



EURACOAL Market Report 2021 no.2

November 2021

WORLD COAL MARKET DEVELOPMENTS

Global Coal Trade

Today, the four largest coal producers are found on the Pacific market: China, India, Indonesia and Australia. China, with over half of global coal production, increased its coal output by 1% in 2020 to 3.8 billion tonnes in spite of the COVID-19 pandemic – a trend that has continued in 2021. This contrasted with the large declines in coal production seen in 2020 in the US, Colombia and Poland – but these same countries were able to respond to the healthier international market in the first half of 2021. These developments reflect the greater demand for electricity, especially in G20 countries. This growth was largely met by coal power generation and renewable energy sources (RES), notably in China which accounted for 90% of the global growth in electricity generation. Without China, global coal-fired power generation would have fallen by around 80 TWh between H1 2019 and H1 2021, rather than growing by the 254 TWh reported by Ember. Coal-fired generation thus helped meet a 5% increase in overall power demand.

In China, the National Development and Reform Commission (NDRC) confirmed in May it had “indefinitely annulled communication with Canberra over economic affairs”. Thus, the informal ban imposed on Australian coal imports since Q3 2020 continued, leading to coal supply shortages and sharply higher coal prices such that pricing indices were suspended in China, and the government stepped in to regulate coal prices in its previously free market. Domestic supply in China has not been able to entirely fill the gap left by the absence of imports from Australia, forcing more steam coal imports from Indonesia, Colombia, South Africa, the Philippines and even western Russia via ports on the Black Sea such as Taman. Coking coal imports increased from Russia, Canada and the US, all at higher prices. Mongolia’s exports to China rebounded following a sharp fall in 2020 when coal trade was disrupted because of COVID-19 measures. Looking ahead, the Russian state rail operator RZD expects growth in the volume of coal exported from the country’s Eastern ports to China and other Asian consumers.

In mid-summer, the Chinese government decided to close over 150 of its own coal mines with a production capacity of 200 Mtpa or more. This was ostensibly for safety reasons leading up to the 100th anniversary of the Chinese Communist Party, but the effect was dramatic, and the decision led to a further upward pressure on coal prices everywhere and rolling blackouts in some of China’s major cities (including Beijing and Xi’an) over the summer as air-conditioning demand soared. The production of cement, aluminium and ceramics were all curtailed. Eventually, NDRC ordered mines to re-open and removed quotas that had been introduced earlier by Chinese provincial governments to reduce over capacity and perhaps also to limit air pollution and move towards China’s own climate goals.

China’s aim for carbon-neutrality by 2060, announced by President Xi in September, would require a massive change of trajectory. Other countries – e.g. Mongolia, Bangladesh, Vietnam, Kazakhstan, Pakistan and India – are similarly relying on coal, as well as wind and solar, to meet their fast-rising

power demand. In fact, having doubled since 2015, wind and solar grew to 10.5% of global power production in H1 2021, surpassing nuclear power for the first time. Hydro and other renewables fell.

The impact of China's actions on international coal trade flows has been less dramatic than feared, although prices have risen sharply as coal must be shipped over longer distances. Tables 2 and 3 show that international seaborne coal trade – steam and coking coal – grew by just 0.8% in H1 2021 compared with the same period of 2020. However, behind this small change were much larger changes in flows, including on the Atlantic market. While Australia lost ground, Russia, the US and Canada benefitted from the changing pattern of coal trade.

Colombia, which in 2016 exported 88.6 Mt, has seen its coal exports collapse for several reasons, most recently because of COVID-19 impacts and protest action by trade unionists. Exports in H1 2021 were just 27.3 Mt or 15% lower than H1 2020. As coal prices plummeted in 2020, Glencore sought permission to suspend operations at its Prodeco mines and offered them for sale. Meanwhile, Anglo American and BHP looked for buyers for their one-third shares of the mighty Cerrejón mine. With coal prices now higher, Glencore has agreed to exercise its right to buy these shares which will make it the 100% owner. Cerrejón was developed at scale by Exxon following the 1970s oil shocks and was eventually acquired by international mining companies as the oil industry focussed its attention on exploiting fossil gas reserves. Today, it is the pressure to burnish ESG credentials that forces owners to divest coal mines, often at ludicrously low values. Glencore, on the other hand, promises to run down its coal mines responsibly, without leaving others to shoulder liabilities.

This pressure is extending to existing coal-fired power plants, with the Asian Development Bank recently entering into a partnership with Prudential Insurance, BlackRock, Citigroup, HSBC and other financial institutions, to purchase coal-fired power plants around Asia. The proposal, announced early August, includes a plan to shut any acquired coal plants within fifteen years. In April, Kansai Electric Power and Marubeni Corporation cancelled their JV project to construct the new 1 300 MW Akito coal-fired power plant, this being the last coal-fired power plant project proposed in Japan. From a competition perspective, the coal supply market will likely become more concentrated with few new entrants. According to the Australian Department of Industry, Science, Energy and Resources, around 25% of seaborne steam coal trade in 2021 is expected to come from just five companies: Glencore, SUEK, PT Bumi Resources, PT Adaro Energy and Yancoal.

In the EU, RES generation surpassed fossil-fired generation in 2020 with a share of 38%. Power generation in Europe grew 6% in H1 2021, almost returning to pre-pandemic levels, but fossil generation was still 10% lower than H1 2019 with coal 16% (-36 TWh) lower. High gas prices in Europe have highlighted the role and importance of coal in the energy mix for power generation with market-driven fuel switching from gas to coal since June: clean-dark spreads favoured coal and wholesale electricity prices moved high enough to make coal plants profitable in northwest Europe. Companies who had decommissioned coal plants missed out, of course. Looking ahead, there remains much uncertainty on whether the EU and Russia can agree a deal on increased pipeline gas supplies: the geopolitical fallout of the decision to construct the Nord Stream 2 pipeline rumbles on.

Coal imports, mostly via the ports of Amsterdam, Rotterdam and Antwerp (ARA), have been strong, moving back to levels last seen in Q4 2019. Supply tightness has seen ARA coal prices rise to historic highs in early October and futures suggest prices will remain high. All this is despite the drag on coal use imposed by the EU emissions trading system: allowance prices rose above 60 €/tCO₂ in early September with no signs of relief as world leaders met at COP26 in Glasgow to debate the need for ever-more stringent climate action.

India's requirement for imported coal and sustained buying from China will likely keep coal prices high, as did monsoon rains, COVID-19 restrictions and problems with cranes at the Taboneo anchorage for Indonesian coal producers and exporters. In the EU, carbon prices may continue to rise and so depress coal demand. However, given the imminent closure this December of Brokdorf, Grohnde and Gundremmingen C nuclear power plants (4.3 GW in total) and all remaining German

nuclear power plants by the end of 2022, as well as the now dysfunctional European gas market, coal is likely to serve as a bridge-fuel at least until policymakers can agree a way forward that maintains secure energy supplies. If temperatures are below average, then the 2021-22 winter will test Europe’s ability to supply enough energy to satisfy the needs of its industry and households.

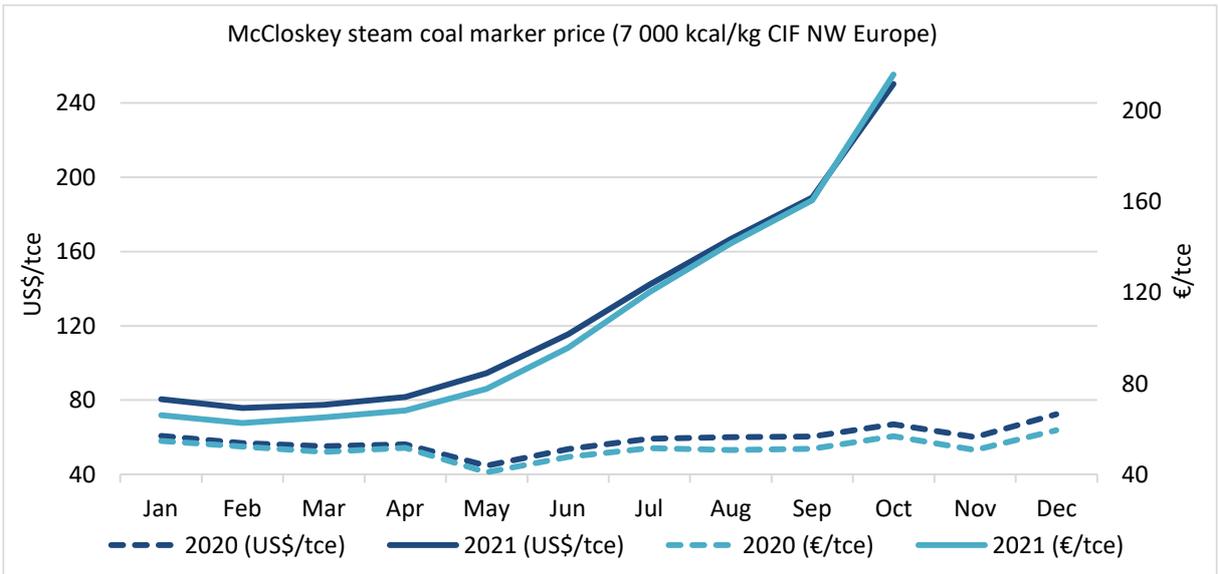
That said, the European Commissioner for Climate Action, Frans Timmermans, wrote in a CNN opinion piece in March, *“We have to accelerate our move away from coal. Ending our dependence on coal will save lives. [...] Continued reliance on coal will lead to more toxic pollution, more death and disease, more extinction and biodiversity loss, more economic damage from extreme and unpredictable weather and more lost ground in the fight against the climate crisis.”* Brussels would have to reconsider its position on coal if it is to remain the fuel that avoids an energy crisis.

Coal Prices

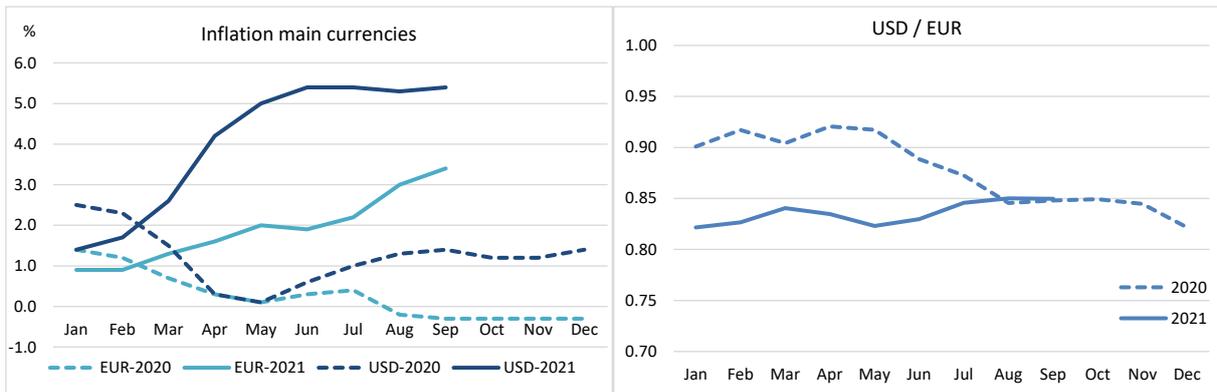
After a year of relatively low prices in 2020 due to the COVID-19 pandemic, steam coal prices at ports in NW Europe (ARA) rose during the first half of 2021 from USD 69/t to USD 112/t. Prices in Asia were significantly higher and very volatile: the steam coal price at Qinhuangdao port in China peaked at USD 172/t mid-January – a direct result of China’s unofficial ban on Australian coal imports. In Q3 2021, coal prices soared everywhere to reach historic highs.

On 5 October, coal prices peaked at USD 301/t CIF at ARA ports. Since then, prices have dropped as the Chinese government took steps to moderate prices, but with little change to actual global coal supply. Uncertainty in the energy market, especially in the European gas market as it prepares for winter, has left governments wondering how to react. Coal suppliers are supplying what they can, including some poorer quality coals to Turkey where import specifications were relaxed to help meet demand. South African coal producers responded by offering more off-spec coal for export.

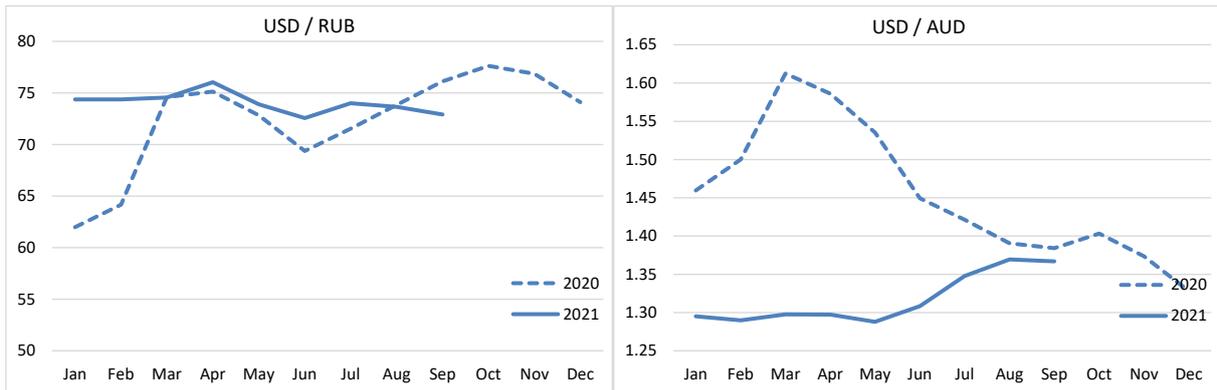
On the coking coal market, prices have quadrupled, partly because China prioritised steam coal shipments. High-quality Australian low-vol coking coal began the year at USD 100/t FOB and had risen to just shy of USD 400/t by the end of Q3. Overall, coal and the energy market in general have become rather unstable and the outlook is uncertain, especially with the growing signs of inflation.



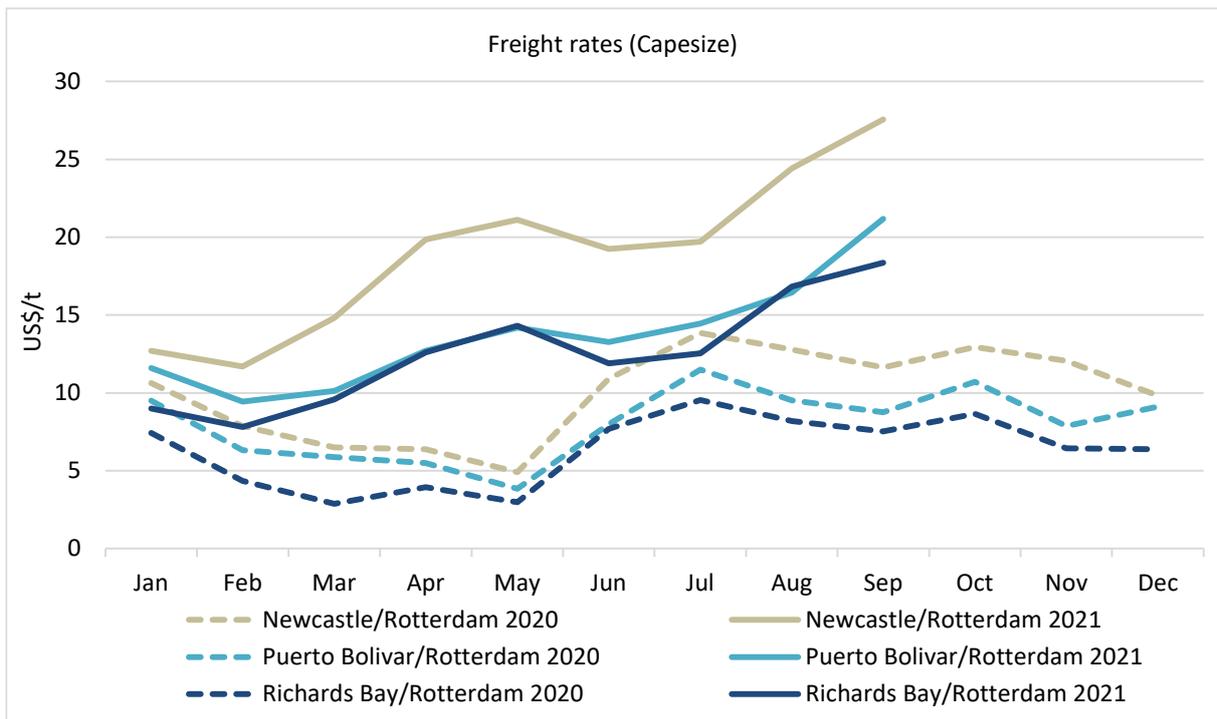
Source: IHS Markit (McCloskey first week quotation of the month, basis 6 000 kcal/kg converted to 7 000 kcal/kg)



Sources for inflation: ECB; US Bureau of Labor Statistics



Sources for exchange rates: ECB, BoE and OECD



Source: Clarksons

Freight Rates

Seaborne coal trade flows are dominated by Asian demand: Indonesia is almost entirely focussed on supplying China and other countries in the region, while Australia has had to look further afield – mainly India – to find a market for coal of all types previously supplied to China. Only around 4% of

seaborne coal trade finds its way to European or Mediterranean countries. Traditional suppliers to Europe, such as Colombia, are also shifting their attention to Asia, although Turkish demand remains strong. With longer shipping distances, the average freight rates for coal have risen. Freight rates reflect these difficult market conditions, having risen from around USD 3/t on the Richard Bay – Rotterdam route in May 2020 to around USD 18/t, and similarly from Puerto Bolivar in Colombia.

EU COAL MARKET¹

	2021 (1-6) Mt	2020 (1-6) Mt
Hard coal imports	47.8	42.3
Hard coal production	29.1	27.5
Lignite production	126.1	112.7

Hard coal imports into the EU, at 47.8 Mt in H1 2021, were up 13% on the first half of 2020, but still well short of the 72.6 Mt imported by the EU in H1 2019 (a figure which then included the UK). EU hard coal production bounced back 6% in the first half of 2021 to 29.1 Mt compared with the same period of 2020, but fell short of the 33.5 Mt produced in H1 2019. Lignite production in the EU rose 12% to 126.1 Mt in H1 2021 compared with the first six months of 2020. However, this was not a return to pre-pandemic levels as output in the first half of the current year was 21% below H1 2019.

Carbon Prices

The price of EU emission trading system allowances averaged 44 €/tCO₂ in the first half of 2021, rising steeply from 33 €/tCO₂ to 57 €/tCO₂ over the period in reaction to market and political developments. These are the highest prices seen for allowances since the trading scheme or system began in January 2005. In Q3 2021, allowance prices continued to rise and became more volatile, reaching 65 €/tCO₂ at the end of September. The main driver for this rise has been high fossil gas prices which has created a greater demand for coal-fired power generation and hence a greater demand for carbon allowances.

Hard Coal

Producer	2021 (1-6) Mt	2020 (1-6) Mt
Czechia	1.4	1.0
Poland	27.7	26.5
Total	29.1	27.5

Czech Republic

Czech hard coal production increased by 40% in H1 2021 to 1.4 Mt compared with the same period of 2020 and is estimated to reach almost 2 Mt for the full year. The plan to stop hard coal mining in the Czech Republic in 2022 remains unchanged: new mining would require significant investment and new permitting in a hostile environment. In the first half of 2021, most coking coal imports came from Poland, Canada and the US, whereas some small export volumes went to Slovakia and Hungary. In total, coal imports were 2.1 Mt in H1 2021.

¹ All European coal production and trade data come from EURACOAL members or government sources.

Germany

Germany is now completely reliant on imported hard coal, mainly from Russia, since the end of deep coal mining at the end of 2018. In H1 2021, Germany imported 6.0 Mt of coking coal and 11.1 Mt of steam coal for a total of 17.1 Mt or 20% more than the same period of 2020. An estimated 44 Mt will be imported in 2021, thus returning to pre-pandemic levels. Electricity production from hard coal increased by 34.7% in the first three quarters of 2021 compared with the same period of 2020, mainly due to lower wind output and higher gas prices. The steel sector has also recovered in 2021, resulting in a slightly higher coking coal demand. Hard coal consumption is estimated to have risen by 20% in the first three quarters of 2021 and is projected to reach 36 Mtce for the full year.

The Netherlands

Economic growth has increased energy demand in the Netherlands in 2021, but political pressure to decrease coal use meant only 30% of Dutch coal-fired power generation capacity could be used. Currently, coal-fired power plants co-fire biomass, some at up to 80% of fuel input. On coking coal demand, Dutch iron and steel plants plan to switch to hydrogen within the next decade. As offshore wind and solar PV expand, the role of fossil gas should decrease in the future, due to both climate concerns and to avoid further earth tremors around the Groningen gas field. The Dutch government plans to phase out gas production from Groningen by 2030 – production has already halved since 2015 and LNG imports have grown to partially compensate for this decline in domestic production. This may lead to a higher share of coal in electricity production, a trend already seen in H1 2021 when the Netherlands imported 3.6 Mt of hard coal (+21%), including 1.6 Mt of steam coal which was 0.6 Mt more than in H1 2020, mainly via the Port of Rotterdam. Indeed, the recent high price of EU ETS allowances coupled with high gas prices have created a favourable position for coal in the Dutch power generation mix.

Poland

Hard coal production in Poland increased to 27.7 Mt or +4.6% in H1 2021 compared with H1 2020, of which 21.4 Mt (+3.9%) was steam coal and 6.3 Mt (+6.8%) coking coal, the latter being classified as a critical raw material in the EU. Hard coal exports increased by around 48% to 0.9 Mt of steam coal plus 1.95 Mt of coking coal. Hard coal imports also increased by around 14% in the first half of 2021 to 6.2 Mt – around two thirds from Russia. Coal imports peaked in 2018 at 19.7 Mt, dominated by 16.2 Mt of steam coal.

Data for H1 2021 from the Polish Energy Markets Agency shows electricity production from hard coal power plants (+19.1% to 38.7 TWh) and lignite plants (+15.2% to 21.7 TWh) rebounded from a very poor 2020. Output from RES (biomass, wind and solar PV), the next most important source, was down by 2.5% and the total output from industrial plants fell by 15.3%. Gas-fired power generation grew, but from a low base, to 4.5 TWh. Turning to electricity import/exports, Poland became a net exporter in September 2021, despite demand growth, as Polish hard coal and lignite became competitive compared with gas-fired generation elsewhere in the EU and RES output grew strongly.

Lignite

Producer	2021 (1-6) Mt	2020 (1-6) Mt
Bulgaria	11.0	11.1
Czechia	13.6	15.3
Germany	58.2	44.6
Greece	5.7	7.8
Hungary	2.4	2.7
Poland	24.8	22.4
Romania	8.5	6.7
Slovakia	0.6	0.5
Slovenia	1.4	1.5
Total	126.1	112.7

Bulgaria

Lignite production in Bulgaria fell 20.4% in 2020, compared with 2019, to 22.3 Mt. In H1 2021, production was maintained at 11.0 Mt, close to the level in H1 2020. Mini Maritsa Iztok EAD (MMI), a subsidiary of the state-owned Bulgarian Energy Holdings EAD, is the country's largest lignite producer. The company's coal mines in south-eastern Bulgaria sell their output mainly to three nearby thermal power plants: one owned by ContourGlobal, one by AES and the state-owned TPP Maritsa East 2. These and other coal power plants generate around one third of Bulgaria's electricity.

Czech Republic

Czech brown coal production decreased in 2021 due to competition from fossil gas. Production in H1 2021 was 13.6 Mt or 11% lower than in the same period of 2020. However, over the summer, the share of brown coal recovered as production from renewables fell. Trade in brown coal is insignificant: exports amounted to just 0.13 Mt. The share of fossil gas in the fuel mix for electricity generation increased by 37% in H1 2021 to take a 10% share, but coal's 38% share remained much higher, while renewables fell to a 14% share as wind and solar output decreased.

Elections at the beginning of October delivered a victory for a centre-right alliance which intends to form a liberal coalition. The outgoing government responded to the recent rise of energy prices with a temporary reduction of VAT rates on electricity and gas, a transfer of EU ETS revenues to mitigate social impacts, and the cancelation of the RES surcharge for households consuming <3 MWh.

Germany

German energy consumption recovered in 2021 with the easing of pandemic control measures: lignite consumption for power generation increased by one third, boosted by significantly lower wind power and cooler weather. Fossil gas, hard coal and nuclear power supplies all increased, although less than lignite supply, whereas oil consumption decreased with lower air traffic. In terms of production, January-June 2021 lignite extraction increased by 30%, mainly in Rhineland and central Germany, but at 58.2 Mt did not recover to the H1 2019 pre-pandemic level of 68.0 Mt. 18 500 workers are employed in the German lignite sector, a number which will decrease significantly over the coming years, mainly with early retirements that will also necessitate corporate restructuring.

A paper resulting from coalition talks for a new German government questions the 2038 target date for coal phase, suggesting that "ideally" coal use would be phased out by the end of 2030. Such an early phaseout would imply certain preconditions are fulfilled: a massive growth of renewables, more energy storage, grid investments and around 40 GW of new gas-fired peaking power plants.

Greece

After a sharp decline due to COVID-19 in Q3 2020, Greek GDP increased in H1 2021 to €90.4 billion while unemployment has trended downwards since 2013.

Lignite production is recovering after a sharp 49% decline in 2020 to 13.9 Mt for the full year, and a further decline in H1 2021 to 5.7 Mt or 27% lower than the first half of 2020. Estimates of electricity generation for 2021 show a marginal increase for lignite, to 5.9 TWh, whereas the shares of renewables and fossil gas should climb to historic highs of 15.9 TWh and 21.4 TWh respectively. Generation from hydroelectric power plants is expected to increase slightly, to 4.6 TWh or 9% of supply in 2021. Electricity imports are expected to halve to 4.7 TWh: Greece is dependent on energy imports for over half of its electricity. The rise in Greek electricity prices has been mainly due to higher gas and EU ETS allowance prices. Whilst in 2020, the average day-ahead electricity price was 45.09 €/MWh, on 26 October 2021, this price rose to 218.06 €/MWh.

In total, the Public Power Corporation (PPC) and its subsidiaries operate eight lignite-fired units with a combined capacity of 2 525 MW, most running for only a few months per year. In the summer, high demand forced PPC to restart some lignite-fired power plants that had been out of operation for nine months. According to PPC's phaseout schedule, all existing units will be decommissioned by 2023, while the new 660 MW Ptolemais V lignite-fired unit is planned to operate from November 2022 until the middle of the decade, with alternative fuel sources under consideration. A decision on a "strategic reserve" including lignite power plants is expected in 2022.

Hungary

Hungary saw lignite production fall by 12% in the first half of 2021 to 2.4 Mt. It is used mostly for power generation at the Mátrai Erömű power plant. Conversion to fossil gas is just one of the options being considered to secure the future of this strategically important power plant.

Poland

Polish lignite production, in decline since 2017, was 46.0 Mt in 2020, a fall of 8.6% on the previous year. In H1 2021, production increased by 2.4 Mt to 24.8 Mt compared with H1 2020. Lignite-fired electricity generation has declined gradually since 2015, from 52.9 TWh to 38.2 TWh in 2020. Total electricity production rose 11.1% in the first half of 2021, with strong increases of 15.2% to 21.7 TWh for lignite and 19.1% to 38.7 TWh for hard coal. The shares of lignite (25.1%) and hard coal (45.0%) have grown, while RES and imports decreased significantly. Conventional thermal power plants accounted for 63.2% of available capacity; 16.7% were lignite-fired power plants. A draft State Raw Materials Policy aims to create a legal framework to encourage mining, simplify investment, ensure safety and protect the environment.

Romania

After falling sharply in 2020, lignite production in Romania has recovered in 2021. In the first half of the year, production increased by 27% to 8.5 Mt, almost all of which was delivered to power plants for electricity generation at the Oltenia Energy Complex.

Slovakia

Production of lignite by Slovakia's only private coal mining company, Hornonitrianske Bane Prievidza (HBP), increased by 4% to 0.6 Mt in the first half of 2021 compared with the same period of 2020.

The Ministry of Economy of the Slovak Republic signed an agreement on 2 August 2021 with HBP to provide state aid to facilitate the closure of the company's uncompetitive coal mines. This aid was approved by the European Commission at the end of November 2019. Closure works at the company's two coal mines – Bane Handlová and Bane Nováky – is well advanced and will continue in 2022.

Slovenia

The only production of coal (lignite) in Slovenia is from the underground coal mine Premogovnik Velenje. Its output is entirely used at the nearby Šoštanj (TEŠ) power plant. TEŠ is one of the major fossil fuel power plants in Slovenia and accounts for around one third of electricity production. It is of great importance for the stability of the Slovenian electricity system. Small quantities of brown coal (c. 0.3 Mt per year) are imported for Termoelektrarna Toplarna Ljubljana (TE-TOL) which supplies the capital city's district heating.

Annual coal production in recent years stabilised at 3.2 Mt, including in 2020 after production recovered in the second half year. For 2021, estimates suggest that production will be about 20% lower, with H1 2021 production at 1.4 Mt.

In the longer term, a lower production and use of coal is planned: decreasing by 30% by 2030 due to the closure of TEŠ block 5 and the end of coal use at TE-TOL. A strategy for “coal exit and a fair transition of two coal regions”, completed by a Deloitte consortium, includes action plans funded by the Structural Reform Support Programme (SRSP) and many project proposals. A mine closure date of 2033 is proposed and will likely be adopted by the end of 2021 with regulations in preparation for a gradual mine closure procedure, restructuring and monitoring of environmental aspects. High energy prices and the lack of a more precise national energy strategy have triggered many open questions on energy security, power grid reliability and electricity prices for households and industry.

NON-EU COAL MARKET

Turkey

The Turkish coal market presents a very different picture from the situation in EU countries. Over recent years, production of coal, mainly lignite, and electricity generation from coal have increased steadily. Between 2000 and 2020, coal imports almost trebled. Current Turkish energy policy would see this trend continue, providing opportunities for foreign direct investment (FDI) in the modernisation and expansion of the Turkish coal sector.

In H1 2021, Turkish lignite production grew by 19% to 34.4 Mt compared with H1 2020, while hard coal production also grew to 0.6 Mt. The latter was insignificant compared with hard coal imports which totalled 18.3 Mt of mostly steam coal – a rise of 7% compared with H1 2020. Electricity production from coal grew and coal also continues to play a role in residential heating. The Turkish government distributes annual coal allowances to poor households, even in regions that have access to the natural gas network.

Turkey predicts a large expansion of its energy needs over the coming years. Currently, almost all oil, gas and hard coal are imported (93%, 99% and 97%, respectively) mainly from the Middle East and Russia, leading to a relatively large trade deficit. This situation also carries geopolitical risks, so Turkish energy policy focuses on boosting indigenous energy supply, modernising energy system infrastructure, and improving the functioning of the energy market. The *Eleventh Development Plan 2019-2023* puts a strategic priority on expanding lignite production and lignite-fired power generation, as well as exploiting indigenous fossil gas reserves, constructing new nuclear power plants and deploying more renewable energy sources. Finally, the plan calls for the further liberalisation of the Turkish energy market, limiting the share of state-owned enterprises.

Private investment into the Turkish energy sector often includes foreign companies in joint ventures, such as the 1 320 MW İsken-Sugözü coal power plant in partnership with STEAG and the 1 320 MW Emba Hunutlu coal power plant under construction as a joint venture with Shanghai Electric Power. The government intends to increase the share of domestic companies in both the power generation and mining sectors.

Geopolitically, the Turkish energy market is currently in an advantageous position: as part of a special Customs Union with the EU, trade is significantly simplified and well developed. At the same time, the sector is not hit by the EU emissions trading system (ETS). However, pressure is growing. As part of its accession negotiations with the EU, Turkey would have to implement the EU ETS Directive. On 16 September 2021, the European Commission Executive Vice President, Frans Timmermans, met with the Turkish Minister for Environment and Urbanisation, Murat Kurum, to evaluate the future introduction of a Turkish emissions trading system. “Climate-diplomacy” pressure from the EU, the US and others led Turkey’s chief negotiator at the UNFCCC COP26 climate conference, Mehmet Emin Birpınar, to declare a new climate law was in planning with an emissions trading system similar to the EU ETS. This could be in reaction to the EU’s proposed carbon border adjustment mechanism (CBAM) which would effectively tax Turkish exports of electricity, aluminium, cement, fertiliser, iron and steel to the EU.

Turkey aims to become a hub in the fossil gas market. The TurkStream pipeline opened in January 2020 and can carry up to 31.5 bcm annually, half destined for the European market. In the first half of 2021, Turkey imported 14.65 bcm, a new record and making it the second largest export market for Russian gas in Europe after Germany. Turkey is already counterbalancing these imports through a close energy partnership with Azerbaijan: in 2020, Turkey imported 11.1 bcm via two routes, the Trans Anatolian Natural Gas Pipeline (TANAP) and the Baku-Tbilisi-Erzurum pipeline. These are intended to be supplemented by newly discovered gas fields in the Black Sea and the Mediterranean Sea, with reserves of 540 bcm discovered in 2020-21 alone. With exploitation, these fields would significantly lower Turkey’s dependency on fossil gas imports to satisfy domestic needs. Given the forecast rise in energy demand, it is unlikely these new sources would result in much change to the country’s power generation mix.

Turkey ratified the Paris Agreement on 6 October 2021, but its national targets include a *rise* in emissions from 499 MtCO_{2e} in 2020 to 929 MtCO_{2e} in 2030. Nevertheless, through research and development, Turkey intends to explore clean coal technologies, CCUS and coal-based chemicals such as ammonia, hydrogen, synthetic diesel and synthetic natural gas – all areas open to FDI. Notwithstanding exchange rate and inflationary challenges, the Turkish coal sector remains open to foreign investors, presenting opportunities that are currently lacking within the EU.

Ukraine

Ukrainian coal production increased by 13% to 11.7 Mt in the first six months of 2021 while imports grew by 18% to a total of 10.1 Mt, comprising 5.9 Mt of coking coal and 4.3 Mt of steam coal. Electricity production increased by 5% over the first nine months of 2021, whereas demand increased by 7%. Most of the increased supply came from nuclear power plants, but coal-fired power also increased, by 12% in the case of plants owned by DTEK. A revised energy strategy for Ukraine targets 30% renewables by 2030, a goal that is currently hampered by the indebtedness of electricity producers. As elsewhere, electricity prices have risen – to 85 €/MWh on the Ukrainian wholesale market – but Ukraine still exported competitive electricity to neighbouring EU countries while importing from Russia and Belarus. Due to high electricity demand over the summer and ongoing maintenance at nuclear power plants, Ukraine’s coal stocks became very low. Additional imported coal from Poland and the US may alleviate this worsening situation.

United Kingdom

UK coal imports increased to 2.7 Mt in H1 2021, with steam coal imports almost doubling to 1.5 Mt. Indigenous production was 0.6 Mt, being significantly lower than H1 2020. Total demand for coal is estimated at 7 Mt for 2021, with less than half used for power generation. There has been a modest increase in electricity generation from the few remaining coal-fired power plants because of high gas prices. The UNFCCC COP26 meeting in Glasgow stimulated the UK government’s anti-coal position: the prospects of it approving the proposed West Cumbria Mining coking coal mine are poor, despite the country’s plans for offshore wind energy which will require thousands of tonnes of steel.

Evolution of world market prices for coal, freight and crude oil
McCloskey steam coal marker price (7 000 kcal/kg)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
steam coal	2020	60.76	56.91	55.14	56.14	44.64	53.63	59.16	60.06	60.40	66.90	59.97	72.35
(US\$/tce CIF NW Europe)	2021	80.47	75.69	77.42	81.61	94.43	115.47	142.16	166.76	189.12	250.29		
steam coal	2020	54.74	52.19	49.85	51.69	40.95	47.65	51.62	50.78	51.22	56.81	50.66	59.45
(€/tce CIF NW Europe)	2021	66.12	62.57	65.07	68.12	77.72	95.81	120.22	141.77	160.69	216.15		

Source: IHS Markit (McCloskey first week quotation of the month, basis 6 000 kcal/kg converted to 7 000 kcal/kg)

Freight rates (US\$/t)

Richards Bay/Rotterdam	2020	7.42	4.34	2.88	3.94	2.98	7.69	9.54	8.20	7.53	8.65	6.44	6.38
(Capesize)	2021	9.00	7.81	9.58	12.60	14.31	11.90	12.55	16.84	18.35			
Queensland/Rotterdam	2020	10.62	7.88	6.50	6.38	4.90	10.90	13.85	12.78	11.63	12.95	12.06	9.81
(Capesize)	2021	12.70	11.69	14.81	19.85	21.13	19.25	19.70	24.41	27.56			
Puerto Bolivar/Rotterdam	2020	9.50	6.33	5.88	5.50	3.85	8.00	11.50	9.53	8.75	10.70	7.88	9.13
(Capesize)	2021	11.60	9.44	10.13	12.70	14.19	13.28	14.46	16.44	21.18			

Source: Clarksons (monthly averages from weekly data)

Currency rates

USD / EUR	2020	0.901	0.917	0.904	0.921	0.917	0.889	0.873	0.846	0.848	0.849	0.845	0.822
	2021	0.822	0.827	0.841	0.835	0.823	0.830	0.846	0.850	0.850			
USD / RUB	2020	62.0	64.2	74.6	75.1	72.8	69.4	71.5	73.8	76.1	77.6	76.9	74.1
	2021	74.4	74.4	74.5	76.0	73.9	72.6	74.0	73.6	72.9			
USD / AUD	2020	1.46	1.50	1.61	1.59	1.54	1.45	1.42	1.39	1.38	1.40	1.37	1.33
	2021	1.30	1.29	1.30	1.30	1.29	1.31	1.35	1.37	1.37			

Sources: ECB Euro foreign exchange reference rates; Bank of England database; OECD.Stat Monthly Monetary and Financial Statistics (MEI) dataset

Crude oil (US\$/barrel)

crude oil	2020	65.10	55.53	33.92	17.66	25.17	37.05	43.42	45.19	41.54	40.08	42.61	49.17
	2021	54.38	61.05	64.56	63.24	66.91	71.89	73.53	70.33	73.88	80.78		

Source: OPEC Reference Basket (ORB) price

International coal trade
TABLE 2

Steam coal				
exporting country	2021 (1-6) Mt	YoY change c.f. 2020		2020 (1-6) Mt
		Mt	%	
PACIFIC				
Australia	92.7	-9.1	-8.9%	101.8
Canada	2.2	0.5	29.5%	1.7
China	1.1	-0.1	-10.3%	1.3
Colombia	5.0	-3.0	-37.5%	8.0
Indonesia (exc. lignite)	169.8	0.9	0.5%	168.9
Russia	52.2	4.6	9.6%	47.6
South Africa	30.2	-4.0	-11.7%	34.2
USA (exc. to Canada)	11.8	3.7	46.3%	8.1
sub-total	365.0	-6.5	-1.8%	371.5
ATLANTIC				
Australia	1.3	1.3	:	0.0
Canada	0.1	0.0	-9.6%	0.1
Colombia	22.3	-1.7	-7.3%	24.0
Indonesia	0.3	-0.3	-46.0%	0.6
Russia	40.9	5.3	14.9%	35.6
South Africa	1.7	0.3	25.0%	1.3
USA (exc. to Canada)	6.7	2.2	48.0%	4.5
sub-total	71.9	5.7	8.7%	66.2
others	7.4			3.5
total	444.3	3.1	0.7%	441.2

 revised 2020 figures shown in **bold**

steam coal data includes anthracite

TABLE 3

Coking coal				
exporting country	2021 (1-6) Mt	YoY change c.f. 2020		2020 (1-6) Mt
		Mt	%	
Australia	85.0	-0.5	-0.6%	85.5
Canada	14.1	0.4	3.1%	13.6
China	0.1	-0.3	-78.9%	0.4
Russia	13.8	-0.2	-1.1%	14.0
USA (exc. to Canada)	20.0	1.3	7.0%	18.7
others	1.7	0.5	45.2%	1.2
total	134.6	1.2	0.9%	133.4

 revised 2020 figures shown in **bold**

European crude steel production

COUNTRY	2021 (1-6) Mt	YoY change c.f. 2020	2020 (1-6) Mt
Austria		:	3.3
Belgium		:	3.2
Bulgaria		:	0.2
Croatia		:	0.0
Czechia		:	2.2
Finland		:	1.7
France	7.2	28.0%	5.6
Germany	20.6	18.1%	17.5
Greece	0.8	14.2%	0.7
Hungary		:	0.8
Italy		:	10.1
Luxembourg		:	0.9
Netherlands		:	3.1
Poland	4.3	:	4.0
Portugal (est.)		:	0.9
Romania (est.)		:	1.4
Slovakia (est.)		:	1.6
Slovenia		:	0.3
Spain	7.2	30.8%	5.5
Sweden		:	2.4
unspecified	37.7	:	0.2
EU-27	77.8	18.4%	65.7
Belarus		:	1.3
Bosnia & Herzegovina		:	0.3
Moldova		:	0.1
North Macedonia		:	0.1
Norway		:	0.3
Serbia		:	0.7
Switzerland	:	:	:
Turkey	19.7	20.6%	16.3
Ukraine		:	10.1
UK		:	3.5

Sources: World Steel Association (stopped publishing monthly country data Feb 2021)
 Eurostat production in industry database sts_inpr_m and own estimates

revised 2020 figures shown in **bold**

Hard coal and lignite production and consumption

	Hard coal production			Hard coal deliveries for power generation	
COUNTRY	2021 (1-6) Mt	YoY change c.f. 2020	2020 (1-6) Mt	2021 (1-6) Mt	2020 (1-6) Mt
Czechia	1.4	40.0%	1.0	0.5	0.4
Germany	0.0	:	0.0	7.7	6.0
Poland	27.7	4.6%	26.5	14.0	11.5
Spain	0.0	:	0.0	0.2	1.1
EU-27	29.1	5.9%	27.5	22.5	19.0
Turkey	0.6	31.9%	0.4	9.4	9.5
Ukraine	11.7	13.3%	10.3	n.a.	n.a.
UK	0.6	-37.9%	1.0	1.3	1.5

	Lignite production			Lignite deliveries for power generation	
COUNTRY	2021 (1-6) Mt	YoY change c.f. 2020	2020 (1-6) Mt	2021 (1-6) Mt	2020 (1-6) Mt
Bulgaria	11.0	-1.3%	11.1	10.9	11.1
Czechia	13.6	-10.9%	15.3	11.6	11.5
Germany	58.2	30.5%	44.6	51.5	37.8
Greece	5.7	-27.1%	7.8	n.a.	7.9
Hungary	2.4	-12.3%	2.7	2.3	2.7
Poland	24.8	10.5%	22.4	24.8	22.6
Romania	8.5	26.7%	6.7	8.5	6.6
Slovakia	0.6	4.0%	0.5	0.6	0.8
Slovenia	1.4	-0.9%	1.5	1.3	1.2
EU-28	126.1	12.0%	112.7	111.7	102.1
Bosnia & Herzegovina	5.9	-11.0%	6.6	5.5	6.2
Serbia	18.1	-4.6%	18.9	17.5	18.3
Turkey*	34.4	19.1%	28.9	27.9	23.8

* Asphaltite is included within lignite.

 revised H1 2020 figures shown in **bold**

Hard coal imports

COUNTRY	Coking coal imports		Steam coal imports		Total hard coal imports		
	2021 (1-6) Mt	2020 (1-6) Mt	2021 (1-6) Mt	2020 (1-6) Mt	2021 (1-6) Mt	YoY change c.f. 2020	2020 (1-6) Mt
Austria	0.5	0.5	0.9	0.8	1.4	6.3%	1.3
Belgium	0.6	1.2	1.0	0.8	1.5	-22.6%	2.0
Bulgaria	0.0	0.0	0.3	0.2	0.3	24.1%	0.2
Croatia	-	-	0.2	0.2	0.2	2.6%	0.2
Czechia	1.0	0.8	1.1	0.7	2.1	43.4%	1.5
Denmark	-	-	0.2	0.4	0.2	-43.2%	0.4
Finland	0.4	0.4	0.6	0.6	0.9	-13.1%	1.1
France	1.5	1.3	2.7	2.4	4.2	12.6%	3.7
Germany	6.0	5.0	11.1	9.3	17.1	19.8%	14.3
Greece	-	-	0.2	0.1	0.2	31.2%	0.1
Hungary	0.5	0.6	0.1	0.1	0.6	-4.5%	0.6
Ireland	-	-	0.5	0.1	0.5	345.5%	0.1
Italy	0.9	1.0	2.7	2.5	3.6	2.2%	3.5
Netherlands	2.0	2.0	1.6	1.0	3.6	20.7%	3.0
Poland	1.5	1.1	4.7	4.3	6.2	14.3%	5.4
Portugal	-	-	0.0	0.1	0.0	-83.0%	0.1
Romania	-	-	0.4	0.4	0.4	7.5%	0.4
Slovakia	1.5	0.9	0.2	0.2	1.7	48.2%	1.1
Slovenia	-	-	0.0	0.0	0.0	-44.1%	0.0
Spain	0.6	0.2	1.8	2.0	2.3	9.2%	2.1
Sweden	0.2	0.2	0.5	0.8	0.7	-36.2%	1.1
EU-27	17.0	15.2	30.8	27.1	47.8	12.9%	42.3
Bosnia & Herzegovina	0.7	0.5	-	-	0.7	35.3%	0.5
Serbia	-	-	0.0	0.0	0.0	167.3%	0.0
Turkey	2.9	2.9	15.5	14.2	18.3	7.1%	17.1
Ukraine	5.9	5.5	4.3	3.1	10.1	17.6%	8.6
UK	1.2	1.0	1.5	0.8	2.7	48.7%	1.8

 revised H1 2020 figures shown in **bold**