines.

[36] This scheme was introduced in 2000 and operates as a government-backed credit line which is mostly used by micro and small businesses, with a weight in total SME loans of about 4.5-5%. The highest credit limit in the programme is HUF 100 million in 2017. Further information on this programme and its energy variant are available at: https://static.eurofound.europa.eu/covid19db/cases/HU-2002-1_2473.html; https://www.kavosz.hu/hitelek/szechenyi-kartya-folyoszamlahitel-max/.

Lithuania has also introduced a public loan programme that targets companies directly and heavily affected by the Russian war in Ukraine. The programme is delivered by state financial entity INVEGA and is budgeted with EUR 50 million. To be eligible companies need to meet one of these two conditions: i) the share of the borrower's imports or exports with Ukraine and/or Russia and Belarus together was above 25% of the total; ii) the borrower's energy consumption was at least 8% of the borrower's operating costs in 2021. The loan maximum size is calculated in line with the TCF guidelines, while the fixed interest rate cannot be lower than 5%.

Estonia

Estonia introduced a credit guarantee programme tailored to companies directly affected by the war, with applications accepted until the end of November 2022. To be eligible, companies needed to prove one of the following three conditions: i) the Ukrainian, Russian and/or Belarusian markets accounted altogether for at least 10% of the loan recipient's turnover, or that the loan recipient was forced to close operations in those markets due to the war; ii) the price of basic raw materials had increased by at least 50% compared to 2020; iii) energy costs accounted for at least 3% of business turnover over the past three years. The loan maximum size could not exceed turnover and/or energy cost proportions outlined in the TCF. This scheme offered a loan coverage ratio of 80% (60% in the case of construction) and covered both business loans and overdraft facilities. The interest rate could not be higher than the 6-month Euribor rate plus 6% per year, while the loan guarantee fee could not be higher than 1% of the loan value. The programme was only meant for new loans, thus excluding the refinancing of existing debt.

Chile

Chile's National Guarantee Fund for Small Enterprises (FOGAPE) introduced two new programmes to facilitate SMEs' access to finance for working capital, capital investment or debt re-financing in December 2022. A first programme gave SMEs favourable conditions to repay their tax debts to the Treasury. In particular, the programme forgave all associated interest rates and penalties and allowed repayments to be done in up to 48 monthly instalments without any further interest rate charged on the outstanding debt. Through a second programme, FOGAPE *Chile Apoya*, SMEs are able to access new credit guarantees. Banks using the credit guarantee can lend at an annual maximum interest rate of 16.5%, i.e., 5% higher than the central bank's policy interest rate. The programme is open to all micro-enterprises, as well as small and medium-sized enterprises which meet the following conditions: not having benefited from other FOGAPE credit programmes; belonging to one of the priority sectors, including tourism and cultural activities, construction, and agriculture; and being directly affected by the 2019-2020 social unrest (*Estallido social*).

Complementary measures

Policy highlights

Many governments have also seen the energy crisis as an "opportunity" to accelerate the green transition of the business sector and wean economies away from fossil fuels supporting investments in energy savings, energy efficiency, renewable energies, and the circular economy (i.e., recycling and the use of recycled components in the production process). Programmes have most often taken the form of tax incentives (e.g., the U.S. Inflation Reduction Act), although direct transfers, preferential loans and coaching and training have also been used on different occasions. In addition, awareness-raising initiatives (e.g., France) have been launched to help the business sector understand how to reduce energy waste.

In the overall landscape of green transition measures, the U.S. Inflation Reduction Act (IRA) stands out for its budget. In this case, climate objectives have been combined with the ambition to create new manufacturing jobs in green industries, with preferential conditions for investments in lagging and industrial

regions. Green subsidies have also been deployed by EU countries in the context of the national recovery and resilience plans launched in the aftermath of the Covid-19 pandemic and which will shape investments in green industries and services at least until the end of 2026. Green policies in the business sector have, therefore, increasingly been associated with industrial policies, which raises an issue of competition policy at domestic level, notably the importance of keeping a level playing field between larger companies, which are more likely to benefit from large state subsidies, and SMEs.

Another issue related to green industrial policies is whether they should favour specific technologies or should rather be technology-neutral. The main advantage of technology-neutral policies is that they let markets decide which technologies are best suited to address a specific need. However, these policies are also less likely to encourage the development of technologies which are far from the stage of commercialisation, but which could have the potential to be a game-changer for sustainable development in the longer run. In the case of the U.S. IRA, for example, there will be a gradual shift form technology-specific to technology-neutral policies, although the clear advantage of one over the other has been questioned also in the field of energy policies (Azar and Sandén, 2011[19]).

Advice and training have been common policies to support the green transition of SMEs. Simple measures, such as the measurement and tracking of carbon emissions as well as basic training and advice, have often been provided for free, covering also micro-enterprises. On the other hand, more complex measures, such as the design of tailored advice and action plans followed by implementation support, have generally required a small co-payment by companies participating in the programme. This has been the case with France, among the country experiences reviewed in this paper, but also of other countries in recent years, as shown by Canada's Operational Efficiency Programme (Marchese et al., 2019[20])[37]. When asking companies to co-pay for advisory services, governments should consider a multi-layer fee structure, reflecting the reality that even within the SME sector there may be very different repayment capacities depending on the specific firm size.

Finally, when it comes to energy efficiency in commercial buildings, one important aspect to consider is that entrepreneurs are often renters rather than owners of the premises from which they operate. It is therefore important that building retrofitting measures are well targeted and address a possible misalignment of incentives between owners and rentals of commercial estates.

The rest of this section presents selected country experiences of how governments have supported the green transition in the aftermath of the energy crisis. The focus is on programmes which were introduced after the onset of Russia's war of aggression in Ukraine to support decarbonisation and energy efficiency in the business sector, including SMEs, although these two broader policy objectives are long-term and predate the energy crisis. As a result, this section does not aim to provide a comprehensive overview of SME greening policies across OECD countries, which is nonetheless an area that the OECD plans to explore further in the future.

Country experiences

United States

The flagship initiative of the U.S. federal government to foster the green transition in the aftermath of the energy crisis has been the Inflation Reduction Act (IRA). The IRA was signed into Law in August 2022 and has the twofold objective of protecting households and businesses from high inflation and supporting

[37] The OEP was a programme operated by the Business Development Bank of Canada (BDC) and mostly meant for small manufacturing companies. The objective of this programme was to fine-tune business operational efficiency by helping participating companies to benchmark their performance against the industry average, to identify and eliminate causes of waste in the production process and monitor progress against a set of key performance indicators built as part of the BDC support. The methodology hinged on site visits and interviews with managers and staff.

climate investments, notably by fostering green manufacturing in the United States. One main feature of IRA is that it also offers preferential conditions for investments in rural regions, lagging regions and industrial regions with a legacy in fossil fuels.

The IRA consists of a wide toolkit which includes tax credits, transfers, subsidised loans and loan guarantees for green manufacturers, tax incentives for consumers (to buy greener products) and environment-friendly regulations, for example with respect to public procurement. The IRA is matched by a major federal infrastructure investment plan which will fast-track the production and distribution of renewable energies and allow private investments to come to fruition. Overall, the estimated budget for IRA is USD 350 billion over 10 years, with part of the costs to be financed through a minimum corporate income taxation of 15% for large companies with profits above USD 1 billion.

Some of the IRA measures that directly or indirectly cover SMEs include:

- Investment tax credits for SMEs that switch to low-cost solar power, covering 30% of the related investment cost. An additional 10% bonus applies if the investment occurs in low-income communities or regions with a legacy in fossil-fuel industries.
- Technology-specific tax credits for investments in solar energy (30%), energy storage technology (30%) and micro-turbine projects (10%). A new technology-neutral tax credit is expected to replace this instrument from 2025 onwards.
- Tax credits for energy-efficiency investments (i.e., up to USD 5 per square foot) are made available to owners of commercial estates.
- Tax credits for SMEs involved in the micro-generation of electricity are introduced through an extension of the Renewable Electricity Production Tax Credit until 2024, with a credit amount of USD 0.15/kWh of renewable energy produced.
- The New Clean Electricity Production Tax Credit, starting from 2025, will be technology-neutral and include a 10% bonus if production takes place in low-income communities or regions with a legacy in fossil-fuel industries.

The IRA also expands the already existing Rural Energy for America Program (REAP), which provides state transfers and loan guarantees to SMEs for investments in renewable energy (e.g., electricity generation through small solar panels) or energy efficiency (e.g., high-efficiency heating systems). The programme is endowed with USD 2 billion until 2031 and intends to reach more than 40 000 rural SMEs.

Finally, the New Advanced Manufacturing Production Tax Credits, which cover the production of materials used in the renewable-energy sector, will also benefit SMEs involved in renewable-energy supply chains. Manufacturing will also be supported by IRA's sizeable local sourcing requirements, which covers parts and components of green products (e.g., electric vehicles, batteries, solar panels, wind farms, carbon capture systems, etc.).

United Kingdom

In March 2022, the government approved the SME Energy Efficiency Scheme, which offers guidance and funding for businesses looking to improve the energy performance of their buildings and industrial processes. SMEs can claim up to 45% of the investment costs, with the total grant ranging between GBP 10 000 and GBP 100 000. This programme is delivered in collaboration with local authorities.

In September 2022, the UK government also announced the second phase of the Industrial Energy Transformation Fund (IETF), whose main objective is the decarbonisation of energy-intensive sectors. The second phase will provide GBP 220 million in direct state transfers for energy-intensive companies which invest in energy efficiency and low-carbon technologies, such as carbon-capture technologies, fuel

switching, and the use of waste heat to generate electricity[38]. This policy will apply to a wide range of industries, including steel, ceramics, pharmaceuticals, and food production, some of which are more SME-driven than others.

Ireland

The Ukraine Credit Guarantee Scheme supports working capital loans or medium-term investment loans for SMEs. The overall loan fund is EUR 1.2 billion, and loans can range between EUR 10 000 and EUR 1 million and have a maximum duration of 6 years. There are no collateral requirements for loans up to EUR 250 000. The scheme is operated by the Strategic Banking Corporation of Ireland (SBCI), with loans disbursed by private-sector financial institutions, including banks and credit unions.

Another programme is the Growth and Sustainability Loan Scheme, which will be launched in mid-2023 and offer up to EUR 500 million in longer-term lending to SMEs, including farmers, fishers and small midcaps, with no collateral required for loans up to EUR 500 000 (maximum loan duration, 10 years). This scheme will provide lending facilities for longer-term investment purposes and will target a minimum of 30% of the lending volume towards environmental sustainability purposes. This scheme is also operated by the SBCI in partnership with private-sector financial institutions.

France

In early 2023, France introduced a number of measurement, training and mentoring programmes to support the green transition of SMEs, including micro-enterprises[39]. A main distinction has been made between programmes for SMEs in industrial and non-industrial sectors. Programmes range from the simple diagnostic and measurement of greenhouse gas emissions and energy consumption at firm level to standard training to bespoke mentoring and decarbonisation action plans. Programmes are implemented by the public development bank (Bpifrance) and the national environmental agency (ADEME), sometimes in partnership with local chambers of commerce.

An example is the Decarbonisation Diagnostic and Action (DDA) programme, which allows participating companies to measure their GHG emissions and lay out a decarbonisation action plan whose implementation is eventually supported by external experts. In the version meant for all SMEs, the programme lasts 8 months and has a cost of EUR 4 000 for companies with fewer than 250 employees and EUR 6 000 for companies with between 250-500 employees. The price is highly subsidised by the government. In the version meant for industrial SMEs, the programme lasts 15 months and includes four steps: diagnostic, action plan, follow-up and evaluation. It is open to SMEs with at least 20 employees, thus excluding very small companies. Small companies with up to 49 employees pay EUR 2 000, while mid-sized firms with between 50-250 employees pay EUR 3 000, with the rest also in this case covered by the state.

In addition, in October 2022, the French government launched the National Energy Sobriety Plan, which also covers the business sector. As part of this Plan, an online platform identifies companies that commit to fifteen actions to reduce energy wastes, including switching off the interior lighting of their buildings as soon as they are vacated, reducing outdoor lighting (especially advertising), controlling heating and air conditioning, and abating unnecessary business travelling. In addition, manufacturers are encouraged to carry out energy audits in order to optimise their energy consumption. This involves, for example, the use

[38] This programme covers different types of projects: a) feasibility and engineering studies for energy efficiency and decarbonisation projects; b) deployment of technologies to reduce industrial energy consumption (i.e., energy efficiency); c) deployment of technologies to achieve industrial emissions savings (i.e., deep decarbonisation).

[39] Further information on these programmes is available at: https://www.entreprises.gouv.fr/files/files/secteurs-d-activite/industrie/decarbonation/transition-ecologique-guidedes-aides-pour-les-tpe-pme.pdf; https://www.entreprises.gouv.fr/files/files/secteurs-d-activite/industrie/decarbonation/transition-ecologique-guide-des-aides-pour-les-pme-industrielles.pdf.

of energy management systems, the installation of sensors and the thermal insulation of heating networks. Proposed measures, however, should not result in a drop in production.

Spain

As part of a broad policy package introduced in December 2022, the Government of Spain, besides supporting energy-intensive industries through subsidies (see above), has also sought to accelerate the green transition of the business sector through the so-called Strategic Projects for Recovery and Economic Transformation (i.e., *Proyectos estratégicos para la recuperación y transformación económica*, PERTE), which are altogether worth EUR 3.1 billion[40]. There are 12 PERTE projects, 4 of which are closely related to the green transition: electric vehicles, renewable energy, circular economy, and industrial decarbonisation.

Poland

To incentivise energy savings, SMEs and micro-entrepreneurs who reduce their electricity consumption by 10% compared to the average annual consumption between 2018 and 2022, will benefit from a transfer corresponding to 10% of the overall electricity bill in 2023.

Hungary

As part of the "SME Energy Cost and Investment Support Programme 2022-23" (see also section on transfers), the Government of Hungary also launched an energy transition and energy efficiency investment support scheme. The programme includes two streams – i.e., operating cost support and energy transition and energy efficiency investment support – with maximum per-company support of EUR 500 000 and or EUR 200 000, depending on the subsidy category.

Czech Republic

The Czech National Promotional Bank (NRB) runs two programmes to support energy efficiency in SMEs. The ELENA (European Local Energy Assistance) programme focuses on the renovation of existing properties (i.e., building retrofitting), with a financial support corresponding to 90% of the costs. Under the Energy Savings Programme, the NRB offers preferential business loans for other energy-saving measures. Projects can be implemented anywhere in the Czech Republic except for the capital city of Prague and must be co-financed by a commercial loan from an NRB contractor[41].

Romania

In 2022, Romania introduced a transfer programme, called Electric-Up, which financially supports SMEs to install solar panels to generate electricity for one's own consumption and to sell it to the national grid. The same programme can also be used to set-up charging stations for electric vehicles.

New Zealand

New Zealand's 2022 budget included NZD 2.9 billion spending in the form of the "Climate Emergency Response Fund" (CERF). This package included additional funding (NZD 650 million) for the Government Investment in Decarbonising Industry (GIDI) Fund, which promotes the decarbonisation of industrial processes by covering up to 50% of the investment costs to adopt efficient low-carbon energy technologies. The CERF also included an "energy efficient equipment transfer scheme" (NZD 330 million) targeted at businesses, including small businesses, to encourage them to invest in efficient electrical equipment (e.g., electric heat pumps and motors), and a transfer scheme (NZD 40 million) to promote the replacement of fossil fuel heating systems with more efficient water-based ones in commercial buildings[42].

[40] Further information at: https://planderecuperacion.gob.es/como-acceder-a-los-fondos/pertes.

[41] Further information at: https://www.nrb.cz/en/produkt/elena/ and https://www.nrb.cz/en/produkt/energy-savings/.

[42] Further information at: https://www.beehive.govt.nz/sites/default/files/2022-05/CERF%20investments.pdf.

Conclusions

This paper takes stock of one year of policy responses to the energy crisis triggered by the Russian invasion of Ukraine from the perspective of SMEs. SME policy responses are here defined as all government policies, whether SME-specific or not, which have lowered the price of energy, especially electricity and natural gas, which SMEs have paid during the energy crisis . The paper identifies three broad categories of policies: i) price-support measures, such as caps on the price of gas and electricity and levy rebates on electricity and gas bills; ii) income-support measures, such as energy-related tax credits, transfers, subsidised loans, and credit guarantees; and iii) complementary measures, which have included both monetary and non-monetary incentives helping companies invest in the green transition.

Contrary to the Covid-19 crisis when the main form of emergency support consisted in wage subsidies and other income-support measures, governments have mostly used price-support measures, especially price caps on electricity and natural gas, during the energy crisis. In addition, while emergency measures had initially focused on energy-intensive sectors, as the war prolonged, governments have ramped up the scale and scope of their action, reaching many more sectors and SMEs. The paper finds that two common approaches to achieve this goal have been extending energy price caps originally meant for households to micro-enterprises and lowering the electricity and gas consumption thresholds which companies needed to meet in order to claim government support. However, not all OECD countries have introduced similar measures. Net energy exporting countries have felt less the need to introduce large-scale interventions in energy markets. Similarly, some other countries (e.g., Korea and Switzerland) have also followed this approach even though they are not major energy producers.

Overall, insights from one year of policy responses to the energy crisis suggest that untargeted price-support measures have likely played an important role to avoid a global recession in 2022. Nonetheless, given the recent drop in wholesale energy prices, blanket price-support measures should soon be withdrawn as they delay the green transition and weigh on public finances. If necessary, more targeted income-support measures could temporarily be used to support sectors and companies which may need further help with still high retail energy prices. Above all, going forward, the policy focus should more decisively shift towards measures that improve the environmental performance of SMEs, thus ending the emergency measures introduced at the peak of the energy crisis.

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