

Impact of COVID-19 on the Demand for Energy Products*

The global coronavirus pandemic caused by COVID-19 has led to an emergency without precedent in recent history, endangering global health and the world economy. The enormous economic consequences of the pandemic create a climate of uncertainty whose proportions are unknown. Initial estimates from the International Monetary Fund (IMF) suggest that the world economy will contract this year by 3% annually on the assumption that economic activity begins to recover in the second quarter. The IMF's estimated contraction of global GDP would represent a loss of wealth, in nominal terms, of up to 6 trillion dollars even though the fiscal stimulus packages that have been announced to date amount to over 8.5 trillion dollars worldwide (approximately 10% of global GDP).

Spain's economy and its energy sector in particular are not immune to this reality. The data on economic growth published by the Spanish National Statistics Institute (in Spanish, INE) for the first quarter of 2020 point to a fall of 5.2% compared to the fourth quarter of 2019.

Inevitably, the demand for energy products has been affected by the sharp downturn in economic activity. Initial statistics for the months of March and April point to an abrupt fall in the demand for energy as a consequence of the drop in consumption and in the production of goods and services.

Starting from this baseline information, the present report puts forward an initial approximation of the evolution of energy demand over the course of the past several weeks, which have been marked by three key events that have had a direct influence on the consumption of energy products: first, the declaration of a state of emergency by the Spanish government starting on 15 March; second, the tightening of lockdown measures on 30 March, resulting in a shutdown of all non-essential sectors of the economy; and third, the gradual resumption of non-essential activity beginning on 13 April.

Now nearly two months since the start of the health crisis, this report studies its effects on the demand for energy products, the composition of supply, and the final prices. The results are presented separately for the cases of electric power, natural gas and petroleum products.

a) Electricity

Decline in demand

The demand for electric power acts as a leading indicator; the data reveal a highly complex economic outlook not only for Spain but for the global economy as a whole. At the European level, the statistical series

for workdays between 28 March and 26 April 2020 show unprecedented declines; the countries that have been more severely affected by the COVID-19 pandemic have reported a more pronounced slump in the demand for electricity (see Graph 1 below). The Italian collapse in electricity demand exceeds 20% compared to the same period in 2019. The decline in Spain is somewhat less than 18% (specifically, the cumulative fall was 18% up to 24 April, but 17.3% after correcting for calendar and temperature effects), followed by France with a slightly lower reduction at 17% (see Graph 2 below). These figures not only reveal economic inactivity in the period under analysis, but also point to a long and difficult recovery.

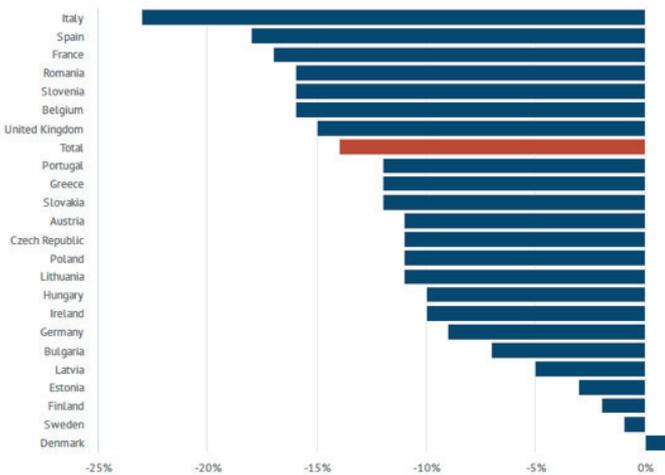
In the context of the electric power system, **the fall in demand has led in turn to a change in the composition of the consumption curve and the supply structure, the matching prices drop, the impossibility of recouping investment costs and, of course, a collapse of revenues in the system, with consequences for company results and public budgets**; this financial imbalance is producing a deficit that runs into the billions of euros. The impact could become so severe that it forces a review of the targets set as part of Spain's energy and climate plan (in Spanish, PNIEC) for 2030 and the European Green Deal for 2050. To avoid this, the European Commission must show strong leadership and establish the Green Deal as the mainstay of the economic recovery.

The shutdown of all but essential activities has produced a shift in the composition of the consumption curve and in the hourly profile of consumption. Demand is concentrated in household consumers. According to data from the operator of Spain's national grid, Red Eléctrica, "the morning peak has shifted from the early hours (8-9 am) to midday (1-2 pm), with a sharp decline in the volume of power programmed at each hour. In the month of April, during the two weeks from 30 March to 13 April when non-essential activities were completely shut down, the hourly values were lowest in nightly off-peak periods, reaching minimums typical of national holidays similar to the minimums recorded more than ten years ago" (see Graph 3 below). The partial resumption of some activities from 13 April has only very partially alleviated the fall in demand, but a comparison with the same days in 2019 continues to show negative rates of variation (see Graph 4 below).

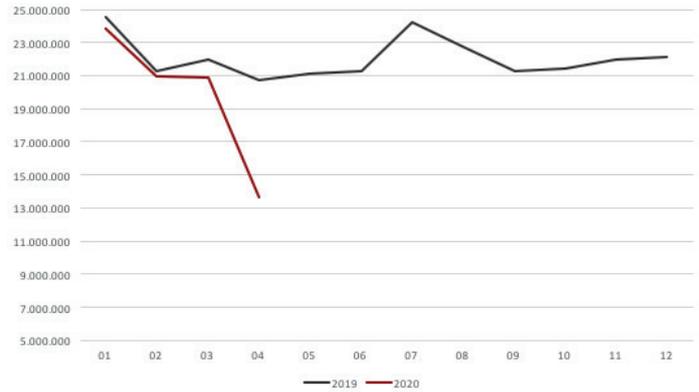
Breaking down power consumption by sector, the slump in demand is without precedent in all but the food and beverage sector, an essential activity that has ramped up its activity and consequently its demand for electric power (see Table 1 below). By contrast, the consumption of electric power by the manufacturing sector plummeted between 30 March and

* (4 de mayo de 2020). Agradecemos a REE, OMIE, Enagas, CIH y CORES por los datos aportados.

Graph 1. Changes in the demand for electricity in Europe between 28 March and 26 April, compared to the same period in 2019 (data uncorrected for weather conditions or workdays)



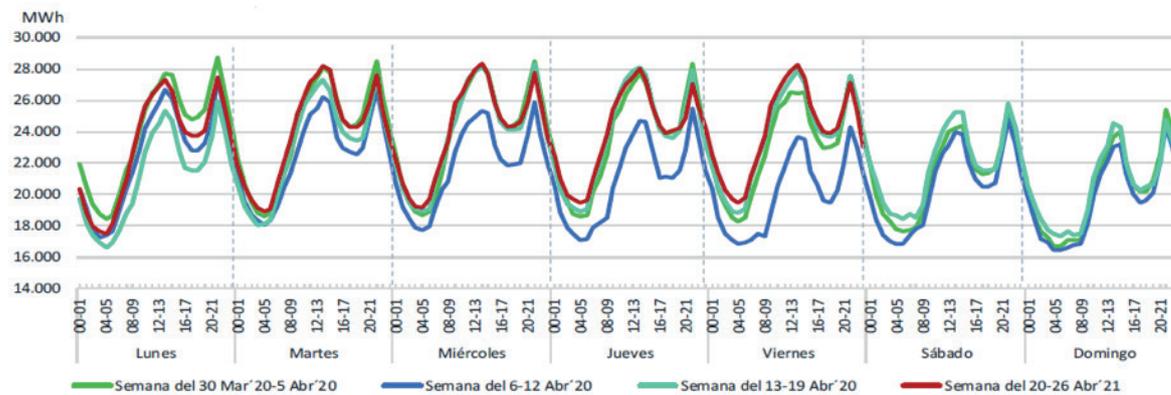
Graph 2. Evolution of the monthly demand for electricity in the Spanish market (MWh)



Source: REE, <https://www.ree.es/es/datos/demanda>

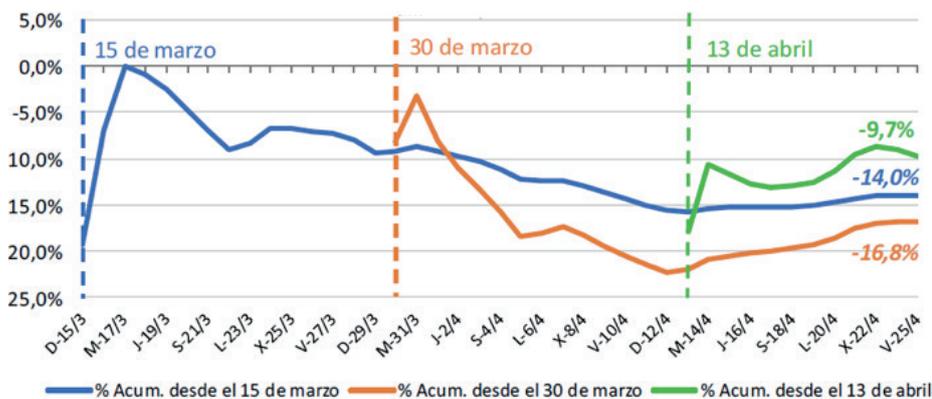
Source: Analysis of data from the European Network of Transmission System Operators for Electricity (<https://www.entsoe.eu/>) (ENTSO-E). Chart by Carbon Brief using Highcharts (<https://www.highcharts.com/>).

Graph 3. Evolution of the hourly demand for electric power by week, April 2020 (MWh)



Source: REE, Impact of COVID-19 on electricity demand, April 2020.

Graph 4. Evolution of the cumulative variation in daily demand in C.B (Center Bars, B.C.=C.B.) since the start of the health crisis



Source: REE, Impact of COVID-19 on electricity demand, April 2020

12 April by nearly 40%. Particularly notable in terms of its impact on GDP, employment and exports is the motor vehicles and transport equipment sector, which has seen its demand for electricity fall by 83.1% compared

to 2019. Metallurgy, other manufacturing industries, rubber and plastics, wood, lumber and cork, and chemicals and pharmaceuticals (though less severely in the last case, because they are considered an essential activity)

Table 1. Variation in the demand for electric power in 2020 compared to the same period in 2019

% Cumulative Variation	30-Mar.	15-Mar.	1-Abr.
	12-Apr.	23-Apr.	23-Abr.
Food and beverages	38.1	48.4	60.0
Wood, lumber and cork	-84.9	-52.0	-61.3
Paper	2.8	-1.4	-6.9
Coke and refined petroleum products	-2.2	-3.0	-9.7
Chemicals and pharmaceuticals	-14.6	-9.6	-13.5
Rubber and plastics	-53.3	-40.0	-32.3
Other non-metal ores	-66.9	-45.6	-64.9
Metallurgy	-35.2	-23.3	-30.4
Motor vehicles and transport equipment	-83.1	-74.6	-75.7
Other manufacturing industries	-78.1	-65.0	-68.7
Manufacturing	-38.5	-26.8	-33.3
Water and waste	-50.1	-40.1	-47.8
Transport and ancillary activities	-58.1	-50.2	-59.0
Commerce and services	-13.1	-13.3	-10.1
Others	-39.4	-26.5	-33.8
Total	-39.3	-27.9	-34.5

Source: REE, Impact of COVID-19 on electricity demand, April 2020

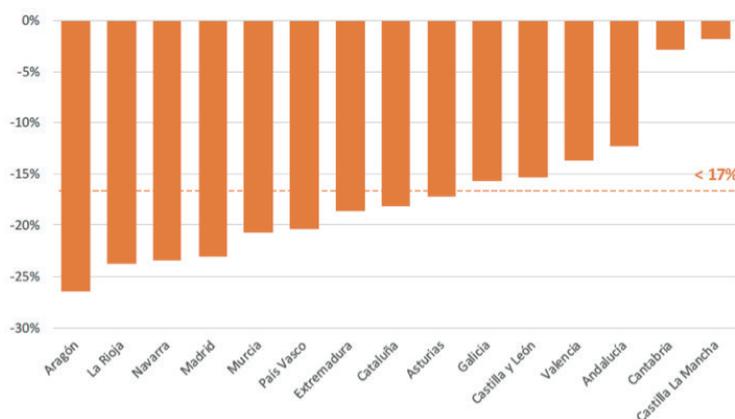
also witnessed steep declines in demand that reflect their low or nil level of activity. The effects of this situation in a sector like manufacturing is likely to be prolonged, although attenuated in the short term and even in the medium term once activities resume. The recovery of these sectors will depend not only on the domestic market but also, and to even a greater extent, on the external market, especially Europe.

From a territorial perspective, substantial variations can also be observed by autonomous community (see Graph 5 below). The impact of measures taken to combat the COVID-19 pandemic varies in accordance with the productive system, the severity of the health crisis and the containment measures adopted by governments in the respective autonomous communities. The effect of different factors is very heterogeneous across the distinct territories. For instance, the primary explanatory variable in Aragón is the shutdown of activities related to the automotive industry, while in La Rioja and Navarre it is the outbreak suffered at the start of the pandemic in Spain. In other autonomous communities like Madrid, Catalonia and the Basque Country (but the latter only at the outset), the primary explanatory variable is the enormous scale of the health crisis and the economic importance of services and manufacturing sectors. The greatest impacts, especially the most sustained ones, suggest increased difficulty in the recovery of economic activity and employment.

Changes in supply

The steep fall in the demand for electric power has led to an equivalent reduction in the supply that has entered the market and to a change in

Graph 5. Percentage variation in cumulative daily demand from 30 March to 23 April 2020, by autonomous community



Source: REE, Impact of COVID-19 on electricity demand, April 2020

the composition of that supply. As is well known, the wholesale market operates on margins and the equilibrium price – an hourly price – is set by the last cleared unit. Buy and sell positions are closed in order of merit from the lowest to highest cost per MWh as the demand is covered. In response to the level of consumption in the second half of March and the month of April, the technologies with the lowest variable costs, such as nuclear power and renewable energies, have increased their relative share of the energy supply. As Graph 6 below shows, the relative share of power generation derived from conventional technologies using fossil-fuel sources (combined cycle, coal, etc.) has been falling since before the COVID-19 health crisis, but the trend has intensified in the months of March and April to the point that more than 60% of all electric power generation in the last week of April and in early May¹ now comes from renewable energy. **An immediate effect of the new composition of the electricity supply is a substantial reduction in CO₂ emissions.** Between 15 March and 24 April, the data provided by the Spanish national grid operator Red Eléctrica point to a 33% fall in CO₂ emissions compared to 2019, while the fall is 35.6% when comparing April 2020 to April 2019.

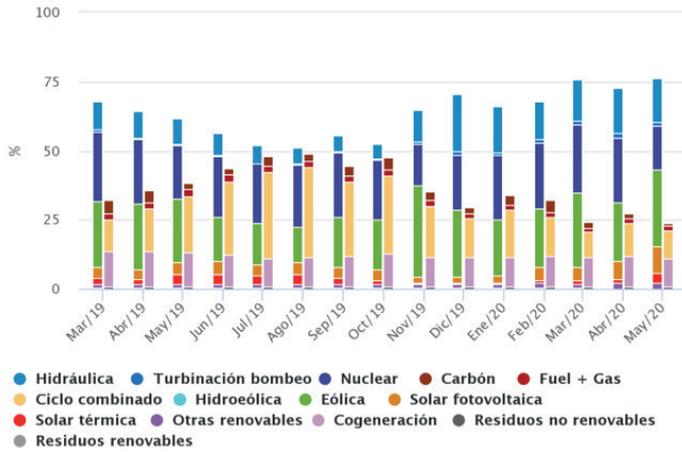
Slumping prices

Lastly, the fall in demand has caused a very sharp reduction in the trading volume in the markets and therefore logically in the clearing price. All the European markets have all recorded falls that are still unquantified at present (see Graph 7 below).

Data from OMIE, the operator of the electricity market in Spain and Portugal, shows slumping prices on the wholesale market. The monetary value traded on the daily market fell by 52% in the months of March and April 2020 compared to the previous year and by 67% when only the month of

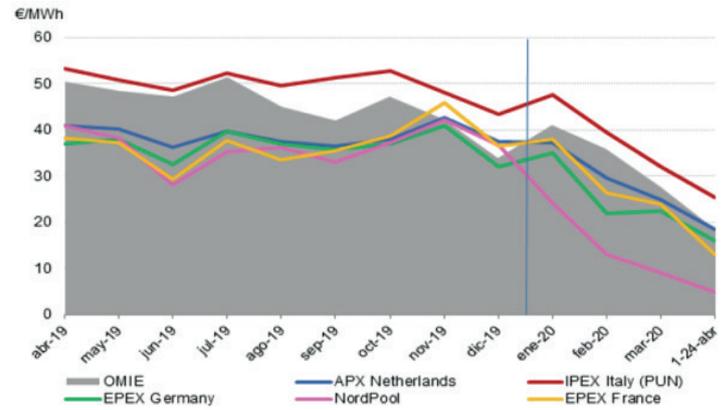
¹ If all emission-free power generation is considered in its entirety, the figure exceeds 70% of total electric power generated.

Graph 6. Electric power generation with and without emissions



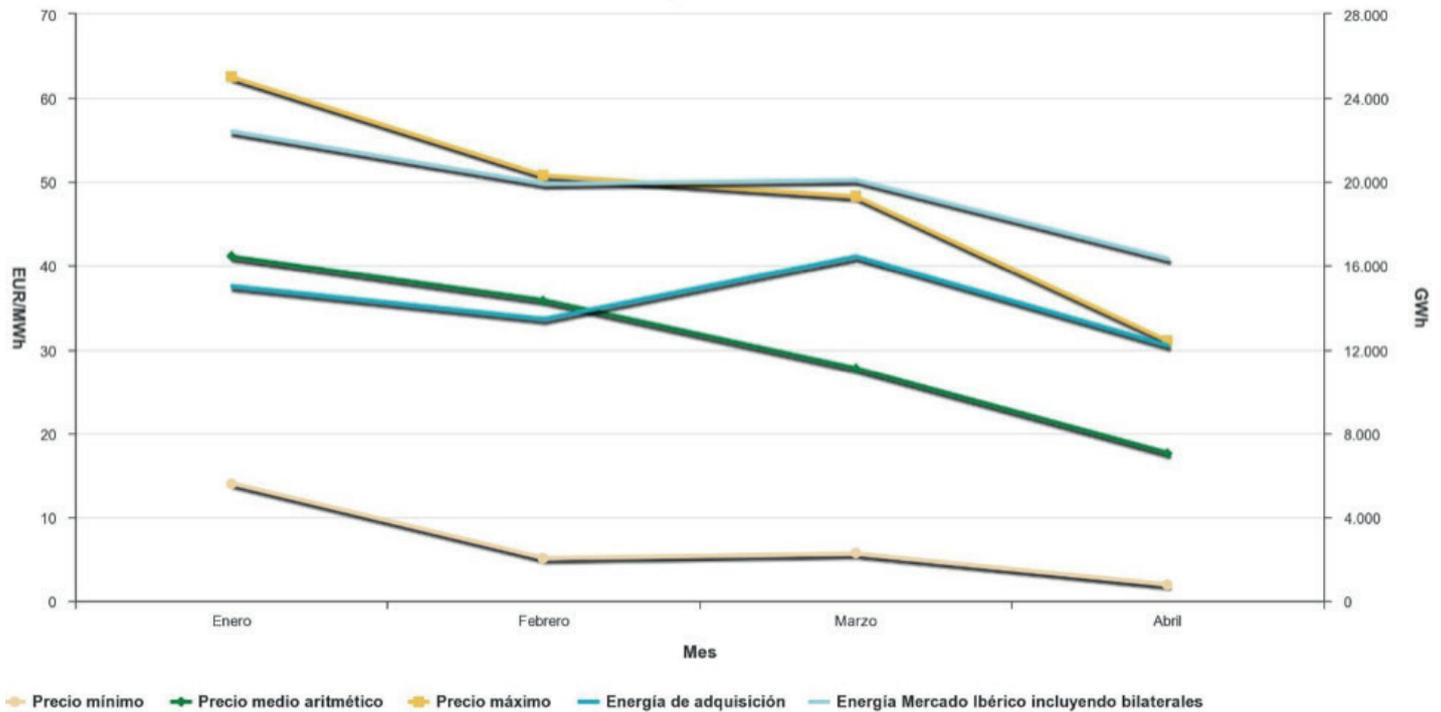
Source: REE, <https://www.ree.es/es/datos/generacion>

Graph 7. European market prices



Source: REE, Impact of COVID-19 on electricity demand, April 2020

Graph 8. Low, average and high clearing prices on the daily market (Spain - 2020)



Source: OMIE, <https://www.omie.es/es/market-results/monthly/daily-market/daily-market-price?scope=monthly&year=2020&month=4&system=1>

April is considered (see Graph 8 below). With the exception of February 2013 and April 2014, the daily electricity market has not suffered a year-on-year decline of such magnitude since its creation in 1997.

The collapse of prices in the electricity market drives down the cost of electric power with consequent benefits for consumers in the short run, but it also has other effects that are profoundly negative. Investment costs cannot be

covered, even for power sources that have already been negotiated. In addition, the price collapse generates major financial difficulties for companies, especially renewable energy companies, and it makes the promotion of storage practically impossible, again on the grounds of cost (see Graph 9 below). Nor do the prices on the futures markets appear to present any significant changes. The steep drop in the prices on the daily market as a consequence of the collapse in demand in all non-essential

sectors precludes any improvement in short-term expectations, which in turns indicates the likely evolution of the Spanish economy as a whole moving forward (see Graph 10 below).

In the current context, one must ask whether it will be possible to achieve either the targets of Spain's energy and climate plan (PNIEC) for 2030 or the targets of the European Green Deal for 2050, given that they are predicated on a substantial increase in renewable energy. The PNIEC submitted by Spain to the European Commission sets a target installation of 59 GWh from renewable energy, which would entail practically doubling the current installed potential from renewable energy sources and an investment in the region of 91.765 billion euros.

Clearly, **the prices being set in the wholesale market impede the entry of new investment projects and will lead to the closure of firms with lower financial resilience, generally small and medium-sized enterprises**, jeopardising the fulfilment of current targets. While the fact remains that the health crisis has not created this problem, it has certainly exacerbated a problem that already existed. The price trend in a wholesale market with an increasing supply of re-

newable energies is necessarily downward, given that their variable costs are practically nil. Ultimately, this downward trend makes medium-term and long-term investments in any technology unfeasible. The market must take account of scarcity rents and give the necessary investment signals for the system to function correctly in the short and long terms. Hence the amount of time that has already been devoted to debating a new design for the wholesale markets, given the broad consensus that exists on the need for a regulatory change that would permit the execution of long-term contracts and that would thereby ensure that investment projects go to the financial markets. COVID-19 has created an acute emergency that has only heightened the need to tackle this issue, which is crucial to making headway on a zero-emission economic model like the one proposed in the European Green Deal.²

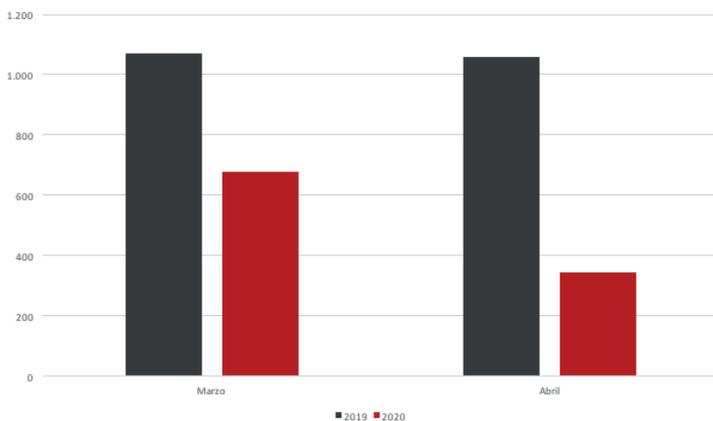
b) Natural gas

Evolution of demand

The demand for natural gas in Spain, especially industrial demand, has not escaped the effects of the coronavirus. In the month of March, demand fell by only 4.9%, which was much lower than the drop seen in the electricity sector (see Table 2). However, while the first signs of the slowdown of activity in non-essential sectors were reflected in conventional demand, there was also a sharp fall in the demand for natural gas for power generation, which dropped 23.6% in the face of a rise in hydro and wind generation and the already noted fall in the demand for electricity. The consumption of natural gas in the household segment and in small and medium-sized enterprises (in Spanish, PyMEs) rose by 0.8 TWh compared to March 2019 (representing a year-on-year rise of 13.3%) as a result of colder weather.

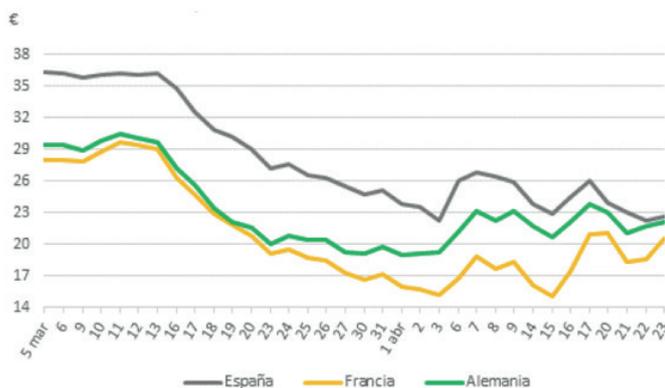
The first month of the pandemic led to a reduction in industrial demand (representing a year-on-year decline of 6.6%) (see Graph 11 below). While it was already possible to detect some symptoms of sluggishness in the consumption of natural gas in the manufacturing sector throughout 2019, the size of the new drop was significant, bearing in mind that the

Graph 9. Iberian Electricity Market (in Spanish, MIBEL): Economic value (in million euros)



Source: OMIE, <https://www.omie.es/es/file-access-list>

Graph 10. Futures prices for May



Source: REE, Impact of COVID-19 on electricity demand, April 2020

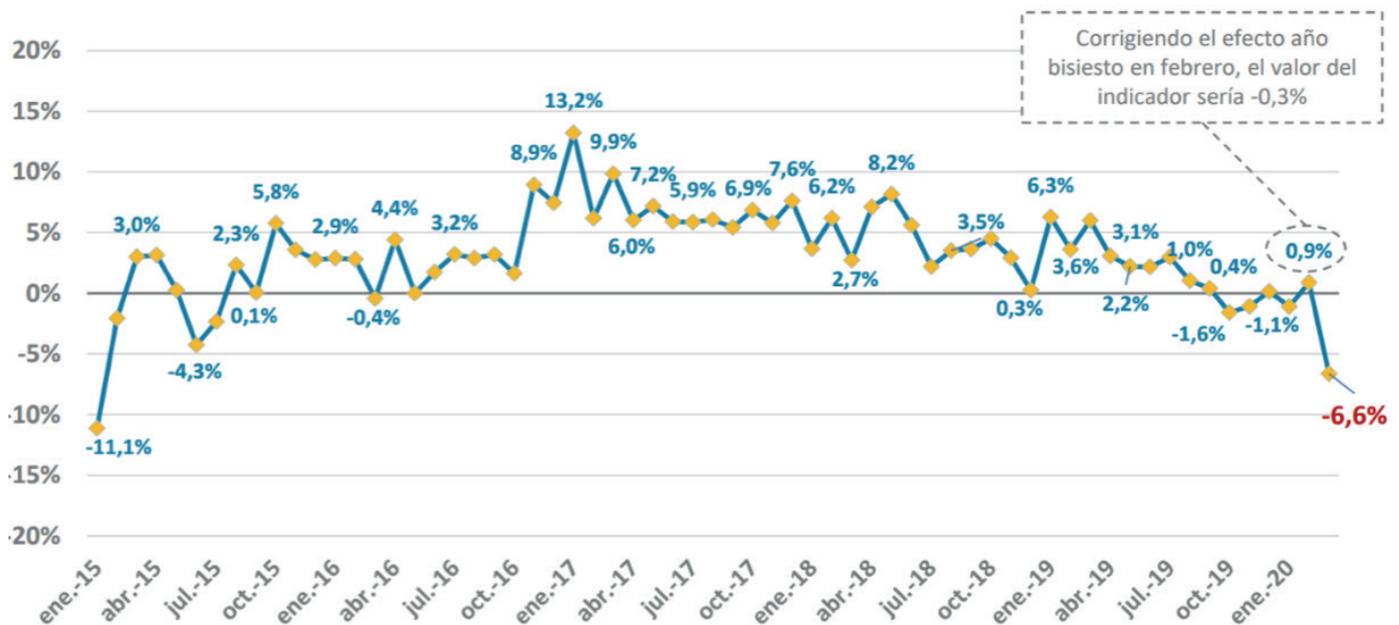
² https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_es; https://ec.europa.eu/spain/news/20191212_Europe-climate-neutral-2050_es

Table 2: Evolution of the demand for natural gas, March 2020

Demanda	Acumulado MENSUAL		Total Anual Móvil	
	Mar 2020	% Δ s/mar 2019	TAM (1º abril 2019 - mar 2020)	% Δ TAM vs 2019
Unidad: TWh				
Convencional	25,9	-1,3%	284,6	-0,8%
D/C + PyMES	6,8	13,3%	58,8	-2,1%
Industrial	17,8	-6,6%	212,9	-0,6%
Cisternas	1,2	10,5%	12,9	2,4%
S. Eléctrico	3,8	-23,6%	111,0	-0,2%
TOTAL	29,6	-4,9%	395,7	-0,6%

Source: ENAGÁS

Graph 11. Evolution of industrial consumption: IGIG index*, year-on-year growth rates (%)



(*) The IGIG index, which stands for Índice Grandes Industriales de Gas, reflects the consumption of natural gas by industrial consumers that represent approximately 75% of conventional demand and more than half of the total consumption of natural gas.

Source: ENAGÁS

economic slowdown was concentrated in only two weeks. The declines occurred in most sectors, with the exception of chemicals, pharmaceuticals and metallurgy, but there were important differences by industrial sector. The most severely affected sectors were refining, paper and textiles, which all experienced double-digit declines (see Table 3 below).

In April, the demand for natural gas fell in all fields of consumption. Demand declined sharply both in the conventional segment and in power generation, recording drops of 21.9% and 25.9%, respectively, compared

to April 2019. When the two figures are combined, **the total reduction in the demand for natural gas in Spain over the month of April was 22.7%** (see Table 4 below). In comparison to the previous month, it can be concluded that the health crisis exacerbated the effect on the demand for natural gas not only as a consequence of the more obvious drops in consumption by industry, commercial establishments and PyMES, but also because of the lower demand for power generation, which experienced significantly greater declines that have already been noted in the previous section.

Table 3: Evolution of industrial consumption by sector, year-on-year growth rates (%)

Sector	TWh marzo 2020	% mar-20 vs mar-19
DCPyMES	6,8	13,3%
Servicios	1,2	8,2%
Agroalimentaria	1,8	1,4%
Química/Farmacéutica	2,6	0,7%
Metalurgia	1,4	-2,7%
Construcción	2,1	-3,8%
Resto Industria	1,6	-11,5%
Refino	3,4	-12,8%
Papel	1,3	-12,9%
Electricidad	2,2	-13,7%
Textil	0,2	-13,8%

Source: ENAGÁS

Table 4: Demand for natural gas, April

Unidad: TWh	Acumulado mes		Acumulado año (*)	
	1 al 30 abril 2020	% Δ s/ 1 al 30 abril 2019	1 enero al 30 abril 2020	% Δ s/ 1 enero al 30 abril 2019
Demanda				
Convencional	18,9	-21,9%	103,5	-6,9%
DCPyMES (Grupo 3)	4,0	-23,5%	29,5	-7,9%
Industrial (Grupo 1 y 2)	14,0	-22,0%	69,3	-7,1%
Grupo 1 * Incluye Materia Prima	5,1	-22,0%	25,5	-7,1%
Grupo 2	8,8	-22,0%	43,8	-7,1%
Cisternas GNL	0,9	-11,7%	4,6	4,3%
S. Eléctrico	4,6	-25,9%	21,6	-7,8%
Grupo 1	4,4	-25,9%	20,7	-7,8%
Grupo 2	0,2	-25,9%	1,0	-7,8%
TOTAL	23,5	-22,7%	125,1	-7,0%

Source: ENAGÁS

Forecasts of falling demand for the months ahead

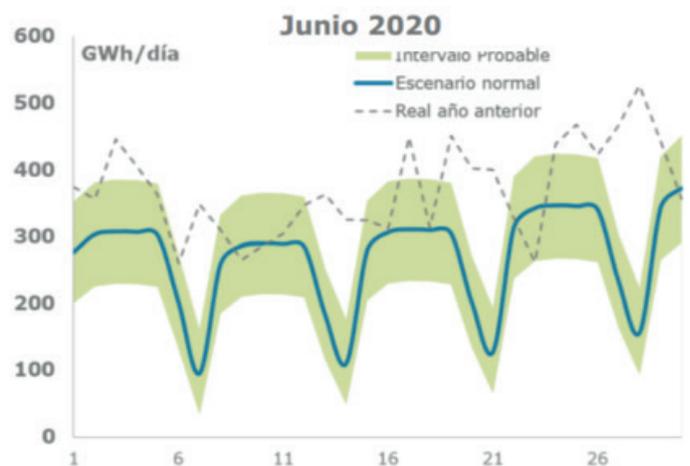
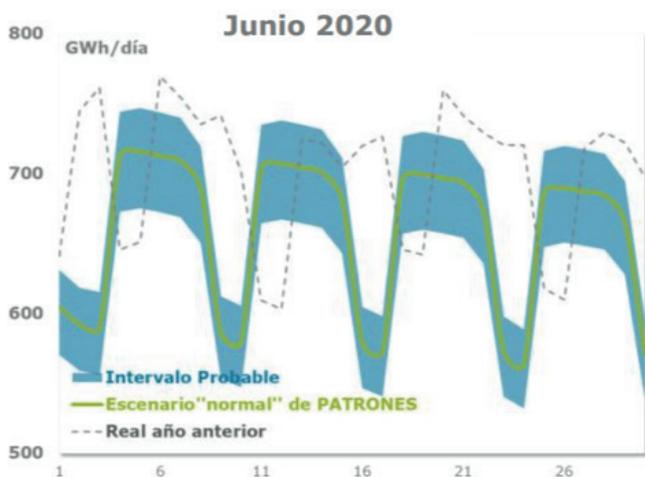
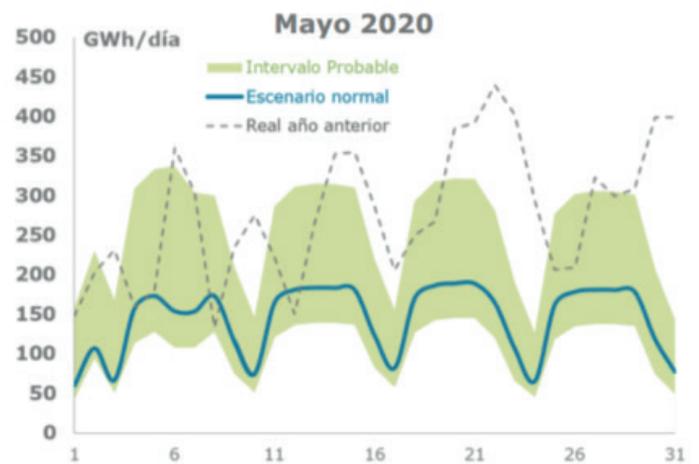
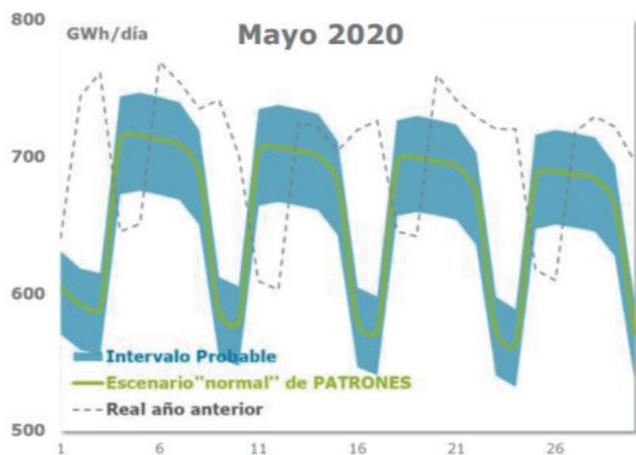
The demand forecasts for May and June point downward, primarily because of the impact of COVID-19 on industrial consumption – conventional demand – and a fall in the demand for natural gas for power generation in light of the increased share contributed by hydro and nuclear power (see Graph 12 below). Despite the downward trend, the mid-range scenario, after a year-on-year fall of 7% in the month of May, points to a mild recovery in conventional demand for the month of June. Recovery, however, is not expected for electricity demand, with forecasted declines of 48% and 27%, respectively, for May and June.

Downward trend in natural gas prices in Europe not due solely to COVID-19 effects

The prices of natural gas in Europe lie at historic lows. This situation is similar across all major European markets. Doubtless, the demand for natural gas has been affected by the COVID-19 crisis, although the major European markets have been witnessing a downward trend in prices since the third quarter of 2018, leading to falls in prices greater than 80% on the benchmark European markets such as the National Balancing Point (NBP) in the UK and the Title Transfer Facility (TTF) in the Netherlands.

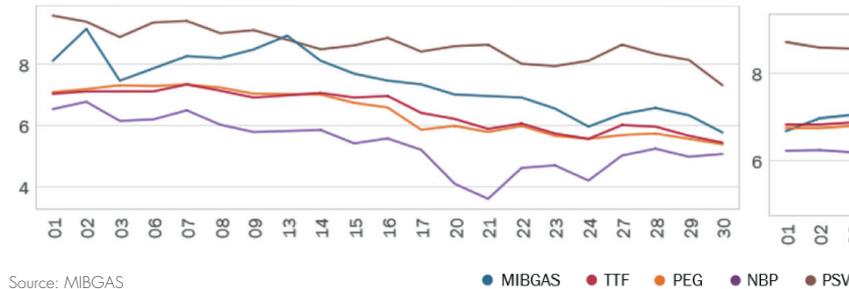
Despite the broader downward trend in natural gas prices over recent months, however, trading in natural gas in organised markets has not been

Graph 12: Demand forecasts for natural gas: conventional (left) and power generation (right), for May and June (GWh/day)



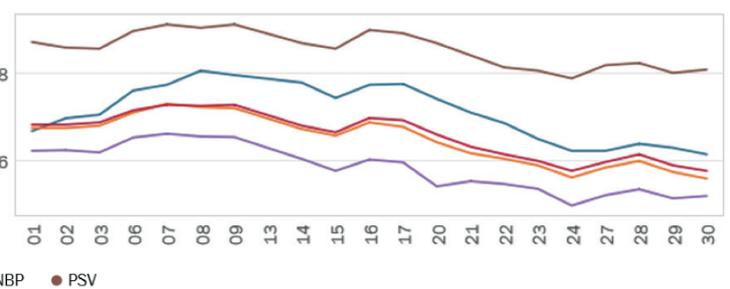
Source: ENAGÁS

Graph 13: European prices of Day-Ahead product (€/MWh)

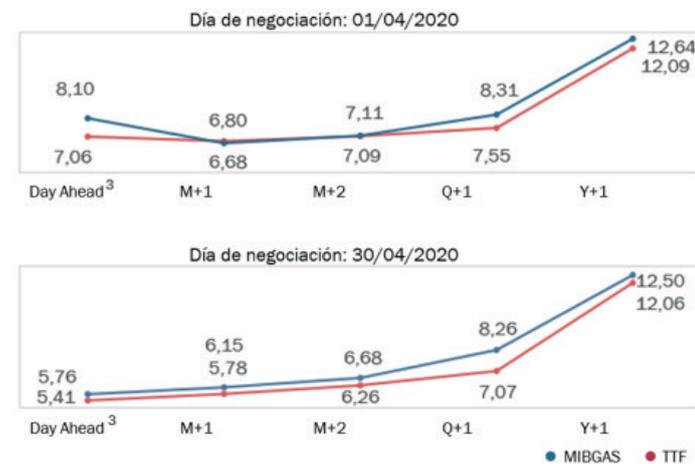


Source: MIBGAS

Graph 14: European prices of M+1 product (€/MWh)



Graph 15: Price curve for natural gas in Spain (€/MWh)



Source: MIBGAS

immune to the specific effects of the current situation. This is reflected in the trading of products such as Day-Ahead³ (see Graph 13 below) and M+1 (see Graph 14 below).

Prices on the Iberian Natural Gas Market (MIBGAS)

As in other European markets, the fall in the demand for natural gas in Spain is having an impact on the evolution of natural gas prices. The price curve of the organised market MIBGAS for the month of April points to a reduction across the different time horizons of contracts. This is consistent with the TTF market, which bears strong similarities to the Spanish organised market. The April fall in demand, which was greater than 20% both in conventional demand and in the demand for power generation using natural gas, drove the price of natural gas downward (see Graph 15 below). Products for delivery in a year's time, which traded in the region of 20 €/MWh in the last quarter of 2019, traded slightly above 12 €/MWh at the end of April 2020.

³ The Day-Ahead product is a product delivered on the workday subsequent to being traded.

Graph 16: Monthly Brent crude prices



Source: MITECO

c) Petroleum products

Fall in the price of crude on international markets

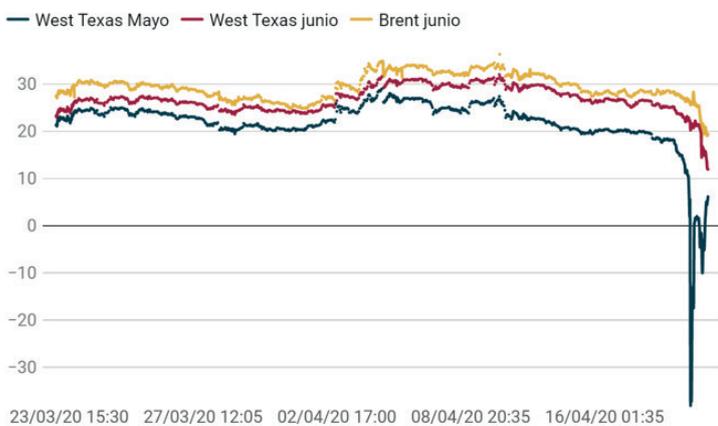
The price of Brent crude, which is the European benchmark in the crude oil market, has been falling sharply in recent weeks, affected by the plummeting price of West Texas Intermediate (WTI) crude, its US counterpart, which for the first time in history traded below zero dollars in the third week of April. The price of crude (Brent front-month contract) fell from a range of 60-65 dollars per barrel at the start of the year to 30 dollars per barrel at the end of March (see Graph 16 below). In April, the price of a barrel of Brent crude fell even lower.

Similarly, futures contracts for crude are now in "contango", which indicates that the market is discounting for a strong effect that is expected to continue for the rest of 2020 and the first part of 2021. Brent futures for June delivery plummeted over the month of April, falling to lows in the region of 15 dollars per barrel. The case of futures contracts on West Texas crude for delivery in one month's time has been particularly notable. The market price, which had been over 47 dollars per barrel in early March,

dropped below 30 dollars per barrel in the initial days of global restrictions, which saw a wave of selling that affected all assets. As the closing of contracts drew nearer, May futures began to trade below zero dollars per barrel, an historic event that is rare in markets of this kind (see Graph 17 below). The price volatility also spread to other West Texas futures with higher maturities. By mid-April, West Texas futures maturing in February 2021 traded in a range of -5 dollars to 5 dollars per barrel after briefly dipping as low as -40 barrels per barrel. These prices are indicative of the scant interest at present to buy crude in the face of oversupply, nearly saturated storage capacity, the slowdown in economic activity, and the insufficient and delayed response of producer countries to cut back on supply.

Given this new scenario, the International Energy Agency (IEA) issued a warning in its most recent monthly report for March, stating that the market was facing the worst year in its history. The IEA also made three suggestions to mitigate the “Black April” that confronted the industry: first, countries that had agreed on cuts in crude production should consider making “even deeper cuts”; second, financial authorities should consider adopting measures to “discourage disorderly market outcomes”, and third, countries with strategic oil reserves should make storage capacity available to help take surplus barrels off the market. All of these measures were aimed at restoring the fundamentals in a global market like crude oil in which the pandemic’s repercussions on economic activity have led to a collapse in crude prices as a result of an unprecedented imbalance between supply and demand.

Graph 17: Monthly price of Brent crude



Source: Bloomberg

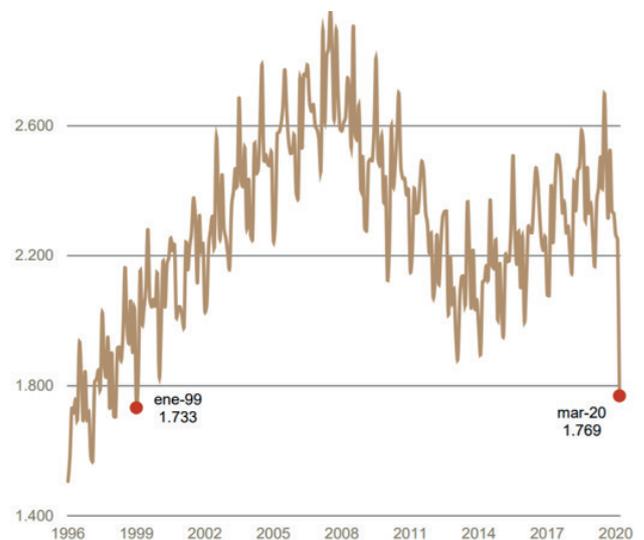
Fall in the demand for motor fuels in Spain

After the declaration of a state of emergency on 14 March in Spain, the month of March experienced a significant fall in the consumption of motor fuels in its final two weeks. Compared to March 2019, consumption declined 25.2% to 1,769 thousand tonnes, marking the lowest level of consumption since January 1999 (see Graph 18 below).

According to provisional consumption data released by CORES, the Spanish agency responsible for managing the country’s strategic oil reserves, the price of automotive petrol in March experienced the steepest drop (down 34.4% on March 2019), falling to the lowest level of consumption since February 1973, while diesel fuel experienced a year-on-year fall of 23.2% to 1,493 thousand tonnes, the lowest level of consumption since February 2002 (see Table 5 below). These declines are unprecedented in recent years and they occurred despite the fact that in the first half of March, just before the adoption of the first major measures against COVID-19, vehicle users had increased their fuel purchasing and service stations had increased their sales to a significant degree.

In the absence of April data in the CORES report cited above, a good indicator of the evolution of the demand for motor fuels for the month is the outflow of products from CLH (Compañía Logística de Hidrocarburos) facilities. In this respect, the April outflows of petroleum products from CLH

Graph 18. Consumption of motor fuels (in thousand tonnes)



Source: CORES

Table 5. Consumption of petroleum products (in thousand tonnes)

Productos Petrolíferos	Consumos			Tasas Variación (%) Interanuales		
	Marzo 2020	Acumulado Anual	Año Móvil	Marzo 2020	Acumulado Anual	Año Móvil
Gasolinas Automoción	276	1.106	5.292	-34,4%	-7,0%	2,8%
Gasóleos Automoción	1.493	5.174	23.029	-23,2%	-7,6%	-2,0%
Combustibles de Automoción	1.769	6.280	28.322	-25,2%	-7,5%	-1,2%
GLP	246	714	2.428	18,3%	-0,2%	-7,9%
Gasolinas*	276	1.107	5.297	-34,5%	-7,0%	2,8%
Querosenos	297	1.226	6.706	-43,6%	-14,9%	-0,7%
Gasóleos*	2.399	7.879	31.527	-8,3%	-0,3%	0,3%
Fuelóleos	494	1.440	7.470	-36,6%	-34,3%	-13,8%

Source: CORES

Table 6. Outflows of petroleum products from CLH facilities (in thousand m³)

Productos	abr-19	abr-20	% Variación	% Variación con corrección de calendario
Gasolina 95	425,5	92,1	-78,3%	-78,3%
Gasolina 98	27,5	4,8	-82,5%	-82,5%
Total gasolinas (95+98)	452,9	96,9	-78,6%	-78,6%
Gasóleo A	1.844,2	799,1	-56,7%	-56,6%
Total carburantes auto**	2.297,1	896,1	-61,0%	-61,0%
Gasóleo B	341,2	395,0	15,8%	15,4%
Gasóleo C	170,7	147,8	-13,4%	-13,7%
Total gasóleos (A+B+C)	2.356,1	1.342,0	-43,0%	-43,1%
Querosenos	587,4	42,4	-92,8%	-92,8%
Total productos	3.396,4	1.481,3	-56,4%	-56,3%

Source: CORES

facilities to the Spanish market amounted to 1.5 million cubic metres, down 56.3% on April 2019 after correcting for the calendar effect. This decline was clearly influenced by the measures to restrict movement enacted by the Spanish government in response to the COVID-19 crisis (see Table 6 below).

Broken down by product, the outflows of petrol fell by 78.6% and the outflows of diesel fuel fell by 56.6%. As a whole, the total outflows of motor fuels decreased by 61% to 0.9 million cubic metres. In the case of diesel fuel type A, the decline was 56.6%. These data indicate that the consumption of motor fuels has remained at depressed levels since it began to fall in March, when the Spanish government adopted various lockdown measures to tackle the health crisis.

A further illustration of the current dramatic decline in outflows can be seen in the case of aviation fuel, one of the sectors mostly severely affected

by the COVID-19 crisis. In April, **the outflows of jet fuel fell by 92.8%** to 42 thousand cubic metres.

The above data reflect the effects of the various measures adopted by the Spanish government to curb the spread of the coronavirus pandemic. Although article 10 of the Royal Decree that regulates the state of emergency lists service stations among the establishments that can open to meet the needs of any vehicles that are permitted freedom of movement, the consumption data for March and the fuel outflows for April reflect the effects of both the public's sheltering in place to prevent contagion and the temporary interruption of activity in the industrial sector and services.

In any event, some recovery of demand levels can be expected with the gradual relaxation of restrictions on economic activity and mobility.

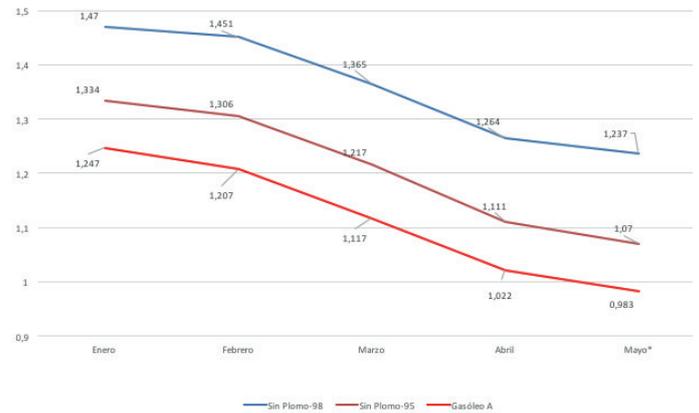
Fall in the prices of motor fuels

The fall in the price of crude on international markets has led to declines in the retail prices of petrol and diesel fuel, which stand at their low point for the year (see Graph 19 below). With the outbreak of the coronavirus in China in late January, the first declines in the price of petrol and diesel fuel for motor vehicles began to appear. Although both kinds of fuel follow the same downward trend, the decline has been greater in the case of diesel fuel, whose average retail price has dropped by 21% over the year to date, falling to 0.983 euros/litre. In the case of petrol, the fall is 15.8% over the year to date.

Reduction of movements to historic lows

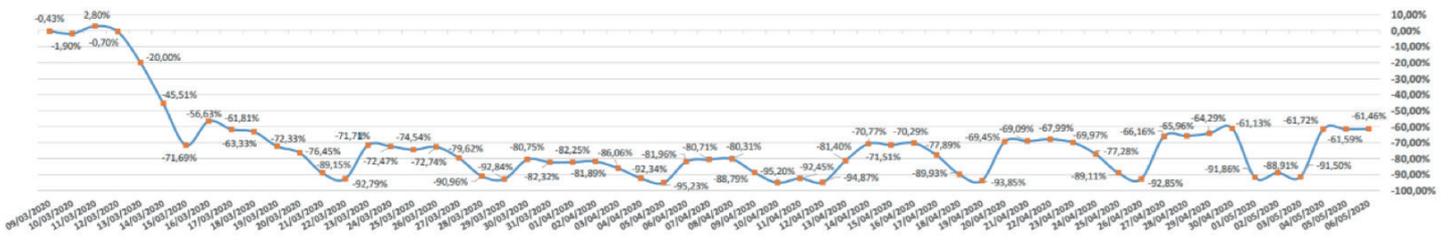
One reason behind the fall in fuel consumption is the dramatic reduction in the amount of travel as a consequence of the measures adopted to curb the spread of the coronavirus. According to data from Spain's directorate-gen

Graph 19. Average retail price in service stations in Spain (€/litre)



Source: Web dieselgasolina.com

Graph 20: Comparison of long-distance movements of light vehicles in relation to an equivalent day (% reduction)



Source: DGT

Graph 21: Comparison of long-distance movements of heavy vehicles in relation to an equivalent day (% reduction)



Source: DGT

eral for traffic (in Spanish, DGT), the country has recorded the lowest levels of road travel in the entire historical series as a consequence of restricting movement to a set of specific cases authorised in Spain's declaration of a state of emergency.

Since the enactment of the state of emergency, there have been sharp reductions in the long-distance movements of light and heavy vehicles, in cross-border movements and in movements on access routes into cities. Indeed, the declines became even steeper from 30 March when the Spanish government tightened the lockdown measures and shut down all non-essential sectors of activity. Since 13 April, when non-essential activity began to resume, the various categories of travel, especially the movement of heavy vehicles, have seen a relative recovery, although they have not returned to pre-pandemic levels. In comparison to an equivalent day, the decline in long-distance movements by light vehicles was as great as 95.23% at one point, while the same figure for heavy vehicles reached 81.20% (see Graphs 20 and 21 below). Travel associated with access routes into cities has fallen by 93% (see Graph 22 below).

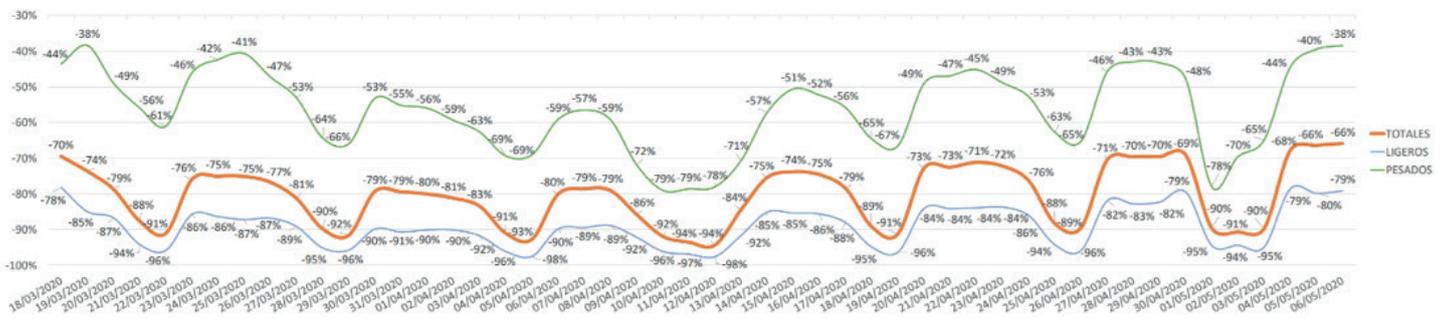
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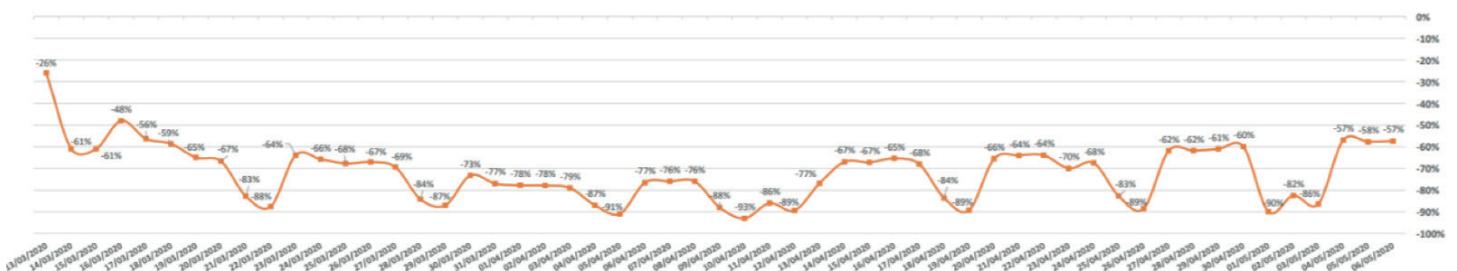
Joan Batalla, Director-General of Funseam and member of the Chair in Sustainable Energy
 María Teresa Costa-Campi, Full Professor of Economics and Director of the Chair in Sustainable Energy at the University of Barcelona.

Graph 22: Evolution of travel on access routes into cities (% reduction)



Source: DGT

Graph 23: Evolution of cross-border movements (% reduction)



Source: DGT