Country Analysis Brief: United Kingdom

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Overview

Table 1. United Kingdom's energy overview, 2022

	Crude oil and other petroleum liquids	Natural gas	Coal	Nuclear	Hydro	Other renewables	Total
Primary energy production (quads)	1.69	1.44	0.02	0.38		0.75[a]	4.27
Primary energy production (percentage)	39.6%	33.7%	0.4%	8.8%		17.5%	100.0%
Primary energy consumption (quads)	2.82	2.64	0.16	0.38		0.74[a]	6.74
Primary energy consumption (percentage)	41.9%	39.1%	2.4%	5.6%		11.0%	100.0%
Electricity generation (TWh)	0.58	123.99	6.16	43.35	6.14	137.56	318.60
Electricity generation (percentage)	0.2%	38.9%	1.9%	13.6%	1.9%	43.2%	100.0%

Data source: U.S. Energy Information Administration, International Energy Statistics
Note: We aggregate hydroelectricity and renewables as *other renewables* for primary energy production and consumption.
Quads=quadrillion British thermal units, TWh=terawatthours
[a]Includes hydroelectricity

- In 2021, the United Kingdom (UK) accounted for 12% of energy production and 10% of energy consumption in OECD Europe.
- Although production in the UK has been on a long-term declining trend, new oil fields are being added. For example, UK's largest prospective oil field, Rosebank, is scheduled to add 300 million barrels of recoverable oil at a 70,000-barrel per day (b/d) peak flow, and it will begin operating by 2027 at a cost of $3.8 billion. Equinor will operate the field, which is located northwest of the Shetland Islands.[1]
- The $201 million Woodhouse Colliery coal mine project in northwest England is the UK's only new deep coal mine in the last few decades. It is scheduled to start construction in 2024 despite legal and political opposition.[2,3]
- The UK will extend the life of its aging nuclear power plant fleet (4.6 gigawatts [GW]), instead of retiring it, to meet the country's energy demand, and it plans to increase nuclear power capacity to 24 GW by 2050 (Table 6).[4,5]
- The UK Department for Energy Security and Net Zero is in final negotiations for funding the UK's first large-scale hydrogen plant in the Stanlow oil refinery. The proposed facility will cost $720 million and will have a capacity of 10 GW by 2030.[6]
- The UK has added five new international electrical interconnectors to neighboring European countries since 2019, which led to a 470% increase in total trade between 2018 and 2022 at 55 billion kilowatthours (kWh) (Table 7).
- Following Russia's full-scale invasion of Ukraine, the UK government banned imports of crude oil, natural gas, and petroleum products from Russia. This ban has resulted in a shift in the UK's energy suppliers, away from Russia and to Norway and the United States.[7,8]

Petroleum and Other Liquids

- The UK's proved oil reserves totaled 1.5 billion barrels as of January 1, 2024. [9]
- Most of the UK's oil and natural gas production is offshore, either in the North Sea or west of the Shetland Islands in the Scottish Territorial Waters. The UK produces three grades of light, sweet crude oil: Flotta, Forties, and Brent blends.
- Flotta is the smallest and lowest-quality (36.64° API and 0.66% sulfur) stream produced in the UK. Forties blend is made up of oil from more than 50 fields spread over a large area of the North Sea, the largest of which is the Buzzard oil field. Forties blend is a light (about 39° API), sweet (about 0.7% sulfur) crude oil, but the overall quality can vary based on Buzzard field volumes, which are heavier (32.6° API) and sourer (1.44% sulfur) than the rest of the blend volumes. Brent blend is a light (40.1° API), sweet (0.35% sulfur) crude oil. More than two dozen UK fields contribute to the blend, although very little production comes from the once-prolific Brent field, which the stream was named after. The Brent blend is transported to the Sullom Voe terminal in Scotland's Shetland Islands via pipelines. Despite the declining physical volumes associated with the Brent blend, it remains an important global financial benchmark.
- A benchmark crude oil is a specific crude oil that is widely and actively bought and sold that other types of crude oil can be compared with to determine a price by an agreed-on differential. The Brent benchmark, the most widely used global crude oil benchmark, is composed of five crude oil blends: Brent, Forties, Ekofisk, Oseberg (BFOE), and Troll.
- The Brent and Forties blends are produced offshore in the waters of the UK, and the Ekofisk, Oseberg, and Troll blends are mainly produced offshore in the waters of Norway. The Brent benchmark was originally based on the output of the Brent field, a single field in the UK's portion of the North Sea. At its peak, in 1984, the Brent field produced more than 400,000 b/d from four platforms. During the late 1980s, production declined rapidly, and after a brief resurgence in the early 1990s, the declines resumed. In 2014, production stopped from two of the three remaining platforms operating in the Brent field.
- As production from the Brent field declined, other fields and blends were added. Although the benchmark itself accounts for only a small portion of total world crude oil production, it remains a key indicator for world crude oil pricing.
- The UK government regulates the oil, natural gas, and carbon storage industries through the North Sea Transition Authority (NSTA), previously known as Oil and Gas Authority (OGA). NSTA issues crude oil and natural gas licenses; collects data from license holders; and promotes investment, collaboration, and efficiency in the industry. Since 2021, NSTA has encouraged a North Sea energy transition. Closer coordination of offshore fossil fuel and renewable energy sectors (for example, wind, wave, and tidal) is likely to help the UK meet its 2050 net zero target. [10]
- UK crude oil and other liquids production and consumption has been trending down the last two decades; 2023 production averaged about 794,000 b/d and consumption 1.4 million b/d. In 2023, the UK produced 27% of what it produced in 1999 at its production peak of 3.0 million b/d. Crude oil consumption in 2023 was 78% of oil consumption in 1999. Production declines are the result of aging oil fields and government policy shifting away from consuming fossil

fuels. We forecast that both crude oil production and consumption will remain relatively flat through 2025 (Figure 1).

- Clair Ridge (also known as Clair Phase 2) was the UK's top producing oil field, at 106,000 b/d, in 2023. It reached 115,000 b/d in 2022, which was just below its 120,000 b/d target peak. BP is the majority stakeholder in Clair Ridge, which is west of the Shetland Islands. Buzzard oil field, which used to be the top-producing field in the UK in 2021, was slightly behind Claire Ridge in production at 113,000 b/d in 2022 and 92,000 b/d in 2023 (Table 2).[11]
- Rosebank field, owned by Equinor (80%) and Ithaca Energy (20%), 80 miles (130 km) west of the Shetland Islands on the UK continental shelf is the largest prospective oil and natural gas field, scheduled to come online in 2026–2027 at a cost of $3.8 billion. Rosebank has an estimated 300 million barrels of total recoverable oil. Phase 1 targets 245 million barrels of total production, and Phase 2 will add another 55 million barrels of oil production, with a production plateau of 70,000 b/d potentially in the first phase.[12]
- According to the NSTA, UK oil and natural gas capital expenditures will peak at £5 billion in 2024 and drop to £2 billion by 2029; however, exploration and appraisal expenditures will remain steady, averaging £0.310 billion from 2024 to 2029. [13]
- The UK's extensive network of pipelines carries oil extracted from North Sea fields to coastal terminals in Scotland and northern England. The network includes six major pipelines (Table 3). Many smaller pipelines transport petroleum liquids from individual fields to the major pipelines for transport to the coast. Pipelines in the United Kingdom are privately owned and operated; however, any qualified shipper may access the pipelines.
- Flows have decreased on the Forties Pipeline System (Table 4) by approximately 40% since 2017, which has led processing the plant to close due to lack of demand. Forties Pipeline System moves approximately 40% of the UK's oil from the North Sea via Grangemouth to be processed for distribution throughout the UK in any given year.[14]
- Sullom Voe Terminal, one of the UK's historically important oil and natural gas infrastructural points on the largest of the Shetland Islands, has started decommissioning pipelines as part of the facility's shift to greener energy. This shift includes utilizing renewable power options over an older, higher-emitting natural gas-fired power station and adding green hydrogen and carbon capture to the site. Some of the pipelines that are being decommissioned are connected to decommissioning fields such as the once prominent Brent field. Sullom Voe Terminal is also the onshore loading site for Clair Ridge field's oil and natural gas, although BP has considered shifting to offshore loading facilities to bypass Sullom Voe's aging and a potentially more costly loading site than offshore loading (Table 2). Liquid fuels produced at the Claire Ridge field will eventually have to find new facilities to load its production because the Sullom Voe Terminal is scheduled to be decommissioned, if it's not renovated well before Claire Ridge will end production (Table 4).[15,16,17]
- Operators of the Flotta oil terminal on Orkney Island have agreed to serve the North Sea fields Golden Eagle (CNOOC), Piper (RSRUK), and Claymore (RSRUK) until the end of the fields' lives in the 2030s. Flotta terminal is also close to securing a green hydrogen hub facility, among many other green technology ventures, in hopes of continuing operations after oil and natural gas production end sometime in the next decade.[18] (Table 4)

- UK major refineries maintained a capacity to process 1.2 million b/d of crude oil in 2024 (Table 3).
- The UK consumed 482,416 barrels of petroleum products in 2022, and 73% was consumed in transportation activities. Road transport-related consumption accounted for 54%, and air transport accounted for 16% of total consumption of petroleum products.[19]

Table 2. UK top oil projects by production, 2023

Fields	First year of production	Operator	Location	Production (thousand barrels per day)
Claire Ridge	2005	BP	Scottish Territorial Waters	106
Buzzard	2007	CNOOC	North Sea	92
Quad 204 (Schiehallion area) and Loyal	2017	BP	North Sea	83
Catcher area	2017	Premier Oil	North Sea	57
Mariner (and Cadet)	2019	Equinor	North Sea	34
Kraken	2017	EnQuest Heather	North Sea	33
Forties	1979	BP	North Sea	27
Golden Eagle, Peregrine, and Solitaire	2014	CNOOC	Scottish Territorial Waters	26
Culzean	2019	TotalEnergies	North Sea	23
Penguins redevelopment	2023	Shell U.K.	North Sea	13
Total				**494**

Data source: The North Sea Transition Authority

Table 3. UK refineries, 2024

Refineries	Ownership	Location	First year of operations	Crude oil capacity (barrels per calendar day [b/cd])	Vacuum distillation capacity (b/cd)	Note
Eastham	Nynas AB/Shell	Eastham	1966	27,000	27,000	It produces bitumen for domestic use.[20]
Fawley	Exxon Mobil Corp.	Fawley	1951	248,900	--	A direct jet fuel pipeline to Heathrow Airport is being replaced.[21,22]
Grangemouth	Petroineoes	Grangemouth	1924	145,000	64,600	Scotland's only refinery is expected

						to be converted into a fuel import terminal.[23]
Humber	Phillips 66 Co.	South Killingholme	1969	221,000	156,912	The only coking refinery in the UK also produces transportation fuels.[24]
Lindsey	Prax Group	North Killingholme	1968	120,582	78,868	TotalEnergies sold the refinery in 2021 to Prax Group for the Lindsey refinery that primarily produces gasoline and diesel.[25]
Pembroke	Valero	Pembroke	1964	199,500	95,000	It produces gasoline, diesel, jet fuel, heating oil and low-sulfur fuel oil.[26]
Stanlow	Essar Energy	Ellesmere Port	1924	195,000	130,000	It supplies 16% of UK road fuel and had to stop importing fuel from Russia in 2022 due to the dockworker's union being unwilling to unload it;[27] it could also host hydrogen plant.[28]
Total				**1,156,982**	**552,380**	

Data source: *Oil & Gas Journal*, 2022 Worldwide Refining Survey

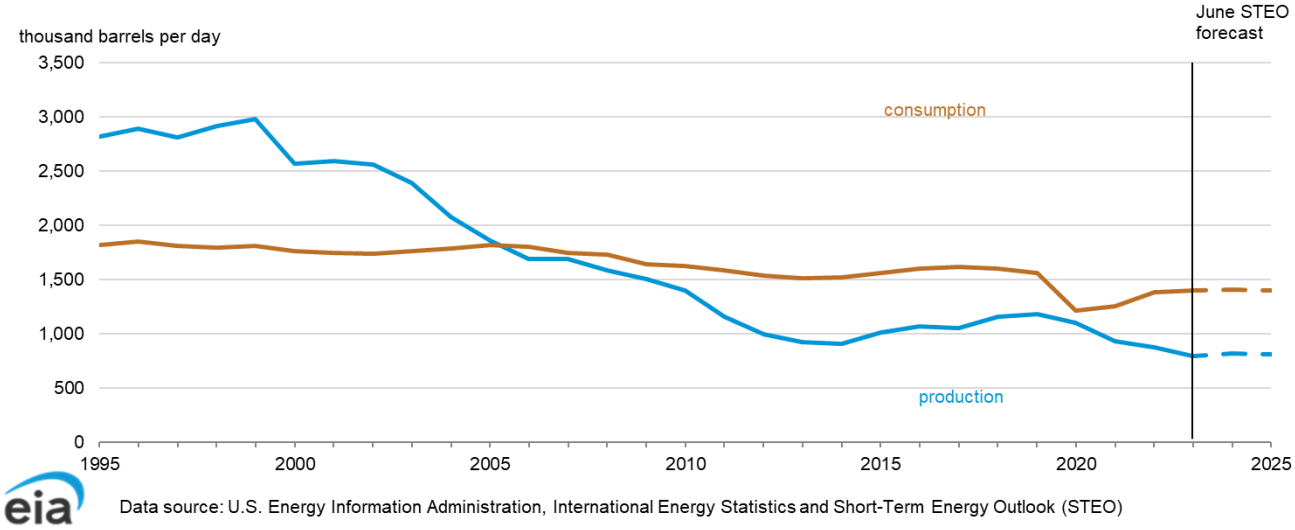
Table 4. UK major crude oil and condensate pipelines, 2024

Origin	Destination	Pipeline system	Operator	Capacity (million barrels per day)	Total length (miles)
Forties area fields	Dalmeny terminal, Hound Point terminal, and Grangemouth refinery and petrochemical complex (Scotland)	Forties	Ineos FPS Ltd	1	235
Ekofisk area fields (Norway) with a spur to UK fields	Teesside terminal (England)	Norpipe	ConocoPhillips	0.8	217
Bruce area fields	Forties Pipeline System	Bruce-Forties	Serica Energy	0.3	154

Piper, Claymore, and Golden Eagle platforms and associated fields	Flotta terminal (Scotland)	Flotta	Repsol Sinopec Resources	0.4	130
Ninian area fields	Sullom Voe terminal (Scotland)	Ninian	EnQuest PLC	0.9	109
Cormorant Alpha platform	Sullom Voe terminal (Scotland)	Brent	TAQA	0.1	91

Data source: U.S. Energy Information Administration, International Energy Statistics, based on North Sea Transition Authority, ConocoPhillips, Repsol Sinopec Resources, TAQA, EnQuest, Ineos, and Serica

Figure 1. UK petroleum and other liquids production and consumption, 1995–2025



Natural Gas

- The UK's proved natural gas reserves were 4.6 trillion cubic feet as of January 1, 2024.[29]
- In the United Kingdom, natural gas production, transmission, and distribution are fully privatized. With a market share of 28%, British Gas, a subsidiary of Centrica, was the largest natural gas distributor in the United Kingdom as of the third quarter of 2023, according to the UK Office of Gas and Electricity Markets (OFGEM). Octopus Energy (17%) and EON (14%) are currently leading a group of natural gas distributors that have slowly taken market share from British Gas, which had over half of market share in 2006.[30]
- The UK natural gas distribution sector changed significantly in 2005, when National Grid Gas sold four of the eight natural gas distribution networks to Scotia Gas Networks, Wales and West Utilities, and Northern Gas Networks. Before this sale, National Grid controlled the domestic natural gas distribution system.

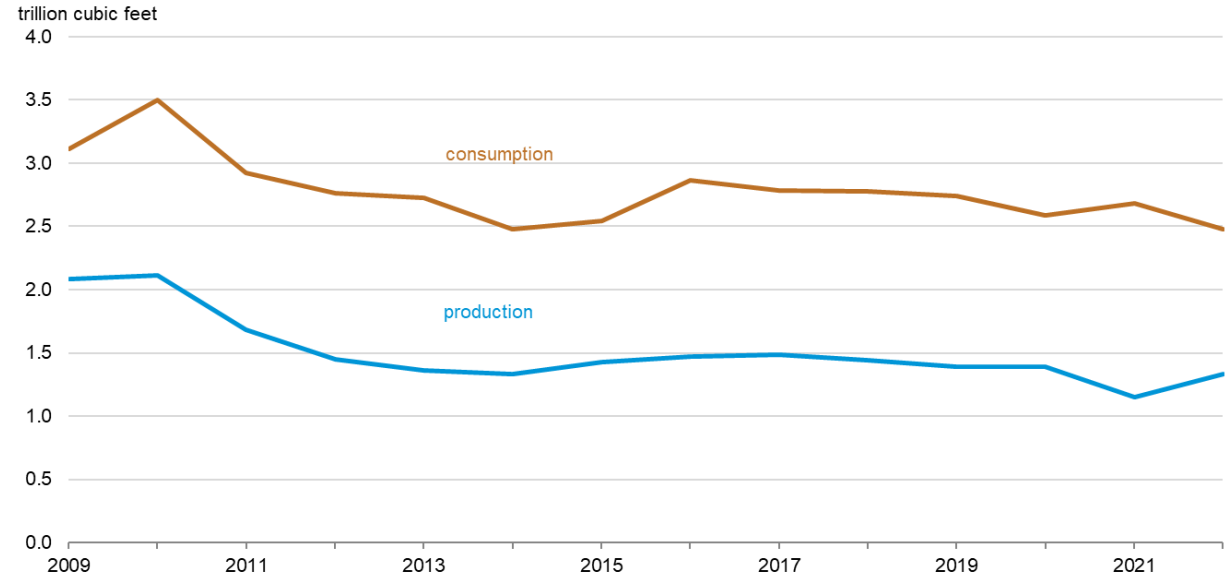
- UK natural gas production decreased to 1.3 trillion cubic feet (Tcf) in 2022, and consumption decreased to 2.5 Tcf (Figure 2). UK natural gas production has been steadily decreasing since peaking at 4.1 Tcf in 2000 due to aging natural gas fields and diminishing reserves, in turn, making natural gas imports more important. The UK has an intricate network of natural gas pipelines to receive natural gas from domestic production, Norwegian production in the North Sea, and from greater Europe via pipeline connections with Belgium and the Netherlands. The United Kingdom also has two natural gas pipeline interconnections with the Republic of Ireland, an undersea link from Scotland, and a smaller capacity link from Northern Ireland (Table 5).
- The natural gas consumption decreases to 2.5 Tcf in 2022 (Figure 2) was driven by a decrease in both domestic and industrial uses. UK provisional data also show a decrease in consumption in 2023.[31]

Table 5. UK major natural gas pipelines, 2024

Pipeline system	Origin	Destination	Capacity (trillion cubic feet)	Total length (miles)
Langeled pipeline	Nyhamna natural gas plant, Norway	Easington, England	1.0	725
Interconnector UK	Zeebrugge, Belgium	Bacton, England	0.9	146
		Zeebrugge, Belgium	0.7	146
Balgzand Bacton line (BBL)	Bacton, UK	Bacton, England	0.7	146
Shetland Island Regional Gas Export System (SIRGE)	Balgzand, Netherlands	FUKA pipeline	0.7	145
Central Area Transmission System (CATS)	Shetland natural gas plant at Sullom Voe	Teesside terminal (England)	0.6	251
Tampen and Gjøa	Norwegian North Sea field	FLAGS pipeline	0.6	14 (Tampen) and 81 (Gjøa)
Shearwater Elgin Area Line (SEAL)	UK North Sea field	Bacton Gas Terminal (England)	0.5	295
Frigg (FUKA)	UK and Norwegian North Sea fields	St. Fergus gas terminal (Scotland)	0.5	225
Vesterland	Norwegian North Sea fields	St. Fergus gas terminal (Scotland)	0.5	224
Far North Liquids and Associated Gas System (FLAGS)	UK and Norwegian North Sea fields	St. Fergus gas terminal (Scotland)	0.4	280
Scottish Area Gas Evacuation (SAGE)	UK and Norwegian North Sea fields	St. Fergus gas terminal (Scotland)	0.4	201
UK-Eire Interconnector	Moffat, Scotland	Loughshinny	0.4	120

Data source: North Sea Midstream Partners, Gassco, Shell, Apache Corp, CATS management Limited, Interconnector (UK), BG, BBL Company, and Digest of UK Energy Statistics

Figure 2. UK dry natural gas production and consumption, 2009–2022

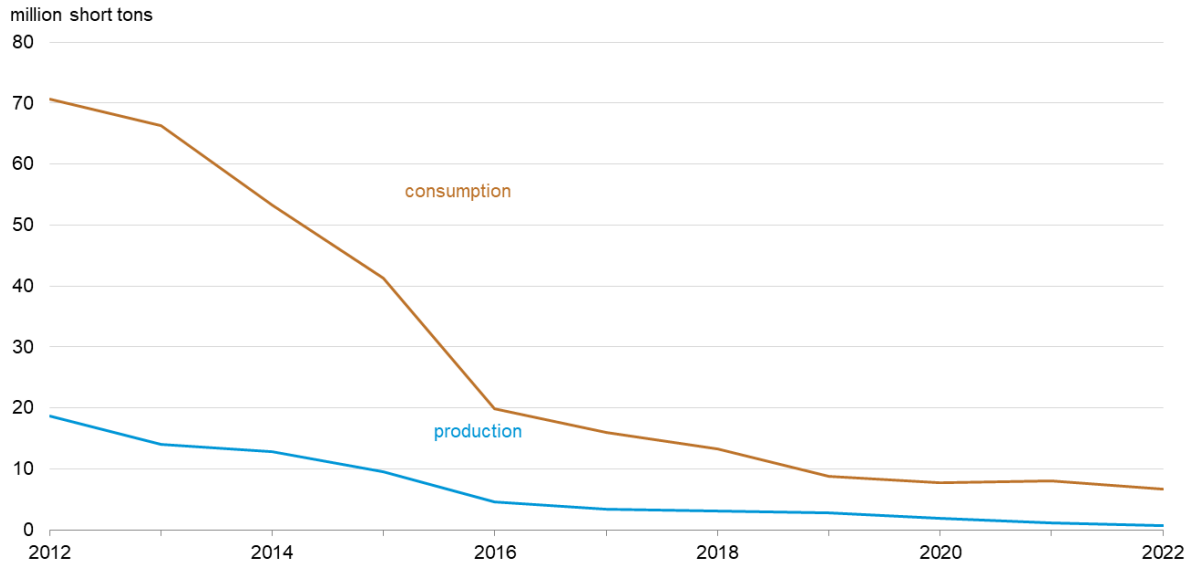


Data source: U.S. Energy Information Administration, International Energy Statistics

Coal

- The UK had 29 million short tons in coal reserves in 2022.
- The UK's coal production and consumption have declined since peaking in the early 1900s.[32] The decline continued into 2022; production totaled 0.7 million short tons (3% of the 2012 average), and consumption totaled 6.7 million short tons (9% of the 2012 average) (Figure 3).
- The $201 million Woodhouse Colliery coal mine project in northwestern England, the only new deep coal mine in the last few decades, is scheduled to begin construction in 2024, as of December 2023, despite legal and political opposition. The mine is 57 acres, and 80% of the coal produced in the mine will be exported throughout Europe.[33,34]
- Efforts are underway to take advantage of flooded coal mines and geothermal energy below one-quarter of UK homes to naturally warm homes. The practice has already been implemented in the English former coal town of Gateshead to heat hundreds of homes and businesses.[35]

Figure 3. UK coal consumption, 2012–2022



Data source: U.S. Energy Information Administration, International Energy Statistics

Electricity

- In 2022, the UK generated 319 terawatthours (TWh) of electric power and maintained an installed generation capacity of 111 GW. In 2022, the UK's renewable generation, which stood at 51.6 GW, surpassed fossil fuel generation capacity of 50.6 GW (Table 1).
- In 2022, the UK generated 319 billion kWh and consumed 287 billion kWh of electricity. Generation increased by 7%, and consumption declined by 3% compared with 2021.
- Natural gas-fired generation (124 billion kWh) continued to account for the greatest share of UK total generation, at 36%, in 2022 (Table 1, Figure 5). Utilities are interested in building additional natural gas power plants despite legally binding commitments to net zero emissions by 2050.[36]
- Together, generation from renewable sources was 45% of total generation in 2022 (wind, 27%; bioenergy, 12%; solar, 4%; and hydro, 2%) (Table 1, Figure 5). Although slightly more wind capacity is onshore (52%) than offshore (48%), offshore wind accounted for 56% of the 85.6 TWh of wind generation in 2022. At 24.8 TWh, plant biomass made up 97% of biomass energy and 64% of bio energy in 2022.[37]
- The UK Department for Energy Security and Net Zero are in final negotiations for funding the UK's first large-scale hydrogen plant in the Stanlow oil refinery. With an estimated cost of $720 million, it would have a capacity of 10 GW by 2030, and it would be paid for through the UK's $25 billion energy transition fund.[38]
- UK nuclear generation increased for the first time since 2016, by 4% to 43 billion kWh, in 2022. The UK government plans to increase nuclear power capacity to 24 GW by 2050. The UK is holding a competition to produce some of its next generation of small modular reactors (SMR) to aid in reaching the 2050 goal. Six companies have expressed interest in building the next generation of nuclear facilities.[39]

- In addition to the existing nuclear power plants, the UK has four AP300, U.S.-designed, and factory-made for on-site assembly SMRs that are in preliminary planning for northeast England that will begin operating in the early 2030s. The new AP300 reactor design, expected to gain approval by 2027, is estimated to cost about $1 billion per reactor, compared with some of the older and more expensive units that can cost as much as $6 billion. Notably, this addition would be the UK's first privately funded nuclear reactor.[40,41]
- The UK has continued to extend the life of its aging nuclear power plant fleet, like many other European countries including France, Belgium, and Sweden. Hinkley Point C has two new reactors in construction to replace a majority of the retiring nuclear capacity (Table 6).[42]

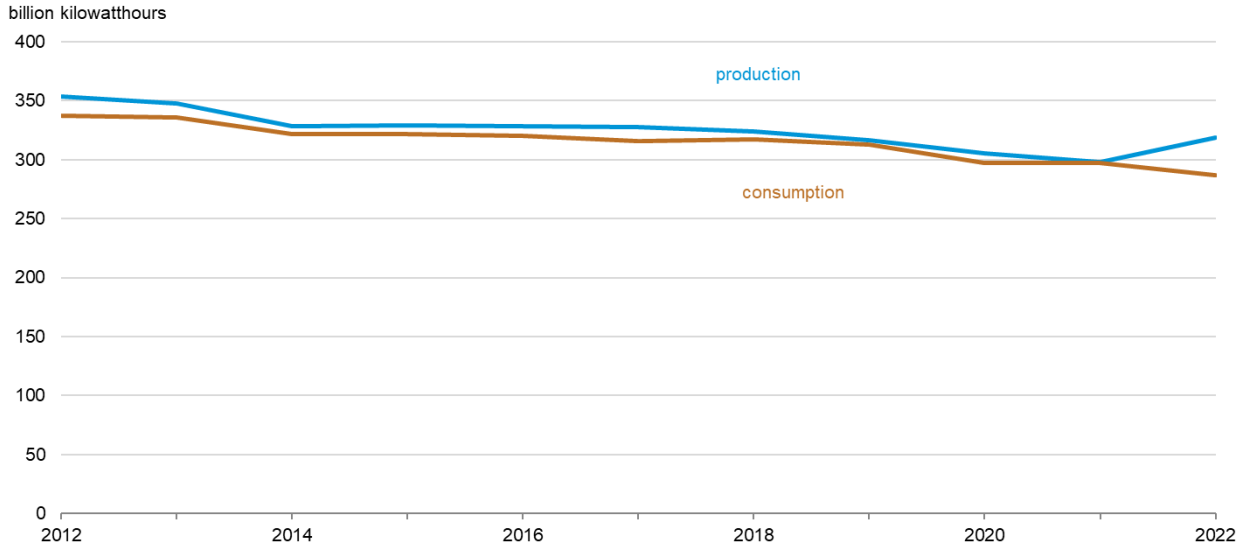
Table 6. UK nuclear power plants, 2023

Site (operator)	Type	Reactor (net capacity, megawatt electric)	Note	Start-up
Bradwell	Hualong One	B-1 (1,150)		Unknown
(China General Nuclear)	Hualong One	B-2 (1,150)		Unknown
Hartlepool	GCR	A-1 (590)	EDF hopes to extend its production further past initial closure dates.[43]	1983[a]
(EDF Energy)	GCR	A-2 (595)		1984[a]
Hinkley Point	EPR	C-1 (1,720)	Production has begun.[44]	2027
(EDF Energy)	EPR	C-2 (1,720)		2028
Heysham (EDF Energy)	GCR	A-1 (485)	EDF hopes to extend its production further past initial closure dates.[45]	1983[a]
	GCR	A-2 (575)		1984[a]
	GCR	B-1 (620)		1988[a]
	GCR	B-2 (620)		1988[a]
Oldbury	ABWR	B-1 (1,380)		Canceled
(Horizon)	ABWR	B-2 (1,380)		Canceled
Moorside (NuGeneration)	AP1000	3 x (1,135)		Canceled
Moorside (EDF Energy)	EPR	C-1 (1,670)		2034
	EPR	C-2 (1,670)		2034
Sellafield (Candu Energy)	PRISM	(311)		Canceled
	PRISM	2 (311)		Canceled
(GE Hitachi)	ABWR	1 (740)		Canceled
	ABWR	2 (740)		Canceled
Sizewell (EDF Energy)	EPR	C-1 (1,670)	Approval for construction has largely been granted.[46]	TBD
	EPR	C-2 (1,670)		TBD
Torne	GCR	1 (595)	EDF hopes to extend its production further past initial closure dates.[47]	1988[a]
	GCR	2 (605)		1989[a]
Wylfa Newydd (Horizon)	ABWR	1 (1,380)	UK government still intends on using the land to build nuclear plants despite cancellation of the previous project.[48]	Canceled
	ABWR	2 (1,380)		Canceled
Total planned and proposed capacity (11 units)		**15,600**		

Data source: World Nuclear Association

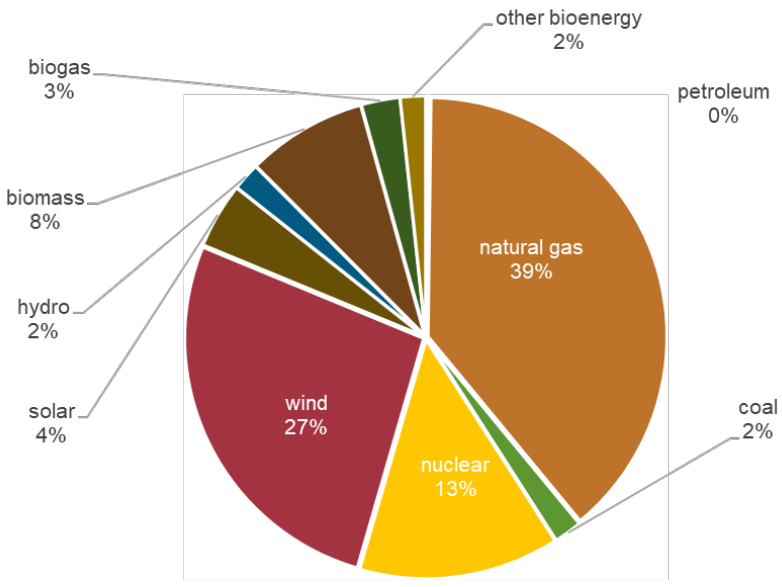
Note: [a]Extended the life of these reactors past their original closure dates.

Figure 4. UK electricity production and consumption, 2012–2022



Data source: U.S. Energy Information Administration, International Energy Statistics

Figure 5. Electricity generation by fuel, 2022



Data source: U.S. Energy Information Administration, International Energy Statistics and UK Department for Energy Security & Net Zero

Energy Trade

- UK petroleum and other liquid imports decreased to 644,000 b/d and exports decreased to 547,000 b/d in 2022 (Figure 6).
- UK petroleum product imports and exports have risen after decreasing during the COVID-19 pandemic (Figure 10).
- Following Russia's full-scale invasion of Ukraine, the UK and the EU banned imports of crude oil (December 2022) and petroleum products from Russia (February 2023). .[49]
- The UK, the world's leading cargo insurer, banned insuring Russian oil shipments for more than the $60 per barrel price cap established in December 2022. Prior to the ban, 33% of Russia's oil cargo shipments were insured in the UK from March 2022 to November 2023.[50]
- The Netherlands is the source of most (19%) UK petroleum product imports and receives most (25%) UK petroleum product exports (Figures 12 and 13).
- UK natural gas imports were 2.0 Tcf and exports were 0.8 Tcf in 2022 (Figure 7).
- The UK's liquefied natural gas (LNG) imports from the United States have significantly increased; imports grew from zero in 2016 to nearly 420 billion cubic feet (Bcf) in 2023 (Figure 8). Qatar LNG exports peaked in 2011 at about 761 Bcf. The UK's pipeline imports from Belgium and the Netherlands have decreased from nearly 209 Bcf in 2018 to 1.3 Bcf because of lower natural gas pipeline supplies from Russia to Europe. Imports of piped natural gas from Norway have maintained a rate varying above and below approximately 1.0 Tcf since 2012.[51]
- The UK has maintained a ban on LNG imports from Russia since January 1, 2023, despite the European Commission proposing its ban of natural gas and LNG from Russia for 2027. Prior to the ban, UK natural gas imports from Russia stopped by 2023. In February 2024, the UK government introduced additional Russian sanctions, some of which involved oil and natural gas. In particular, the sanctions affect the so-called *shadow tankers* carrying energy products from Russia, those who trade energy products from Russia, and the Artic LNG 2 development.[52,53]
- UK electricity imports fell by 46% year on year to 15.5 billion kWh in 2022. Meanwhile, exports increased by 399% to 20.8 kWh in 2022 (Figure 9). The IFA interconnectors expansion assisted the large increase in exports, and when ElecLink came online in mid-2022, the UK shifted from importing to exporting electricity to France (Table 7).[54]
- The UK had nine transnational electricity interconnectors with a total capacity of 9.8 GW as of early 2024 (Table 7). Greenlink, which connects Wales to Ireland, may add 0.5 GW by the end of 2024.[55] The highest-capacity and longest interconnector project proposed includes two 1.8-GW submarine cables that are 2,485 miles long from a 11.5-GW wind and solar Moroccan power plant coupled with a 22.5-gigawatthour/5-GW battery storage facility that is proposed to begin its first phase of operation in 2029.[56]
- UK coal exports and imports have diminished because of decreasing domestic coal production and all coal-based end uses, including electrical generation and industrial use (Figure 11).[57]

Table 7. United Kingdom's interconnector, 2024

Interconnector system	Connection	First operation (expected start date)	Type of HVDC cable	Capacity (gigawatts)(proposed)	Total length (miles)

Interconnexion France-Angleterre (IFA)	France	1986	Submarine	2.0	45
Moyle	Ireland	2001	Submarine	0.5	40
BritNed	Netherlands	2011	Submarine	1.0	160
East-West	Ireland	2012	Submarine		162
Nemo Link	Belgium	2019	Submarine	1.0	87
Interconnexion France-Angleterre 2 (IFA2)	France	2020	Submarine	1.0	127
North Sea Link	Norway	2021	Submarine	1.4	450
ElecLink	France	2022	Chanel tunnel	1.0	32
Viking Link	Denmark	2023	Submarine	1.4	475
Greenlink	Ireland	(2024)	Submarine	(0.5)	120
NorthConnect	Norway	(2025)	Submarine	(1.4)	400
AQUIND Interconnector	France	(2026)	Submarine	(2.0)	150
Neuconnect	Germany	(2028)	Submarine	(1.4)	450
Xlinks	Morocco	(2029)	Submarine	(3.6)	2,485
FAB Link	France	(2030)	Submarine	(1.4)	140
Grid Link	France	(2030)	Submarine	(1.4)	87
Total				**9.8**	

Data source: UK Office of Gas and Electricity Markets, NorthConnect, AQUIND, and Xlinks
Note: HVDC=high-voltage direct current

Figure 6. UK petroleum and other liquids imports and exports, 2012–2022

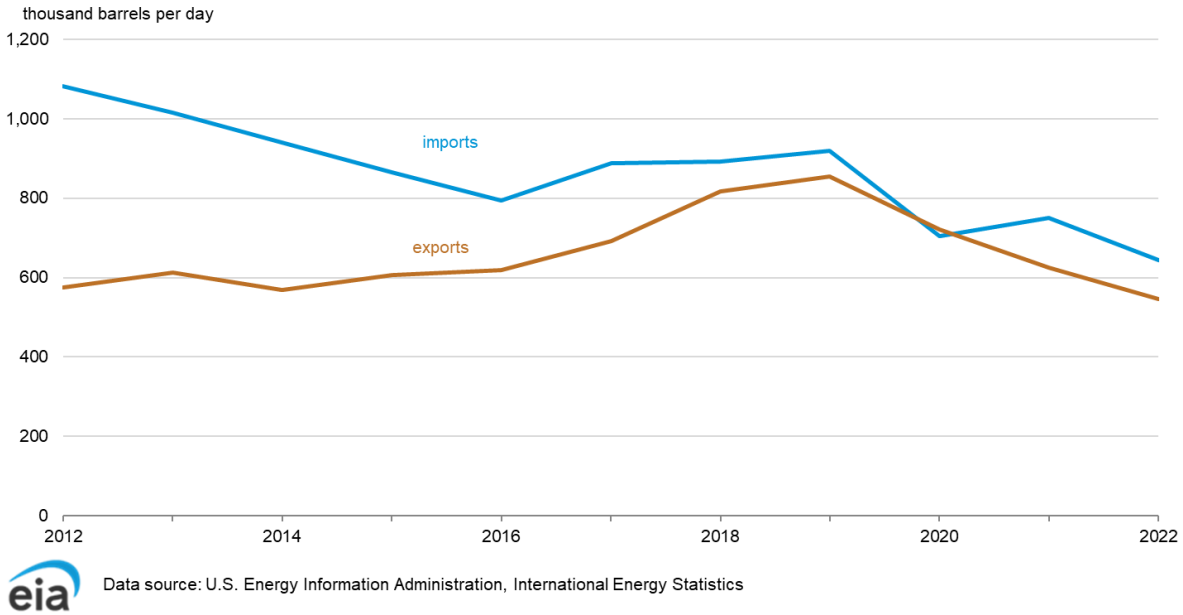
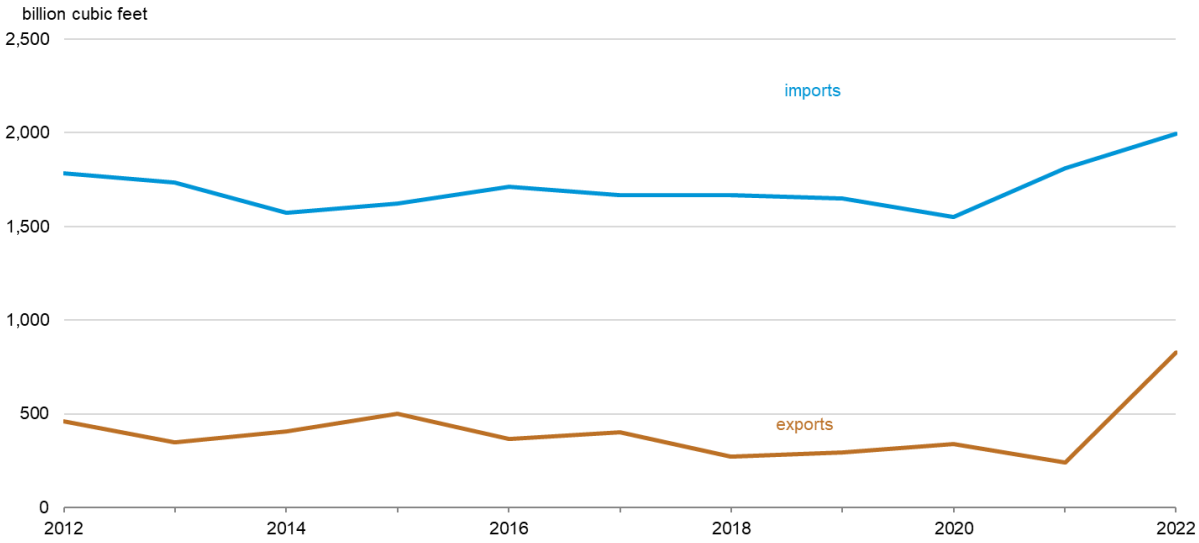


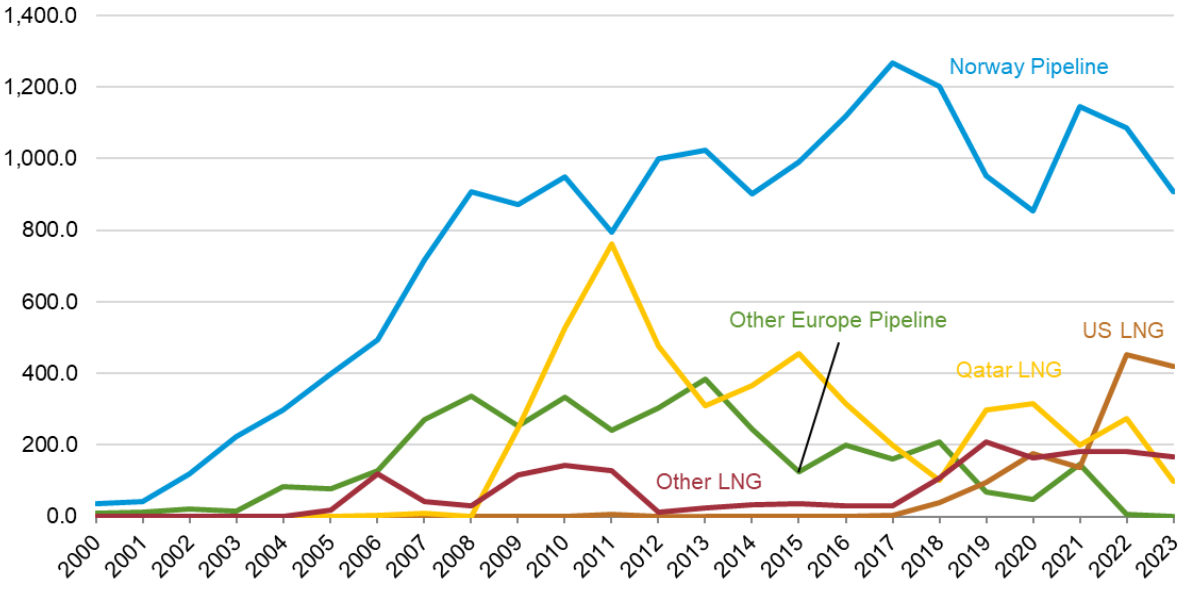
Figure 7. UK natural gas imports and exports, 2012–2022



Data source: U.S. Energy Information Administration, International Energy Statistics

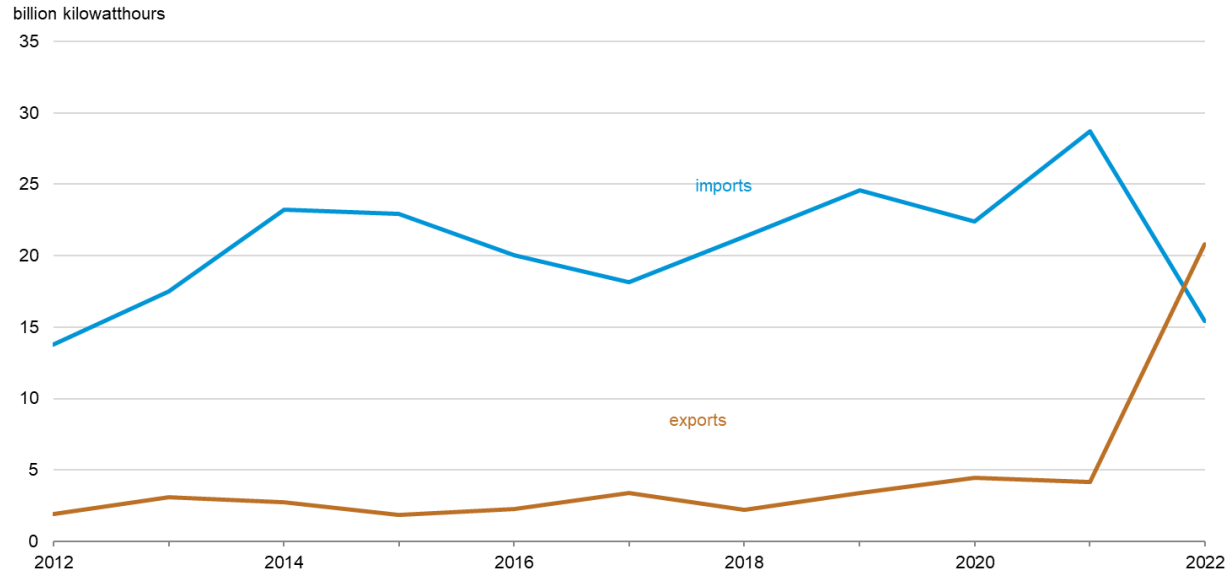
Figure 8. UK Natural Gas Imports by Source

billion cubic feet



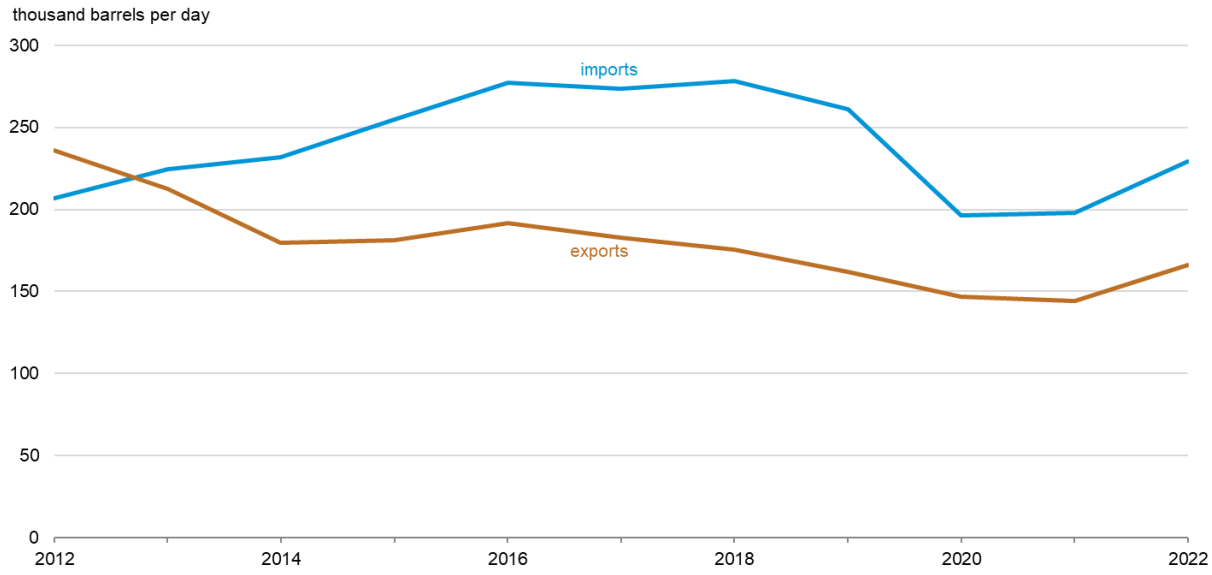
Data source: UK Department of Energy Security and Net Zero, Digest of UK Energy Statistics
Note: LNG=liquefied natural gas

Figure 9. UK electricity imports and exports, 2012–2022



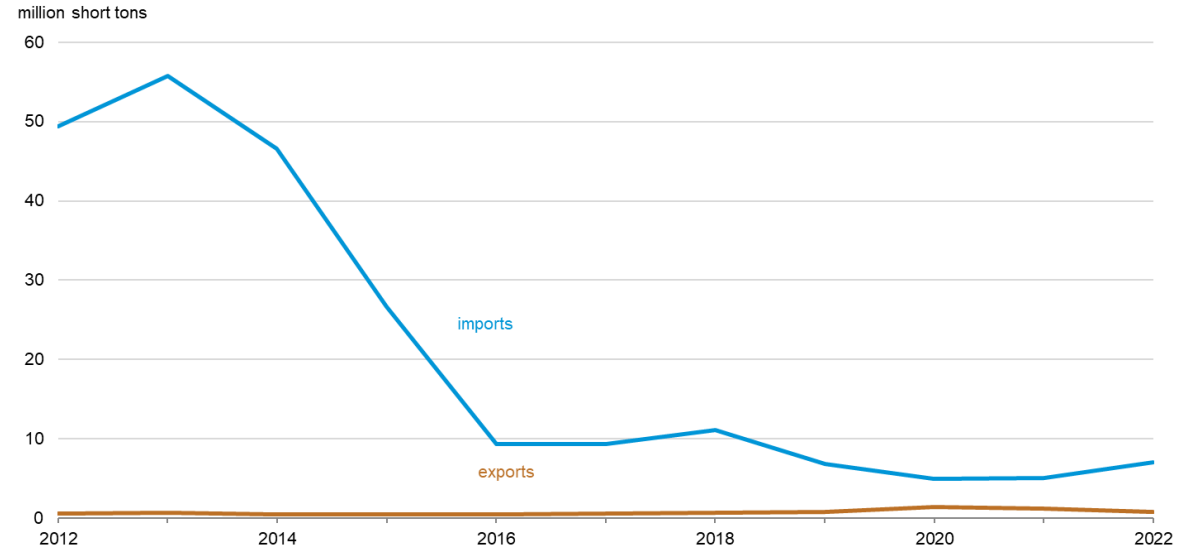
Data source: U.S. Energy Information Administration, International Energy Statistics

Figure 10. UK petroleum products imports and exports, 2012–2022



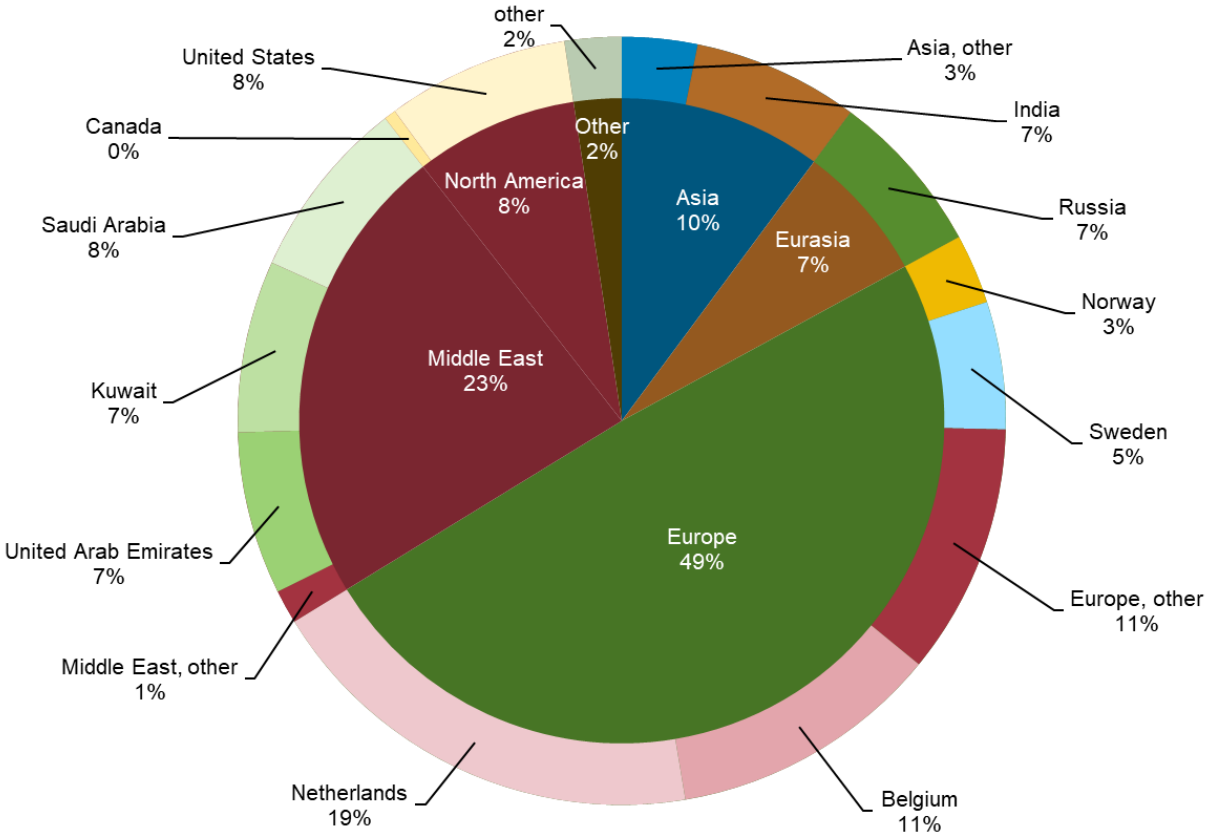
Data source: UK Department of Energy Security and Net Zero, Digest of UK Energy Statistics

Figure 11. UK coal imports and exports, 2012–2022



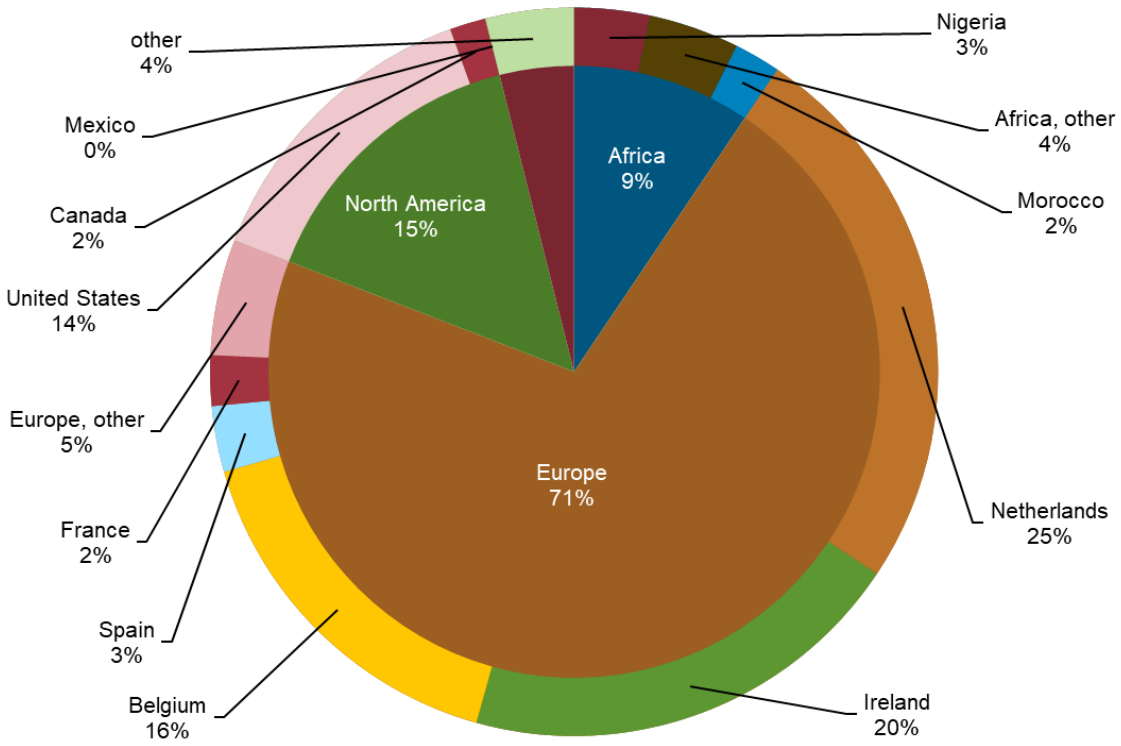
Data source: U.S. Energy Information Administration, International Energy Statistics

Figure 12. UK petroleum products by import source country, 2022



Note: Some individual figures do not match the regional total due to rounding.
Data source: UK Department of Energy Security and Net Zero, Digest of UK Energy Statistics

Figure 13. UK petroleum products by export source country, 2022



Note: Some individual figures do not match the regional total due to rounding.
Data source: UK Department of Energy Security and Net Zero, Digest of UK Energy Statistics

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