

CEER

**Council of European
Energy Regulators**



Fostering energy markets, empowering **consumers**.

**First Analysis of the COVID-19
Pandemic's Effects on the Energy
Sector**

Interim Report

Ad Hoc COVID-19 Group

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INFORMATION PAGE

Abstract

This document (C21-COV-04-04) presents CEER's first analysis of the effects of the COVID-19 pandemic on the energy sector. This interim report seeks to highlight the pandemic's impact on the energy market as a whole and on energy companies in particular. Furthermore, it summarises the approaches from 28 participating countries to protect energy customers during these extraordinary times.

Target audience

European Commission, energy suppliers, traders, gas/electricity customers, gas/electricity industry, consumer representative groups, network operators, Member States, academics and other interested parties.

Keywords

COVID-19; pandemic; electricity market; gas market; energy regulation; resilience.

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Related documents

CEER documents

- [ACER-CEER Market Monitoring Report \(MMR\) 2019](#), 23 September 2020

External documents

- Commission de Régulation de l'Électricité et du Gaz (CREG), "Note relative aux évolutions marquantes sur les marchés de gros belges de l'électricité et du gaz naturel en 2020", *Note*, 4 February 2021. Retrieved from: <https://www.creg.be/sites/default/files/assets/Publications/Notes/Z2187FR.pdf>
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EXECUTIVE SUMMARY

Background

The COVID-19 pandemic has had important economic and social repercussions across the globe that also impacted the energy sector. This report will assess both how the energy sector was affected by this pandemic, as well as the steps that governments, regulators, and others in the energy sector took in response to this crisis.

Objectives and contents of the document

This interim report provides a “snapshot” by mapping the immediate and continuous effects of the COVID-19 pandemic on the energy sector as a whole and on energy consumers and energy companies in particular in 2020. In addition, it identifies a first set of lessons learnt and best practices.

The content of the document is as follows:

- Impact on the energy market as a whole;
- Approaches to protecting energy customers;
- Impact on energy companies; and
- Lessons learnt and best practices.

Brief summary of the conclusions

One of the main findings of this report is that the energy sector demonstrated its resilience throughout the pandemic. Energy demand and market prices receded in several countries but the system as such continued operating. To protect consumers in a context of business closures and income losses, the majority of jurisdictions made sure that consumers would not be disconnected in the case of unpaid energy bills. Moreover, governments agreed on providing other support to households and businesses, which did not directly target the energy sector.

The pandemic's impact on energy suppliers and network operators is not fully clear yet. However, several NRAs noted that suppliers reported increases in unpaid bills and that network operators expected loss in tariff revenue.

In the chapter “Lessons learnt and good practices”, energy national regulatory authorities (NRAs) flagged the importance of a swift and complete exchange of information with all stakeholders (government, network operators etc.) and the acceleration of digitalisation and remote operations in the energy sector to tackle the crisis. Furthermore, they highlighted the moratorium on disconnections as the most effective measure to support consumers throughout the crisis.

1 Introduction

1.1 Context

Since the beginning of 2020, the COVID-19 pandemic and the measures taken by public authorities to control the virus have significantly affected economies and societies. Fortunately, the energy sector was hit less hard than some others.

In CEER Member Countries, the first wave of the pandemic in the first half of 2020 has had effects across the whole energy sector¹, including the unprecedented fall in demand and in prices. Another effect was that energy consumers, businesses and households often encountered difficulties in paying their bills. At the same time, network operators and energy suppliers had to implement business continuity plans while some were confronted with losses in revenue.

The end of 2020 saw a second wave of infections rise in several countries, with new measures imposed by governments to limit the spread of the virus.

1.2 Aim of the report

This interim report aims to provide a “snapshot” by mapping the immediate and continuous effects that the COVID-19 pandemic had in the course of 2020 on the energy sector as a whole, and, more specifically, on energy consumers and energy companies. It will also identify a first set of lessons learnt and best practices from 2020. Nevertheless, the report does not intend to provide a deeper analysis of other structural developments that are currently at play in energy markets.

1.3 Methodology

This report relies chiefly on the information 28 national regulatory authorities (NRAs)² provided in December 2020 to a questionnaire circulated in the framework of CEER's ad hoc working group on the COVID-19 crisis (COV WG). The data collected takes into account the developments of the first three quarters of 2020. Furthermore, the report compares the result of that exercise with findings from other CEER reports and those of other institutions such as the International Energy Agency (IEA), the Organisation for Economic Cooperation and Development (OECD), the European Commission (EC), and the Agency for the Cooperation of Energy Regulators (ACER).

It should be noted that at the time of data collection, not all data were available, complete or definitive such that clear and precise conclusions could not always be drawn of the impact on the energy markets exclusively due to the COVID-19 pandemic versus other factors.

¹ In this report, “energy sector” is understood as covering electricity and gas.

² See Annex 1 “List of the 28 respondents”. 27 responses were from CEER's 30 Members, but also one CEER Observer participated.

2 Impact on the energy system as a whole

The COVID-19 pandemic and the countermeasures taken by governments of countries participating in CEER affected the energy system in different ways. The measures varied from one country to another, depending on the severity of the health crisis. Similarly, the effects on energy demand, energy prices, and other variables are different for each country, as presented below.

2.1 The COVID-19 pandemic and government measures

According to the International Energy Agency (IEA), the measures governments took in the first half of 2020 to curb the spread of the pandemic resulted in 50% of the worldwide share of energy use being exposed to containment measures in mid-April 2020. In mid-March, this figure had been just 5%³. Similarly, the IEA estimates that towards the end of April 2020, complete or partial lockdowns affected approximately 54% of the world population and 60% of global GDP⁴.

These reports mirror the situation in CEER Member Countries, where the first wave hit in the first half of 2020 and prompted national authorities to take protective measures, including partial or near-complete shutdowns of economic and social life.

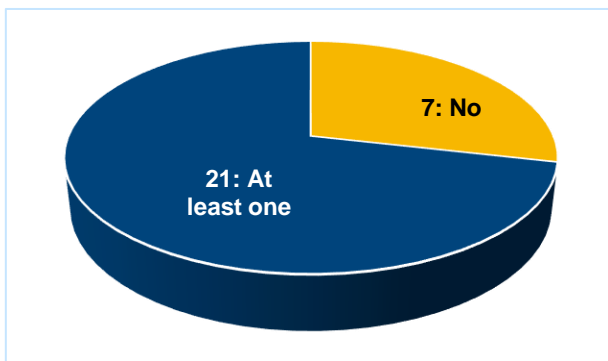


Figure 1 – Number of countries for which at least one lockdown was reported in 2020

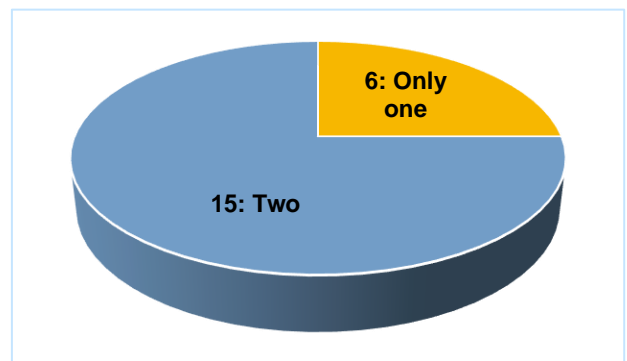


Figure 2 – Number of countries for which two lockdowns were reported in 2020

21 out of 28 respondents reported that their countries **had experienced some form of nation-wide restrictions, such as a lockdown**, in 2020 (Austria, Belgium, Croatia, the Czech Republic, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, North Macedonia, Portugal, Romania, Slovakia, Slovenia, Spain – see Figure 1). Among those countries for which no nation-wide lockdown-like restriction was reported, some imposed regional or sectoral restrictions, the latter for instance on businesses, restaurants, schools, universities, or recreational activities etc.

³ IEA, Global Energy Review 2020, The impacts of the Covid-19 crisis on global energy demand and CO₂ emissions, April 2020, <https://www.iea.org/reports/global-energy-review-2020>, p. 3.

⁴ IEA, Global Energy Review 2020, p. 5.

Out of the 21 NRAs that reported lockdowns for their countries, **15 indicated that these countries underwent two lockdown periods over the course of 2020**: a first one in spring and a second one towards the end of the year (Austria, Belgium, France, Germany, Great Britain, Greece, Ireland, Hungary, Latvia, Lithuania, the Netherlands, Portugal, Romania, Slovenia, Spain – see Figure 2). Indeed, many countries in Europe experienced a first wave of the coronavirus pandemic, starting in February or March 2020. This was followed by a summer period during which infection numbers receded and governments relaxed restrictions to ease the impact on the economy. In the autumn, the virus began to spread more rapidly again, and authorities imposed new measures around November - some of which continue to apply.

Lockdowns generally entailed nation-wide restrictions on free movement (people being requested to stay at home and leave the house only for a limited number of reasons) as well as the closure of many businesses, workplaces and schools. But there was a wide variety in the durations (ranging from weeks to several months) and in the restrictions imposed – both from one country to another and within the same country – as rules were tightened or relaxed over time. In many cases, local or regional lockdowns and curfews preceded or followed nation-wide lockdowns.

As people stayed at home and businesses curtailed or shut down their operations, lockdowns profoundly impacted economic and social life. By doing so, the imposed confinement measures affected energy demand and prices.

2.2 Variations in energy consumption

Though it is difficult to isolate the specific COVID-19 impact on the energy system, it is clear that the pandemic entailed an unprecedented fall in energy consumption in the first half of 2020, concomitantly with the first wave and the first series of restrictions. According to the IEA, “countries in full lockdown [were] experiencing an average 25% drop in energy demand per week and countries in partial lockdown an average 18% decline”⁵. Overall, the IEA estimates a 5% fall in global energy demand in 2020 compared to 2019⁶.

Similarly, ACER and CEER find that the COVID-19 impact on the European electricity system translated into a historic 7% reduction in EU electricity demand, when comparing the first half of 2020 to the same period in 2019⁷. The responses to the CEER questionnaire confirmed this finding. Indeed, almost all NRAs reported decreases in electricity consumption in the first half of 2020 (for details please see **Annex 2**). While the information the NRAs provided is not necessarily comparable due to differences in the relevant time period and in the available data, the following conclusions can be drawn:

A large majority of respondents reported that global **electricity consumption fell significantly** over the spring months that coincided with lockdown measures imposed to curb the first wave of the coronavirus pandemic. Table 1 shows the responses of those NRAs that provided monthly data on the change in electricity consumption in 2019 and 2020. The information provided by NRAs that did not submit such monthly data paints a similar picture.

⁵ IEA, Global Energy Review 2020, p. 3.

⁶ IEA, World Energy Outlook 2020, October 2020, <https://www.iea.org/reports/world-energy-outlook-2020>, p. 59.

⁷ ACER/CEER, Market Monitoring Report 2019, Electricity Wholesale Markets Volume (Volume 1), 21 October 2020, <https://www.acer.europa.eu/en/Electricity/Market%20monitoring/Pages/Current-edition.aspx>, p. 69.

	March	April	May	June
Austria (pure COVID-19 effect)	-6.5%	-11.8%	-7.1%	-6.5%
Belgium	-6.8%	-13.2%	-9%	-3.8%
Czech Republic	-1.2%	-11.6%	-11.6%	-4.8%
Germany	-3.1%	-9.3%	-10.6%	-6.9%
Greece	n/a	-9.8%	-6.9%	-13.5%
Hungary	n/a	-9.1%	-10.5%	-8.7%
Lithuania	-3%	-7.2%	-6%	-3.9%
Malta	-1.6%	-9.8%	-8.3%	-17.9%
Portugal	n/a	-14%	-16%	-8%
Slovenia	n/a	-16.5%	-15%	-13%
Spain	n/a	-18%	-13%	n/a

Table 1 – Fall in global electricity consumption per month in March-June 2020, compared to the same month of 2019⁸

The drop in electricity demand has not been equal across sectors: Some respondents reported decreases in commercial and industrial electricity consumption versus increases in household consumption. This can be explained by the closure of businesses and the greater number of people working from home. Similarly, the IEA noted that at the end of March and beginning of April 2020, “residential demand during the week was up to 40% higher across certain European economies than in the same weeks in 2019”⁹.

Respondents further indicated that the relaxation of government restrictions often coincided with **electricity demand recovery**, even though demand remained slightly under pre-COVID-19 expected levels. This is also true in the European Commission’s recent Quarterly Report on European Electricity Markets¹⁰. While full data for the last quarter of 2020 was not available at the time NRAs responded to the questionnaire, it would appear that the second series of lockdowns imposed in the winter of 2020 did not have the same effect on electricity demand.

Regarding gas consumption, the picture is more mixed: In some countries (Belgium, Hungary, Ireland, Italy, Lithuania, Slovenia), **the decrease in gas consumption** – provided there was one – was less pronounced than for electricity. Whereas in others (Great Britain, Luxembourg, Portugal, Spain), either the fall in consumption was broadly comparable or the drop in gas consumption was bigger. Differences in weather conditions and in uses are likely to have played a part in this. These changes in energy demand also had an impact on prices.

⁸ The figures for Austria indicate the fall in consumption that is specifically attributable to the coronavirus pandemic. For the other countries, figures indicate the overall decrease, which is likely to be rooted in the pandemic, but may have other causes, too.

⁹ IEA, Global Energy Review 2020, p. 23-24.

¹⁰ European Commission, DG Energy, Quarterly Report on European Electricity Markets, vol. 13 (issue 3, third quarter of 2020) 12 January 2021. https://ec.europa.eu/info/news/electricity-and-gas-market-reports-highlight-impact-confinement-third-quarter-despite-easing-restrictions-2021-jan-12_en, p. 3.

2.3 Variations in wholesale market prices

2.3.1 Variations in electricity wholesale market prices

When comparing the first half of 2020 with the same period in 2019, European bidding zones experienced sharp decreases in average electricity day-ahead prices¹¹.

Indeed, 16 respondent NRAs reported that electricity wholesale market prices had fallen over the first half of the year (see **Annex 3** for details). For instance, in April 2020, electricity day-ahead market prices were below their 2019 value by mid-double digits in Austria (-51%), Belgium (-61%), Germany (-54%), Greece (-54%), Ireland (-43%), Italy (-54%), Lithuania (-46%) and Spain (-60%). The pandemic played a part in this decline in wholesale market prices. It reduced electricity demand but also impacted fuel prices. Both effects put downward pressure on electricity wholesale market prices¹².

However, some NRAs also highlighted other causes for their respective markets, notably weather conditions. CRU noted that the Irish Single Electricity Market (SEM) registered lower energy prices already in the first months of 2020. These changes in prices were attributed not only to the low demand that was induced by lockdown measures but also to lower gas prices and consistently windy weather that favoured renewable energy generation. Similarly, CNMC reported that the fall in market prices in Spain resulted not only from the fall in electricity demand during the first state of alarm, but also from weather conditions (a spell of high wind, good sunshine conditions and heavy rainfall).

The Austrian NRA E-Control estimated the pure “COVID-19 effect” as the reduction effect purely based on the reduced consumption and controlled for temperature. This “COVID-19 effect” was about €9/MWh and is equivalent to approximately 50% of the total price difference between 2019 and 2020 in the months March to May.

The full data for 2020 was not yet available at the time of collecting data from NRAs. However, some countries reported that wholesale market prices recovered slightly after the initial drop. Ofgem noted that in Great Britain, the average price for July to September 2020 was just 4% below the value of the same period in 2019, whereas it had stood at -39% for the second quarter. CNMC indicated that since September 2020, gas and CO₂ prices had returned to the level they were before March. Simultaneously, the price for electricity also increased again. E-Control and CRU similarly reported a return to the 2019 price levels or higher as of September 2020, with E-Control suggesting that an important factor in the price drop in the first half of 2020 had been the synchronicity of government measures across Europe.

The effect of the second series of lockdown measures, at the end of 2020, on electricity wholesale market prices was not captured by the responses of NRAs. However, these measures seem to have had less of a downward impact on prices. For instance, average day-ahead electricity prices for four countries in the CWE region (Belgium, France, Germany, Netherlands) registered a second drop in September and October 2020, although not as important as in spring, and prices recovered towards the end of the year¹³.

¹¹ ACER/CEER, Market Monitoring Report 2019, Electricity Wholesale Markets Volume (Volume 1), p. 70.

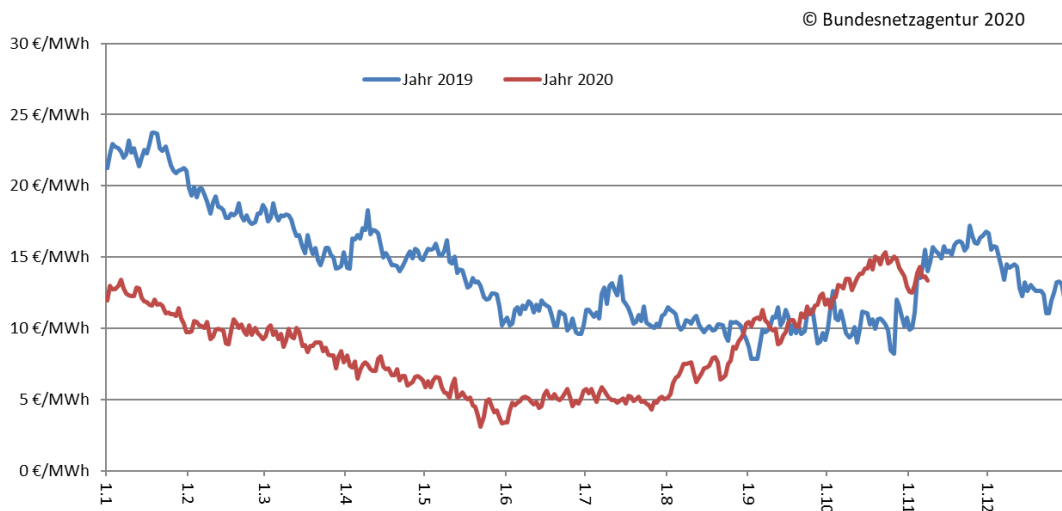
¹² ACER/CEER, Market Monitoring Report 2019, Electricity Wholesale Markets Volume (Volume 1), p. 69.

¹³ CREG, *Note relative aux évolutions marquantes sur les marchés de gros belges de l'électricité et du gaz naturel en 2020*, Z(2187), 4 February 2021, <https://www.creg.be/sites/default/files/assets/Publications/Notes/Z2187FR.pdf>, p. 6-7.

2.3.2 Variations in gas wholesale market prices

On the gas market, the COVID-19 pandemic struck in a context of oversupply. According to ACER and CEER, high LNG imports into Europe and high storage stocks meant that gas prices fell in 2018 and remained low in 2019. The arrival of COVID-19 and the imposition of lockdown measures pushed prices as low as €4/MWh¹⁴. The IEA also highlights “historically mild temperatures in the northern hemisphere” as a downward driver of gas demand in the first quarter of 2020 that also affected prices¹⁵. (**Annex 3** shows the responses from NRAs in full detail.)

In line with the general trend outlined above, several NRAs reported significant falls in gas wholesale market prices in the second quarter of 2020. This was notably the case for Belgium, France, Germany, Great Britain, Ireland, Lithuania and Portugal. The following graph (provided by BNetzA) shows the development of gas prices of short-term products at the European Energy Exchange (EEX). In general, the price level in 2020 was significantly lower than in the year before. Again, the specific pandemic effect on gas prices is not clear because various effects influence the spot prices.



Quelle: EEX

Figure 3 – Development of gas prices of short-term products at the European Energy Exchange (EEX) 2019/2020 (BNetzA)

In contrast, in Italy, gas price variations remained within single digit margins. MEKH reported that spot prices for Hungary were only partially able to follow the decline in Western European prices due to the congestion in critical cross-border points. Again, the effect of the second series of lockdown measures on gas wholesale market prices was outside the scope of responses provided by NRAs but appears to be more limited.

¹⁴ ACER/CEER, Market Monitoring Report 2019, Gas Wholesale Markets Volume (Volume 2), 23 September 2020, <https://www.acer.europa.eu/en/Electricity/Market%20monitoring/Pages/Current-edition.aspx>, p. 23.

¹⁵ IEA, Global Energy Review 2020, p. 28.

2.4 Shift in the electricity mix

The decreases in electricity demand and electricity wholesale market prices had an impact on the electricity mix, driving the share of renewable energy sources (RES) up and depleting the share of fossil generation. ACER and CEER note that in the first half of 2020 in the EU, the RES share (40%) surpassed the share of fossil fuels (33%) for the first time ever, whereas coal generation registered a 30% year-on-year drop¹⁶.

Some NRAs reported similar effects on the RES share in their country's electricity mix, even if the pandemic was not the sole cause of this development:

- In Germany, in the first half of 2020, RES reached a share of 52.5% (as opposed to 44.4% in the first half of 2019). In the second half of both years, the ratio was 43.3% (2020) to 40.8% (2019).
- In Spain, the RES share for the period from January to November 2020 amounted to 43.3%. RES generators produced 13.4% more in the same period in 2019. Coal generators were completely left out of the daily dispatching for economic reasons; their operation is only aimed at solving zonal security problems.
- In Great Britain, in April to June 2020, RES totalled 45% against 36% in the same period in 2019. Nevertheless, the RES share was higher in January to March 2020 (48%) before the pandemic hit the country due to increased wind generation in line with weather conditions.
- Greece also registered an increase in the RES share in the net electricity generation mix: 34.6% in April 2020 (19.6% in April 2019), 29.6% in May 2020 (20.1% in May 2019), and 26.4% in June 2020 (19.2% in June 2019).
- In North Macedonia, in the period March to June 2020, compared to the same period in 2019, the share of renewable energy sources in the electricity mix increased by 30.5%.
- In Lithuania, the RES share decreased between March and June 2019 (67%) and March and June 2020 (51%) due to a sizable increase of electricity generation.
- In Austria, while thermal generation decreased under the effect of the pandemic, the RES share did not increase as non-dispatchable RES production also dropped.

These statistics show that the RES share (depending both on total installed capacity and generation volumes as well as on weather conditions for wind and solar generation) only tell part of the story and provide a mere snapshot of the electricity mix at a given time. However, as the IEA notes, for many countries the pandemic “has provided a real-time experiment in managing the operational implications of higher shares of variable renewables”, thereby “boost[ing] confidence and experience”¹⁷.

¹⁶ ACER/CEER, Market Monitoring Report 2019, Electricity Wholesale Markets Volume (Volume 1), p. 69.

¹⁷ IEA, World Energy Outlook 2020, p. 69.

3 Approaches to protecting energy customers

The COVID-19 pandemic also had an impact on **energy consumers**, specifically, in their ability to continue paying their energy bills. Loss of income or jobs in the wake of lockdown measures meant that some consumers were unable to pay for basic goods and services and faced an increased risk of disconnection or energy poverty.

To address those difficulties, **public authorities** – governments, regulatory authorities and others – **resorted to different measures**, such as **disconnection moratoriums** and bans, the staggering and **deferral of energy bills**, social tariffs for vulnerable consumers, specific **assistance programmes** for households and businesses and other **financial interventions** on prices and taxes as well as **regulatory interventions** on the execution of energy contracts.

At the time of writing, the full data was not yet available. However, **several NRAs** expected an **increase in unpaid energy bills** due to the economic impact of the COVID-19 pandemic (decrease in or loss of income) and the related emergency measures taken by governments such as lockdowns and other restrictions.

Some NRAs provided data on unpaid bills:

- **Ofgem** (Great Britain) reported “**failure rates** for customers paying by direct debit which in each month have averaged **0.82%** for **domestic customers**, **0.49%** for small and medium-size enterprise (**SME**) customers, and **0.69%** for **industrial** and commercial customers”. However, this does neither indicate an increase nor a decrease on previous failure rates nor the cause behind it.
- **VERT** (Lithuania) reported that the number of indebted **household** consumers on **electricity** bills increased by **3.18%** (between February and June 2020). The number of indebted household consumers on **gas** bills increased by **3.67%** (again between February and June 2020). The number of indebted legal persons (**enterprises**) on electricity bills increased by **4.33%**, and the number of indebted enterprises on gas bills increased by **34.53 %** over the same period.
- **RAE** (Greece) noted an approximate 20% increase in unpaid electricity bills during the first lockdown period (March to June), relating mainly to business consumers.
- **CRU** (Ireland) witnessed that both number of customers in arrears and value of arrears were higher in September 2020 compared to September 2019 in all four customer categories, i.e. domestic and non-domestic, electricity and gas.

Whilst almost all countries implemented measures to reduce the pandemic's negative impact on energy companies (described in Chapter 4), they also **implemented rules to protect households** in general, and vulnerable consumers (during the first lock-down period) in particular.

According to ACER and CEER, during the first wave of the COVID-19 pandemic, over two thirds of Member States and associated countries (including Norway and Great Britain) implemented a moratorium on the disconnection of energy consumers. In most countries, this moratorium also went hand in hand with possible payment deferrals of energy bills without penalties¹⁸.

¹⁸ ACER/CEER, Market Monitoring Report 2019, Energy Retail and Consumer Protection Volume (Volume 3), October 2020, <https://www.acer.europa.eu/en/Electricity/Market%20monitoring/Pages/Current-edition.aspx>, p. 14-16.

The NRAs' replies to the questionnaire (listed in **Annex 4**) confirm these steps. Indeed, one of the most common measures that was reported (by **18 NRAs**) was a **moratorium on disconnections** during the lockdown periods in 2020 to ensure the supply of energy, even in case of non-payment. These disconnection bans were not always mandated by the authorities, but in some cases, they happened voluntarily or were imposed *de facto* (due to concerns regarding the physical reading of meters).

As a result, some NRAs observed a **significant fall in disconnections** (e.g. North Macedonia reported a decrease of 77% as compared to 2019). Similarly, E-Control found a significant decrease – only 559 disconnections for electricity consumers compared to a mean value of 8501 in the period from 2017 to 2019, and only 175 disconnections for gas consumers (April to June 2020 year-over-year). ERSE estimated that nearly 9,200 electricity and 1,000 gas consumers avoided disconnections following the approval of ERSE's measure in March 2020.

	(Full or partial) moratorium on disconnections (mandated or voluntary)	Staggering or deferral of energy bills	Any other kind of financial support (loans, payments, state aid, welfare)
AT	X		
BE	X		X
BG			
CZ	X		
DE	X	X	X
EE		X	X
ES	X	X	X
FI			
FR	X	X	X
GB	X	X	X
GE			
GR	X		X
HR	X		X
HU	X		
IE	X	X	X
IT	X	X	X
LT	X	X	
LU			
LV			X
MK	X		X
MT			X
NL	X	X	
NO			
PT	X	X	X
RO			X
SE			
SI	X	X	
SK	X	X	X

Table 2 – What measures were put into effect to support consumers?

The extent to which non-payment affects the disconnection rates after lockdown measures end cannot be answered yet and will have to be **monitored afterwards**¹⁹. To avoid time-lagged disconnection due to non-payment, some NRAs reported schemes to **extend payment deadlines or implement the staggering of bill payments**.

- **Spain**, for instance, provided small and medium-sized companies, as well as freelancers, with the possibility to delay the payment of their electricity and gas bills during the initial “state of alarm” and up to six months after the end of this period.
- **In Great Britain**, Ofgem asked suppliers to apply fairness to debt management processes, giving careful consideration to the customer’s circumstances and ability to pay. The regulator also indicated that they would not tolerate unethical but nonetheless legal business practices or aggressive debt collection.

During the lockdown periods in spring, almost all necessary **physical contact** with consumers were **reduced, prohibited, or postponed**. This was done for essential services (e.g. metering) as well as for consumer service offices. **Only telecommunication services** were able to provide continued support.

Furthermore, many NRAs reported that financial support was available to both household consumers and businesses, although it was not necessarily tailored to the energy sector. This was the case notably for social welfare payments, furlough schemes to enable businesses to retain staff, or credit guarantees which benefited workers and companies in the wider economy.

However, there were also measures specifically targeting the energy sector:

- Some countries introduced **financial payments** for vulnerable **households** and/or **SMEs** to **cover** their costs, including **energy costs**, during the lockdown period (e.g. the free fuel vouchers for prepayment meter customers as part of a COVID-19 prepayment crisis fund in **Great Britain** or **Ireland**).
- Some governments intervened and attempted to **reduce energy prices through reducing levies and/or taxes**. **Estonia**, for example, granted a reduction in the excise duty on electricity and gas.
- Others, such as **Italy** and **Spain**, facilitated the **access to social tariffs** by relaxing timescales to apply or granting automatic extensions.
- In some countries (**Spain, Portugal, Ireland**), businesses could temporarily reduce their contracted capacity or suspend their energy supply, with the goal of saving costs.

¹⁹ Some NRAs launched specific monitoring processes.

4 Impact on energy companies

4.1 Impact on energy suppliers

The full extent of the pandemic's impact on energy suppliers across Europe is not yet clear. Several support measures were introduced along the energy supply chain. These measures, provided for suppliers as well as for providers, have successfully mitigated the immediate consequences of the crisis in some respects.

This is reflected in the number and detail of the answers received about the crisis' impact on suppliers. For example, very few NRAs could – or chose to – report instances of consumer **bad debt** levels increasing for suppliers, or indeed **trade losses**. The reason behind this is that these losses might still crystallise in the longer-term, if at all.

Here is a summary of the key points for energy suppliers:

- There were some instances of **increases in consumers not paying their bills** or taking advantage of temporary relief granted by their supplier. However, only little data was available at the time of writing.
- Various NRAs referenced the losses suppliers faced due to the coupled effect of **lower energy demand and low energy prices**.
- Suppliers reported **little evidence of bad debt** at this stage.
- NRAs in Europe developed or facilitated a series of schemes to provide temporary support for suppliers.
- Most **governments introduced state subsidies or grants for businesses**, which energy suppliers could access too in some cases.

a) Increase in unpaid energy bills or arrears/deferrals

As noted in Chapter 3 above, some NRAs expected an increase in unpaid energy bills. Some countries (Ireland, Greece) further noted a quantifiable shift in either the amount or the value of unpaid bills. However, at the current time, NRAs were either unable to directly attribute or quantify an increase in unpaid energy bills exclusively to the COVID-19 crisis. For example, **Hungary** had noted an increase in unpaid energy bills in some areas but could not necessarily attribute it solely to the COVID-19 pandemic.

It is also important to differentiate between bills that were 'unpaid' by customers or deferred temporarily by suppliers, such as in **Spain or in France**. **Lithuania** observed a decrease in the levels of debt (among gas consumers) compared with 2019, while business consumers' debt levels remained unchanged.

Austria	The electricity and gas industry came to a voluntary agreement with the energy minister not to disconnect consumers during the first (strict) lockdown. Consequently, fewer consumers were disconnected compared to the previous year. Another visible effect was that consumers increasingly asked for deferrals and instalment payments.
Bulgaria	Increase in March and April (no specific data provided)
Czech Republic	An increase in unpaid energy bills is presumed, but no valid data are available.

France	Emergency measures taken by the government allowed certain customers to defer or stagger the payments of their energy bills, which in turn impacted suppliers.
Great Britain	The British NRA monitored failure rates for customers paying by direct debit which in each month have averaged 0.82% for domestic customers, 0.49% for SME customers, and 0.69% for industrial and commercial customers.
Greece	Greece reported an approximately 20% increase in unpaid electricity bills during the first lockdown period (March to June) which mainly concerned business consumers.
Hungary	Domestic consumers saw a small increase in unpaid gas bills (less than 5%) compared to the previous year and a slightly larger increase in the amount of outstanding bills (approximately +10%). For non-domestic consumers, the number of unpaid gas bills increased by approximately 8%, while the outstanding amount to pay slightly decreased by 3%. However, the analysis did not consider what part of these changes is causally linked to COVID-19.
Ireland	Ireland reported that the number of customers (domestic and non-domestic gas and electricity customers) in arrears and value of arrears were higher in 2020 compared to 2019. The general trend saw the total number and the value of bills increasing in the first half of the year, before either levelling off or decreasing to December 2020, with the exception of the non-domestic gas segment where an upward trend is observed until the end of the year. Between December 2019 and December 2020, the largest increases are observed for non-domestic gas and electricity customers.
Italy	There was only an average increase of unpaid energy bills between 1% and 3%, during the first two trimesters of 2020.
North Macedonia	The universal Supplier reported an increase in unpaid energy bills by households and small consumers
Lithuania	From February to June 2020, the level of natural persons' debts for electricity increased (compared to the same period in 2019), while it decreased for gas. Debt level of legal entities for electricity remained unchanged in the period from February to June 2020 (compared to the same period in 2019).
Spain	Due to the uncertainty of the effect of non-payment of bills, retailers and distributors are concerned about the increase in delinquency that will cause them liquidity problems. 30,000 electricity consumers and just over 2,000 gas consumers requested the delay of payment of their bills (up to 21 December 2020).

b) Trade losses (e.g. from sales in electricity)

A number of NRAs stated that suppliers had reported losses because of the coupled effect of lower energy demand (at least initially) and low energy prices²⁰. Suppliers showed that they sustained losses in selling surplus electricity and/or gas they had bought in advance at much lower prices. This was highlighted by **France** and inferred in the responses by several other NRAs including **Estonia, Germany, Great Britain, and Greece**.

²⁰ As explained in Chapter 2, some energy prices began to decrease before the beginning of the pandemic, e.g. natural gas.

In **Spain**, some suppliers passed on lower wholesale costs to customers through their indexed bills linked to the wholesale price, which would have not affected suppliers per se. However, suppliers may have suffered losses through other means. Similar to other questions, respondents struggled to quantify the exact losses suppliers suffered.

Austria	Power prices dropped significantly during the pandemic. The pure COVID-19 effect, the effect purely based on the reduced consumption, is about €9/MWh. During the first lock-down period, a high number of periods with negative prices in electricity have been observed. This can be explained by lower demand and volatile renewable generation.
Belgium	The Belgian NRA did not report an explicit impact of trade losses. However, the Flemish regulator mentioned that the COVID-19 crisis seems to have reinforced market risks for suppliers because of the significant (more than normal) drop in energy prices.
Bulgaria	EWRC indicated that suppliers suffered trade losses in March to April.
Czech Republic	ERÚ presumes that suppliers suffered some trade losses, but there is no significant data available. In 2020, no supplier suffered a bankruptcy.
Germany	BNetzA referred to the reduction in the day-ahead electricity prices in the first half of 2020 compared with 2019. The price of gas also decreased in 2020.
Estonia	The electricity sales revenues decreased (low electricity prices, sales volume decreased).
France	The fall in electricity consumption, combined with the sharp drop in prices, affected all electricity suppliers in several ways. Suppliers experienced a drop in their turnover due to the drop in consumption. However, most suppliers had already purchased – at a price agreed in advance – the quantities of electricity needed to supply their customers, which they had to sell well below the price at which they bought it.
Great Britain	Wholesale prices and electricity usage fell – these extra costs for balancing were charged back to suppliers (and generators).
Greece	RAE reported trade losses due to both demand decrease and price decrease in the electricity wholesale market. However, these decreases cannot be quantified at the moment.
Portugal	ERSE mentioned €25/MWh in June 2020 as the difference between average electricity price and previously contracted prices. This caused substantial trade losses for energy suppliers.
Romania	ANRE indicated operators' profits suffered because of the decrease in bill revenue driven by the decrease in consumption. Energy suppliers are "fighting" to keep their customers in their portfolios.
Spain	Some suppliers passed on lower wholesale costs to customers through their indexed bills linked to the wholesale price, which would not have affected suppliers. However, suppliers may have suffered losses through other means. One gas supplier (with around 1,500 customers, mainly small and medium-sized entities) did not pay TPA ²¹ and balancing charges in December 2020 and was suspended in January.

²¹ A type of capacity charge in Spain.

What measures were put into effect to support suppliers?

a) A staggering and/or deferral of network tariff bills

NRAs in Europe developed and facilitated a series of schemes to provide temporary support for suppliers. In most cases, these schemes were intended for suppliers who encountered cash-flow problems as a result of their customers being unable to pay their bills. These findings are supported by those of the 2019 ACER/CEER Retail Monitoring Report (published October 2020)²², which concludes that *"Member States that have taken more detailed approaches to providing consumer relief tend to also have sector specific support available to the suppliers providing the relief"*. The schemes took mostly the same form, with suppliers being able to defer payment of network charges on a temporary basis.

On this note, the OECD Network of Energy Regulators (NER) argued in its report that , when implementing such measures, *"regulators and policy makers need to assess the benefits of all options against the potential costs for consumers"* in different sectors²³. However, NRAs did not explicitly echo this statement in their responses to the survey.

Austria	The moratorium not to disconnect consumers during the first (strict) lockdown (agreed between the electricity and gas industry and the energy minister) applied also for grid operators.
Czech Republic	General support schemes were set up by the Ministry of Industry and Trade. Some of them can be applied to suppliers, but there is not a specific one aimed at energy suppliers directly.
Ireland	Support was contingent on the supplier's customers (mainly small and medium businesses) entering a Temporary Supply Suspension Scheme, meaning that suppliers were not liable for network tariffs during that period either.
Germany	The Federal Network Agency (BNetzA) gave permission for network operators to not exercise their contractual obligation on suppliers, where that supplier's customers were also not able to pay their bills.
France	In a ruling of 26 March 2020, CRE called on network operators to grant a staggering/deferral of network tariffs for those suppliers who had granted the same for their customers. The same deferment principle was also applied to the ARENH mechanism in regard to regulated access to the incumbent's nuclear production capacity (<i>accès régulé à l'électricité nucléaire historique</i>). Under this mechanism, alternative suppliers (as opposed to the incumbent EDF's supplier subsidiary) can procure volumes of EDF's nuclear power production at a regulated price. Due to the crisis, alternative suppliers could stagger or defer their payments for procuring ARENH electricity.

²² ACER/CEER, Market Monitoring Report 2019, Energy Retail and Consumer Protection Volume (Volume 3), p. 16.

²³ OECD Network of Economic Regulators (NER), "When the going gets tough, the tough get going: how economic regulators bolster the resilience of network industries in response to the COVID-19 crisis", 27 July 2020, <http://www.oecd.org/coronavirus/policy-responses/when-the-going-gets-tough-the-tough-get-going-how-economic-regulators-bolster-the-resilience-of-network-industries-in-response-to-the-covid-19-crisis-cd8915b1/#contactinfo-d7e3049>.

Great Britain	Three Network Charge Deferral schemes allowed 18 non-investment grade (small and medium-sized) energy suppliers to defer around £65.1m in charges during the months between June and September 2020. These must be repaid in full by March 2021. This measure was introduced primarily to protect consumers who get their energy from those suppliers, rather than just to support the suppliers.
Italy	Suppliers could require ad hoc financing in order to cover losses related to the suspension of bill payment.
Portugal	ERSE brought in measures to allow for the possibility of "fractioning" the network access bill by the network operator to the supplier. Eight electricity suppliers requested a fractioning payment plan for 882 electricity delivery points at a total value of €229,000 compared to four gas suppliers for 5,965 gas delivery points at a total value of €389,000 (April to May 2020). This could only be accessed by suppliers whose customers had also requested a payment plan from them.
Romania	ANRE indicated that operators' profits suffered because of the decrease in bill revenue driven by the decrease in consumption. Energy suppliers are "fighting" to keep their customers in their portfolios.
Spain	Retailers were able to delay payments of both access tariffs and taxes until consumers paid their bills.

b) Aid for businesses (subsidies, loans, guarantees etc.)

Most NRAs reported that their respective governments introduced measures to support businesses in the form of subsidies, loans or guarantees. These generally were not specific to the energy sector, although some energy market participants had been able to access such support (e.g. in **France**). Generic support in most countries tended to include compensation for businesses' lost revenue or wage subsidies, while there was also a suggestion of tax deferrals (**Latvia, the Netherlands**), or financial support for businesses to develop their operations to endure the consequences of COVID-19 (**Finland**).

There were some energy sector-specific measures, such as in **Spain**, where a special line of credit guarantees was established by the government to reduce liquidity problems among retailers, who could use this to cover temporary bill suspensions.

Belgium	CREG reported that Belgium introduced state subsidies for (temporarily) closed businesses which were not specific to the energy sector. These compensations were provided by different levels of power and in all regions.
Czech Republic	The NRA implemented some new rules regarding capacity evaluation. For gas, these rules allowed for a reduction of the reserved transmission and distribution capacity by 20% in the case of a Y-o-Y decrease of the consumption by at least 40%. For electricity, monthly reserved capacity at high and very high voltage levels was more flexible. In addition, general support schemes were set up by the Ministry of Industry and Trade.
Germany	BNetzA listed a bundle of business aid measures (not energy-specific) of which the total sum was €71 billion as of 1 December 2020. The insolvency filing requirement was suspended until 31 December 2020. However, this rule only applies when the insolvency happened due to consequences of the COVID-19 pandemic. State aid is aimed at avoiding insolvency. Meanwhile, the German Government increased the subsidising of wages to 80-87% of the lost net pay, in the hope of avoiding layoffs.

Estonia	ECA mentioned that Estonia introduced possible emergency guarantees, loans to business consumers and wage compensation under certain conditions.
Finland	The Finnish Government gave aid (through Business Finland) for 19,000 companies with a total amount of €890 million to develop their business in order to endure the COVID-19 situation.
France	CRE reported that suppliers have access to the government's scheme of State-guaranteed loans.
Great Britain	The GB Government introduced a series of measures to help struggling businesses. These were not specific to the energy sector.
Ireland	The Irish Government put in place a number of supports for businesses impacted by the COVID-19 pandemic, including a support for wage bills and direct loans to businesses.
Italy	If, due to the COVID-19 pandemic emergency, gas and electricity operators are not able to assure the required quality of service standards, these will be classified as depending on "causes of force majeure". Therefore, the operators will not face economic penalties.
Latvia	PUC listed several measures in Latvia: downtime allowance and employee salary subsidies, a 3-year tax deferral for individuals and companies, and an increase in loans and guarantees for companies via the state-owned development agency ALTUM.
North Macedonia	ERC noted that energy suppliers potentially have access to the Government's economic measures which were established to support economic operators in general.
The Netherlands	ACM reported the deferral of VAT and energy tax payments.
Romania	A legal order introduced two types of business support measures (MEEMA Order no. 791 / 24.03.2020)
Spain	To reduce supplier liquidity problems, the Spanish Government established a special line of credit guarantees. Suppliers may use it to cover temporary bill suspensions.
Sweden	There is a discussion about the possibility to defer the payment of energy taxes, but no measures have been taken by the relevant authorities as of yet.

Some NRAs highlighted other relevant measures for suppliers in their countries. For example, in **Germany**, changes were made so that consumers would be offered a lower tariff if their peak load was considerably lower than that of their connection level. In **Great Britain**, a change is being proposed to the existing price cap to allow suppliers to recover some of the unexpected costs of COVID-19. In **Ireland**, suppliers that could not pay an invoice were not automatically removed from the market.

Germany	The German Government introduced an amendment to a tariff methodology for charging consumers. This means that certain consumers must be offered a so-called "individual tariff" that is lower than the regular tariff. This can happen if a consumer's individual peak load is evidently going to be considerably different from the simultaneous peak load of their connection level, or for large consumers, over a certain consumption threshold. Consumers benefit, as do suppliers, indirectly from prevented possible bankruptcies of other consumers.
Great Britain	Ofgem consulted in September and again in November on how the COVID-19 crisis may have impacted suppliers' costs, including bad debt, and whether to adjust the default tariff cap (the maximum amount suppliers can charge consumers for their energy). Ofgem considers there have been material costs specifically relating to debt, which cannot be recovered through the existing methodology. Therefore, the proposal is to adjust the cap by £21 per customer, from 1 April 2021. The consultation closed on 21 December 2020. This will be reviewed again in six months' time.

Ireland	In addition to the Temporary Supply Suspension Scheme, there was a change made to the SEM Balancing Market rules to ensure that suppliers would not automatically be removed from the market for non-payment of invoices or a failure to maintain adequate collateral, except after a review from the Regulatory Authorities. This temporary modification was designed to ensure that the RAs could engage with a supplier that had found itself in difficulty prior to the market operator taking precipitous action. In addition to this modification, the CRU put in place three-time weekly calls with the Market Operator, SEMO, to track any issues that were arising with settlement. This engagement acted as an early warning system for any developing liquidity issues that might have been arising in the market. Thankfully, the temporary modification was not required, and the ongoing monitoring only ever flagged minor and passing issues.
Italy	<p>Most of the deadlines for the collection of electricity and gas information/data ARERA requested from all operators to fulfil its monitoring duties have been postponed.</p> <p>All inspection and sanction procedures carried out by ARERA towards gas and electricity operators have been postponed until the 30 April 2021.</p> <p>Incentive output-based regulation on the quality of services for DSOs was temporarily amended, in consideration of the additional difficulties that the DSOs had in providing their services due to COVID-19.</p>

4.2 Impacts on network operators

At the time of writing, the impact of the pandemic on network operators appears to be manageable.

- Network operators activated their **business continuity plans**, prioritised critical activities and deferred non-essential ones for the duration of social distancing measures and lockdowns.
- As a result, some countries report **delays to network development and smart meter roll-out**.
- The fall in energy consumption and, in some cases, the deferral of network tariff payment by customers and suppliers entailed a **slight decrease in tariff revenue**.
- As explained above in section 2.4, in some countries, the fall in energy consumption led to an increase in **the share of renewable electricity production**.
- For the time being, **specific measures taken to support network operators** remain the exception in CEER Member countries. These included temporarily easing quality of service obligations, changing the rate of return, and considering the costs network operators incurred to respond to the crisis.
- In some cases, **network operators have supported other entities**, notably by advancing the payment of bills to their subcontractors or by allowing their customers and suppliers to defer the payment of their tariff bills.

Other institutions have already shed light on the pandemic's impact on network regulators and network operators. In July 2020, the OECD's NER published a policy brief that provided an inventory of measures taken by economic regulators in network and infrastructure sectors (energy, but also telecommunications, transport, and water supply) to deal with the crisis²⁴. It found that across the sectors examined, regulators had been monitoring and maintaining the financial solvency of regulated operators and implemented regulatory easements. In October 2020, in the Retail and Consumer Protection Volume of their Market Monitoring Report²⁵, ACER and CEER provided a description of the measures taken to address the impacts of the COVID-19 pandemic on consumers, suppliers and network operators. On the latter, the report found that there were *"few identified regulatory measures aimed specifically at supporting the finances of network companies, though in some countries they [could] access non-sector specific government support"*.

Based on what NRAs know and reported, the following findings can be made:

The primary impact of the pandemic on network operators relates to **their business continuity**. Once governments started to impose measures to contain the spread of COVID-19, network operators activated their business continuity plans; took health protection measures in line with government guidance; determined which tasks were to be prioritised as opposed to activities that could be postponed or suspended; separated critical staff from the rest of the workforce in order to ensure the continuity of essential activities; and directed most of their staff to telework.

For instance, in Great Britain, network companies prioritised work to focus on what is most important, including power cuts, gas leaks and urgent safety issues. They continued with critical maintenance and repair work needed to maintain a safe and reliable supply of energy. They reviewed new connection projects – both gas and electricity – on a customer-by-customer and project-by-project case, prioritising critical national infrastructure. In France, during the first lockdown from March to May 2020, network operators focused on a small number of high-priority tasks (notably those network development projects that were necessary for security of supply, security operations such as the intervention on gas network incidents, as well as connection works). Later, when lockdown measures were eased, the focus was widened to also include lower-priority tasks, such as maintenance work and smart meter deployment.

Some NRAs (Belgium, Finland, France, Germany, Great Britain, Ireland, Italy, Lithuania, Slovenia) anticipated or reported **a decrease in tariff revenue for their TSOs and according to the case, DSOs. For the latter, the loss in tariff revenue was more prevalent for electricity than for gas**. This fall in revenue was mainly due to lower energy demand, notably during periods where lockdowns and other government measures that impacted economic activity. In some cases, tariff revenue also fell because network users could reduce their contracted capacity, or because users and suppliers were allowed to defer or stagger the payment of their tariff bills. So far, this revenue loss may not be considered as an immediate problem as any losses can be recovered through tariffs in the following years, although this may lead to issues of affordability in the future. Hence, specific attention has to be paid regarding the consequences on final customers.

²⁴ OECD Network of Economic Regulators (NER), "When the going gets tough, the tough get going: how economic regulators bolster the resilience of network industries in response to the COVID-19 crisis".

²⁵ ACER/CEER, Market Monitoring Report 2019, Energy Retail and Consumer Protection Volume (Volume 3), pp. 14-17.

Similarly, the pandemic also affected **network development and maintenance** activities on the ground. The magnitude of the impact varied from one country to another. While some NRAs reported no or only very limited delays, in other countries, there were delays in network development and maintenance projects. This was due to social distancing or even lockdown measures that made work on site impossible or required reprioritisation of various projects, with only the essential ones carried out. The pandemic also affected the availability of specialised workers or parts, and in some cases, additional safety measures caused cost overruns. At times this triggered legislative action to speed up procedures: in Germany, the legislator adopted a special law in order to safeguard planning and approval procedures during the COVID-19 crisis (*Planungssicherstellungsgesetz*). The law provides for online alternatives for procedural steps in planning and approval procedures that required the physical presence of participants or the delivery of paper copies of documents.

Belgium	Network development at TSO level (particularly for electricity) was most affected by the pandemic, even if it returned to normal towards the end of 2020. At regional level, in the Flemish region, distribution network development only suffered a limited delay of about one month, and in the Walloon region, only urgent work could be carried on.
Czech Republic	There were no delays in major network development projects.
France	For the electricity TSO, approximately €120 million of network investments originally planned in 2020 are expected to be carried over to 2021-2022 (8% of the expected 2020 capex budget). In addition, several projects are suffering from cost overruns due to special measures taken because of the crisis (sanitary measures, equipment set-up and removal, security teams to monitor projects on hold, additional HR).
Germany	BNetzA reported no major delays in gas network development measures but delays likely for electricity networks.
Great Britain	Some network developments have been delayed.
Hungary	The pandemic situation has mainly caused delays in the construction of cross-border transmission lines (for example, the new cross-border transmission lines between Slovakia and Hungary).
Ireland	The network operators reduced and reprioritised their capital works programme while COVID-19 related restrictions were in place, prioritising urgent and fault related works while deferring many development projects and discretionary maintenance works. However, the lockdowns facilitated progress on projects in city centre locations where road closures etc. were less disruptive due to reduced activity. More broadly, however, COVID-19 caused delays in network reinforcement, primarily due to issues with availability of external maintenance workers and parts (resulting from the shutdown of some manufacturing in other jurisdictions). The electricity system was impacted the most. The short-term risk for continuity of supply increased because of the delay to the annual maintenance schedule. For gas, and at the electricity distribution level, the impacts are currently less critical as the maintenance required is not as urgent.
Lithuania	The electricity TSO encountered slight deferrals due to delays in equipment production and logistics. For the DSO, both design and contracting work has been delayed.
North Macedonia	Work on network development was reprioritised to carry out only those activities that had been previously scheduled and that had already started on the field. There will be no new grid connections, except for those that are absolutely necessary (if they are urgent, if they can be carried out without any physical contact with clients, and depending on the available material on stock and the subcontractor's capacity to carry out the project).

Norway	NVE-RME was asked to evaluate delays of network investments and maintenance in 2020. 86% of Norwegian DSOs reported that the pandemic had little or very little effect on the level of activity. Similarly, the effect on the investment plans for 2021 was limited for most DSOs (87%), as was the effect on planned maintenance (94%).
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Some countries also reported **delays to the roll-out of smart meters**, either because their installation was not considered safe or a priority in periods of lockdown or because their procurement was impacted by the crisis.

Belgium	DSOs in the Flemish region only reported a limited delay, which will be compensated by a recent decision to accelerate the roll-out (80% by 2024).
Czech Republic	Smart meter roll-out is not an issue at the moment. There are plans for smart meter roll-out from 2024 in electricity. This date is not yet affected by the pandemic.
France	The lockdown from March to May 2020 delayed the roll-out of the electricity smart meter (Linky) but the main DSO expects to be able to catch up on the initial schedule and complete the roll-out in 2021. Similarly, for gas smart meters (Gazpar), the initial deadline for completing the roll-out in 2022 is maintained.
Germany	In Germany, digitisation of metering implies two different types of devices (on the one hand, digital meters, and on the other hand, intelligent measuring devices which are integrated into a communication network by means of a so-called smart meter gateway). Delays were already reported for the former type and could also materialise for the latter.
Great Britain	Smart meter roll-out was impacted by the NRA's guidance provided to network operators, i.e. that they may temporarily de-prioritise certain lower priority works and services, in response to Government advice (e.g. on social distancing). This guidance was in place from April to June 2020.
Ireland	While there was a period where smart meter installation was halted, the meter roll-out restarted on 18 May 2020 with additional safety precautions in place.
Italy	The NRA postponed the deadlines for the installation of small smart meters (G4-G6) by one year for natural gas distribution companies with more than 100,000 end customers.
Lithuania	The pandemic has impacted the procurement of smart meters. Due to quarantine requirements in force in many countries in March 2020, the deadlines for submitting bids were postponed, and this postponement resulted in the purchase being completed later than planned, i.e. not in 2020, but in Q1 2021. Thus, the roll-out will start later but could still be completed in time (i.e. for all consumers consuming more than 1000 kWh/year, about 1.2 million smart meters are scheduled to be installed by the end of 2023). However, this will require more contractors and therefore more budgetary resources.
The Netherlands	The pandemic has caused some delay in the roll-out of smart meters.
Norway	As most of the smart meter roll-out process was completed before 2020, delays only concerned an insignificant share of the total meters.
Spain	Most smart meters were already installed before the pandemic hit. For the smart meters still scheduled for deployment in 2020, roll-out was postponed by a few months and later during the year, roll-out procedures were reinforced.

In most countries, **no specific measures** have been taken yet to **support network operators**. This is due to the fact that their regulatory status already affords them a certain degree of protection from the pandemic's effect on the economy (or the overall impact on network operators was rather limited). In some other countries, governments or NRAs took action to address some of the effects of the pandemic on network operators. These included temporarily easing quality of service obligations, changing the rate of return, and considering the costs network operators incurred to respond to the crisis. The measures taken so far are set out in more detail in the table below.

Czech Republic	Between April and June 2020, the TSO and DSOs in the gas sector incurred a total loss of 48 million CZK due to the pandemic, whereas the TSO and DSOs in the electricity sector incurred a total loss of 1,450 million CZK due to the pandemic and incidental arrangements. The NRA took a pricing decision involving a cost correction (consisting of the postponement of the cashflow until 2021).
Georgia	Network operators can submit tariff applications within the regulatory period requesting adjustment of tariffs if circumstances cause a +/- 10% change in revenues. However, this mechanism has been already in place; it was not introduced specifically for the purposes of addressing the pandemic.
Great Britain	<p>After gathering information from network operators, the NRA put in place a specific framework from April to June. Under this framework, Ofgem signalled that it would not take enforcement action against network operators with regard to compliance with their license obligations if network operators demonstrated that the compliance issues were due to the need to prioritise certain essential works and services over others, to protect consumers from immediate harm and/or to maintain security of supply.</p> <p>An updated framework was published in June and is still applicable: under that new framework, to the extent that any re-prioritisation of work leads to the deferral of expenditure, Ofgem would consider appropriate adjustments in the close-out of the price controls. The regulator also announced relief from penalties for any shortfalls in performance against targets associated with such de-prioritised work during the period when pandemic measures were in place.</p>
Italy	<p>In March 2020, ARERA published a statement of principle that gas and electricity operators should not be subject to any economic penalties related to incentive mechanisms (included guaranteed standards) if the pandemic emergency impeded network operators from providing a service aligned with regulatory standards. Moreover, in May 2020, ARERA adapted the incentive regulation of the "second generation" smart meter roll-out to avoid undue penalties to electricity DSOs.</p> <p>In November 2020, the incentive output-based regulation on the quality of services for DSOs was temporarily modified, considering the additional difficulties that the DSOs had in providing its services due to COVID-19.</p>
Lithuania	Following amendments made by the NRA to the regulatory framework, certain types of costs linked to the pandemic could be considered when setting and approving the regulated prices. These include costs stemming from "bad debt" (due to the deferral or staggering of bills in case of consumer bankruptcy), interest costs of short-term loans needed to ensure working capital, as well as the costs linked to health protection measures (e.g. masks; isolation and accommodation of key operational staff etc.). In fact, certain costs related to safety measures implemented by the DSO were already included in the approval of the 2021 regulated prices.

Portugal	Specific measures were taken to address quality of service obligations, allowing for the deferral of fulfilment of such obligations.
Slovenia	The NRA proposed a change to the rate of return applied to network operators, and this change was adopted through special legislation (the "epidemic intervention measures law"). As a result, the recognised rate of return is a maximum of 4.13% for the electricity TSO and DSO for 2020.
Spain	To reduce liquidity problems of distributors, the Spanish Government established a special line of credit guarantees. Distributors may use it to cover the temporary suspension of bill payments. In addition, the upper limits on investment in transport and distribution networks, linked to annual GDP growth, have also been increased. The accumulated electricity surplus must be settled in 2020 to cover the payments of regulated activities.

In some cases, **network operators took measures to support other entities** and stakeholders, on their own initiative or at the direction of the government or the NRA.

- Customers and suppliers could defer or stagger the payment of their tariff bills (e.g. in France, Lithuania, Portugal, United Kingdom). In the Czech Republic, Portugal and Spain, customers could also lower their bill by reducing the contracted capacity.
- In Belgium, France, and Lithuania, network operators accelerated the payment of subcontractors' invoices. French DSOs also made sure that their subcontractors could order and procure protective equipment under the same conditions they received.

5 Conclusions

More than one year has passed since the first cases of COVID-19 were registered in Europe. After a first wave in the first half of 2020, several countries in Europe have experienced a second or even a third wave of COVID-19 cases towards the end of the year. Some of the effects are yet unknown and may become visible only later this year or even further in the future.

In general, however, it seems that a good social system can cushion effects such as those triggered by this pandemic. Well-functioning energy markets increase the resilience of the overall energy system, which continue to function properly throughout the pandemic to time of writing. Having said that, NRAs drew lessons and experiences from the crisis year 2020 and identified good practices²⁶. The most important ones are listed below.

5.1 The resilience of the energy sector

The majority of NRAs thought that the energy sector demonstrated its resilience throughout the pandemic. The EC made the same finding in its Staff Working Document on energy security²⁷. Energy demand receded in several countries, but the system as such continued operating. Network operators implemented their business continuity plans, organised their workforce in bubbles, deferred non-essential maintenance operations, and in some cases directed staff considered essential (such as system control dispatchers) to remain on-site while providing them with food and accommodation.

In a few countries (France, Ireland), the first lockdowns had repercussions on the maintenance schedule of power plants and thus their availability during the coming winter. In Ireland, in order to guarantee that sufficient generation capacity was available through the winter peak, four units were designated 'Must not Run' in the TSO's dispatch tools earlier in the year. Despite increased system operation costs, the decision has proven prescient as winter 2020 raised several alerts due to forced outages on units on the system.

The variations of energy demand resulted in increased balancing costs in other countries (Great Britain, Hungary, Portugal). MEKH authorised their TSO to switch to monthly procurement for balancing services. Ofgem approved a code modification expiring end October 2020 that capped their TSO's balancing costs at £10/MWh along with a £100 million limit on deferred costs. This followed a previous scheme in August with a £15/MWh cap.

5.2 Ensuring good and swift information flows between all stakeholders

Several NRAs (from Belgium, Finland, Germany, Great Britain, Italy, North Macedonia, Malta, the Netherlands, Portugal) highlighted that the adequate coordination and swift exchange of information between the government, the NRA, and industry, as well as with stakeholders in neighbouring countries, have been crucial in addressing the impact of the pandemic on both electricity and gas sectors.

²⁶ Other good practices have been identified by the European Commission. See the Commission Staff Working Document, Energy Security: Good Practices to Address Pandemic Risks, 2 June 2020, https://ec.europa.eu/energy/sites/ener/files/1_en_document_travail_service_part1_v3.pdf.

²⁷ Commission Staff Working Document, Energy Security: Good Practices to Address Pandemic Risks, p. 1.

EV reported on Finland's good experience with a centralised task force which included all relevant parties, and which was formed to monitor the energy sector's ability to operate and to provide situational information and best practices both to the government and to energy stakeholders. The task force notably helped identify the need to let essential personnel enter the country for revisions of power plants and substations and thus to lift restrictions to their entry.

ARERA established two high-level task forces, one for energy and one for environmental issues, which included ARERA's Board and technical management. They had the purpose of coordinating ARERA's interventions with the government's and to monitor the regulated sectors in order to respond to the needs of stakeholders. They were established in March and operated until July.

Ofgem was in regular contact with suppliers, as well as with consumer groups and charities, to collect data on consumer behaviour and consumption trends (notably disconnection by prepayment meter customers), in order to prevent issues from escalating. The financial resilience of suppliers was also monitored on a regular basis in order to evaluate the risk of defaults and discuss mitigation strategies. Ofgem also maintained good and suitably-resourced links with the government to try to ensure common understanding and where appropriate a joined-up approach.

Similarly, CREG was also in permanent contact with the concerned stakeholders, including public authorities, regarding the pandemic's consequences. This was necessary to set up, in a preventive manner, a more detailed monitoring of the market to take appropriate actions to safeguard the proper functioning of the gas and electricity markets. CREG arranged a more frequent exchange of information with TSOs and a specific COVID-19 working group with the regional regulators.

5.3 Adapting procedures and deadlines where necessary

BNetzA judged that the rapid and pragmatic changes to reporting, notification and implementation obligations were very essential, particularly as they are usually subject to fixed deadlines. These changes enabled energy companies to focus on the crisis while being guaranteed legal certainty by the authorities. In particular, the German legislator swiftly adopted a law allowing for the postponement of fixed deadline regulations in relevant laws and enabling digital solutions in planning and approval procedures that so far had required the physical presence of stakeholders and the delivery of paper documents. Similarly, ARERA postponed all deadlines related to information obligations and data collections.

5.4 Supporting, and preventing the disconnection of, energy consumers

In the first half of 2020, the first wave of the pandemic paralysed much of public life in various countries and affected businesses, workers and consumers. The loss of income and revenues, and the inability to continue paying their energy bills put professional and household consumers alike at an increased risk of losing their energy supply and of energy poverty.

Preventing the disconnection of consumers during the periods of acute crisis (lockdowns, states of alarm etc.) was therefore crucial. CNMC identified it as the most necessary measure for household consumers. As explained above, several NRAs (Belgium, France, Ireland, Italy, Spain) identified some temporary ban on disconnection as a good practice.

Other than disconnection bans, several countries also introduced other measures that were intended to support energy consumers (specifically professional and business consumers), some of which NRAs highlighted as crucial. They included possibilities for consumers to defer or stagger the payment of their energy bills, to change the contracted capacity and to suspend their energy supply contract altogether. In Spain, industrial customers obtained more flexibility in the handling of their energy supply contract (through reduction in contracted power or contract suspension), which CNMC touted as one of the most effective measures taken. In Ireland, CRU commended the temporary supply suspension scheme that enabled SMEs that were closed due to COVID-19 restrictions to have no energy or network charges billed for their business premises supply point for the duration of the restrictions. In Italy, a reduction of €600 million for the electricity bills of non-domestic users connected to low voltage was implemented through the reduction of the fixed components of transport, distribution and metering tariffs and general charges.

However, some regulators noted that such measures in favour of consumer bills could only be temporary, as they put a burden and a debt risk on suppliers which are faced with an increasing volume of unpaid bills. This leads to the next section.

5.5 Sharing the burden more widely within the industry and beyond

Several regulators argued that it was necessary to share the burden entailed by the COVID-19 measures taken in favour of energy consumers more widely, and not only with suppliers.

In some countries (France, Portugal), such burden-sharing was achieved by granting the suppliers the possibility to defer or stagger the payment of network tariffs, notably if they themselves had granted consumers the possibility to defer or stagger the payment of their energy bills. In Italy, during the lockdown, the fee for the delay of payment of network tariffs by electricity and gas suppliers was partially suspended. Moreover, suppliers could require ad hoc financing to cover losses resulting from non-payment of bills. A fund €1.5 billion was set up to finance regulatory measures to support consumers and users.

CNMC held the view that, beyond exceptional energy bill deferrals that are limited in time, structural support for consumers should be provided through social tariffs, and the general State budget should finance measures with an impact on regulated activities. In some countries, such support was available. In Belgium, due to the COVID-19 crisis, the Federal Government decided to extend temporarily social tariffs to other specific groups of consumers and to finance this measure through the general state budget. Ultimately, however, CREG stressed that the issue extends beyond the competences and powers of the regulators (network tariffs), and that sharing the burden of the pandemic more widely within the industry and beyond remains a political question.

5.6 Remote operations and digitalisation

With the imposition of social distancing measures in the first half of 2020 in several European countries, businesses and organisations needed to reorganise their operations. Their staff started working remotely²⁸. Several NRAs, among them ARERA, CRE, CREG and CRU, reported that the switch to generalised teleworking was one of the positive lessons learnt from the health crisis: their organisations were able to maintain normal operations and productivity despite the challenges.

²⁸ See also Commission Staff Working Document, Energy Security: Good Practices to Address Pandemic Risks, p. 5.

More generally, digital tools and processes proved useful in a crisis in which direct social contact and presence on-site was largely forbidden. PUC noted that an electronic self-service environment was essential to ensure continuity of processes (e.g. allowing electronic applications for system connection upgrade or electronic approval of construction design). ILR reported that mobility restrictions imposed due to the health crisis pushed digitalisation efforts ahead. Across the industry, internal processes and services had become more digital (meetings, documents and communication with external parties, but also technologies to monitor infrastructure remotely).

ANRE found that the pandemic accelerated public acceptance of smart meters. Consumers that might have been wary of smart meters before the crisis learned that it was an efficient and comfortable method to limit contact between consumer and employees of energy operators. ERC, the North Macedonian regulator agreed on that point: customers became more aware of online services and ways to communicate electronically with the regulator and energy operators. At the same time, their awareness of customer rights also significantly increased.

Annex 1 – List of abbreviations

Term	Definition
ACER	EU Agency for the Cooperation of Energy Regulators
CEER	Council of European Energy Regulators
COV WG	CEER COVID-19 Working Group
CWE	Central Western European (region)
DSO	Distribution System Operator
EC	European Commission
EDF	Électricité de France
EEX	European Energy Exchange
EU	European Union
GDP	Gross Domestic Product
HR	Human Resources
IEA	International Energy Agency
LNG	Liquefied Natural Gas
MWh	Megawatt per hour
NER	Network of Economic Regulators
NRA	National Regulatory Authority
OECD	Organisation for Economic Cooperation and Development
RES	Renewable Energy Sources
SEM	Irish Single Electricity Market
SMEs	Small and medium-sized enterprises
TSO	Transmission System Operator

Annex 2 – List of the 28 respondents

Country	NRA
AT: Austria	E-Control
BE: Belgium	CREG
BG: Bulgaria	EWRC
CZ: Czech Republic	ERÚ
DE: Germany	BNetzA
EE: Estonia	ECA
ES: Spain	CNMC
FI: Finland	EV
FR: France	CRE
GB: Great Britain	Ofgem
GE: Georgia	GNERC
GR: Greece	RAE
HR: Croatia	HERA
HU: Hungary	MEKH
IE: Ireland	CRU
IT: Italy	ARERA
LT: Lithuania	VERT
LU: Luxembourg	ILR
LV: Latvia	PUC
MK: North Macedonia	ERC
MT: Malta	REWS
NL: the Netherlands	ACM
NO: Norway	NVE-RME
PT: Portugal	ERSE
RO: Romania	ANRE
SE: Sweden	Ei
SI: Slovenia	AGEN
SK: Slovakia	URSO

Annex 3 – Changes in global electricity and gas demand

(BG, NL and RO reported unspecified decreases in consumption)

Country	Electricity demand in 2020 compared to the same period in 2019 (aggregated and/or detailed demand)	Gas demand in 2020 compared to the same period in 2019
AT	<p>Pure COVID effect / YoY²⁹</p> <p>March 2020 -6.5% / -5.3%</p> <p>April 2020 -11.8% / -10.9%</p> <p>May 2020 -7.1% / -11.2%</p> <p>June 2020 -6.5% / -5.0%</p> <p>July 2020 -2.3% / -3.4%</p> <p>August 2020 -1.0% / -2.1%</p> <p>September 2020 -6.5% / -4.5%</p> <p>October 2020 -4.6% / -4.3%</p> <p>November 2020 -9.2% / -9.8%</p>	
BE	<p>-6.8% March, -13.2% April, -9% May, -3.8% June</p>	<p>Total gas consumption for the public distribution: decrease due to the gradual increase in average outdoor temperature; no visible effect of the COVID-19 crisis and related measures</p> <p>Overall, the industrial consumption (-1.2% March, -4.4% April, -4.4% May) remains stable (no significant drop)</p> <p>Gas-fired power plants: no significant reduction (March: +22.7%, May: +11.1%)</p>
CZ	<p>-4.9% January-August.</p>	
DE	<p>-5.1% January-June (-3.6% January, +2.1% February, -3.1% March, -9.3% April, -10.6% May, -6.9% June);</p> <p>-1.4% July-November (-6.1% July, -1.6% August, -0.3% September, +1.6% October, -0.5% November).</p>	
EE	<p>-5% (time period not specified).</p>	

²⁹ "March 2020 -6.5% / -5.3%" means that the simple comparison between March 2019 and March 2020 was -5.3% (= Year on Year). The corrected value of -6.5% denotes the actual COVID-19 effect. Compared to the simple annual comparison (5.3%), special effects (such as temperature) were filtered out here.

ES	-13.3% March-May (-18% April and -13% May). -6.2% January-November (-5.7% mainland, -20.9% Balearic Islands and -10.3% The Canaries).	-10.6% natural gas, January-September -18% power generation based on gas, January-September.
FI	-5.3% February-November (-8.6% maximum in February; -0.9% minimum in April).	
FR	-15% daily average consumption decrease, March-May (up to -20%).	-11% second half of March and -15% April.
GB	-18% April-June; -5% July-September.	-16% overall in April-June, of which: -19% industrial consumption; -11% domestic demand; -27% power generation based on gas.
GE	-10.6% January-September, of which: +3.9% domestic consumption; -18% industrial consumption.	
GR	-4.6% January-October (LV/MV -3.8%; HV -7.9%); ³⁰ -9.8% April (LV/MV -6.9%; HV -23.6%); -6.9% May (LV/MV -4.5%; HV -16.0%); -13.5% June (LV/MV -13.1%; HV -15.2%).	
HU	-9.09% April, -10.48% May, -8.7% June, -1.48% July, -3.45% August, -0.18% September, +2.7% October, +4.92% November.	Averaging consumption in previous years; Decrease in industrial gas consumption offset by increased consumption due to colder weather conditions.
IE	Between -10% and -12% March-May.	Overall +1%, due to greater gas generation.
IT	-7.4% January-April; Electricity consumption registered the following changes compared to the March 2020 consumption: -16% (April), +1% (June), +10% (August), +12% (September), +8% (November).	-4% April, -6% June, +1% September.

³⁰ LV: low voltage; MV: medium voltage; HV: high voltage.

LT	-5% March-June (-3% March, -7.2% April, -6% May, June -3.9%); +7.3% Domestic consumption (+10.1% April).	+8.2% total gas consumption, March-June (-10.7% March, +9.7% April, +7.5% May, +33.9% June); Non-household consumption: -13.2% March, +6.2% April, +4.9% May, +34.3% June; Household consumption: +24.7% March-June (+4.6% March, +48.1% April, +67.3% May, +16% June).
LU	-10.4% March-May.	-15.9% March-May.
LV	-4.4% March-December.	Decrease mainly due to mild weather.
MK	March-June: -13.8% industrial consumption; +8.45% household consumption.	
MT	-1.6% March; -9.8% April; -8.3% May; -17.9% June; -9.9% July; -2.1% August; -1.0% September; -5.6% October; -2.9% November.	
PT	-14% April, -16% May and -8% June.	-13% April, -28% May and -13% June.
SI	-16.5% April, -15% May (-33% first week of May), -13% June, -11% July, -7% August, -4% September, -4% October, +2% November.	-9% April, -21% May, -8% June, +6% July, -8% August.
SK	-8% January-September (of which: transmission grid level -5.5%); -14% March-April (transmission grid level: -8%).	

Annex 4 – Changes in energy wholesale prices

(NL reported unspecified decreases in wholesale market prices)

Country	Electricity wholesale prices in 2020 compared to the same period in 2019 (unless specified otherwise)	Gas wholesale prices in 2020 compared to the same period in 2019 (unless specified otherwise)
AT	<p>January -27%; February -37%; March -26%; April -51%; May -54%; June -23%; July -19%; August -5%; September +20%; October -9%.</p> <p>-€9/MWh attributable to COVID-19, March-May (half the price difference between 2019 and 2020).</p>	
BE	<p>Electricity day-ahead price: -36.17% in March, -60.87% in April, -59.50% in May.</p> <p>Electricity month-ahead price: -40.78% in March, -53.92% in April, -43.22% in May.</p> <p>Electricity quarter price: -39.22% March, -38.08% April, -38.32% May.</p> <p>Electricity year-ahead price: -26.29% in March, -28.15% in April, -27.33% in May.</p>	<p>TTF101 gas price: -49.59% in March, -46.13% April, -55.67% May.</p>
DE	<p>Average electricity day-ahead price -38.9%, January-June (-48.8% February, -26.6% March, -53.8% April, -53.5% May).</p> <p>Average electricity month-ahead future price -24.5%, January-June.</p> <p>Average electricity year-ahead future price -17.4 %, January-June.</p>	
EE	<p>Electricity wholesale market price -40%.</p>	
ES	<p>Electricity wholesale market prices -60% in April (due to low demand caused by the lockdown during the first state of alarm, associated with high RES).</p> <p>For forward markets, the average price decreased between January and April 2020 (period from 02/01 to 09/04):</p> <ul style="list-style-type: none"> -42% on month-ahead contracts -13,5% on quarter-ahead contracts -11% on year-ahead contracts. 	<p>Since September 2020, gas prices have returned to the level they were before March.</p> <p>The average price for month-ahead contracts decreased between January and April 2020 (period from 02/01 to 09/04) by -33%.</p>

FI	Average electricity day-ahead prices - 39.4% (monthly deviations ranging from - 8% in June to -56 % in July).	
FR	<p>The electricity spot price for France decreased to €15.3/MWh during the lockdown from 17 March and 11 May (-€22.5/MWh compared to 2019).</p> <p>Electricity year-ahead price decreased to €37.4/MWh between January and March (-€8.3/MWh compared to January 2020).</p>	<p>Gas spot prices decreased to €7.2/MWh in March and to €5.5/MWh in April.</p> <p>Gas month-ahead contracts prices from March to April decreased by 22% with a closing price of €6.7/MWh on March 31. This drop continued in April with an end of the month closing price of €5.6/MWh.</p> <p>In March, year-ahead contracts for 2021 dropped by 15% with a monthly average of €12.8/MWh. A further 3% price decrease was observed for April.</p>
GB	<p>Average electricity wholesale price for April-June -39% (to £25.47/MWh).</p> <p>Average electricity wholesale price for July September -4% (to £38.24/MWh).</p>	<p>Average gas wholesale price for April-June -60% (to 12.74 pence/Therm).</p> <p>Average gas wholesale price for July-September -23% (to 21.12 pence/Therm).</p>
GR	Electricity wholesale price: -54.31% in April, -48% in May, -50% in June.	
HU		<p>March: The TTF fell by almost €2/MWh to €7.12/MWh, while for CEEGEX, the spot price decreased by €2.4/MWh during the month. In the last week, the CEEGEX spot market was trading below €9/MWh.</p> <p>April: TTF spot closed the month by 1.3 €/MWh lower and CEEGEX by €0.5/MWh lower than the end of March prices.</p>
IR	<p>Electricity wholesale day-ahead price: -47% in January, -40% in February, -30% in March, -43% in April, -52% in May, -40% in June.</p> <p>The lower prices were not solely driven by the pandemic, but also by lower gas prices and consistently windy weather.</p>	<p>GB gas spot market prices (reference for Irish gas prices): -50% in January, -49% in February, -44% in March, -62% in April, -64% in May, -52% in June.</p>
IT	Monthly electricity wholesale price: -39.5% in March, -53.5% in April, -57% in May, -42.3% in June, -27.3% in July, -4.6% in September, -17.5% in October.	Monthly gas wholesale price: -2.6% in February, -0.7% in March, -1.4% in April, -2.1% in May, -0.6% in June, +1% in July, +4.7% in September, +1.9% in October.
LT	Electricity wholesale market price decrease: -35.97% for March-June (-40% in March, -46.44% in April, -44.42% in May, -13.44% in June).	Gas wholesale market price decrease: -49% for March-June (-30.1% March, -42.67% April, -53.82% May, -71.07% June).
LV		Weighted average natural gas wholesale price -46% August (down to €6.30/MWh,

		the lowest point since the liberalisation of the market).
MK	Average electricity wholesale price in the period March-June 2020: -14.23%.	
PT	Average electricity wholesale price (about €23.26/MWh) in April-June 2020, -33% compared to January-March 2020, and -50% compared to 2019 (whole year).	Average gas wholesale price (about €6.41/MWh) in April-June, -36% compared to January-March 2020, and -59% compared to 2019 (whole year).
SI	Electricity day-ahead wholesale market price from decreased from €40/MWh in February 2020 gradually to €21/MWh in May 2020.	

Annex 5 – Measures to support consumers

a) A moratorium on disconnections			
	<i>Types of impact</i>	<i>Number & category of consumers concerned</i>	<i>Time (month in 2020)</i>
AT	<p>On 24 March, the Energy Ministry and the associations of electricity and gas companies (Oesterreichs Energie, Vereinigung Österreichischer Elektrizitätswerke and Fachverband der Gas- und Wärmeverbuehrer) signed an agreement with the aim of including household customers and small businesses during the lockdown to supply electricity and gas.</p> <p>E-Control was asked to monitor the implementation.</p> <p>The agreement was originally supposed to run until 31 May 2020 and was then extended to 30 June 2020.</p>	<p>In the months of April to June 2020, disconnections due to the breach of contractual obligations were reported to the following extent:</p> <p>Electricity: 79 in April. 159 in May; 321 in June; Gas: 30 in April. 60 in May. 85 in June.</p> <p>In the mean value of the years 2017 to 2019 there were:</p> <p>Electricity: 2,757 (April), 2,921 (May) and 2,823 (June) shutdowns in the electricity sector, 2,651 in April 2019, 2,684 in May 2019 and 2,006 in June).</p> <p>Gas: there has been a significant decrease in shutdowns compared to the previous year.</p>	25 March to 30 June
BE	<p>Flanders: moratorium on disconnections</p> <p>Wallonia: Prohibition of interruptions for all consumers</p>	Flanders: low voltage/low pressure and residential	<p>Flanders: 20 March to 17 July</p> <p>Wallonia: From March until June and December 2020</p>
CZ	Gas & Electricity: A quasi moratorium on disconnections and the on-site meter reading due to DSOs' concerns about safety of field personnel.	Gas & Electricity: households, small-sized enterprises.	Gas & Electricity: March to May
DE		Factual moratorium due to the deferral of energy bills (see b) below)	April to June
ES	In order to protect household consumers, disconnections have been prohibited for households until 30 September.	There are 28.6 million electricity households and 7.9 million natural gas consumers.	Until 30 September and then again in December 2020 onwards

	Royal Decree-Law 37/2020 of December 2020 prohibits the disconnection of electricity, gas and water supplies to vulnerable consumers at risk of social exclusion (defined by Royal Decree 897/2017), during a declared state of alarm.		
FR	<p>During the first lockdown (March to May), extension of the winter truce which prohibits disconnection. The second lockdown entered into force at the beginning of the traditional winter truce (i.e. 1 November). Therefore, no further measures have been enacted so far.</p> <p>Prohibition of suspensions, interruptions or reduction of supply for natural or legal persons who are likely to benefit from the solidarity fund, which was set up to help businesses impacted by lockdown measures (see also the reply to question 6 d), and for companies under procedure of bankruptcy.</p>	<p>Extension of the winter truce: households.</p> <p>The end of the 2020-2021 winter truce was again extended, for two months after the initial date, 1 June 2021 instead of 1 April.</p> <p>Prohibition of suspensions: small and medium-sized business consumers.</p>	<p>The truce was extended until 10 July for mainland France and by 2-4 months for overseas territories.</p> <p>Prohibition of suspensions: for the duration of the administrative closure of the company (lockdown) and until 2 months after the reopening</p>
GB	Ofgem supported the government in its March 2020 emergency package with energy suppliers, which included agreed principles with energy suppliers to identify and prioritise consumers at risk, and to support financially impacted consumers and those on prepayment meters. As part of this agreement, suppliers agreed to suspend disconnections of consumers' credit meters. In general, disconnections for debt are now extremely rare (before COVID-19). There were only 15 disconnections for debt in 2019 and 6 disconnections in 2018.		March 2020 - ongoing
GR	<p>(a) A moratorium on electricity disconnections of vulnerable consumers was imposed in May. In addition, those vulnerable consumers that were disconnected up to 30 April 2020 from the network could get reconnected without settlement of their debt. 1250 households are expected to be reconnected.</p> <p>(b) Prohibition of natural gas disconnections of consumers who face serious health issues. More lenient debt settlement procedure/lower instalments for vulnerable customers. (November)</p>	Vulnerable Households / Customers with health issues.	May (a) / November (b)

HR	<p>There was no official decision on the moratorium, but voluntary decisions of the electricity and gas DSOs.</p> <p>Electricity consumers that were disconnected from 1 January 2020 were reconnected without prior debt settlement.</p>	Households	March to June
HU	<p>There was not and there is still no State-mandated, obligatory moratorium on disconnections in Hungary for the energy providers. However, under the state of emergency some of them voluntarily established a moratorium. It is a practice every year in Hungary that service providers offer some weeks of moratorium for the Christmas holiday season. Now, due to the pandemic situation, all electricity and natural gas universal service providers established a prolonged, voluntary moratorium on disconnections concerning household customers for the end of the year.</p>		<p>This 41-days long moratorium, between 29 November 2020 and 8 January 2021, is double the length as usual.</p>
IE	<p>On 16 March 2020, CRU introduced a moratorium on the disconnection of domestic electricity and gas customers. This measure was intended to be in place for two weeks, but the CRU decided to retain it until 29 June – a total of 15 weeks. This measure was taken to provide appropriate protection and reassurance for electricity and gas customers during the period of uncertainty. The CRU implemented another Moratorium on disconnections in November 2020 which ceased on 1 December 2020 in line with a reduction in COVID-19 public health restrictions.</p>		<p>16 March to 29 June November to 1 December</p>
IT	<p>All procedures for the disconnection of households' and small-sized enterprises' electricity, gas and water supplies, due to arrears, were postponed.</p>		From April to May

LT	Big impact of this measure.	Moratorium on disconnections during quarantine in spring 2020 (mid-March to mid-June) for indebted household and non-household electricity consumers. Moratorium on disconnections during quarantine in spring 2020 (mid-March to mid-June) for indebted household gas consumers. DSOs reported six disconnections of the indebted non-household gas consumers.	From March to June
MK	Reduced number of disconnections by 77% compared to 2019.	Number NA. Households.	March to June
NL	Yes, DSOs avoided disconnections due to non-payment.		
PT		Households. Number of avoided electricity disconnections of domestic consumers estimated to 9,200, following the approval of ERSE's measure end of Q1 2020.	From March to September
SK		Vulnerable consumers - households and small enterprises	

b) A staggering and/or deferral of energy bills			
	<i>Types of impact</i>	<i>Number & category of consumers concerned</i>	<i>Time (month in 2020)</i>
BE	Flanders: May be requested with the supplier, who can refuse		Always
DE	Possibility of deferral of energy bills for household customers and micro-enterprises (Art. 240 § 1 EGBGB)		April to June

ES	<p>In order to mitigate liquidity problems of SMEs and freelancers, they were able to delay the payment of their electricity/ natural gas bills during the State of Alarm and up to six months after the end of this.</p>	<p>There are 793,827 SMEs in electricity consumption and 51,752 SMEs in natural gas consumption.</p> <p>Some 30,000 consumers have requested the delay of payment of their bills for further adjustment within six months of the end of the first State of Alarm (maximum period until 21 December 2020).</p> <p>In natural gas, around 2,070 gas consumers have requested the deferment of payment of their bills for further adjustment within six months after the first State of Alarm</p>	<p>Further adjustment within 6 months of the end of the first State of Alarm (maximum period until 21 December 2020).</p> <p>Until 31 December 2020, CNMC informed that the total payment of deferral bills will not be completed.</p>
FR	<p>During the first and the second lockdown, there was the possibility to ask for deferrals of energy bills without being subject to lateness penalties; the repayment is spread over the months after the end of the measures. The measure was not repeated during the second lockdown.</p>	<p>Non-household consumers.</p>	<p>From 25 March to 10 July.</p>
GB	<p>The emergency agreement with energy suppliers included a commitment by suppliers to consider reassessing, reducing or pausing debt repayment and bill payments for domestic customers in financial distress.</p> <p>In Ofgem's letter to retail energy supply companies on regulatory expectations during the COVID-19 period, it was set out that suppliers (and any third parties contracted by them) are expected to ensure that any debt management processes are fair and give careful consideration to the customer's circumstances and ability to pay. Ofgem added that it will not tolerate unethical but nonetheless legal business practice or aggressive debt collection and suppliers could face enforcement action where this is the case.</p>	<p>March 2020 - ongoing (emergency agreement) -- June 2020 – ongoing (letter)</p>	
IT	<p>ARERA suspended electricity and gas bills for the areas subject to the most stringent mobility restrictions, with the obligation to defer automatically bill payments.</p>	<p>From April to May.</p>	

LT	This measure did not have a large impact.	<p>Customers, individuals who use electricity to meet household needs, and legal entities, have been able to defer payments for natural gas and electricity during the quarantine period and up to an additional 30 days without calculating interest arrears and interest.</p> <p>Also, due to the accumulation of large amounts of payments for invoices it was made possible to spread the payments according to an individual schedule for a period of up to one year.</p> <p>The number of applications to defer of energy bills increased till the mid of the quarantine (March-April 2020), and afterwards decreased (the same for supplier and DSO).</p>	From March to June
PT		Households	From March to December
SK	Payment deferrals and instalment plans	Vulnerable consumers - households and small enterprises	

c) Social welfare measures			
	<i>Types of impact</i>	<i>Number & category of consumers concerned</i>	<i>Time (month in 2020)</i>
BE	<p>Flanders: Residential customers faced with temporary unemployment received +/- €200 on their bank account to cover water and energy.</p> <p>Federal: Increase of the allowance to social welfare administrations (CPAS fund) to allow increased intervention in bills and energy expenses from social beneficiaries.</p>		<p>Flanders: March one off</p> <p>Federal: June 2020 onwards</p>

DE	Payments for families/SMEs/Entrepreneurs	Corona-Sozialschutz-Paket I&II: Simplification of access to welfare aid (not energy-specific); With this, the Federal Government wants to support small entrepreneurs and solo self-employed persons who are temporarily affected by significant income losses.	March 2020 to March 2021
IE	The Government of Ireland put in place a number of measures to support businesses to retain staff. These measures were the primary social response to the pandemic. There were no energy-specific welfare measures put in place.		
IT	ARERA gave more relaxed timescales for consumers to obtain access to 'bonus' (a tariff discount for low-income families and consumers in need), considering the practical difficulties of applying for renewal during lockdown.		
ES	<ul style="list-style-type: none"> i) Vulnerable consumers already under the social tariff have not been obliged to ask for the required extension until 30 September; ii) Freelancers affected by a reduction of more than 75% in their activity or closure of the business might, until the end of the State of Alarm, request the social tariff for six months; iii) Households with some income level and members affected by unemployment, Partial Furlough or income reduction due to the COVID-19 pandemic are entitled to the social tariff (Royal Decree-Law 30/2020); 	<ul style="list-style-type: none"> i) households; ii) freelancers (new type of beneficiary of electricity social tariff and social thermal bond, around 5,000 Freelancers concerned until 30 June 2020); iii) households (new beneficiaries); 	<ul style="list-style-type: none"> i) Until 30 September; ii) Until the end of the first State of Alarm, they might request the social tariff for six months; iii) No deadline.
GE		Government issued 3-month subsidies for electricity, natural gas and water sector for consumers under 200 kV electricity and 200 m ² of natural gas;	February to April, November to January
GR	€500-€800 monthly grant to the workers of the businesses that were forced to close		April
LV	State pays the first three days of the sick leave to employees with respiratory disease	All employees	16 November 2020 to 30 June 2021

MK	Government financial support schemes for vulnerable groups of citizens.		March to December
PT	Social tariff.	Households.	

d) Aid for business consumers (subsidies, loans, guarantees etc.)			
	<i>Types of impact</i>	<i>Number & category of consumers concerned</i>	<i>Time (month in 2020)</i>
BE	State subsidies when businesses had to close.		All across the COVID-19 crisis, depending on the affected businesses.
DE	<p>Bundle of not energy-specific business aid measures for a total sum of €71 billion as of 1 December. The insolvency filing requirement has been suspended until 31 December 2020. This only applies to cases in which the insolvency or over-indebtedness is based on the consequences of the COVID-19 pandemic. In addition, there need to be prospects to eliminate the insolvency. Companies subject to application are given the opportunity to avert insolvency proceedings by availing themselves of state aid, but also, if necessary, during reorganisation or financing agreements. The German Government has increased the short-time allowance to up to 80% of the lost net pay (87% with a child in the household) and extended the maximum period of entitlement to 24 months (limited until the end of 2021) – this is intended to avoid layoffs.</p>		Variable, depending on the specific aid.
EE	Possible emergency guarantees and loans to business consumers; wage compensation under certain conditions.		From March to June.
ES	<p>i) Measures in the financial and bankruptcy areas to support the liquidity and solvency of companies and freelancers to have adequate financing to cover their liquidity needs or carry out their investment projects public guarantees managed by the Official Credit Institute (ICO);</p>	<p>i) SMEs, companies and freelancers (there are 905,967 SMEs plus companies in electricity and 56,132 SMEs plus companies in gas); ii) Electro-intensive consumers.</p>	

	<p>ii) In order to facilitate the contracting of renewable PPAs for the electro-intensive industry, Royal Decree-Law 24/2020 created the Spanish Reserve Fund for Guarantees of Electro intensive Entities (FERGEI). The aim of this mechanism, guaranteed by the State, is to cover medium and long-term procurement by electro-energy consumers with renewable generators, accordingly to the industrial policies to be implemented urgently to alleviate the effects of the economic paralysis caused by COVID-19.</p>		
FR	<p>Under a new solidarity fund set up by the government, small businesses are eligible for non-refundable grants if, due to lockdown or other restrictive measures linked to the pandemic, they have had to close business or lost more than 50% of their sales.</p> <p>In autumn, ahead of and with the second lockdown, the solidarity fund was prolonged, and its scope of eligibility widened.</p> <p>Businesses can also take out loans guaranteed by the State with advantageous interest and repayment conditions.</p>	<p>Small businesses, self-employed and independent professionals (less than 10 employees).</p> <p>In autumn: small businesses, self-employed and independent professionals (less than 50 employees), as well as tourism, cultural and sports businesses (regardless of size).</p> <p>Loans guaranteed by the State: All businesses (except certain real estate companies, banks and financial institutions).</p>	<p>Solidarity fund: from March to December 2020.</p> <p>Loans guaranteed by the State: March 2020 to June 2021.</p>
GB	<p>In the letter to suppliers on Regulator Flexibility Ofgem reminded suppliers to be reasonable in considering what support they can offer their customers and to fairly support small businesses in managing their energy needs. The 'standards of conduct' in the supply licence require suppliers to treat their microbusiness customers fairly. Citizens Advice have published a good practice guide for suppliers including recommendations for small business customers.</p>		<p>June 2020</p>
HR	<p>State subsidies for the payment of salaries to businesses that had to close, or whose workers work part-time due to the pandemic.</p> <p>Loans and guarantees for businesses.</p>		<p>Since March 2020 and ongoing</p>
IE	<p>CRU implemented a temporary supply suspension scheme for certain non-domestic customers impacted by COVID-19 restrictions.</p>		<p>1 May to 31 July</p>

	<p>The scheme was available to SMEs forced to close due to the COVID-19 restrictions. Any customer who opted to enter the scheme would have no energy or network charges billed for their business premises supply point for the duration that the measure was in place. The consumption for their supply point would be estimated at zero and their fixed network charges will be suspended. To avail of the scheme, customers were required to engage with their supplier to complete an application form. The supplier was required to get the consent of the customers to apply to the relevant network operator to have the scheme applied to their supply point.</p> <p>The scheme was implemented after an extremely intense period of discussion with suppliers and network companies. The measure required acceptance by the network companies of a potential shortfall in tariffs for these customers in the short term; and required suppliers to put in place new processes.</p> <p>There are approximately 199,000 SME electricity customers and 27,000 SME gas customers who are eligible to take up the scheme. By early June, just under 8,000 electricity customers and 2,000 gas customers availed of the scheme. The scheme was put in place for three months and was not extended.</p>		
IT	Reduction of €600 million for the electricity bills of non-domestic users connected to low voltage through the reduction of the fixed components of transport, distribution and metering tariffs and general charges		
LV	Downtime allowance and allowance for employee salary subsidies	Entrepreneurs in all sectors	From March to December 2020
MK	Government financial support schemes for the private sector economic operators.		March to December
MT	Electricity Bill Refund Scheme (Reimbursement of 50% of the electrical power bills for any bill partially or fully covering the months of July to September 2020, capped at €1,500)	Businesses	August
PT			Since March and ongoing

RO	<p>Emergency Ordinance n°791/24.03.2020 provided that, during the state of emergency, SMEs with discontinued activity due to COVID-19 restrictions and who hold the emergency situation certificate issued by the Ministry of Economy benefit from deferred payment for utilities services as well as for the building rent for social headquarters and secondary offices.</p> <p>In the ongoing contracts concluded by SMEs, force majeure against them can be invoked only after the attempt to renegotiate the contract, evidenced by documents communicated between the parties by any means.</p> <p>The spread of COVID-19 pandemic is presumed to be a force majeure according to the provisions of this Emergency Ordinance.</p>	<p>The emergency certificates will be issued in two forms:</p> <p>a) TYPE 1 (BLUE) - issued for the applicants who request its granting on the basis of the declaration on their own responsibility which results in the total or partial interruption of the activity, as a result of the decisions issued by the competent public authorities, according to the law, during the period of emergency declared;</p> <p>b) TYPE 2 (YELLOW) - issued for the applicants requesting its grant based on the declaration on their own responsibility, which results in the recording of a decrease of the receipts in March 2020 with a percentage of at least 25% compared to the average of the incomes from January to February 2020.</p>	
SK	Bank loans from unspent EU funds;	Business customers.	

e) Interventions on price and taxes (caps, freezes)			
	<i>Types of impact</i>	<i>Number & category of consumers concerned</i>	<i>Time (month in 2020)</i>
DE		All consumers (temporary lowering of the VAT, not energy-specific)	July to December
EE	The State reduced the excise duty on electricity and gas	All consumers	From May 2020 to end of April 2022
ES	For protecting households, the gas tariffs and the LPG regulated prices were frozen or updated downwards.	Households	Until 30 September
FR	Curtailment freeze.		
GR	(a) Tax reductions for COVID-19 affected businesses		May

(b) Extension of tax payment deadlines			
LT	<p>VERT set lower public electricity price caps for household customers for the second half of 2020. The public price cap applies only to household customers who are natural person purchasing electricity for personal, family or household needs not related to business or profession (e. g. detached houses, buildings on the premises of these houses, apartments or apartments of dormitory type, holiday homes, garden plots, garages for private cars and etc.). For the second half of 2020, VERT recalculated and set a lower variable part of the natural gas tariff for household consumers – on average they will pay 15-23 % less per cubic meter. The fixed part of the tariff (paid monthly, irrespective of gas consumption) does not change. The variable part of the natural gas tariff was decreased for forecasted lower natural gas import (product) prices: in the second half of 2020, the price included in the tariffs is €11,49/MWh (in the first half of 2020 – €17.17/MWh); an amount of €0.72 million, which was formed due to the higher natural gas import (product) price included in the first half of 2019 for household consumers is returned to consumers.</p>		<p>New prices applicable from second half of the year</p>
LV	<p>Extension of the tax payment term for up to 3 years, shortened period for VAT refund</p>	<p>Taxpayers</p>	<p>From 1 April 2020 to 31 December 2020</p>
PT			<p>since March and ongoing</p>
SI	<p>a) Some suppliers decreased prices for energy for Community Choice; Aggregations (CCA) between 5 and 15%; b) NRA exempted consumers for a 3-month period from the payment of a fixed part of the network charge; c) At the same time, the government temporarily reduced the contribution to RES/CHP support;</p>	<p>Only household customers (electricity and gas); 940,000 households and small commercial electricity customers.</p>	<p>March to May</p>

f) Contractual changes	
<i>Types of impact</i>	
CZ	<p>Gas: reduction of the reserved transmission and distribution capacity by 20% in the case of YoY decrease of the consumption by at least 40%.</p> <p>Electricity: bigger flexibility in the change of monthly reserved capacity at the level of HV & VHV. The measures concerned medium-sized and large enterprises.</p>

ES	<p>Royal Decree-Law 11/2020 allowed freelancers and SMEs to temporarily suspend their contracts and reduce their contracted power/capacity during the State of Alarm. Financed by the General State Budget, those consumers have a 3-month delay from the end of the State of Alarm (September 2020) to reactivate their contracts or increase their contracted power again without being penalised.</p> <p>a) For reduced contracted capacity:</p> <ol style="list-style-type: none"> 1) A maximum reduction for electricity-contracted power of 43,000 MW was reached in May 2020, whom 8,000 MW remained at the end of the State of Alarm (-3.8% in contracted power of SMEs and industrial consumers over the period). 2) Around 736 natural gas consumers have reduced contracted capacity, representing 18% of industrial consumers, mainly in the first two months following the declaration of the State of Alarm (€13.7 million in terms of reduction of TPA tariffs). <p>The contracted power of freelancers, SMEs and enterprises was around 8.000 MW lower and there are around 18.800 suspended contracts in electricity remained.</p> <p>b) For suspended contracted capacity:</p> <ol style="list-style-type: none"> 1) A maximum suspension for electricity contracted power of 800 MW was reached in June 2020 (30,000 customers). This figure remained at about 700 MW (20,000 customers) at the end of the State of Alarm. 2) 1,316 gas customers suspended the contract (SMEs and commercial customers).
PT	<p>4,321 requests for reduced contracted capacity were received (value of €639,000), of which 1,965 for low voltage consumers (value of €62,000).</p> <p>ERSE concluded that contracted capacity reduction had a higher scope than that of billing fractioning for network access, in number of situations and in underlying economic value.</p>

g) Others		
	<i>Types of impact</i>	<i>Number & category of consumers concerned</i>
GB	<p>Free fuel vouchers for prepayment meter customers: in May Ofgem set aside £10 million of our enforcement redress fund money, to set up a COVID-19 prepayment crisis fund. This fund is open to charities that support vulnerable households who are at crisis point and unable to top up their prepayment energy meters. Around half of the fund has been allocated for vouchers, and the remaining money will support consumers in the coming months.</p>	

IE	<p>On 16 March 2020, CRU decided to increase the level of emergency credit available to gas prepayment customers from €10 to €100. This measure was introduced as these customers do not have remote top-up capability and must visit a retail outlet to purchase credit in order to keep their meter topped up and ensure their gas supply continues.</p> <p>The level of credit was increased as there was concern that some customers may not be able to reach a retail outlet as regularly due to public health restrictions introduced in response to the COVID-19 pandemic.</p> <p>This measure was removed in June 2020 when the emergency credit level returned to €10.</p>	16 March to June
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Annex 6 – About CEER

The Council of European Energy Regulators (CEER) is the voice of Europe's national energy regulators. CEER's members and observers comprise 39 national energy regulatory authorities (NRAs) from across Europe.

CEER is legally established as a not-for-profit association under Belgian law, with a small Secretariat based in Brussels to assist the organisation.

CEER supports its NRA members/observers in their responsibilities, sharing experience and developing regulatory capacity and best practices. It does so by facilitating expert working group meetings, hosting workshops and events, supporting the development and publication of regulatory papers, and through an in-house Training Academy. Through CEER, European NRAs cooperate and develop common position papers, advice and forward-thinking recommendations to improve the electricity and gas markets for the benefit of consumers and businesses.

In terms of policy, CEER actively promotes an investment friendly, harmonised regulatory environment and the consistent application of existing EU legislation. A key objective of CEER is to facilitate the creation of a single, competitive, efficient and sustainable Internal Energy Market in Europe that works in the consumer interest.

Specifically, CEER deals with a range of energy regulatory issues including wholesale and retail markets; consumer issues; distribution networks; smart grids; flexibility; sustainability; and international cooperation.

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More information is available at www.ceer.eu.