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Deutsche Umwelthilfe

ATLAS OF DESTRUCTION

HOW GERMANY'S HUNGER FOR OIL AND GAS HARMS NATURE AND THE CLIMATE

Legal notice

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the Energy and Climate Protection Department of Deutsche Umwelthilfe e. V.

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Preface

Luisa Neubauer

Climate activist and publicist

Germany's responsibility does not end at its own shores. Whilst drilling for gas continues near Borkum and new fossil projects are being planned off Usedom, it would be naive to focus only on what is happening in our own backyard. These projects are only the visible tip of a global fossil system that we drive forward, day after day, with our hunger for energy – with devastating consequences for the climate, for nature and for people.

Germany imports more than 80 percent of its energy. We benefit from this, in warm living rooms, on cheap flights and at every petrol station. Yet to this day, the impact this energy has elsewhere is routinely ignored and downplayed: the human rights violations, the environmental destruction, the suffering do not figure in our statistics and price comparisons. To build our prosperity on this willful blindness is not only politically short-sighted – but morally untenable.

Every year, Germany spends around 80 billion euros to buy oil and gas. This money is lacking for the energy transition at home. It disappears without a benefit for our future – leaving behind nothing except deeper dependencies, more emissions, and more global injustice. Investments in renewable energies, on the other hand, would remain, would strengthen our energy autonomy, and would pay off threefold – ecologically, economically, and socially.

It is understandable that the scandals of the major fossil fuel companies often leave us feeling powerless. Shell, BP, Total – these names sound like something outside our sphere of influence. But these corporations exist only because we continously demand their products, both politically and economically. They act on our behalf, operating within a system that we in Germany help to maintain. And that is precisely why the responsibility lies with all of us.

That is the point of this atlas. It shows where our entanglements lie, what damage occurs, which fossil projects need to be stopped most urgently. It not only reveals individual scandals, but also sheds light on the entire system that makes this fossil reality possible. A system that we have to overcome bit by bit – that is, if we are serious about climate justice.

We all have to look closely, even where it hurts: at the climate and environmental damage along the supply chains of oil and gas, at the political and economic networks that benefit from it, at the responsibility that Germany bears. Those who close their eyes to the problems will not recognize the solutions, even when they are already within reach. Yet these solutions, bold answers and scope for real change do exist, too. A fossil fuel system that was conceived by human minds can equally be reconceived, reimagined, and ultimately left behind. That, too, is what this Atlas is about.

Climate struggles rely on knowledge, courage and a clear understanding of the circumstances. Change rarely falls from the sky, it remains work of effort and conviction. So let us educate ourselves, rise up, shift discourses, build a countervailing power, influence political decisions for the better, offer alternatives and debunk the fossil status quo. This atlas is a contribution to this effort – for politicy-makers, civil society and for all those who no longer want to wait for someone else to take the first step.

Luisa Neubauer

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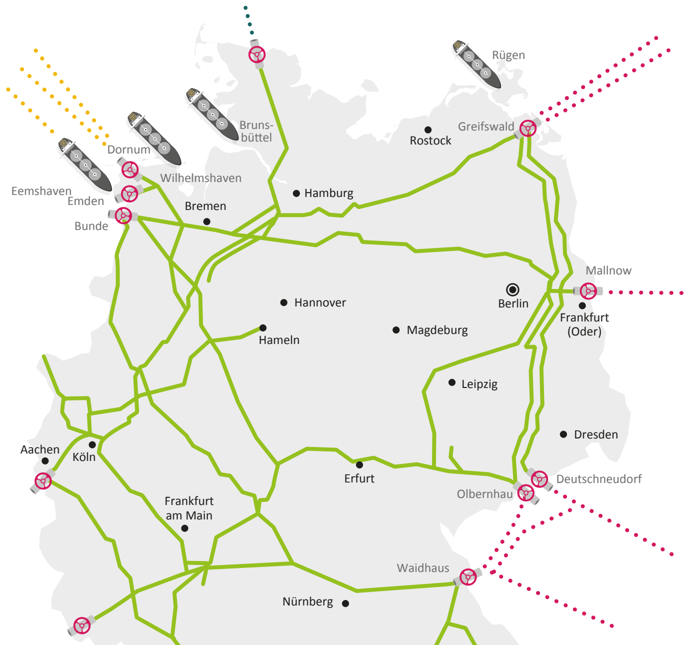

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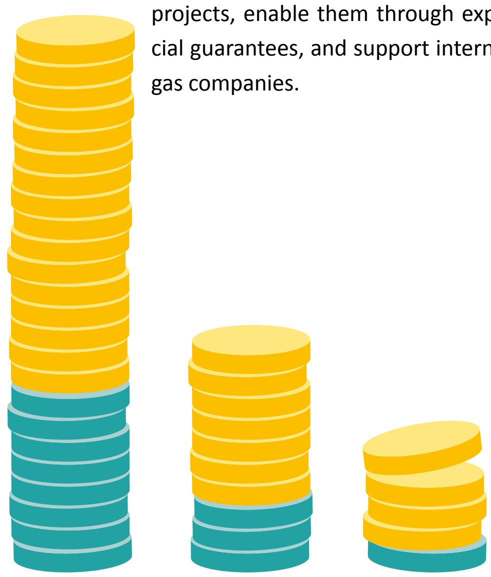
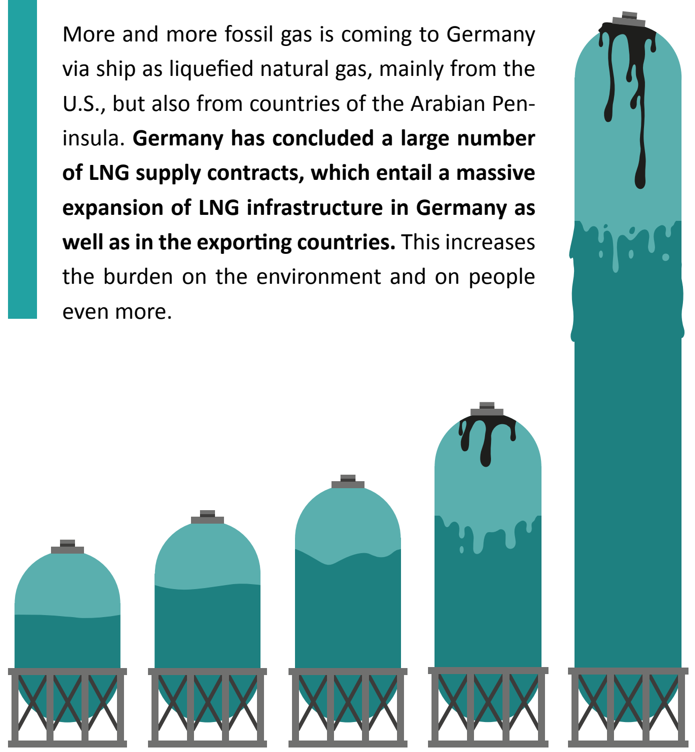




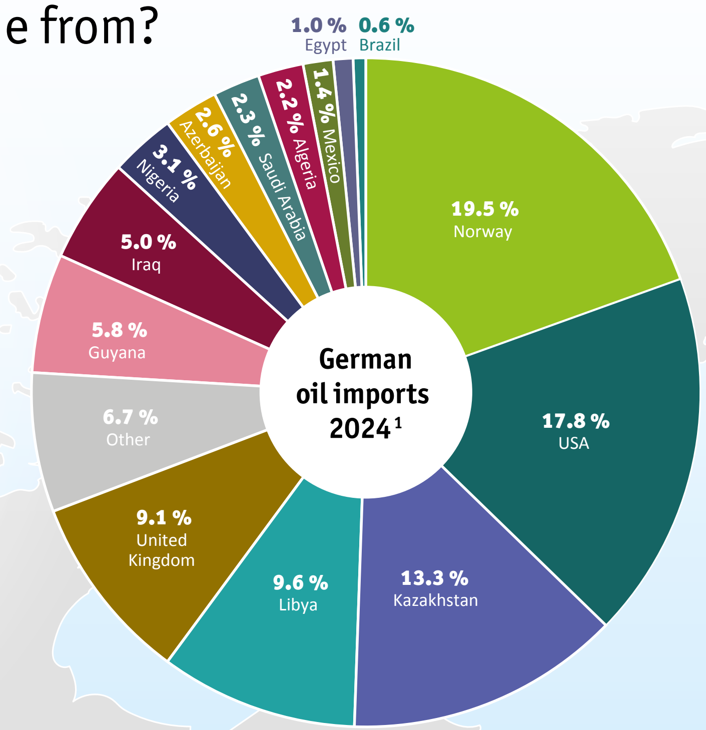
From the well to the petrol pump

Where does German oil come from?

1 Ranking as an oil supplier to Germany
- Share of Germany's oil imports
- Import volume (2024)
- Oil production (2024)
- Largest oil field
- Harmful impacts

German oil imports (2024)[1]

Oil shipments to Germany for transhipment (2024)[2]
(Transhipment only, no imports)



USA (2)
17.7 %[1]
14,917,596 t[1]
≈ 655,645,120 t/year[5]
Prudhoe Bay (Alaska)[6]
Fracking, particularly in Texas and Louisiana, causes severe air and water pollution and high levels of cancer and other health risks;[7] the USA ranks 4th among the countries that carry out the most flaring.[8]

Guyana (6)
5.8 %[1]
4,837,199 t[1]
≈ 30,627,880 t/year[17]
Liza[18]
Between 2019 and 2023, there were 1,298 irregular gas flaring incidents, which released 1.32 million tonnes of CO_2 as well as nitrogen oxides and sulphur dioxide, making the country the second-largest flaring emitter in the Amazon region.[19]

Algeria (11)
2.2 %[1]
1,882,494 t[1]
≈ 45,023,480 t/year[5]
Hassi Messaoud[36]
Massive flaring of unused associated gas during crude oil production, which releases greenhouse gases and pollutants; Algeria ranks 6th among the countries that flare the most.[8]

Nigeria (8)
3.1 %[1]
2,645,631 t[1]
≈ 66,765,800 t/year[5]
Agbami Field[24]
Africa's largest oil producer;[25] illegally operated refineries and pipeline leaks regularly lead to explosions and massive environmental disasters in oil-producing regions.[26,27]

United Kingdom (5)
9.1 %[1]
7,651,423 t[1]
≈ 28,741,560 t/year[5]
Clair[14]
British offshore production in the North Sea causes severe environmental damage;[15] the Labour government has currently halted the awarding of production licenses – a major success for the climate movement.[16]

Norway (1)
19.5 %[1]
16,388,329 t[1]
≈ 87,763,520 t/year[5]
Johan Sverdrup[8]
Exported oil causes approx. 500 Mt CO_2/year – ten times more than Norway's domestic emissions;[3] 92 drilling operations in the Arctic were also approved for 2023.[4]

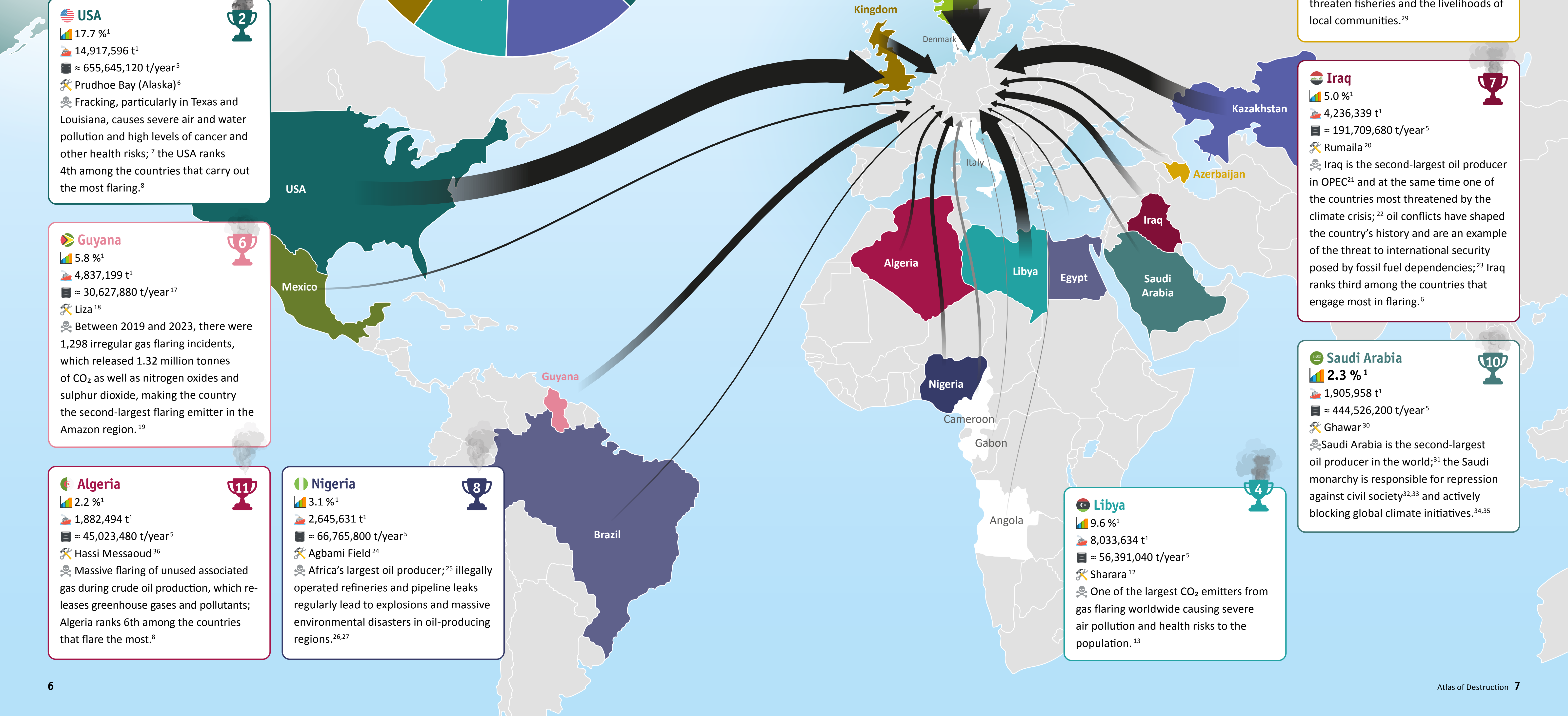
Kazakhstan (3)
13.3 %[1]
11,166,451 t[1]
≈ 76,147,760 t/year[5]
Kaschagan[9]
Kazakh oil flows to Germany via the Druzhba pipeline; according to media reports, Russian oil could also be supplied despite sanctions.[10,11]

Azerbaijan (9)
2.6 %[1]
2,210,537 t[1]
≈ 23,777,560 t/year[3]
Azeri-Chirag-Deepwater Gunashli[5]
Offshore production in the Caspian Sea regularly leads to oil spills, which threaten fisheries and the livelihoods of local communities.[29]

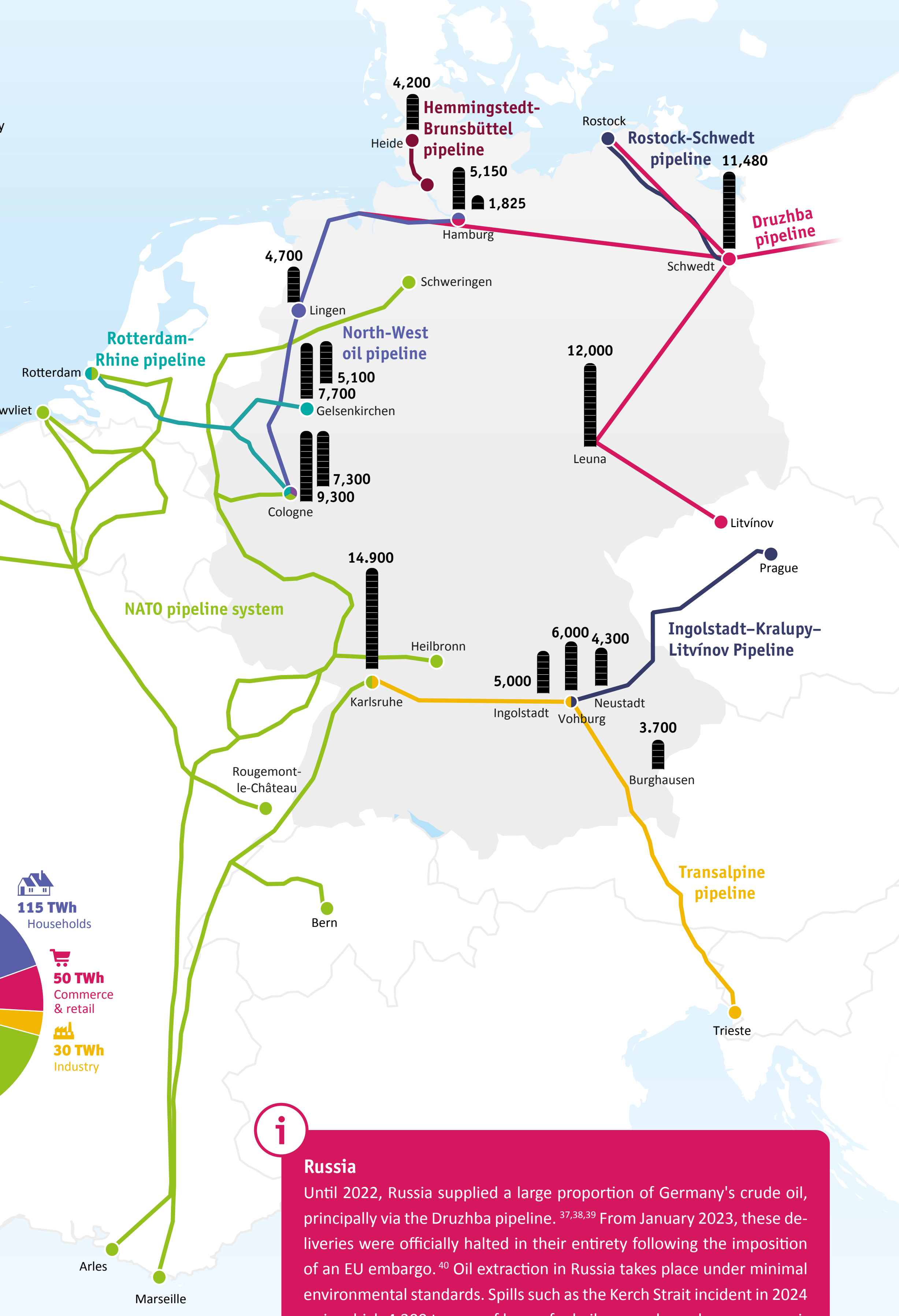
Iraq (7)
5.0 %[1]
4,236,339 t[1]
≈ 191,709,680 t/year[5]
Rumaila[20]
Iraq is the second-largest oil producer in OPEC[21] and at the same time one of the countries most threatened by the climate crisis;[22] oil conflicts have shaped the country's history and are an example of the threat to international security posed by fossil fuel dependencies;[23] Iraq ranks third among the countries that engage most in flaring.[6]

Saudi Arabia (10)
2.3 %[1]
1,905,958 t[1]
≈ 444,526,200 t/year[5]
Ghawar[30]
Saudi Arabia is the second-largest oil producer in the world;[31] the Saudi monarchy is responsible for repression against civil society[32,33] and actively blocking global climate initiatives.[34,35]

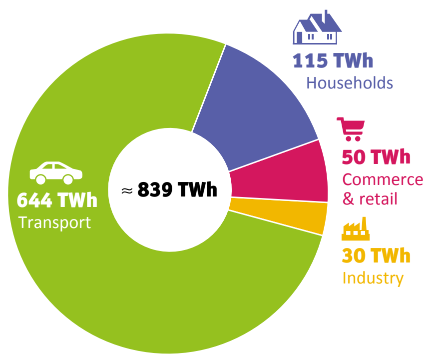
Libya (4)
9.6 %[1]
8,033,634 t[1]
≈ 56,391,040 t/year[5]
Sharara[12]
One of the largest CO_2 emitters from gas flaring worldwide causing severe air pollution and health risks to the population.[13]



Germany's oil import and export pipeline network, including refineries [43,44]



German oil consumption by sector in 2023[45]



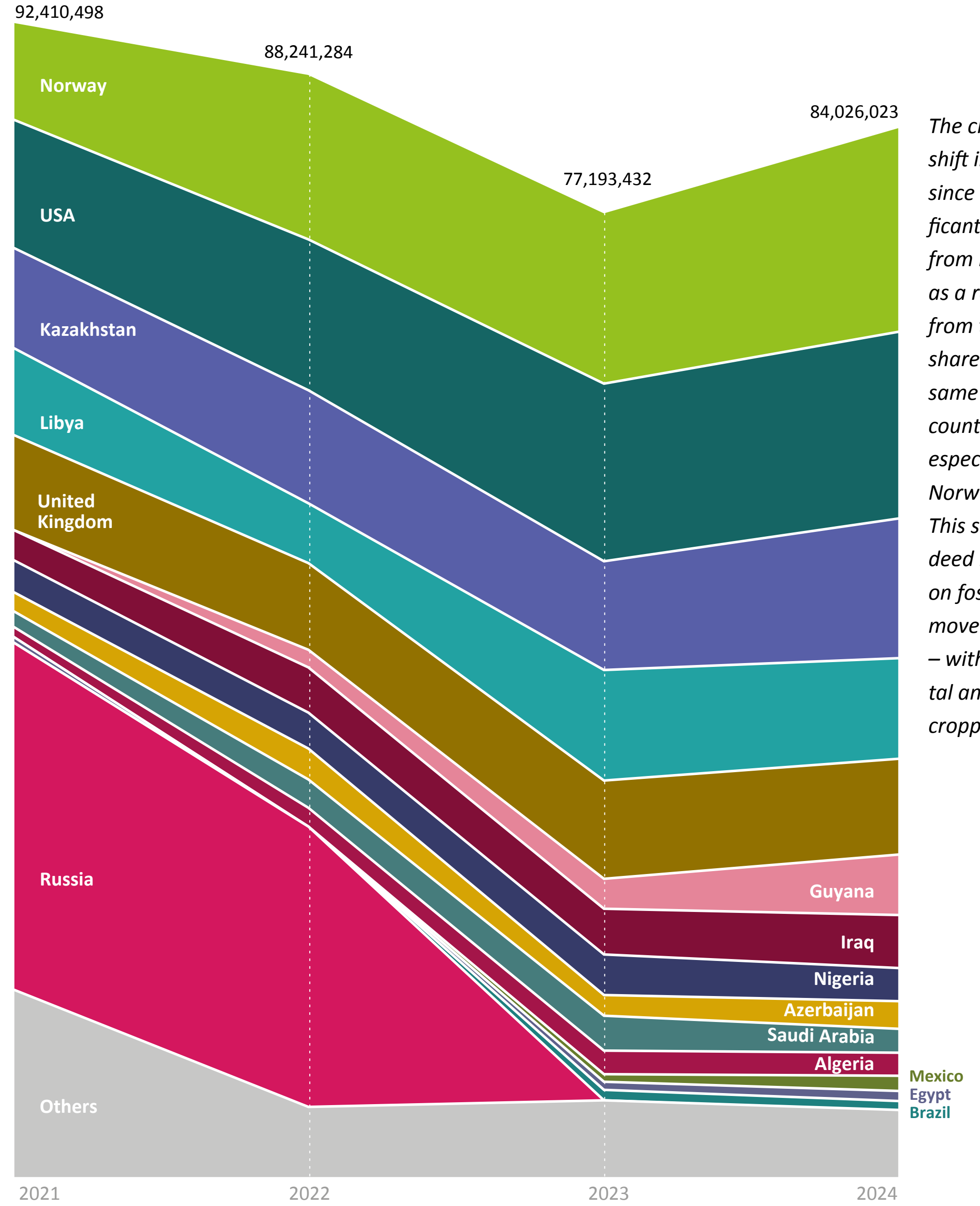
This map depicts only the most significant pipelines and border crossing points in schematic form.

Russia

Until 2022, Russia supplied a large proportion of Germany's crude oil, principally via the Druzhba pipeline. [37,38,39] From January 2023, these deliveries were officially halted in their entirety following the imposition of an EU embargo. [40] Oil extraction in Russia takes place under minimal environmental standards. Spills such as the Kerch Strait incident in 2024 — in which 4,300 tonnes of heavy fuel oil were released — pose a serious threat to the ecosystems of the Black Sea.[41] Gas flaring in the Arctic and Siberia releases millions of tonnes of CO_2 every year and contributes to severe air pollution. [42]

German oil imports 2021-2024 [1]

Import volume in tonnes



The chart shows the significant shift in Germany's oil imports since 2021. Up until 2022, a significant share of imported oil came from Russia. After the import ban as a result of the EU embargo from the beginning of 2023, this share fell abruptly. During the same period, imports from other countries increased sharply – especially from the United States, Norway, Libya and Kazakhstan. This shows that Germany has indeed not reduced its dependency on fossil imports, but rather just moved it elsewhere geopolitically – with new social, environmental and climate policy problems cropping up elsewhere.

Import routes and further processing

Following delivery to Germany by tanker or pipeline, crude oil is processed at large refineries. The three largest are located in Karlsruhe (MiRO), Gelsenkirchen (BP), and Leuna (TotalEnergies Mitteldeutschland).[46] These refineries are interconnected via a pipeline network.[47] Within the refineries, crude oil is further processed into fuels and other petroleum products.

Germany is the world's ninth-largest oil importer,[48] and therefore bears particular responsibility for oil extraction and its destructive consequences. If German oil consumption continues unchanged, it will be incompatible with the goals of the Paris Climate Agreement. The transport sector accounts for by far the largest share of oil consumption (644 TWh in 2023), followed by households for heating (115 TWh in 2023), commerce and trade in third place (50 TWh in 2023), and finally industry (30 TWh in 2023).[45]

Oil consumption in Germany

It is obvious: Germany's dependence on oil, especially in transport, must be drastically reduced in order to achieve the climate goals. Furthermore, the current situation entails considerable economic vulnerability to fluctuations in oil prices. [49] The technical solutions necessary for a transition away from oil have long been available: electric mobility and battery-electric vehicles are commercially viable;[50] bus and rail networks could be substantially expanded.[51] Such measures would also make economic sense, both to avert the high long-term costs of climate breakdown and to reduce the considerable expenditure associated with oil imports.[52] Alternatives based on renewable energies have also long existed for building, heating and industry.[53]

Chemical industry as the largest consumer

The chemical industry accounts for a significant share of oil consumption in Germany. Oil is used both to cover energy needs and as raw material for production. As a major industrial hub in Europe, Germany plays a key role in this sector and correspondingly in its oil consumption. Approximately 750 chemical companies are based in Germany. The products manufactured include plastics and, particularly harmful to the environment, so-called forever chemicals. Germany's oil consumption thus also fuels the global plastic crisis.[54]

From wellhead to burner

Where does German gas come from?

Germany obtains over 90% of its fossil gas from abroad.[1] In addition to **pipeline connections**, LNG **import terminals** on the German coast increasingly started to play a role over the past few years. Liquefied natural gas (LNG), which was transported by ship, is first regasified and then fed into the German pipeline network. This allows for the possibility to import LNG from countries that lack a pipeline connection to Germany.

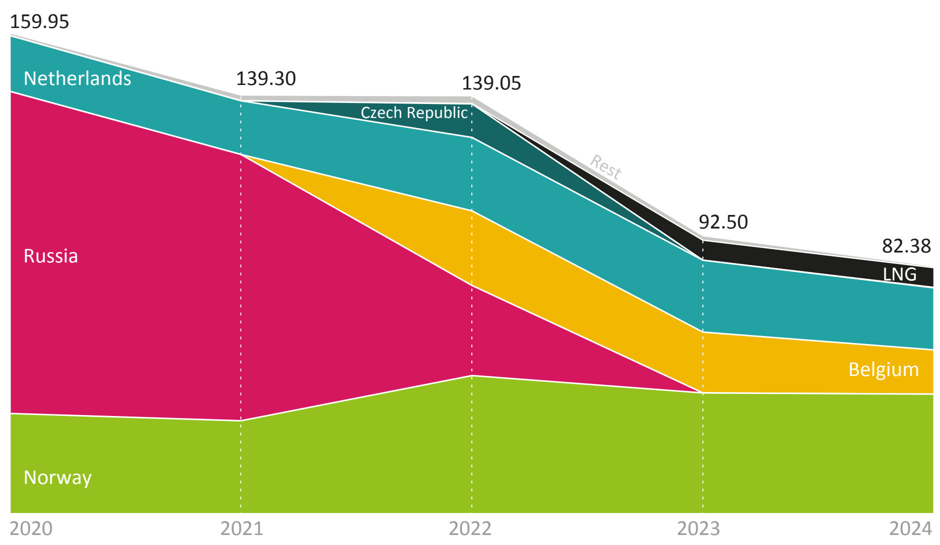
Supplier countries to Germany

Germany has overhauled its approach to fossil gas imports since Russia launched its war of aggression against Ukraine in 2022. A few years ago, **Russia**, was the country's principal supplier, but has not been mentioned in official import statistics since 2023. Established suppliers such as **Norway** partly closed the gap, as well as LNG imports, mainly from the **U.S.**.

In terms of gas imports, this means that the **pipeline connections from Russia** (North Stream I, North Stream II, YAMAL and NET4GAS) are currently no longer used for imports. A handful of other pipelines – from Norway, Austria, Switzerland, France and Denmark, among others – are currently delivering smaller volumes. Partly as a result of losing the eastern pipeline connections, Germany now re-exports only a fraction of its imported gas. In 2024, almost **82 billion m³** (2023: 92.5 billion m³) of fossil gas were imported, roughly **8.5 billion m³** (2023: 18 billion m³) of gas were re-exported by Germany back into the European gas network. In **2020,** by contrast, a total of **160 billion m³** of fossil gas was still imported, of which almost half (**78 billion m³**) was not consumed in Germany, but delivered on to other countries.

In 2024, Norway was Germany's most important supplier, accounting for an import share of just under 48%[2] with the **Netherlands** and **Belgium** trailing behind at 25% and 18% respectively. These figures largely reflect indirect LNG imports that reach the EU via terminals such as Zeebrugge, Rotterdam and Eemshaven. **Direct LNG imports into** Germany have grown considerably since 2022, though last year they remained in **single figures at just under 8% of total imports**. Looking solely at LNG deliveries, the **U.S.** is by far the most important supplier. Last year, Germany sourced **92% of its LNG imports** from there.[3]

Fossil gas imports to Germany (gross) 2020–2024
billion m³



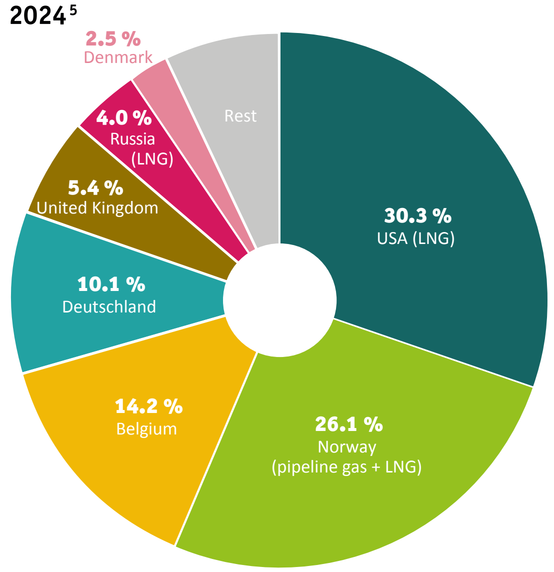
The suppliers behind the supplier countries

Among the largest exporters of fossil gas to Germany, one group comprises countries with substantial domestic production. Apart from the U.S., this includes Norway. On the other side sit the **Netherlands** and **Belgium**, which – much like Germany itself – function almost entirely as transit countries, with little or no meaningful production of their own. LNG terminals are central to this picture.

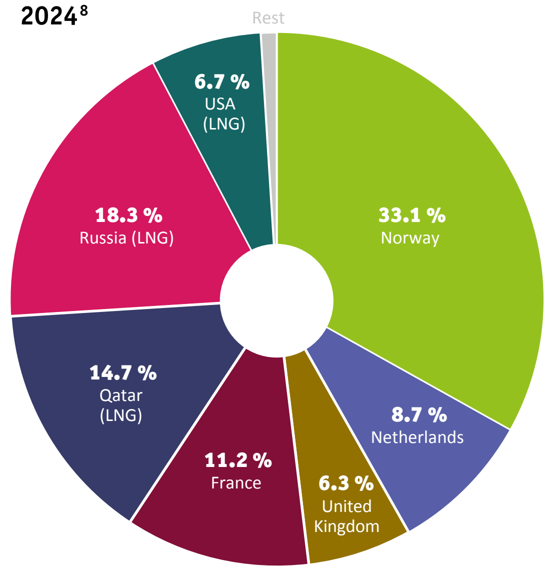
Alongside their steadily dwindling domestic output (8.1 billion m³ in 2024), the **Netherlands** [4] imported nearly half of their fossil gas in 2024 as LNG through the **Gate Terminal** in Rotterdam and the **EemsEnergy-Terminal** in Eemshaven. The **U.S.** was the **largest LNG supplier** by some margin, at 68%, with more LNG arriving from **Russia** (9% of all LNG imports) and **Norway** (6.4%). That said, Norway's delivers primarily **gas via pipeline** to the Netherlands, making it the single largest overall supplier at 23.3% of total imports. Taken together – pipeline and LNG alike – the **U.S.** was the most important supplier country with a total of 30.4%, followed by Norway, then **Belgium** (14.2%), **Germany** (10.1%) and the **United Kingdom** (5.4%). **Russia** continues to account for 4.1% of total imports, exclusively in the form of LNG.[5]

Belgium meets its gas needs almost exclusively through imports.[6] In 2024,**Norway** topped the list at 33%, followed by Russian LNG at 18.3% and **LNG** from **Quatar** (14.7%). Taking the **U.S.** (6.7%) into account, just under 40% of all imports arriving in Germany entered the country in the form of LNG in 2024. Belgium's principal facility for handling these volumes is the**Zeebrugge Terminal** – one of the busiest in Europe.[7] **Natural gas flowed in via pipeline** from **France** (11.2%) and **the Netherlands** (8.7%) to Belgium.[8] The Zeebrugge Terminal's operator, Fluxys, additionally owns the Dunkirk LNG Terminal in France, through which LNG is also imported. It is, however, regasified on French soil before being fed into the pipeline network and therefore appears in the Belgian import statistics as pipeline gas, not as LNG.

Fossil gas procurement Netherlands 2024[5]



Fossil gas supply from Belgium 2024[8]



LNG: expansion plans, import routes and origins

Germany currently relies on four so-called Floating Storage and Regasification Units (FSRUs) for the direct import of LNG: two in **Wilhelmshaven** and one each in **Brunsbüttel** and on the island of **Rügen**. The FSRU "Neptune" off the coast of Rügen was previously operating at the port of Lubmin before being relocated to the port of Mukran. A second FSRU called "Energos Power" was briefly stationed at Rügen but was withdrawn in March 2025 after its operator, Deutsche Regas, terminated its charter agreement with the federal government. Another FSRU earmarked for Stade has been approved but has not yet entered operation.

In both 2023 and 2024, roughly 7 billion m³ of fossil gas was imported through these terminals[9]. In the medium term, all facilities exept for the FSRUs off Rügen as well as one FSRU in Wilhelmshaven are to be replaced by onshore terminals at Wilhelmshaven, Brunsbüttel and Stade.[10] All in all, up to nine LNG projects could be realised under the current legislation.[16]

The federal government's plans could, however, result in a surplus capacity of around 50 billion m³ of natural gas **by 2030.**[11] Meanwhile, the terminals already up and running are operating **well below capacit**y.[12]

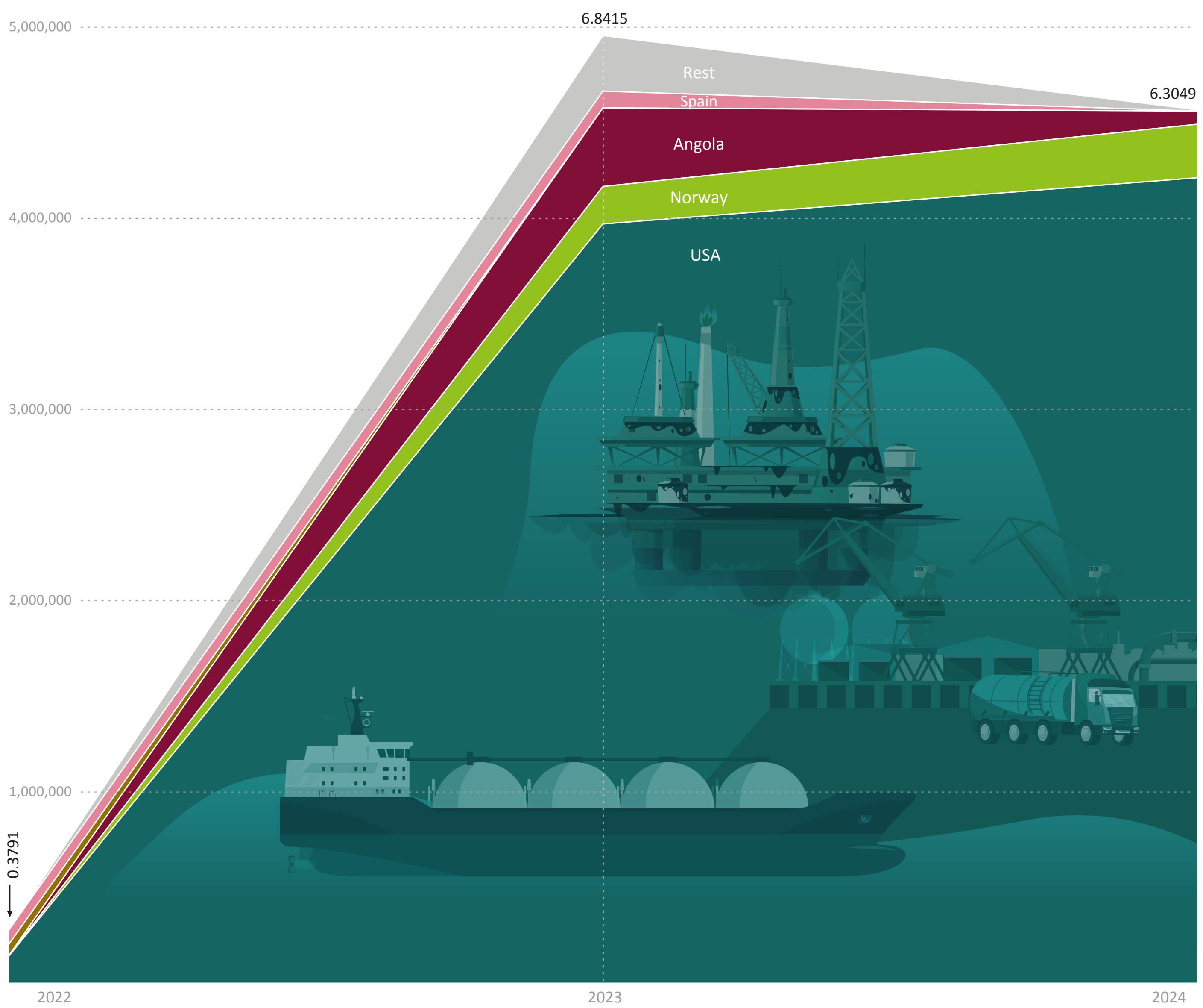
The rapid construction and commissioning of the terminals are made possible largely by the **"LNG Acceleration Act"** (LNGG). Enacted in mid-2022 in the wake of Russia's invasion of Ukraine, the legislation fast-tracks LNG projects by waiving key environmental impact assessment requirements and curtailing civil society consultation rights.[13] No assessment was ever carried out into whether the terminals already in service, or those still planned, are compatible with Germany's climate targets.[14] In addition, the Brunsbüttel terminal, for instance, is permitted to emit nitrogen oxides, carbon monoxide and formaldehyde at levels far beyond of what would ordinarily be allowed.[15]

In December 2022, Germany began importing siginifant quantites of LNG for the first time via its own terminals. At the time, the FSRU in **Wilhelmshaven** as well as the FSRU in Lubmin were operating. Since then, the terminal in Lubmin has been relocated to Mukran off the coast of **Rügen**. At the time, around **a quarter** of deliveries came from **Spain** and **Egypt**; with half already coming from the **U.S.** By 2023 and 2024, the share of LNG imports from the U.S. increased to 80 and 92 % respectively. In 2025, the proportion of US LNG imported to Germany reached 95% with a total capacity of 10 bcm. **Angola** (8 %) and **Trinidad and Tobago** (4 %) also delivered significant quantities in 2023. In recent years, smaller lng deliveries have come from **Belgium**, the **Netherlands** and also from Russia.[17]

Not all LNG reaches Germany through the major terminals;some of it is unloaded at other locations and is often used immediately, for example **to fuel LNG-powered vessels.**[18] The "Coral Energice", for example, arrived at **Emden** and **Bremerhaven** in 2024, carrying three tanker loads from **Russia**. Where and how the gas was ultimately used is impossible to trace. However, as these deliveries arrived in Emden and Bremerhaven, they do not appear in the import statistics of the major terminals. **This is how Russian gas occasionally still reaches Germany directly.**

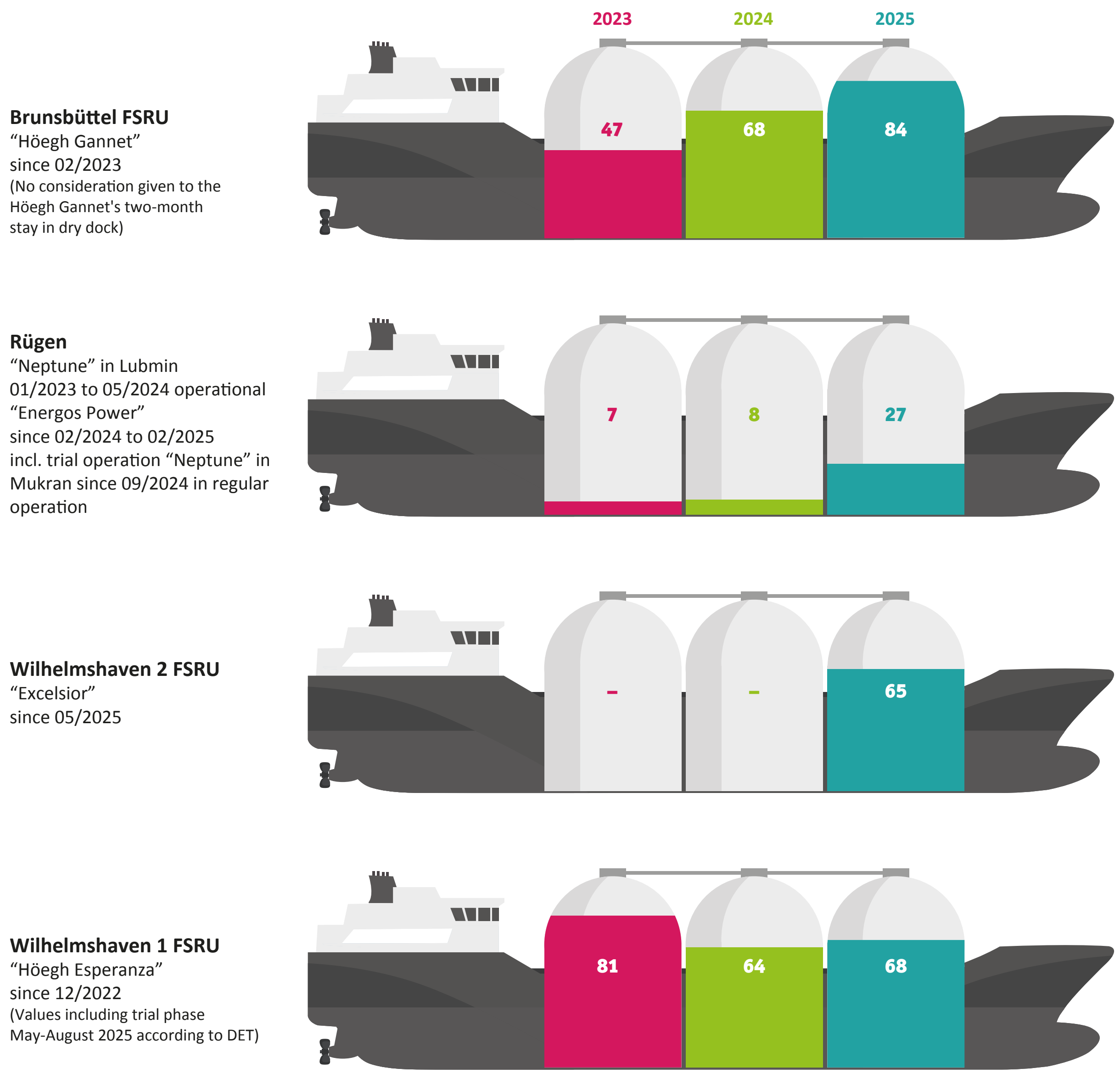
LNG imports to Germany[17]

billion m³



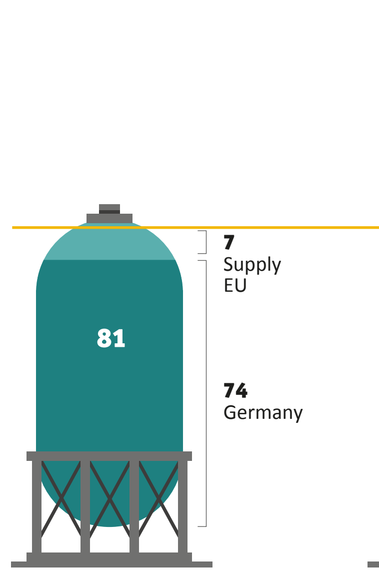
LNG import volumes to Germany by terminal 2022–2025[12]

Utilisation of LNG terminals in percent



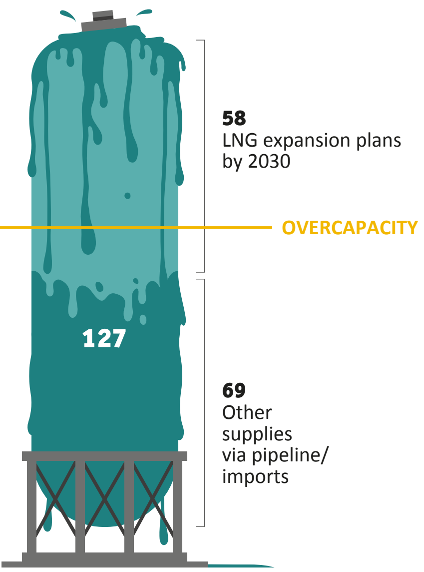
Fossil gas demand by 2030[11]

according to the German government's calculations in billion cubic metres



Planned import capacity[11]

according to the German government's calculations in billion cubic metres



Russian LNG: detours to Germany

The **European Union** plans to stop importing fossil gas from Russia by 2027. The European Commission had originally proposed a ban taking effect in 2028, but has now brought this date forward. The 19th package of sanctions, agreed in October 2025, has now settled the matter: since 2026, imports of Russian LNG have been prohibited. Long-term contracts signed before June 2025 will benefit from a transitional period, with the ban taking effect only from 2027.[20]

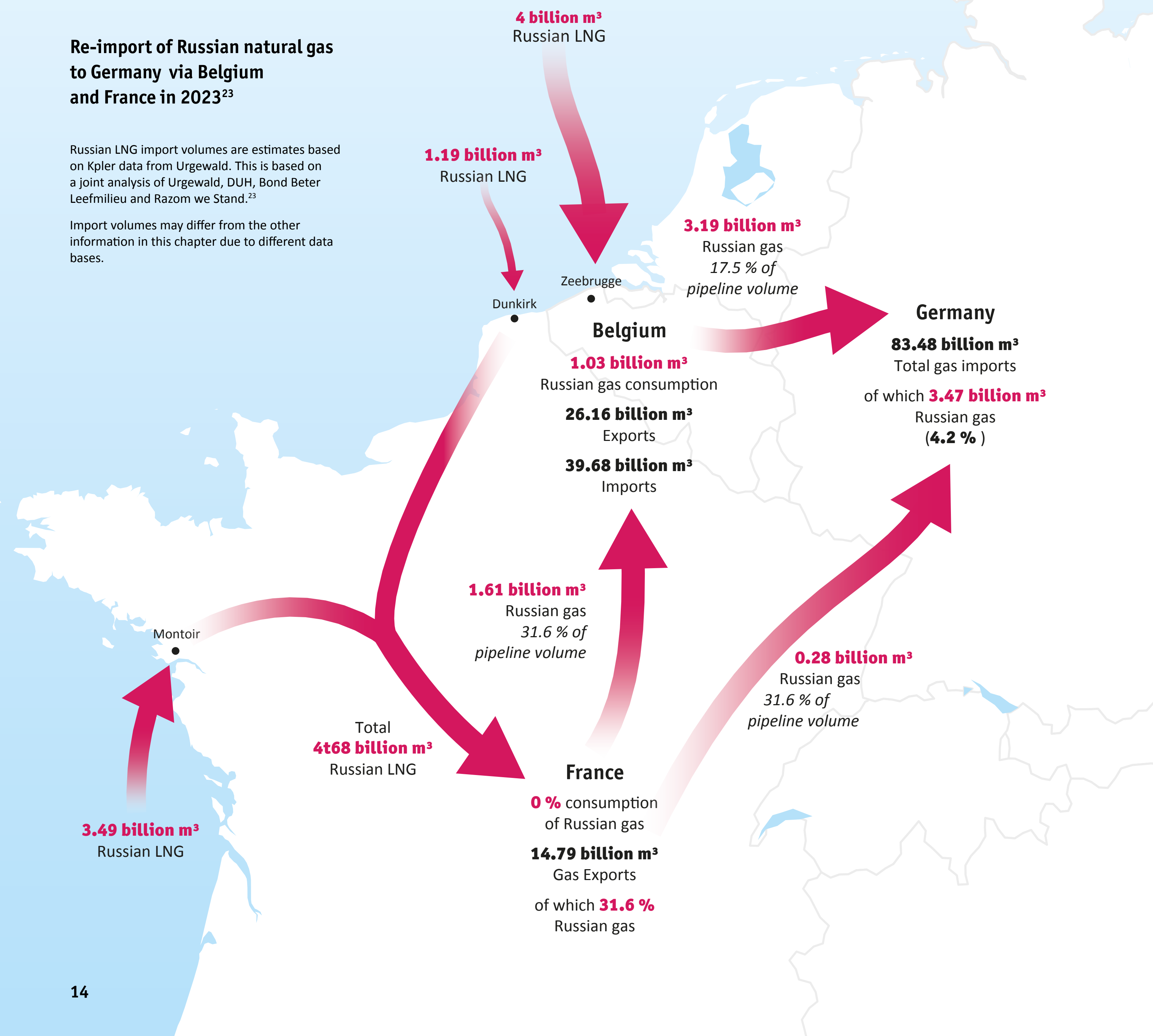
This is why Russian LNG deliveries continue to reach Europe via **Belgium** in particular. Russian imports were, at 18.3 % in 2024, actually higher than before the start of Russia's war of aggression.[21] Germany, too, receives **Russian LNG in this way – regasified in other EU countries and then transported onwards via pipeline to Germany** – even though German import statistics do not classify this gas as Russian in origin. The precise volume of Russian LNG consumed in Belgium, and how much is re-exported by pipeline to other EU countries, cannot be determined with certainty. According figures provided by Fluxys, the operator of the Zeebrugge terminal, two thirds of Russian deliveries are re-exported to other EU countries.[22]

French LNG terminals at **Dunkirk** and **Montoir** also play a role in the import of Russian LNG. Whilst France itself exports only modest amounts of fossil gas directly to Germany, regasified LNG from Russia is nonetheless likely to find its way from the French terminals into the German natural gas network via Belgium. A joint analysis conducted by Belgian, German and Ukrainian NGOs concluded that, depending on the scenario, between 2.4 and 7.6 billion m³ of Russian natural gas flowed into Germany in 2023 – equivalent to between **3 and 9.2 % of all imports**. Under the mid-range scenario (see map), Germany imported 4.2 % of Russian gas.[23]

Re-import of Russian natural gas to Germany via Belgium and France in 2023[23]

Russian LNG import volumes are estimates based on Kpler data from Urgewald. This is based on a joint analysis of Urgewald, DUH, Bond Beter Leefmilieu and Razom we Stand.[23]

Import volumes may differ from the other information in this chapter due to different data bases.

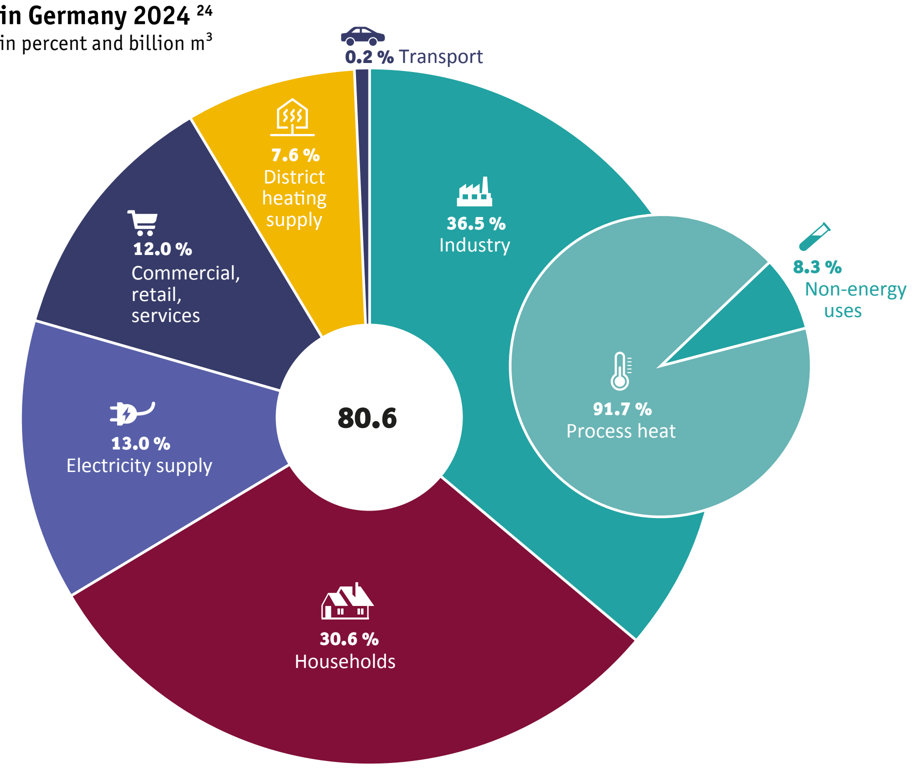


Gas consumption in Germany: Industry & households as the largest consumers

Germany consumed around 80.6 billion m³ of fossil gas in 2024. Of this total, 29 billion m³ were accounted for by **industry**. At 24 billion m³, **households** were the second largest consumers of fossil gas, followed by the **commercial**, **trade** and **services** sectors at 9.5 billion m³. Power generation and district heating also drew heavily on gas, with considerable quantities of 10 and 6 billion m³ respectively.[24]

Gas consumption by sector in Germany 2024[24]

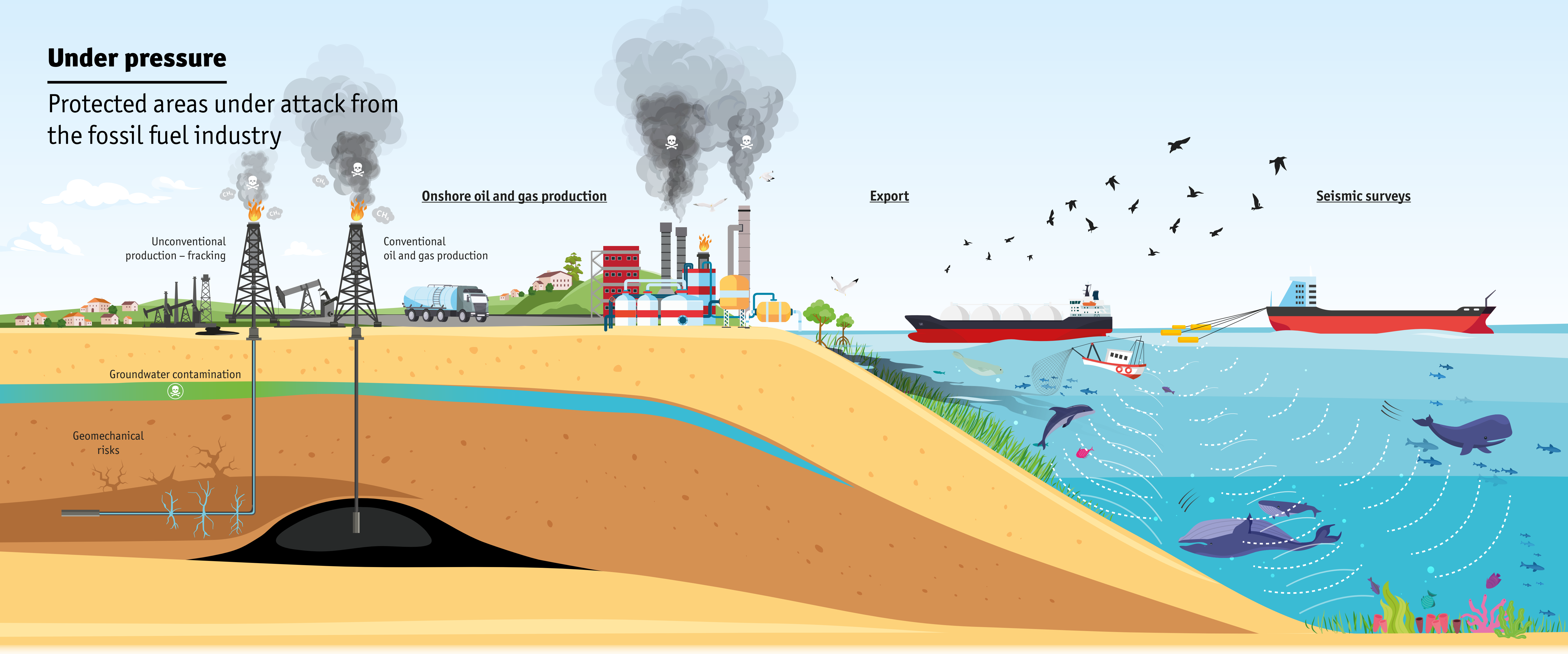
in percent and billion m³



Fossil gas therefore remains deeply embedded across Germany and is used as an energy source in many areas. Yet for virtually all of them, **climate-friendly alternatives** exist. The energy-intensive **steel** production, for instance, can be powered by renewable energy through the use of green hydrogen produced from **renewables**, or through electric arc furnaces[25]. For heating in households and businesses **heat pumps** offer an energy-efficient alternative to fossil fuel heating systems. The continued expansion of renewable energy capacity can also substantially reduce fossil gas consumption in the **power sector**. **Energy efficiency measures – such as the retrofitting buildings** being the prime example – can moreover significantly reduce overall energy demand.[26]

Under pressure

Protected areas under attack from the fossil fuel industry



The oil and gas industry leaves behind an often invisible yet far-reaching trail of destruction. From the exploration of the seabed, or the destruction of protected areas and habitats on land, to constructing and operating platforms, up to transport, processing and decommissioning: ecosystems, the climate and people are under pressure at every step of the way. Sound waves, chemicals, wastewater, oil spills and pollutant emissions interfere deeply with natural cycles and endanger the livelihoods of numerous species and communities worldwide.

Fracking: Toxic for nature and residents alike

About 80 % of the liquefied natural gas (LNG) that is exported from the U.S. is produced through fracking.[1] A mixture of water, sand and chemicals is pressed into rock layers under high pressure. A single fracking operation requires several million litres of water, which return to the surface as wastewater containing heavy metals, radioactive substances, and residual chemicals.[2] Disposing of this wastewater can pollute ground and surface water. In addition, pressing large amounts of water into deep layers increases the frequency of induced earthquakes.[3] Studies also point to increased health risks, such as respiratory diseases and cancers, for people living in the vicinity of extraction facilities. The ones who tend to be particularly affected are low-income or minority communities and Indigenous Peoples, who often live in the immediate vicinity of drilling fields in the Gulf Coast states.[4]
Flaring, the process of burning fossil gas, is another source of danger. Flaring is used in fracking to control pressure and to burn unwanted associated gas in oil and gas production. Pollutants, such as sulphur dioxide and nitrogen oxides are emitted in the process. They can cause respiratory diseases. Furthermore, sulphur dioxide contributes to the acidification of soils and waters as well as overfertilisation. Worldwide, around 150 billion cubic metres of fossil gas are burned annually – more than the total annual consumption of the African continent[5]. This corresponds to about 500 million tonnes of CO_2 equivalent, including large amounts of unburned methane, which is over 80 times more harmful to the climate than CO_2 over 20 years.[6]

Export terminals: transfer hubs with serious consequences for the environment

Extracted oil or gas is transported through pipelines to export terminals before being shipped by tankers. Fossil gas is liquefied before transport. It is cooled down to about -162 °C and transported by LNG tankers. Germany obtains its LNG mainly from export terminals in the US states of Louisiana and Texas, an area where predominantly low-income populations and minorities live. The residents there experience similar impacts to those living near fracking areas. At US terminal sites, increased rates of respiratory disease, cancer, and preterm birth are being documented.[7]

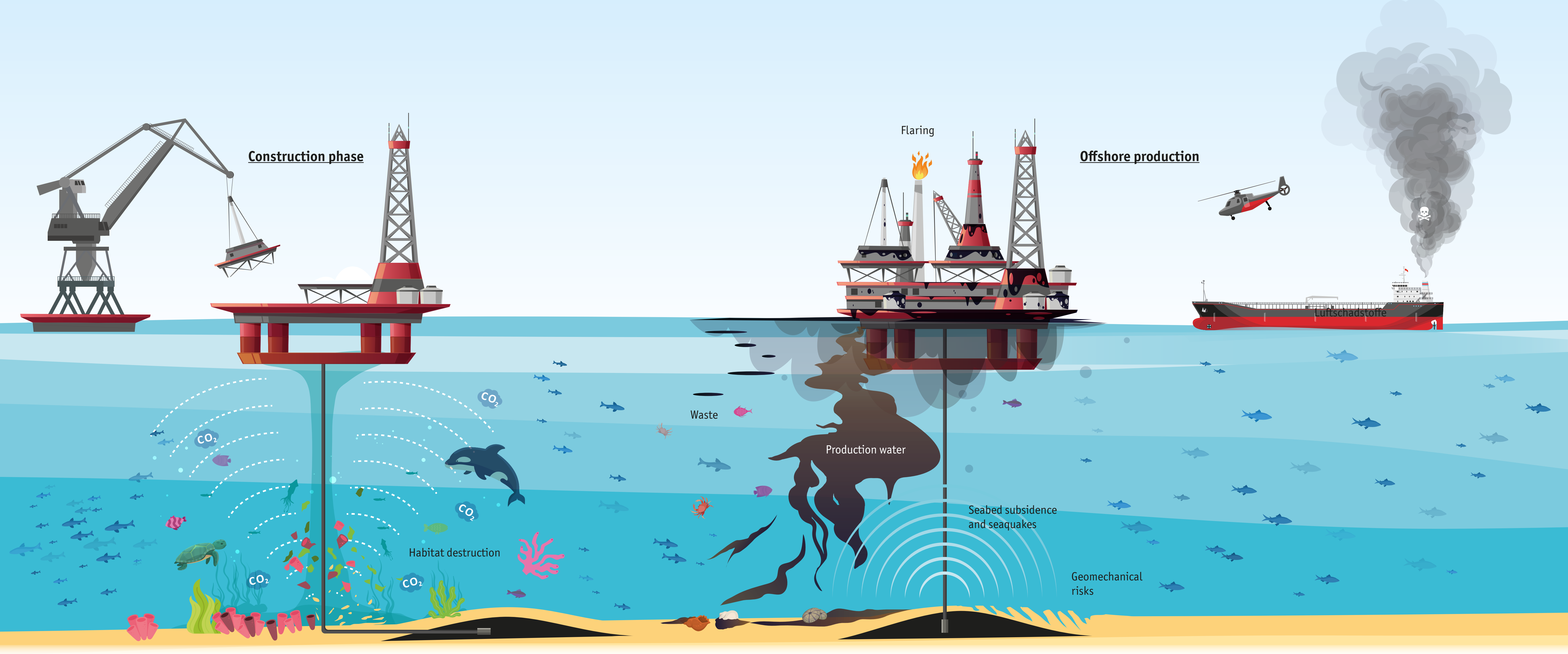
In particular due to their frequent flarings, LNG and oil terminal plants emit carbon monoxide, sulphur dioxide and volatile organic compounds, which may lead to respiratory diseases and other health problems. These pollutants also accumulate in marine ecosystems and lead to eutrophication and acidification, among other things. Emission limits and permit requirements are regularly violated by US export terminals, yet the authorities rarely take action against them.[8]

Operation requires the use of large amounts of cooling water, which is heated after use and discharged into the sea contaminated with biocides.[9] This harms plankton, fish and other organisms.[10] Construction and operation of terminal infrastructure, jetties and pipelines can destroy the seabed and stir up sediments, endangering sensitive ecosystems and releasing carbon bound in the seabed. An increase in underwater noise from construction and shipping drives sensitive marine organisms out of their habitats. Terminal facilities also discharge sewage containing toxic chemicals into the sea.[11] At oil export terminals, there is an added risk of oil leaks.

Seismic explorations seriously damage marine organisms

The quest for oil and gas at sea starts by mapping the seabed. For this purpose, exploration ships use airguns which emit high-energy sound pulses with sound pressure levels exceeding 200 dB every 10 to 15 seconds; often for days and weeks on end.[12] The sound waves penetrate the water column and are reflected by rock layers. These reflections are then recorded using long chains of hydrophones that are carried behind the ship. This creates a seismic image of the seabed.[13] The consequences of these invisible sound wave generations are tremendous.

Because sound travels 4.5 times faster in water than in air,[14] these pulses can be heard for hundreds of kilometres.[15] For marine mammals, whose lives depend on hearing, this poses an immediate threat. Numerous studies have indicated temporary shifts in hearing, causing animals to suffer from decreased hearing sensitivity for several hours or days. They also point towards the risk of permanent damage if hair cells in the inner ear are destroyed.[16] This may lead to a loss of communication, disorientation, separation of mother and calf and can be fatal.[17,18]



However, the documented hearing damage is just the tip of the iceberg. Porpoises stop echolocating and foraging if a location is more than twelve kilometres away.[16,18] Gray whales and humpback whales give seismic activities a wide berth, while mothers with their calves have proven to react particularly sensitively. In addition, biologically relevant sounds such as mating calls and warning signals are drowned out and this in turn leads to entire populations losing central functions.[15] Chronic stress, triggered by continuous sonication, also weakens the immune system and reduces reproductive capacity.[12]

Effects of noise pollution can already be measured at the base of the food chain. Zooplankton die almost completely in the vicinity of the sound source – mortality rates of up to 100 % were measured in studies.[19] Fish stocks such as cod and haddock collapse significantly during seismic activities. Declines were even documented at distances of up to 37 kilometres.[16] Seismic surveys thus threaten not only marine mammals but the entire marine food web – as well as fisheries, which depend on stable stocks.[20]

How constructing offshore fossil infrastructure destroys marine habitats

Once an oil or gas field identified through seismic surveys has been assessed as suitable for extraction and a project has received regulatory approval, construction of a production platform begins. Platforms are either transported to the site as complete units or assembled on location as modules. In the case of fixed platforms, foundations are driven into the seabed – a process that generates noise levels exceeding critical acoustic thresholds for marine mammals at distances of several kilometres.[21]

The seabed itself is also affected. Pile driving, drilling, and dredging cause benthic habitats such as coral reefs, seagrass meadows, and sandbanks to be destroyed or fragmented.[22,23] One effect that has so far been underestimated is associated with the carbon stored in the seabed over decades, which is then released by these invasive construction activities. This accelerates ocean acidification, which in turn prevents calcifying organisms such as corals and molluscs from forming their shells.[24] It also has a considerable impact on greenhouse gas concentrations in the atmosphere.[25]

There are currently more than 12,000 offshore platforms and over 180,000 kilometres of underwater pipelines in operation worldwide. Each individual intervention gives rise to fresh sediment disturbance, habitat loss, and emissions.[26]

Offshore oil and gas extraction causes pollutants to be discharged directly into the sea

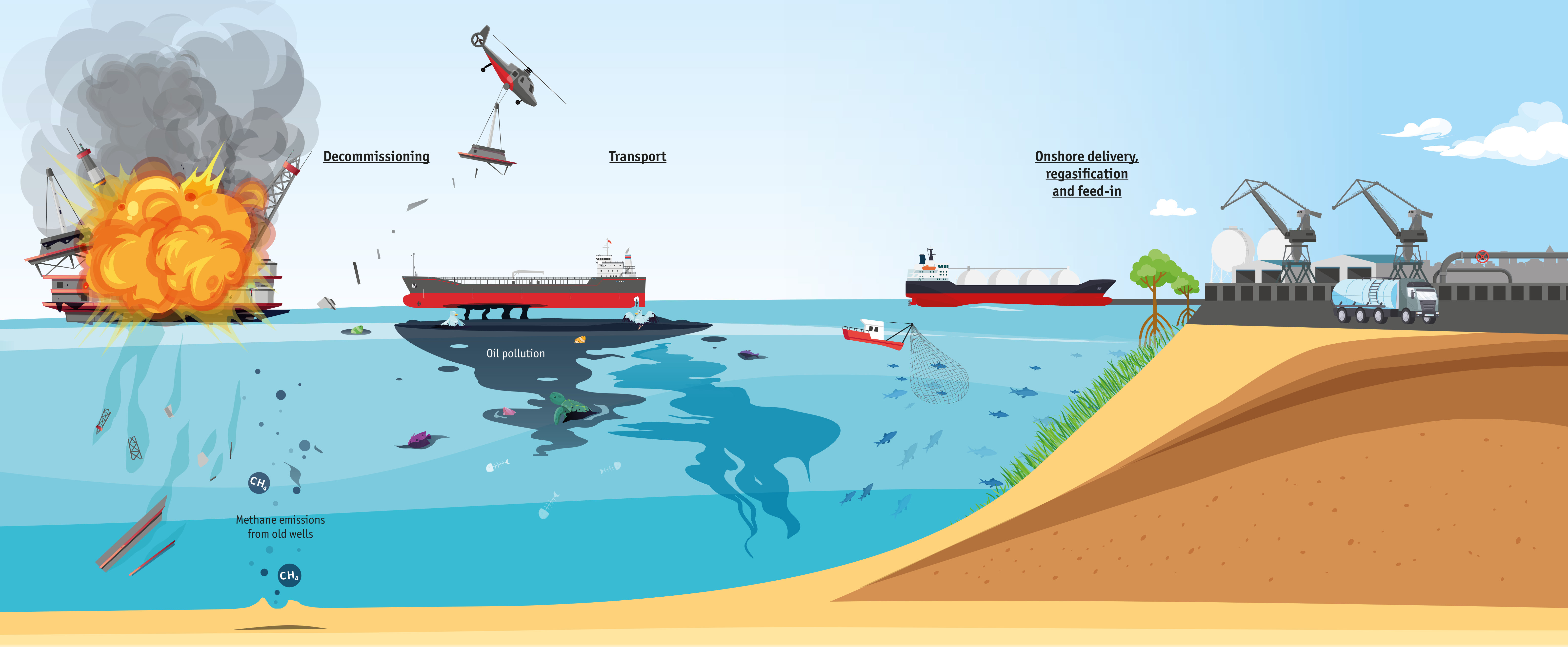
Offshore oil and gas extraction generates so-called produced water – water from geological formations that emerges at the surface together with the oil. It contains oil residues, heavy metals, benzenes and biocides. In the North Sea alone, over 600,000 cubic metres of this effluent are discharged into the sea every day.[27] Research has shown that polycyclic aromatic hydrocarbons and heavy metals accumulate in mussels, fish, and sediments, and may impair reproduction, immune function and growth.[28,29] Biocides such as sodium hypochlorite are highly toxic to aquatic organisms, but are frequently used to clean equipment and eliminate algae and microorganisms. Even concentrations in the range of a few micrograms per litre are sufficient to harm mussels, crustaceans and fish.[30] Many biocides bind to sediments or decompose into even more harmful by-products such as formaldehyde or halogenated hydrocarbons. Given the lack of data on long-term effects, the risk these substances pose to marine ecosystems is likely to be significantly underestimated.[31] The operation of oil and gas drilling platforms is also associated with substantial emissions of pollutants such as sulphur dioxide and nitrogen, generated, for example, through gas flaring and the operation of diesel generators, causing lasting damage to marine ecosystems.

No oil and gas production without geomechanical risks

Oil and gas extraction, whether onshore or offshore, carries considerable geomechanical risks. The reduction in reservoir pressure that accompanies ongoing extraction destabilises sediments and can trigger microseismic activity or large-scale ground subsidence. Cases such as the Norwegian Ekofisk field illustrate this phenomenon, with subsidence of up to three metres recorded – sufficient to cause platforms to tilt.[32] The Dutch Groningen gas field is particularly striking: since extraction began in 1964, the ground above the field has sunk by up to 47 centimetres, accompanied by hundreds of induced earthquakes that have damaged buildings and put residents on alert.[33]

Decomissioning: Explosive and often incomplete

Platforms that have reached the end of their service lives are blown up, dismantled or partially left in the sea. In the process, residual materials such as heavy metals, drilling muds, and hydrocarbons are released into the environment.[34] Boreholes that have been inadequately sealed are particularly problematic: In the North Sea there are decommissioned gas wells where extensive methane leakage has been recorded.[35] In the Niger Delta, corporations such as Shell are criticised for evading their responsibility in decommissioning,



despite decades of oil pollution that remains unremediated to this day.[36]

Oil slicks and catastrophes

Oil spills and catastrophes represent another significant hazard. Leaks from vessels, pipelines, and abandoned production sites result in oil directly finding its way into the surrounding environment. In Nigeria, for example, the national spill agency NOSDRA recorded nearly 10,000 oil spills between 2015 and 2025 alone. Many took place in densely populated regions of the Niger Delta.[37] Satellite data from SkyTruth also indicate that tankers regularly release oil into the sea throughout the world. In 2024, some 1,994 oil slicks with a combined surface area of 11,955 km² were recorded in connection with oil and gas infrastructure – an area roughly equivalent to that of Schleswig-Holstein.[38]

Oil is particularly destructive in mangrove environments: It seeps deep into anoxic sediments, poisons the root systems, and kills entire forests – a process that can persist for decades.[39] In the Arctic, by contrast, an oil film degrades up to five times more slowly than in tropical waters. Ice and cold temperatures make containment and clean-up efforts almost impossible; a major spill in that region would be practically irreversible.[40]

The blowout of the Deepwater Horizon platform in 2010 released over 3.19 million barrels of crude oil into the Gulf of Mexico. With a sea surface area affected of 112,000 km², it remains the largest oil disaster in recorded history. Studies documented increased mortality rates among dolphins (e.g. in Barataria Bay), deformations and organ damage in fish, as well as deep-sea corals dying off in large amounts, and the persistent presence of oil residues in seabed sediments.[41,42]

Shipping traffic, ballast water and collisions

The construction of every new import or export terminal leads to an increase in maritime traffic. Tankers and supply vessels not only increase the risk of accidents; they also regularly collide with marine mammals and sea turtles.[43] They cause harmful noise emissions as well as ballast water, which is yet another problem: when loading and unloading oil, tankers take on ballast and release it again. In the process, invasive species, pathogens and toxin-producing organisms enter into non-native ecosystems.[44]

Arrival, feed-in and onward transport

Following sea transport, oil and gas are brought ashore, processed, and fed into pipeline networks. Regasification of LNG is energy-intensive and causes significant emissions of CO_2, nitric oxides and methane.

Cooling and flushing processes pollute coastal waters with biocides and chlorine.[7]

From terminals, pipelines traverse sensitive landscapes, fragmenting habitats and posing a persistent risk of leakage. Their construction requires the clearing of forests, the damming of rivers, and the sealing of soils.[45] The impacts are particularly severe in the Amazon region, where projects such as the Oleoducto Norperuano in Peru have caused extensive deforestation of rainforest, recurrent oil spills, and serious damage to rivers and the livelihoods of indigenous communities.[46]

Gas drilling off the coast of Borkum – a threat to a unique world natural heritage site

Approximately 20 kilometres off the island of Borkum, the Dutch company One-Dyas is seeking to extract natural gas as part of a project known as “Gateway to the Ems” (GEMS). The project poses a significant threat to the Wadden Sea UNESCO world natural heritage site and adjacent Natura 2000 sites. The construction of the platform and its associated power cable alone is already destroying valuable stone reefs, a habitat for rare species such as the European lobster. The substantial construction noise endangers porpoises in their feeding and breeding areas, nitrogen deposition damage dunes rich in species. What is particularly alarming: produced water is to be discharged directly into the sea – with benzene, methanol and **mercury occurring with 15.7 times** the normal concentrations. Notwithstanding these considerable environmental risks, One-Dyas is already advancing plans to develop further gas fields in the North Sea. The benefit for Germany, however, is minimal: at most, the project would meet no more than approximately **one per cent of annual national gas demand**. Deutsche Umwelthilfe (DUH) has initiated legal proceedings in both Germany and the Netherlands, challenging the permits granted for the project. The goal is to preserve the Wadden Sea, one of the few remaining tidal ecosystems on Earth.[83]

A German responsibility: The ten most damaging oil and gas infrastructures

Major damage to nature and the climate is occurring along the supply chain of German oil and gas. These ten most damaging oil and gas production projects with German participation show that German responsibility starts far beyond its national border.

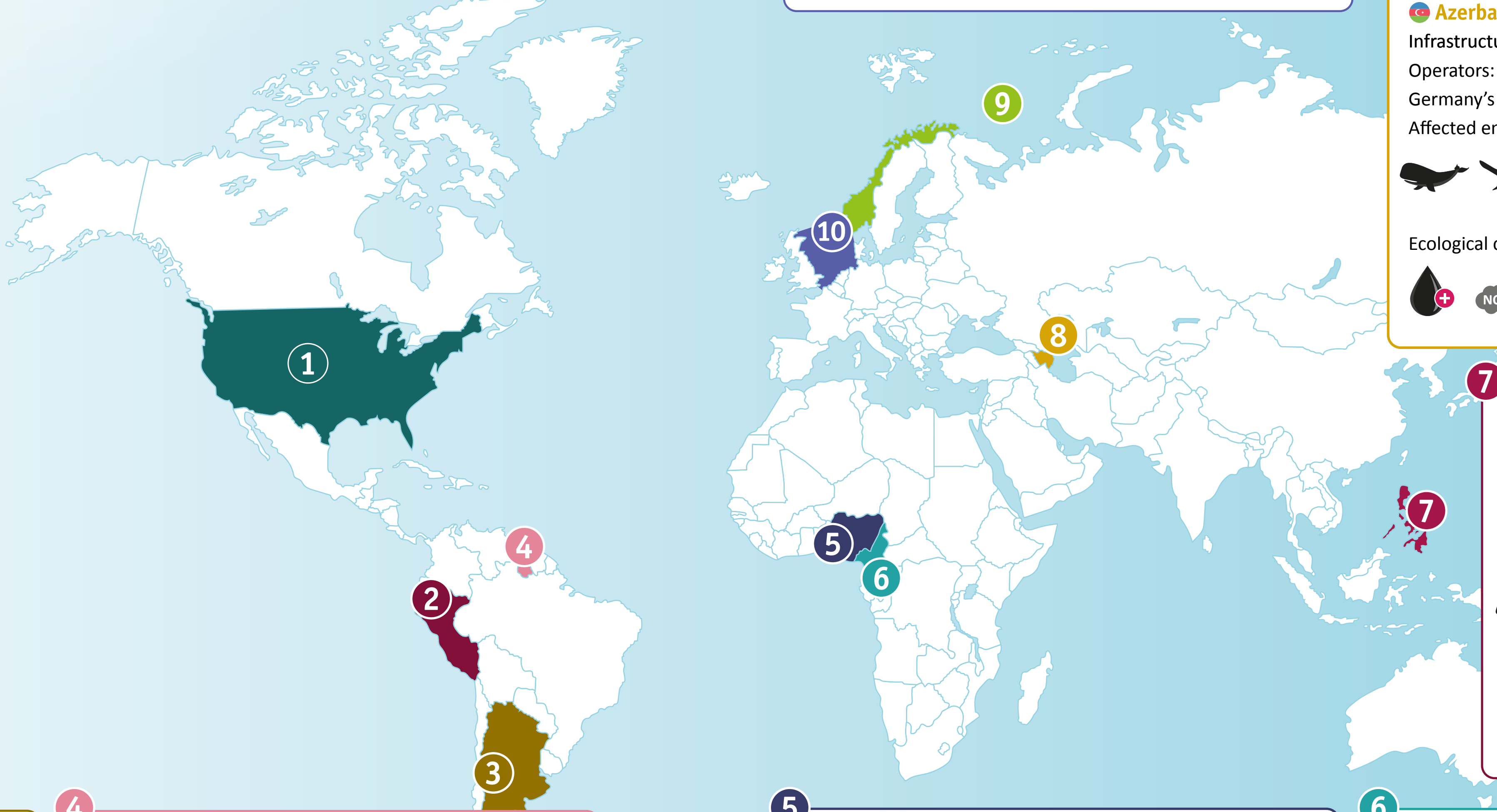
Affected environment:

Terrestrial Fauna, Marine Fauna, Birds, Fisheries, Seabed, Local communities, Coasts, Steppe, River, Groundwater, Rainforest, Protected area

Ecological consequences and risks:

Oil spills, Noise, Flaring, Air pollutants, Aquatic pollutants, Human health, Habitat degradation, Human rights violations and and social conflicts, Increased risk of disasters due to climate impacts

Particularly severe ecological impacts



1 LNG exports Gulf Coast

USA

Infrastructure: **6 LNG export terminals**

Operators: **Venture Global[47], Delfin Midstream Inc.[48], Cheniere, Sempra Infrastructure[49]**

Germany's role: **Buyer, Co-Funder, Insurer**

Affected environment:

Ecological consequences and risks:

2 Oleoducto-Norperuano pipeline

Peru

Infrastructure: **Pipeline**

Operators: **Petroperú**

Germany's role: **Co-Funder[50]**

Affected environment:

Ecological consequences and risks:

3 Fracking Vaca Muerta

Argentina

Infrastructure: **Fracking**

Operators: **YPF, Harbour Energy (former Wintershall Dea) a.o.[51]**

Germany's role: **Co-Funder[52]**

Affected environment:

Ecological consequences and risks:

4 Offshore oil export terminals

Guyana

Infrastructure: **Offshore terminal Oil**

Operators: **ExxonMobil (45 %), Hess (30 %), CNOOC (25 %)[53]**

Germany's role: **Buyer**

Affected environment:

Ecological consequences and risks:

10 Offshore oil and gas production in the North Sea

Norway, United Kingdom, Netherlands, Germany

Infrastructure: **Offshore platforms (oil and gas), shipping traffic, exploration**

Operators: **Major players include Equinor, Shell, BP, TotalEnergies, Aker BP, Harbour Energy, Neptune/ENI, INEOS, Wintershall Dea, One-Dyas[59]**

Germany's role: **Domestic oil and gas production, consumer, funder**

Affected environment:

Ecological consequences and risks:

9 Offshore oil production in the Barents Sea

Norway

Infrastructure: **Offshore export terminals (oil), exploration**

Operators: **Vår Energi (Eni/Eni Norge), Aker BP a.o.[58]**

Germany's role: **Buyer**

Affected environment:

Ecological consequences and risks:

8 Oil production and export Caspian Sea

Azerbaijan

Infrastructure: **Offshore export terminal (oil), pipeline**

Operators: **SOCAR (state-owned), BP, Chevron, TotalEnergies a.o.[57]**

Germany's role: **Buyer**

Affected environment:

Ecological consequences and risks:

7 LNG export Verde Island Passage

Philippines

Infrastructure: **LNG-Exportterminal, Pipelines Gas**

Operators: **San Miguel Global Power Cooperation**

Germany's role: **Co-Funder[56]**

Affected environment:

Ecological consequences and risks:

5 Oil export infrastructure Niger Delta

Nigeria

Infrastructure: **Oil pipelines, onshore export terminals (oil and gas)**

Operators: **Shell/SPDC, Renaissance Africa Energy[54]**

Germany's role: **Buyer**

Affected environment:

Ecological consequences and risks:

6 Offshore oil export terminal Kome Kribi

Cameroon

Infrastructure: **Offshore export terminal (oil), pipeline**

Operators: **ExxonMobil (Esso Tschad), Petronas, SHT (Staat Tschad)[55]**

Germany's role: **Buyer**

Affected environment:

Ecological consequences and risks:

Germany also imports oil and gas from tropical countries of the Global South, where the environmental damage is particularly visible along coastlines. In the **Niger Delta, nearly 10,000 oil spills have been recorded over the past decade.** As recently as May 2025, a leak in the B-Dere pipeline released approximately 16,000 litres of oil.[60] Past oil spills have insufficiently been remediated and the plugging of abandoned production wells remains unfinished. For local communities, this translates into elevated health risks, the loss of livelihoods, and unresolved questions of compensation – as major fossil fuel corporations such as Shell partly evade responsibility. [61,62,63] These **oil spills cause serious damage to valuable coastal ecosystems** including mangrove forests. Mangroves serve not only as nursery grounds for fish, crustaceans, and sharks, but also sequester more carbon per unit area than any other forest ecosystem and provide coastal protection against storm surges and erosion – hazards that are intensifying as a result of the climate crisis. In addition, damage to mangroves leads to the loss of critical fishing habitats, on which the local populations frequently depend for their livelihoods.[64] Similar dynamics **are threatening the coastline of neighbouring Cameroon**, where the oil port of Kribi and the Chad-Cameroon pipeline are compounding the **risk of accidents and coastal erosion** and at the same time endangering one of the last populations of the Atlantic humpback dolphin.[65,66]

> ***"At her farm in Oloibiri, a farmer's wife showed us how crude oil was still seeping from the supposedly decommissioned "Well 1" into her field and into a stream. Despite repeated reports, Shell denied responsibility and claimed that the well had been closed since 1978. Decades later, oil was still leaking there."***
>
> Father Eddy Obi
> National Coalition on Gas Flaring and and Oil Spills in the Niger Delta

In the **Philippines**, situated at the heart of the Coral Triangle in the Pacific, **marine tropical ecosystems are likewise being disturbed by LNG infrastructure**. Known as the "Amazon of the Seas", the Coral Triangle ranks among the most biodiverse marine habitats on Earth. These unique ecosystems, together with the coastal communities that depend upon them, are imperilled by the large-scale expansion of fossil fuel infrastructure – including LNG import terminals and gas-fired power stations part-financed by German capital[67].

On the other side of the Atlantic, the **coast of Guyana** is further cause for serious concern. At this coast, floating production and storage facilities discharge millions of litres of produced water into the sea every day. **Heavy metals, oil residues, and chemical additives place considerable strain on mangrove coastlines** and threaten the Shell Beach protected area, where green sea turtles – including the critically endangered leatherback – nest. Large marine mammals such as the blue whale use the coastal waters in eastern South America as far as the Caribbean as a migration route. With each new installation, the risk of a major spill increases – one that could affect not only Guyana's coastline but extensive areas of the Caribbean. Since 2023, Germany has been importing significant quantities of crude oil from Guyana.[68,69]

On the **US Gulf Coast, wetlands and marine coastal habitats are** affected by the **massive LNG expansion on the coast of Louisiana and Texas**. Six export terminals are already operational, another 12 are approved or planned.[70] Exhaust fumes and air pollutants disproportionately affect marginalised communities and have been shown to increase rates of illness and premature mortality. [71] Rising volumes of shipping traffic generate noise pollution and result in collisions with whales and dolphins.[72] **German companies are directly contributing to the financing of this infrastructure through new LNG supply agreements**. Three new supply contracts with US exporters have been signed only recently: two in spring 2025, including one between DELFIN LNG and SEFE for LNG from the first offshore terminal off the coast of Louisiana, and a further contract in January 2026 between Glenfarne and RWE for LNG from an export terminal in Texas.[73] To add to that, over **80% of US LNG is derived from fracking**. This extraction technique contaminates ground and surface water, releases substantial quantities of methane, increases seismic risk, and leads to serious health risks. The coastal stress associated with export terminals is thus inextricably linked to the ecological and social harms emerging in the producing regions of the US hinterland.[7]

> ***"We have had to watch as many people became increasingly ill and eventually died, and this is directly linked to living in such a carcinogenic and toxic area."***
>
> Chloe Torres
> Texas Campaign for the Environment

> ***"The exploitation of Vaca Muerta through fracking constitutes a systematic violation of human rights: the Mapuche people – just like other Indigenous Peoples worldwide who are threatened by the extraction of hydrocarbons – cannot continue to pay the price for the "progress" of other countries with our lives, our water and our land."***
>
> Orlando Carriqueo
> Mapuche community

> ***"I lived on a 42-hectare farm in North Texas, where George Mitchell, the "father of fracking", was experimenting to find out how to frack oil and gas from shale rock. My clean air turned brown and the water in my well turned black. This devastating experience led me to my life's mission: to document the damage caused by the oil and gas industry."***
>
> Sharon Wilson
> Oilfield Witness

A similar situation unfolds at the **large-scale fracking project of Vaca Muerta** in Patagonia, where one of the world's largest shale oil and gas deposits is being extracted through hydraulic fracturing. The project entails **significant encroachment upon the traditional settlement and cultural territories of the indigenous Mapuche communities**.[74] The consequences of the ever-expanding network of fracking wells include water scarcity, groundwater contamination, environmental pollution, and a decline in agricultural yields.[75] According to the National Institute of Seismic Prevention, **more than 500 earthquakes have been recorded in the area since 2018**.[76] The operator Harbour Energy acquired the production assets from BASF's subsidiary Wintershall Dea in 2024. The chemicals group BASF retains a 39.6% stake in Harbour Energy. German banks and companies secure the project financially.[77]

Further north, it is the **Arctic and inland seas** that are bearing the costs of fossil fuel expansion. In the Barents Sea, Norway is increasing its production despite the fact that even minor oil releases in that region could damage the spawning grounds of zooplankton and commercially important fish species such as cod and capelin, and pose a serious threat to seabird populations on a massive scale. **With over 150 fish species, cold-water coral reefs, walruses, narwhals, and bowhead whales**, the area constitutes one of the most biodiverse Arctic ecosystems on Earth.[78,79,80] In 2023, Germany imported approximately 4% of its Norwegian crude oil directly from the Barents Sea.[81] At the same time, substantial reserves remain beneath the seabed, which Norway regards as a future source of revenue. The planned Wisting development – scheduled to commence production in 2026 – would represent a first step towards exploiting these reserves.[82] An **oil spill in this region would carry particularly grave consequences**, as oil degrades very slowly in cold water and toxic substances accumulate in food webs over extended periods.[83]

The **Caspian Sea off Azerbaijan** is also severely affected. With no natural outflow, oil and chemical pollutants accumulate in sediments; sturgeon populations have collapsed by more than 90% since the 1970s, and coastal communities suffer from contaminated water supplies and depleted fish stocks.[84]
Closer to home, however, the scale of destruction is visible as well. **There are approximately 500 oil and gas platforms in the North Sea,** their effluents containing toxic hydrocarbons and heavy metals that accumulate in fish and shellfish.[85] Despite stringent regulation, international reports have shown that contamination persists. Satellite data continue to document oil sheens in the vicinity of platforms. In Germany, oil extraction continues at **Mittelplate in the Wadden Sea**, whilst drilling for gas is underway beneath a German **Natura 2000 protected area off Borkum**, near the Dutch border.[86,87]

i

Okavango Basin (Namibia and Botswana): A looming threat to global natural heritage

Beyond Germany's direct corporate and supply chain relationships, the oil and gas industry poses a serious threat to important conservation areas. The Canadian company ReconAfrica has been conducting exploratory drilling in the Okavango Basin of Namibia and Botswana – a UNESCO world natural heritage site and part of the largest cross-border conservation area on Earth, the Kavango–Zambezi Transfrontier Conservation Area (KAZA) – since 2021.[88] The company already holds the extraction licences and plans to produce large volumes of oil and gas from the region until 2057. The delta provides water for millions of people, is home to the world's largest savanna elephant population, and to over 130 further mammal species. The preliminary development works alone have resulted in deforestation, soil degradation, and the displacement of indigenous communities, including the San people.[89,90] Should the project not be stopped, this would have severe consequences for the unique biodiversity of the KAZA conservation area and the Okavango Delta world heritage site.

Invisible but destructive

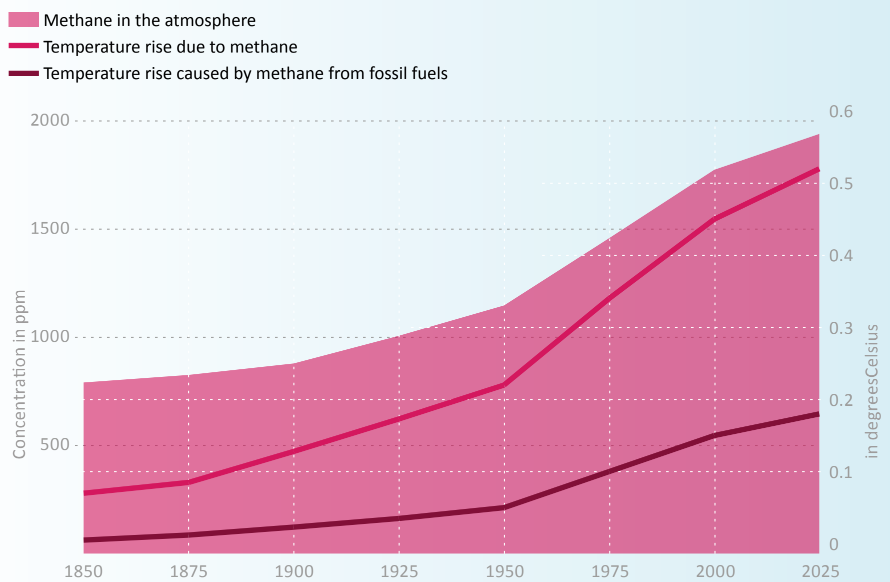
How methane fuels the climate crisis

Natural gas is methane

What is marketed and burned as "natural gas" consists to a large extent (80 to 95%) of methane.[1] From the well to the gas turbine, significant amounts of methane escape into the atmosphere unburned along the supply chain. Methane also occurs as an "associated gas" during oil production and is often discharged into the atmosphere directly at the extraction site or incompletely flared. The problem: Methane is extremely damaging to the climate. **Over a 20-year horizon, its warming effect is more than 80 times greater than that of CO_2.**[2] The 20-year global warming potential (GWP-20) offers a more accurate representation of the real-world climate damage than the conventional 100-year comparison, given that methane remains in the atmosphere for an average of only around 12 years – yet causes an enormous warming effect during that time.

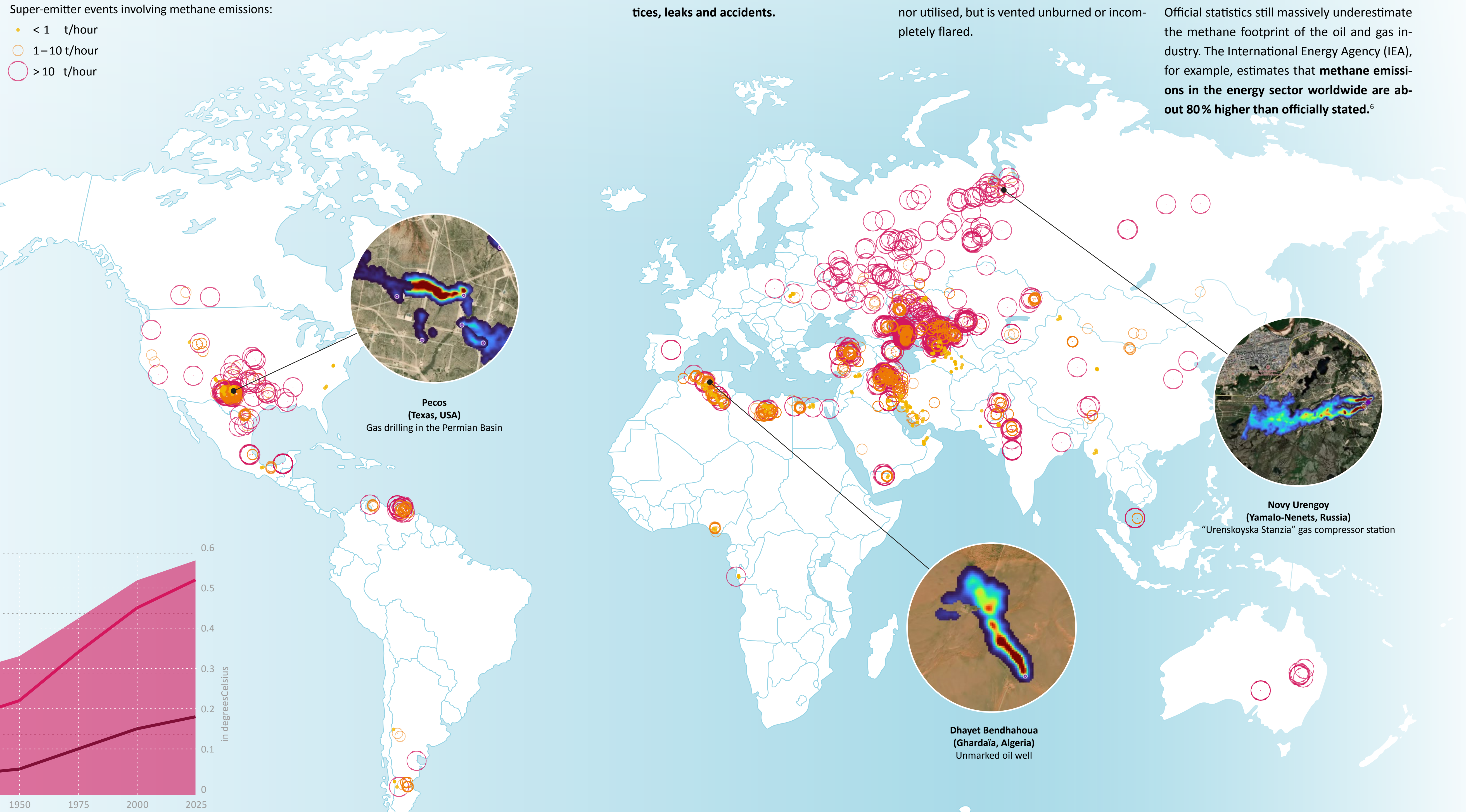
Over the course of the 20th century, **methane concentrations in the atmosphere more than doubled.**[3] In addition to intensive stock-rearing, the extraction of fossil fuels is a principal driver of this increase. Reasons for this include the increasing production of fossil oil and gas since the 1960s and the fracking boom in particular.

Impact of methane on climate change [4]



The result: Methane alone is already responsible for more than a **third of global warming** and has already warmed the climate by 0.5 degrees Celsius over pre-industrial levels.[3] However, because of its short-term effect, reducing methane can also quickly have a major climate protection impact.[6] In order to leverage these potentials and prevent the threat of exceeding climate tipping points, since 2021, 159 countries have committed themselves to the Global Methane Pledge, setting the goal of reducing global methane emissions by 30 percent by 2030 compared to 2020 levels.[7] Only 5 years remain until the target year 2030. **Nevertheless, methane emissions continue to rise.**[8] A reversal of the trend is not yet in sight.

The map shows so-called superemitter events, i.e. methane emissions with an emission rate of over 100 kg/hour from January 2024 to July 2025[5]*:*



Methane emissions: a disaster visible from space

In 2022, an act of sabotage on the Nord Stream II gas pipeline caused up to 500,000 tonnes of methane to be released. This is roughly equivalent to Croatia's annual greenhouse gas emissions.[9] The incident attracted a great deal of international attention. A little-known fact: even without acts of sabotage, **natural gas – i.e. methane – flows into the atmosphere every day through negligent corporate practices, leaks and accidents.**

The map shows **methane super emitter events** that took place from January 2024 to July 2025 in connection with the production and transport of oil and gas and were detected by special satellites. **The United States stands out here for good reason:** the fracking process, which is widely used there, releases particularly large quantities of methane.[10] Moreover, in several production areas in the U.S., so-called associated gas, which occurs in oil production, is frequently neither captured nor utilised, but is vented unburned or incompletely flared.

The satellite data illustrates the scope of the problem. There are, however, **additional emission events that are not detected by satellites,** for example when the view is blocked by clouds or snow. Emissions generated during offshore production – that is, out at sea – are difficult to detect by satellite due to the reflective surface of the water. Moreover, a major part of the methane emissions associated with the oil and gas industry are due to smaller emission sources.[11]
Official statistics still massively underestimate the methane footprint of the oil and gas industry. The International Energy Agency (IEA), for example, estimates that **methane emissions in the energy sector worldwide are about 80 % higher than officially stated.**[6]

The methane rucksack from Germany's oil and gas imports

The vast majority (about 80 %) of fossil methane emissions occur where fossil oil and gas are extracted from the earth.[6] **Depending on the producing location and production standards, the proportion of the extracted gas that already escapes during the extraction process varies (methane intensity).** Methane emissions caused by the oil and gas industry worldwide are approximately ten times the annual greenhouse gas emissions of Germany.[12]

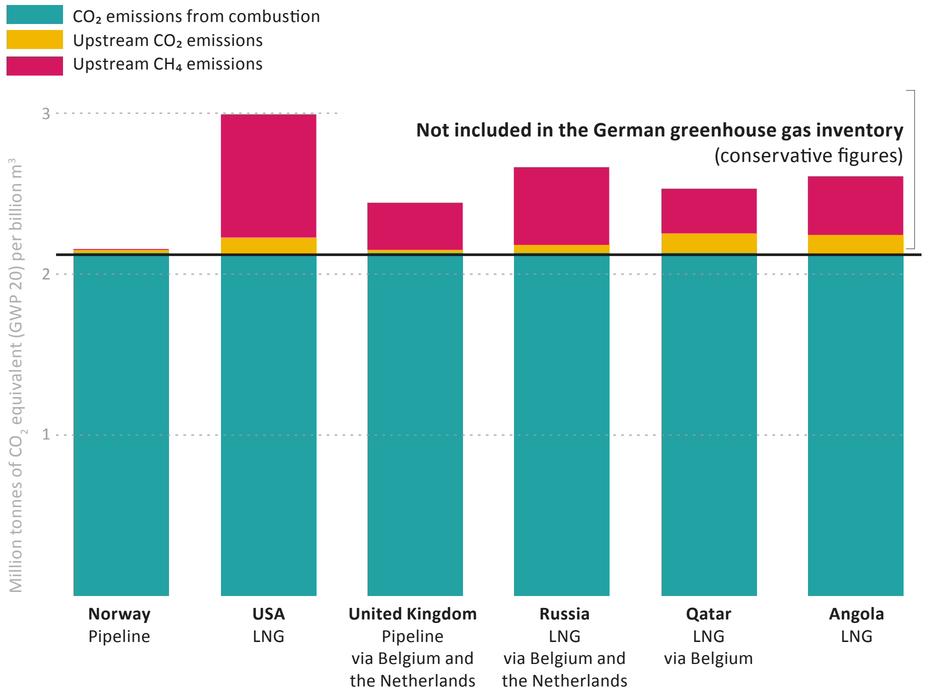
These emissions from the **upstream**, which are largely generated in exporting regions outside the EU, are usually underestimated and not recorded in the German greenhouse gas accounting – although they are directly caused by our hunger for energy.

The charts illustrate the **climate damage caused by German oil and gas imports from selected producing countries**. They include the CO_2 emissions from the combustion of the fossil fuels included in official statistics, as well as the methane emissions generated during production and transport as well as the CO_2 emissions generated in extraction through energy utilisation, flaring of methane and release through drilling. Particularly methane-intensive supplier countries emit 100 times as much methane as oil and gas production in Norway, which has been strictly regulated since the 1990s.[6]

Only a negligible part of the fossil gas and oil consumed in Germany is extracted domestically. Nevertheless, there is a need for action in terms of methane emissions for Germany as well: in the summer of 2025, for example, Deutsche Umwelthilfe **documented methane emissions with an infrared camera at numerous locations in northern Germany's natural gas infrastructure (production, transport, storage).**[15]

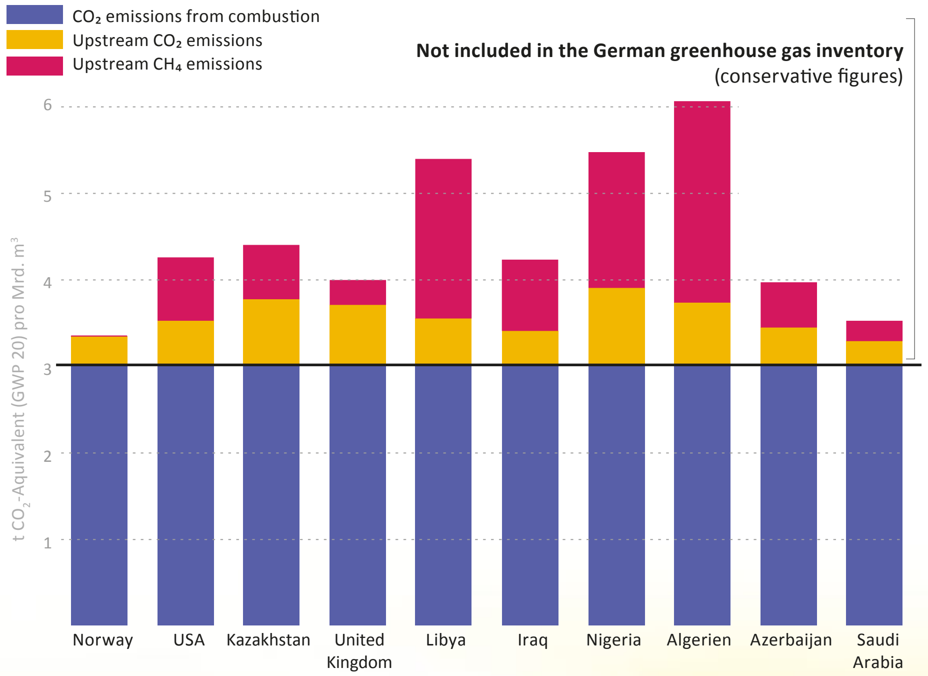
Greenhouse gas emissions from gas imports [13]

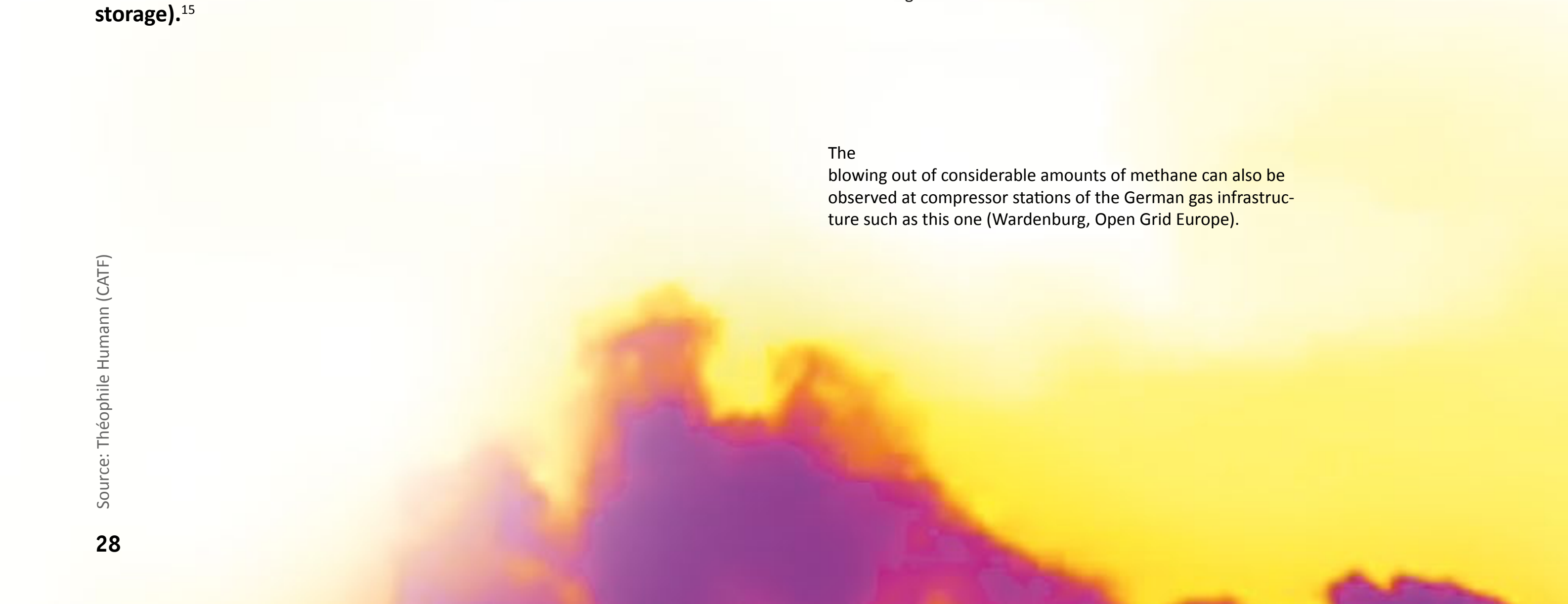
per billion m³ / by country of origin



Greenhouse gas emissions from oil imports [13]

per tonne imported / by country of origin



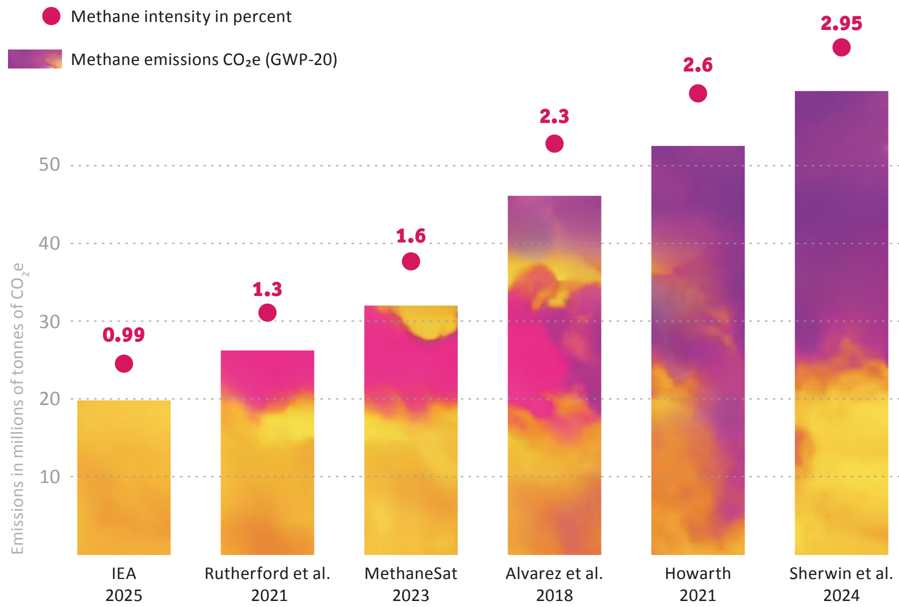


The blowing out of considerable amounts of methane can also be observed at compressor stations of the German gas infrastructure such as this one (Wardenburg, Open Grid Europe).

Source: Théophile Humann (CATF)

Additional greenhouse gas emissions from Germany's oil and gas imports from the USA in 2024 [14]

Estimate based on methane intensity determined in various studies



Getting on top of methane emissions

The most effective way to reduce methane emissions in the energy sector is to **phase out fossil fuels:** the faster the consumption of gas, oil and coal decreases, the faster methane emissions decrease.

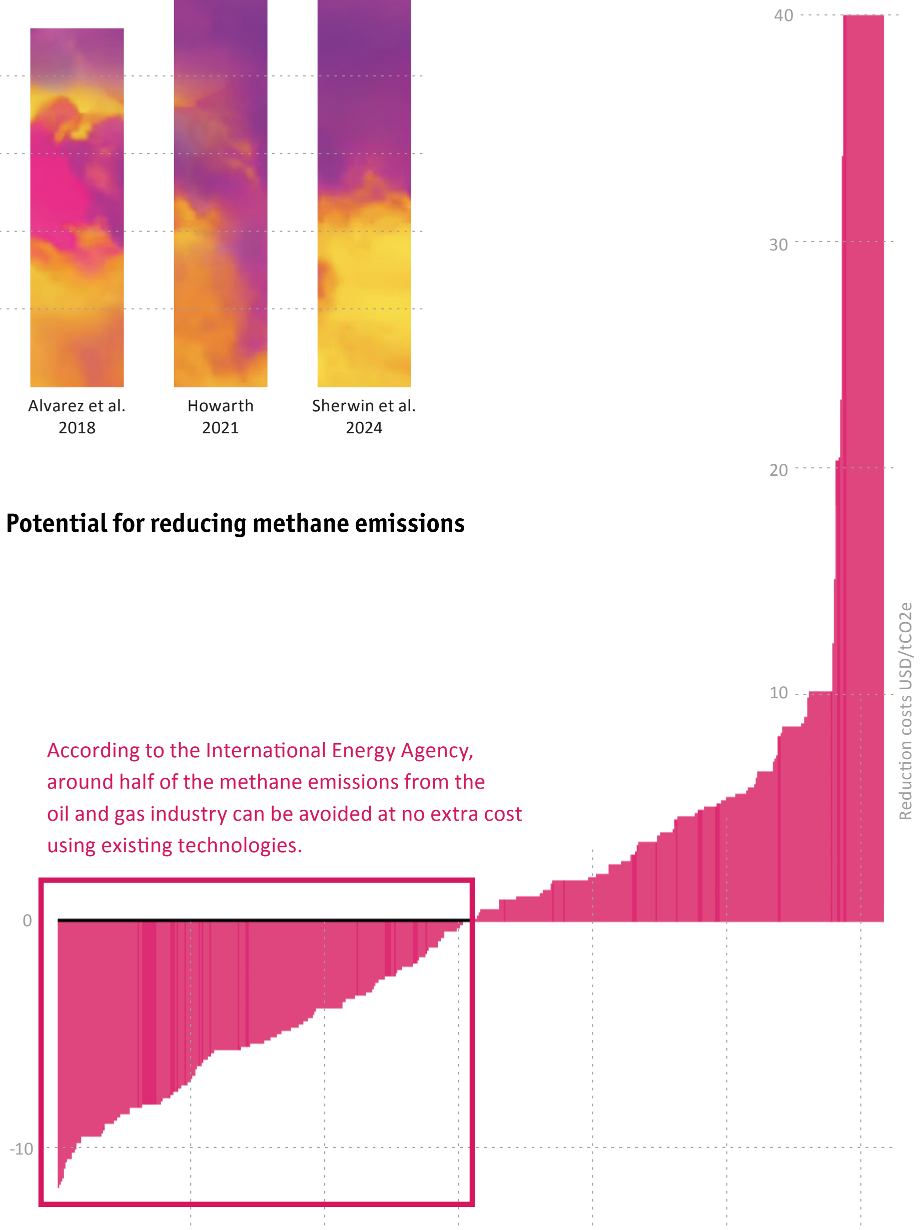
At the same time, methane emissions from fossil fuels can be reduced faster and more cost-effectively than in any other sector.[16] Were production everywhere to meet current best-practice standards, the oil and gas industry could avoid more than 30 million tonnes – that is more than half of its global methane emissions – at **no net cost, or even at a profit.**[17]

Since 2024, the EU Methane Regulation has required companies that extract, transport or store fossil oil and gas in the EU to act on this reduction potential. The regulation prohibits routine venting and flaring of methane on oil, gas and coal infrastructure. Companies are further required to regularly inspect their infrastructure and eliminate leaks within fixed deadlines. Furthermore, there are regular inspections by the competent authorities.[18]

Producers outside the EU are also gradually being held accountable: importers are required to provide information about producers, methane emissions and reduction measures. From 2027 onwards, importers must prove that new gas supply contracts comply with reporting requirements comparable to those applicable to European companies. An intensity treshold on the methane intensity of imports is planned for 2030 onwards.[19] **This will make the EU the first import market to take an important step towards addressing upstream methane emissions** and honour the reduction commitments of the Global Methane Pledge.

The methane regulation poses a threat to the business model of oil and gas producers, who are particularly emission-intensive. Accordingly, the **fossil fuel industry is strongly opposed to the methane regulation:** oil and gas companies and the Trump administration are currently putting the EU under intense pressure to abolish or undermine the act.

Potential for reducing methane emissions



Fossil billions

How Germany finances oil and gas projects abroad

The Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency have made it abundantly clear that not even one additional oil and gas production project is compatible with the Paris climate targets.[1] Nevertheless, **German corporations, banks and state actors continue to invest massively in fossil projects abroad.** In 2024, they financed over two percent of the world's fossil infrastructure with 20.1 billion US dollars. They thus make fossil projects possible both by providing insurance and reinsurance as well as export and financial guarantees. By scouting for and extracting oil and natural gas they are even directly involved.[2] Despite the advancing climate crisis, both private and state actors from Germany are paving the way for the continuing burning of fossil fuels globally.

All figures in the graph are in US dollars and refer to 2024, unless expressly stated otherwise. Furthermore, only investments over $100 million were taken into account. Based on analyses by Urgewald and Sierra Club.[3,6,9]

Which companies receive money from Germany?

U.S.

ENERGY TRANSFER: Operates thousands of natural gas and oil pipelines in the U.S. as well as the Lake Charles LNG terminal in Louisiana

VENTURE GLOBAL: Operates two LNG terminals and is currently building two more[3]

Canada

ENBRIDGE: Owns Line 3, a pipeline that transports oil from Canada to the U.S. and is building 1,400 kilometres of pipelines and is planning the Woodfibre LNG project

Brazil

PETROBRAS: Is currently putting pressure to develop new oil fields[4]

United Kingdom

bp: Is currently developing new oil and gas fields worldwide and building pipelines, LNG terminals and gas-fired power plants

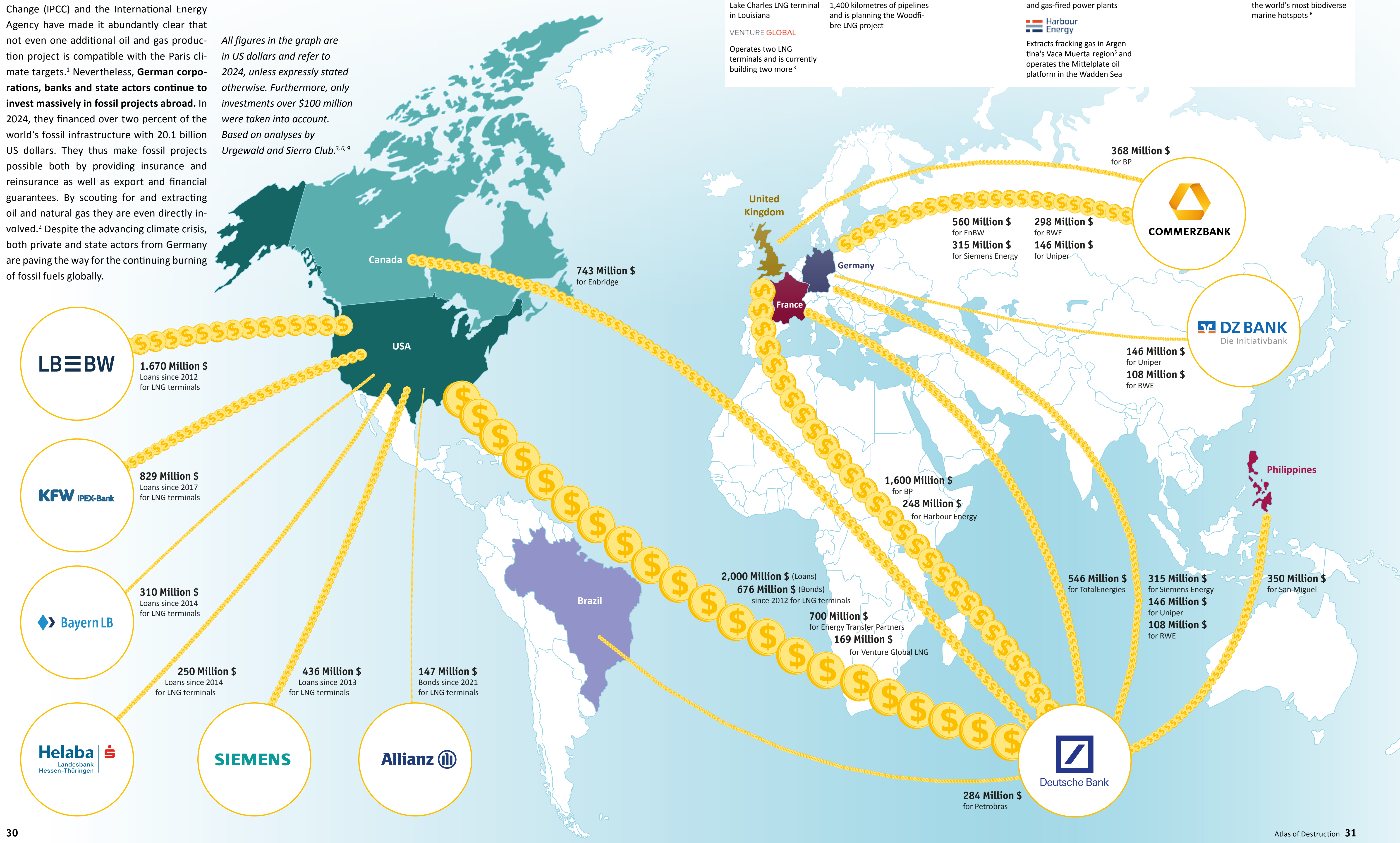
Harbour Energy: Extracts fracking gas in Argentina's Vaca Muerta region[5] and operates the Mittelplate oil platform in the Wadden Sea

France

TotalEnergies: Largest oil and gas producer in the EU

Philippines

SAN MIGUEL CORPORATION: Plans to build ten more gas-fired power plants near the Verde Island Passage, one of the world's most biodiverse marine hotspots[6]



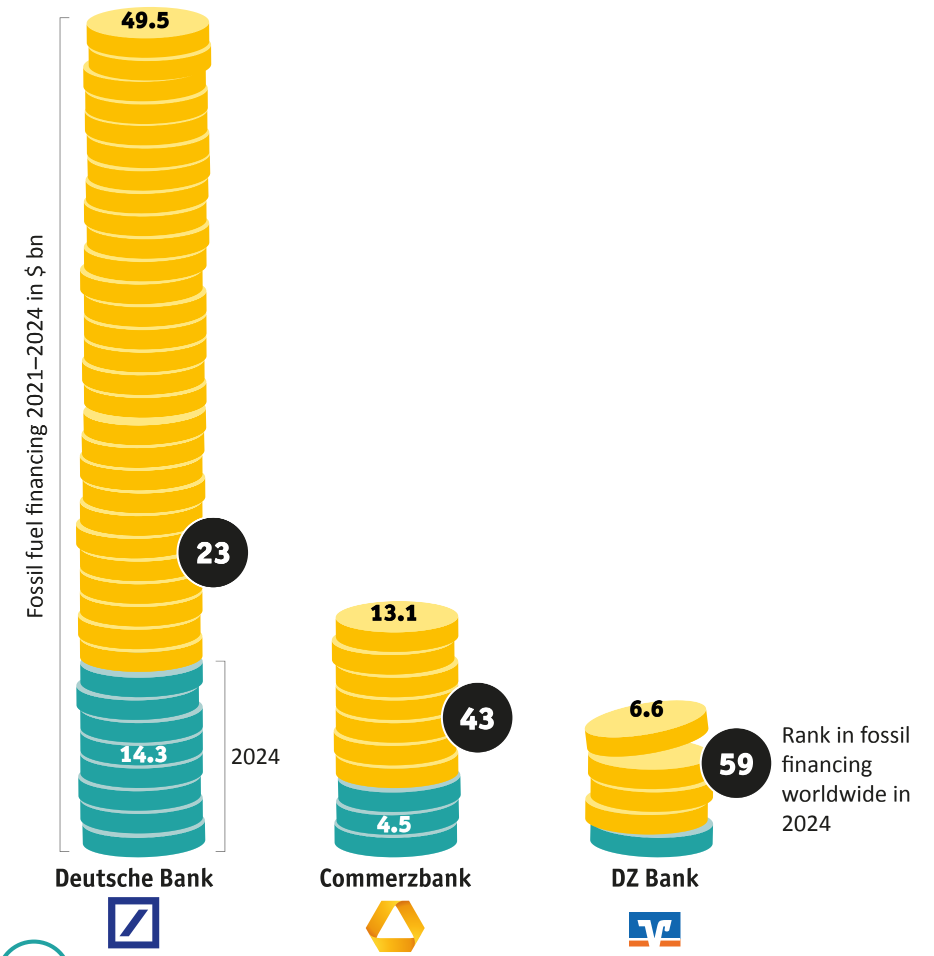
German private financing and insurance of fossil companies

Banks

Private German banks continue to play an important role in financing fossil projects worldwide. **Deutsche Bank, Commerzbank, and DZ Bank are among the world's top 65 financial institutions, providing $869 billion in loans and securities to fossil fuel companies in 2024 and $3,300 billion between 2021 and 2024.**[7]

In 2024, Deutsche Bank committed $14.3 billion to fossil fuel companies – a significant increase compared to $9.7 billion in 2022. Of all German financial institutions, Deutsche Bank is the largest financial contributor to the climate crisis. In recent years, it provided over $2 billion in loans and $676 million in bonds for six LNG terminals in the U.S.[8] Commerzbank as well has recently sharply increased its investments in fossil fuels, from $2.6 billion in 2022 to $4.5 billion in 2024. In addition, the bank provides support to German companies such as EnBW, Siemens Energy, RWE and Uniper, which pursue fossil projects worldwide.[9]

German banks as fossil fuel financiers
Data based on a study by Urgewald[9]



Security: Tradable certificate or electronic right that confirms asset claims, e.g. shares.
Bond: A fixed-income security with which states or companies borrow money from investors and repay it at a certain point in time with interest.
Credit: A loan agreement where a certain amount of money is made available for a set period of time. It usually has to be repaid with interest.
Reinsurance: An insurance for insurance companies under which they pass on some of their risks to another insurance company.
ESG Fund: An investment fund that takes environmental, social and corporate governance criteria into account when selecting its investments.

Insurance

Insurance companies offer both insurance and reinsurance as well as financing for fossil projects. In contrast to the banking industry, the procedure here is more opaque, which is why detailed facts and figures are often unknown.

Allianz

Allianz has stated its intention to withdraw from insuring oil and gas extraction projects in the long term, yet continues to provide cover for gas infrastructure – including Venture Global's export terminals Cameron LNG and Calcasieu Pass LNG on the US Gulf Coast in Louisiana. In addition, Allianz's climate protection policies do not apply to its subsidiaries PIMCO and Allianz Global Investors.[10] Furthermore, Allianz owns more than three quarters of the Class A shares of Venture Global, the second-largest US LNG exporter.

Munich RE

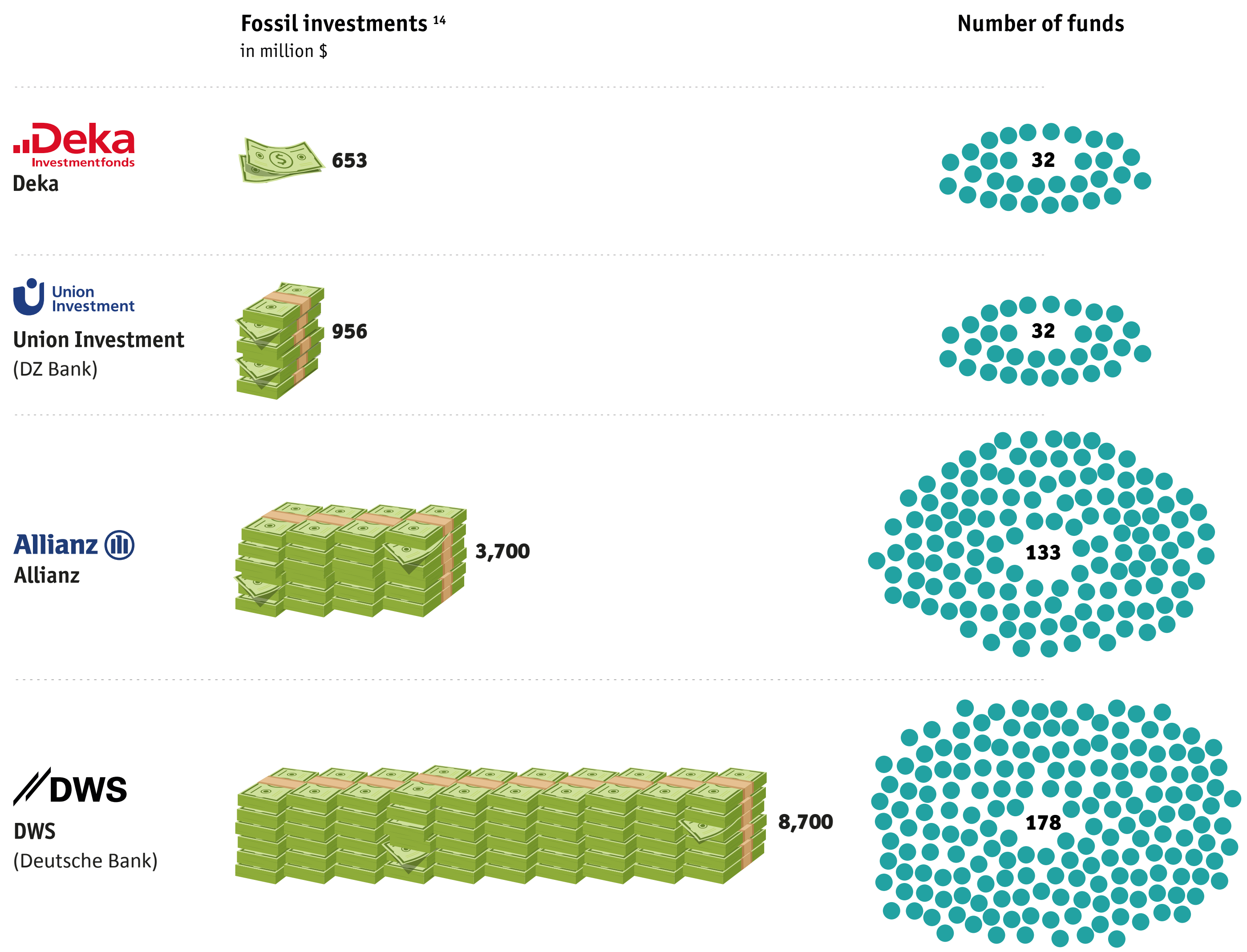
Munich Re, with its subsidiary Great Lakes Insurance, provides insurance to the Cameron LNG and Calcasieu Pass LNG terminals.[11] Unfortunately, in June 2025 Munich Re withdrew from four major climate protection initiatives ("Net Zero Asset Owner Alliance", "Net Zero Asset Managers Initiative", "Climate Action 100+" and "Institutional Investors Group on Climate Change"), which illustrates its ongoing commitment to its fossil fuel strategy.[12]

talanx.

Talanx, with its subsidiary HDI Global, provides insurance to the Cameron and Gulf LNG terminals in Mississippi. Talanx's reinsurance subsidiary Hannover Re supported the Tacoma LNG terminal in Washington State.[13]

Supposedly "green" ESG funds

A study by urgewald shows that German companies **participate massively in greenwashing through their own investments in environmental, social and corporate funds** (ESG funds) traded in European countries. These funds often include promoting expansion projects of fossil fuels. It is therefore possible that investors invest their money in fossil projects without even knowing it.[14]



How the German government supports fossil projects

German foreign trade promotion uses three different instruments: export credit guarantees, investment guarantees and untied loan guarantees. Through **export credit guarantees**, German exporters have the opportunity to hedge their claims against economic and political risks. **Investment guarantees** help German companies to finance and secure their investment projects abroad, and **untied loan guarantees** may be provided for so-called fundable projects or for loans that are in the state's special interest.

Out of these three, export credit guarantees are the most important. They are processed by the insurance company Allianz Trade (formerly Euler Hermes) on behalf of the German Federal Government. In 2023, they provided cover for an amount of 18.4 billion euros. The project details are published only for this type of guarantee. In the same year, additional investment guarantees worth 1.5 billion euros were covered. The maximum liability of all existing untied financial loan guarantees peaked at 8.7 billion euros. **All these instruments are also used to support projects in the fossil fuels sector.**

Germany has provided financing for 12 fossil projects worth $1.5 billion since 2022 and thus is the worst of all the signatories of the "Clean Energy Transition Partnership". The CETP coalition was launched during the Climate Change Conference in Glasgow (COP 26) in 2021. It commits governments and state institutions to put an end to providing international public financing for fossil fuels and prioritising climate-friendly energy sources when providing public funds in the energy sector. While most of the 40 signatory states have generally abolished or at least significantly reduced financing of fossil fuels, **Germany currently violates the CETP and the almost identical commitments made by the G7 states in 2022**, thus exacerbating the climate catastrophe worldwide.[15,16]

Shackled to gas in the long run

Germany's LNG supply contracts

LNG supply contracts with:

Arabian Peninsula
Qatar, UAE and Oman

Total volume of contracts: **approx. 57 million tonnes of LNG**
Longest contract: **until 2042**
German contract partners: **SEFE and EnBW**
LNG suppliers: **Qatar Energy, Abu Dhabi National Oil Company (ADNOC) and Oman LNG**

U.S. and Canada

Total volume of contracts: **approx. 208 million tonnes of LNG**
Longest contract: **until 2049**
German contract partners: **EnBW, Uniper, SEFE, RWE and BASF**
LNG suppliers: **Venture Global, Woodside, Delfin Midstream, Sempra, Cheniere, Tourmaline Oil and Glenfarne**

Other LNG suppliers

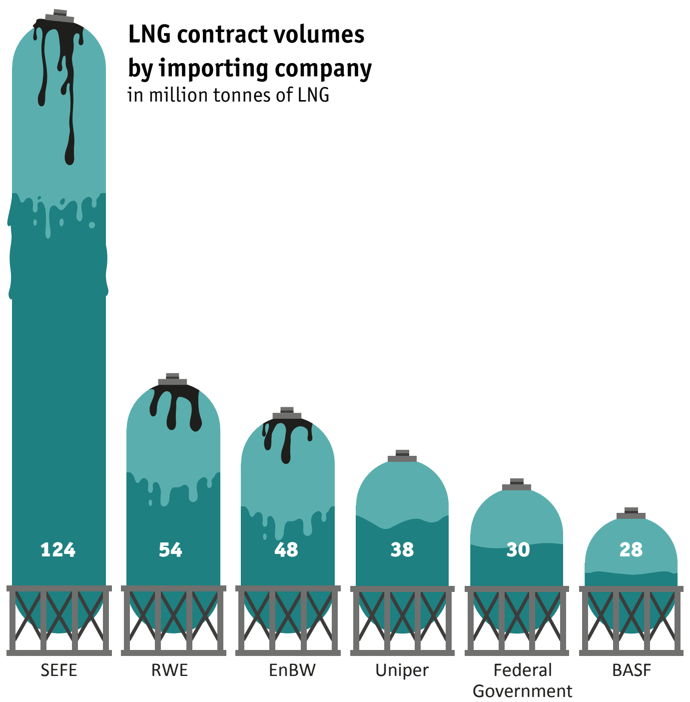
Total volume of contracts: **approx. 58 million tonnes of LNG**
Longest contract: **until 2039**
German contract partners: **Uniper, SEFE and BASF**
Contract partners: **ConocoPhillips, Woodside, Angola LNG, Equinor and Southern Energy**

Despite LNG's well-documented climate impacts and its **incompatibility** with the **Paris climate targets**, Germany plans to import large volumes of gas in this form – alongside pipeline gas – well into the 2040s.[2] The **U.S.** is the principal partner in this regard, though the **United Arab Emirates** and **Qatar** also play a significant role. Due to the high demand from Germany and Europe, LNG export capacities are being expanded worldwide – with grave consequences for people, the environment and the climate.

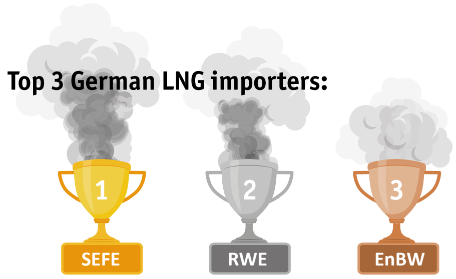
The **U.S.** is currently by far Germany's largest LNG supplier. Including a Canadian supply contract, which governs exports via the U.S. coast, the known contracts concluded to date amount to nearly **208 million tons of LNG**, the majority of which is derived from fracking. **The final contract will not expire until 2049** – four years after Germany's own self-imposed climate neutrality target, to which it is committed under the German **Climate Protection Act**.[3]

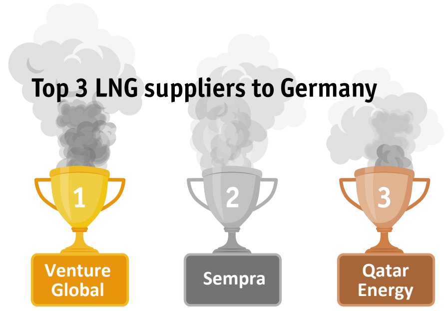
Alongside the U.S., the **United Arab Emirates** and **Qatar** are supplying increasing volumes of LNG to Germany. Taking contracts with **Oman** into account, nearly **57 million tons of LNG** are set to find their way from the **Arabian Peninsula** to Germany by 2042. A further **26.5 million tonnes** are covered by contracts in which the origin of the natural gas is not completely specified. Whilst a one-off delivery of **0.5 million** tonnes of LNG from **Angola** to Germany is planned for 2026, **Norway**, which until now has exported its fossil gas to Germany primarily via pipeline, will also supply additional LNG from the end of 2025.[4,5]

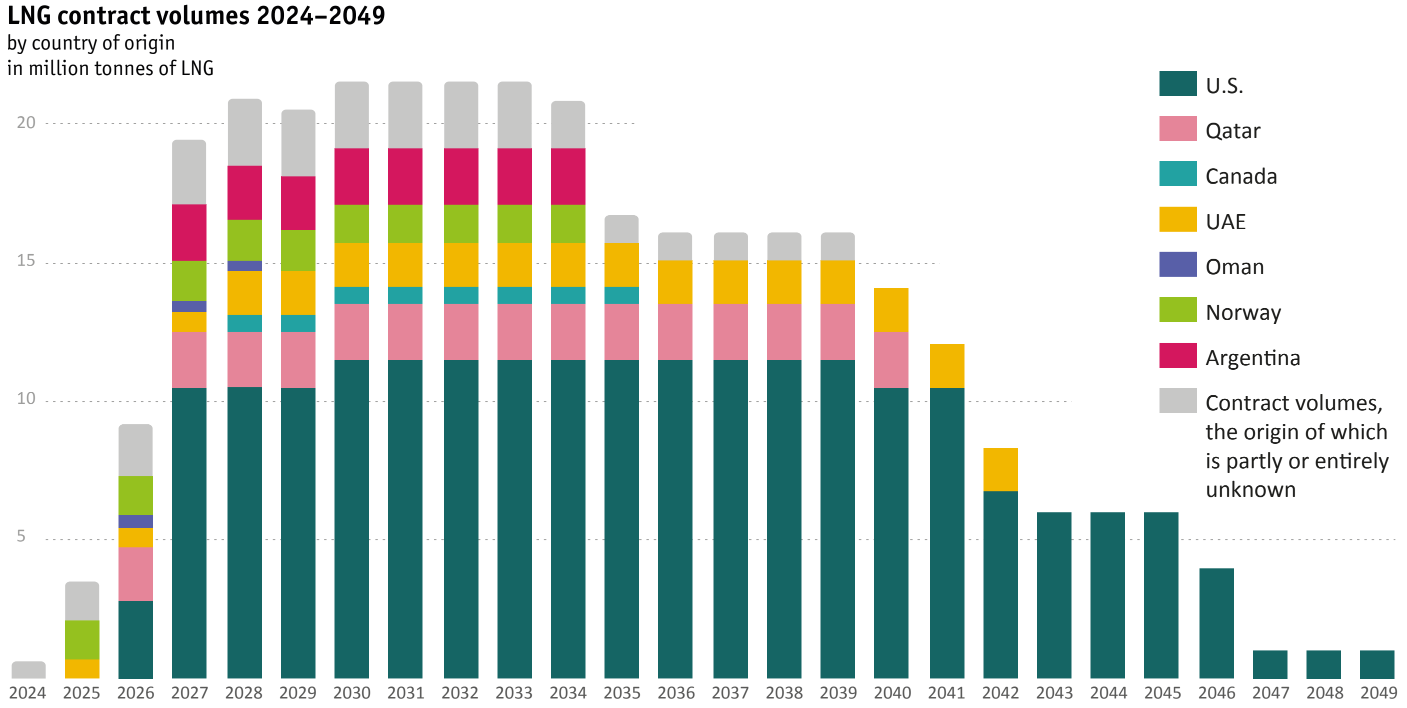
In total, the contracts concluded and made public to date would amount to LNG deliveries to Germany of over **322 million tonnes**. – equivalent to nearly 2,690 shipments by the largest LNG tankers currently in service.[6] On average, one of these vast vessels would dock in Germany every third day until 2045. The contracted volumes, to which German companies have already committed, will hence amount to almost three times the current annual LNG import levels from 2027 onwards. To date, **Securing Energy for Europe GmbH (SEFE)** has contractually secured most LNG. In addition to SEFE, **EnBW**, **Uniper** and **RWE** are also active in the LNG business. **BASF** has also secured larger volumes for its chemical products.[5,7]



The Federal Government concluded an agreement with Qatar Energy and the US company Conoco Phillips in 2022. The latter is to import fossil gas to Germany from 2026 via the terminal in Brunsbüttel.[1]







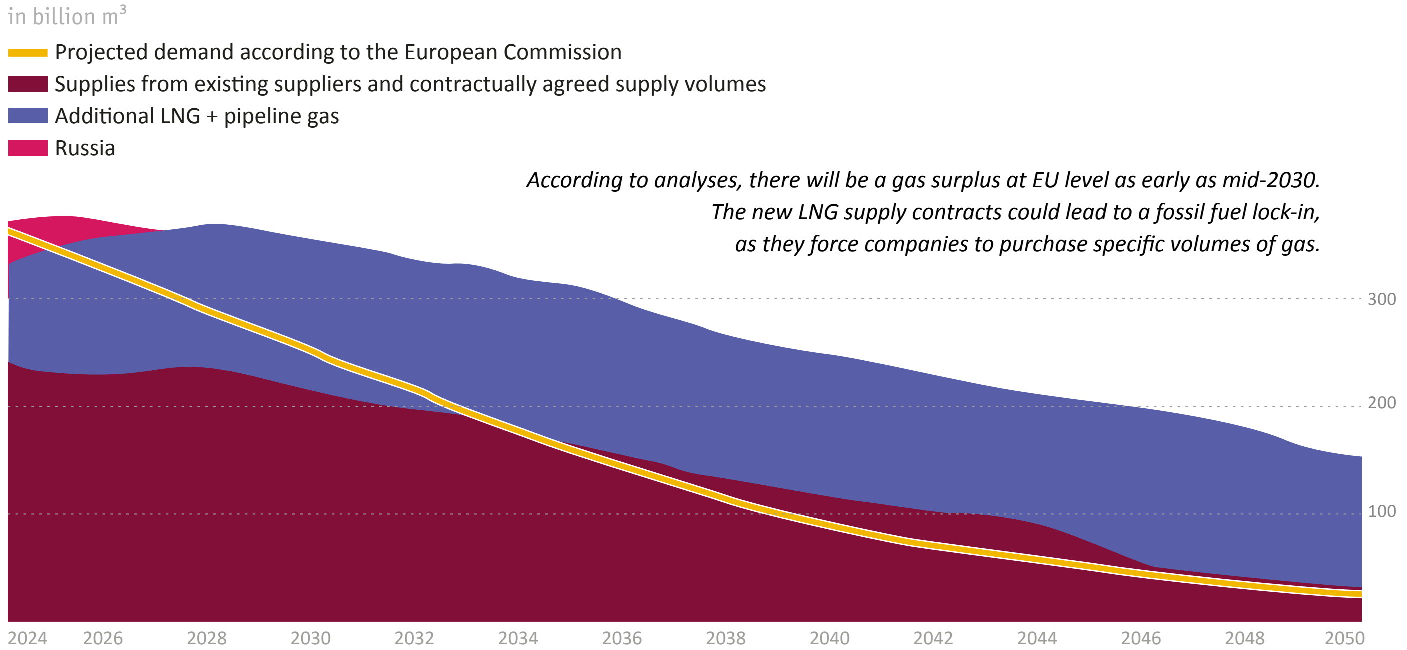
LNG Contracts: A Foreseeable Fossil Lock-In

Not only the sheer **amount of LNG**, but also the **duration of the contracts is problematic**: the majority of contracts were concluded for at least 15 years. Fossil gas would thus be supplied into the 2040s (with start times between 2025 and 2030). At the same time, analysts project that there will be an oversupply of gas at EU level as early as the mid-2030s. Contracts of 15 years or more are therefore a bet against the climate targets.[8]

Oil-price indexation

It is not only the contract duration that is problematic, a further risk factor lies in the indexation **of LNG deliveries to the oil price or other indices**. Here's why: the contracts do not specify a fixed price for the LNG delivered, instead, they set out a pricing formula that is often linked to the oil or gas price in a certain market. Even long-term LNG supply agreements can have hidden cost traps – for instance, when the price of oil fluctuates sharply in response to geopolitical crises. **Volumes of LNG purchased by companies such as EnBW could then, in such circumstances, only be resold to end customers in Germany at extremely high prices.**[9]

Fossil fuel lock-in in the EU due to already agreed supply contracts

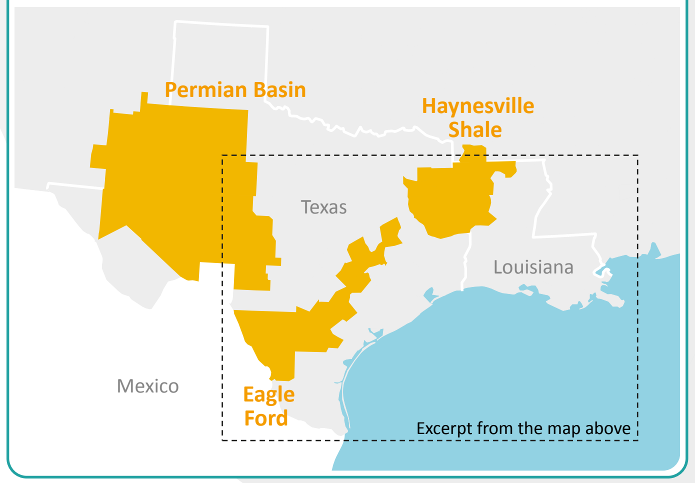


The U.S.: A Heavyweight in LNG

The U.S. is by far Germany's most important LNG supplier. On the U.S. side, **Venture Global** plays a particularly pivotal role: founded in 2013, the group is now the second-largest LNG producer there. Both **EnBW** and **SEFE** have concluded long-term supply agreements with Venture Global. Other U.S. suppliers include **Cheniere** (currently the largest LNG company in the U.S.), **Delfin Midstream** and **Sempra**. The Australian firm **Woodside** also features, although it exports half of its contracted volumes to Germany via Louisiana (the remaining half comes from the Group's global portfolio).[12] The Canadian company **Tourmaline Oil** has likewise concluded a contract with Uniper, supplying gas to Louisiana for subsequent export as LNG.[15] The **ConocoPhillips**, on the other hand, is from the U.S., but media reports show that it mainly supplies its contractual partners SEFE and Uniper with gas and LNG from its European portfolio, which includes assets in Norway and the United Kingdom. The precise volumes attributable to each source, and whether U.S. LNG is delivered under these contracts at all, remains unclear.[16, 17, 18]

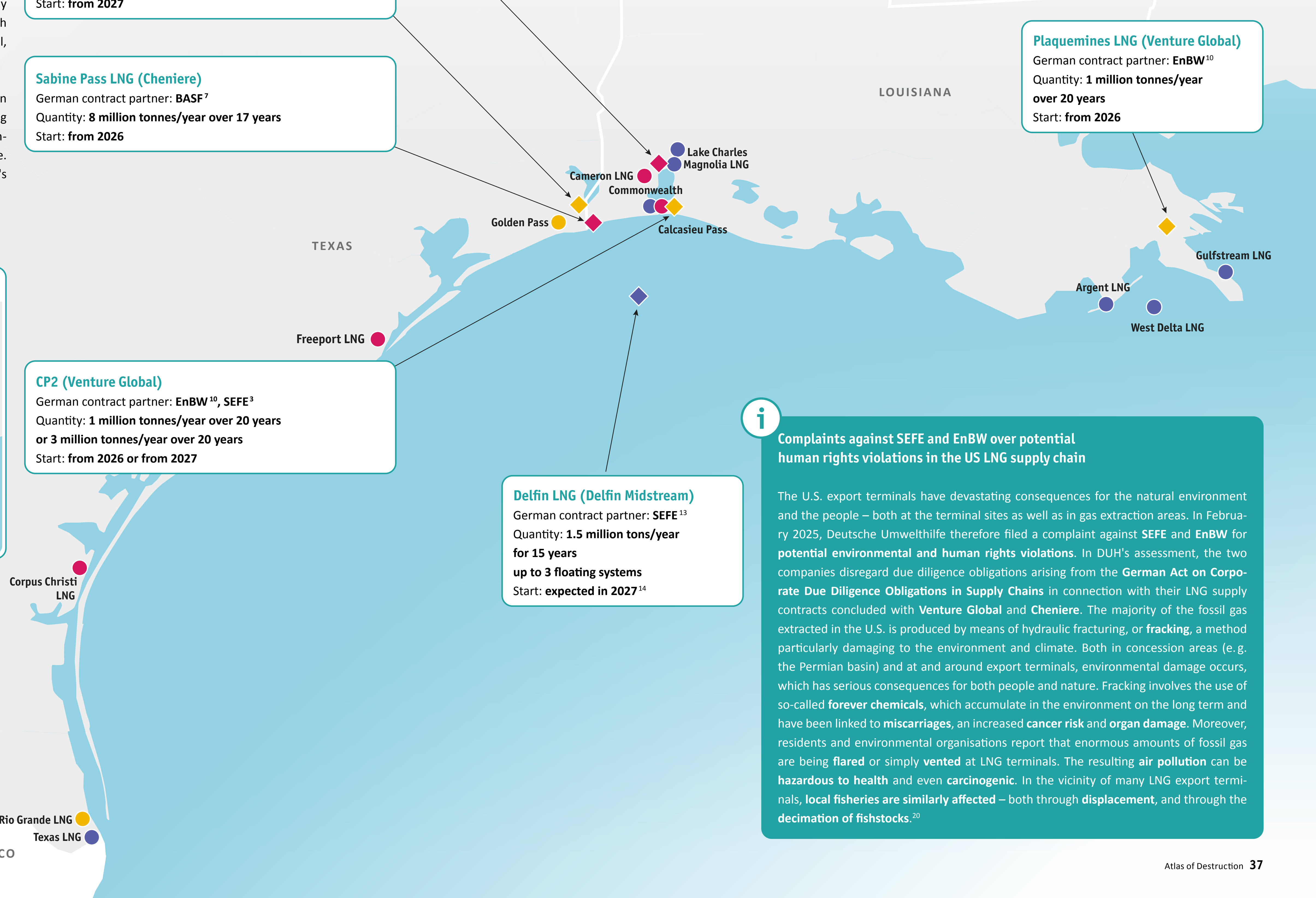
The overwhelming majority of LNG export terminals are located in **Texas** and **Louisiana** along the Gulf Coast – regions that are among the most climate-vulnerable in the U.S.[20] Nevertheless, a large number of other projects are in the planning or construction phase. In combination with projects in Canada and Mexico, North America's LNG export capacity could more than **double** by 2028.[21]

Selection of important fracking areas:



LNG export terminals in Texas and Louisiana

- Terminal
- Terminal under construction / not yet operational
- Proposed terminal / not yet approved
- Terminal with a supply contract to Germany
- Terminal under construction with a supply contract to Germany
- Proposed terminal / not yet approved with a supply contract to Germany



Woodside Louisiana LNG (Woodside)
German contract partner: **Uniper**[12]
Quantity: **2 million tonnes/year over 13 years (of which 1 million tonnes/year from global portfolio)**
Start: **from Louisiana LNG commissioning until 2039**

Port Arthur (Sempra)
German contract partner: **RWE**[11]
Quantity: **2.25 million tonnes/year over 15 years**
Start: **from 2027**

Sabine Pass LNG (Cheniere)
German contract partner: **BASF**[7]
Quantity: **8 million tonnes/year over 17 years**
Start: **from 2026**

CP2 (Venture Global)
German contract partner: **EnBW**[10]**, SEFE**[3]
Quantity: **1 million tonnes/year over 20 years or 3 million tonnes/year over 20 years**
Start: **from 2026 or from 2027**

Further contracts with US or Canadian suppliers:

Tourmaline Oil
German contract partner: **Uniper**[15]
Quantity: **6.6 billion m³ / 4.8 million tonnes**
Origin: **fossil gas produced in Canada, exported via the U.S. Gulf Coast (as LNG)**
Duration: **8 years from November 2028**

ConocoPhillips
German contract partner: **Uniper**[16]
Quantity: **7.3 million tonnes**
Origin: **ConocoPhillips uses its existing pipeline and LNG portfolio for deliveries.**[17] **This may include fossil gas from Norway and the United Kingdom.**[18]
Duration: **10 years from 2025**

ConocoPhillips
German contract partner: **SEFE**[19]
Quantity: **9 billion m³ natural gas / 6.5 million tonnes**
Origin: **ConocoPhillips uses its existing pipeline and LNG portfolio for deliveries. This may include fossil gas from Norway and the United Kingdom.**[17]
Duration: **10 years from 2024**

Plaquemines LNG (Venture Global)
German contract partner: **EnBW**[10]
Quantity: **1 million tonnes/year over 20 years**
Start: **from 2026**

Delfin LNG (Delfin Midstream)
German contract partner: **SEFE**[13]
Quantity: **1.5 million tons/year for 15 years up to 3 floating systems**
Start: **expected in 2027**[14]

i Complaints against SEFE and EnBW over potential human rights violations in the US LNG supply chain

The U.S. export terminals have devastating consequences for the natural environment and the people – both at the terminal sites as well as in gas extraction areas. In February 2025, Deutsche Umwelthilfe therefore filed a complaint against **SEFE** and **EnBW** for **potential environmental and human rights violations**. In DUH's assessment, the two companies disregard due diligence obligations arising from the **German Act on Corporate Due Diligence Obligations in Supply Chains** in connection with their LNG supply contracts concluded with **Venture Global** and **Cheniere**. The majority of the fossil gas extracted in the U.S. is produced by means of hydraulic fracturing, or **fracking**, a method particularly damaging to the environment and climate. Both in concession areas (e.g. the Permian basin) and at and around export terminals, environmental damage occurs, which has serious consequences for both people and nature. Fracking involves the use of so-called **forever chemicals**, which accumulate in the environment on the long term and have been linked to **miscarriages**, an increased **cancer risk** and **organ damage**. Moreover, residents and environmental organisations report that enormous amounts of fossil gas are being **flared** or simply **vented** at LNG terminals. The resulting **air pollution** can be **hazardous to health** and even **carcinogenic**. In the vicinity of many LNG export terminals, **local fisheries are similarly affected** – both through **displacement**, and through the **decimation of fishstocks**.[20]

LNG from the Arabian Peninsula

With supply contracts already concluded amounting to nearly **57 million tonnes**, various countries **of the Arabian Peninsula** have become another crucial LNG source for Germany. In addition to **Qatar Energy**, important suppliers include the **Abu Dhabi National Oil Company** (ADNOC), whilst a supply contract was also concluded with **Oman LNG**. For Germany, **SEFE** features as the principal contractual partner, alongside **EnBW**. By far the largest existing contract in terms of volume, however, was concluded directly between the **German Federal Government** with Qatar Energy: between 2026 and 2040, **two million tonnes of LNG are to be delivered annually**. The **ConocoPhillips** Group was commissioned to be in charge of transport, also having concluded contracts with SEFE and EnBW. **Currently, however, Qatar is threatening not to supply LNG to Germany as planned from 2026** – unless amendments are made to the European Supply Chain Directive. The latter is due to enter into force in 2026; in Germany, it has already been partially transposed into national law with the national Supply Chain Act. The directive is intended to oblige European companies to check their supply chains for environmental damage, among other things, and to develop climate protection plans in accordance with the Paris Agreement of 2015.[27] Following Qatar's threat, the EU proposed to postpone the directive's entry into force by two years, to 2028.[28] The conclusion of long-term LNG supply contracts thus harms the climate and the environment not only by extracting and burning fossil gas, but also by making Germany and Europe **vulnerable to blackmail**. And in doing so turning hard-won achievements in other policy areas into **bargaining chips**.

LNG contracts:

Qatar Energy & ConocoPhillips - Federal Government [1]
Quantity: **2 million tonnes/year**
Origin: **Ras Laffan LNG Terminal, Qatar**
Import via: **Brunsbüttel LNG terminal**
Duration: **min. 15 years from 2026**

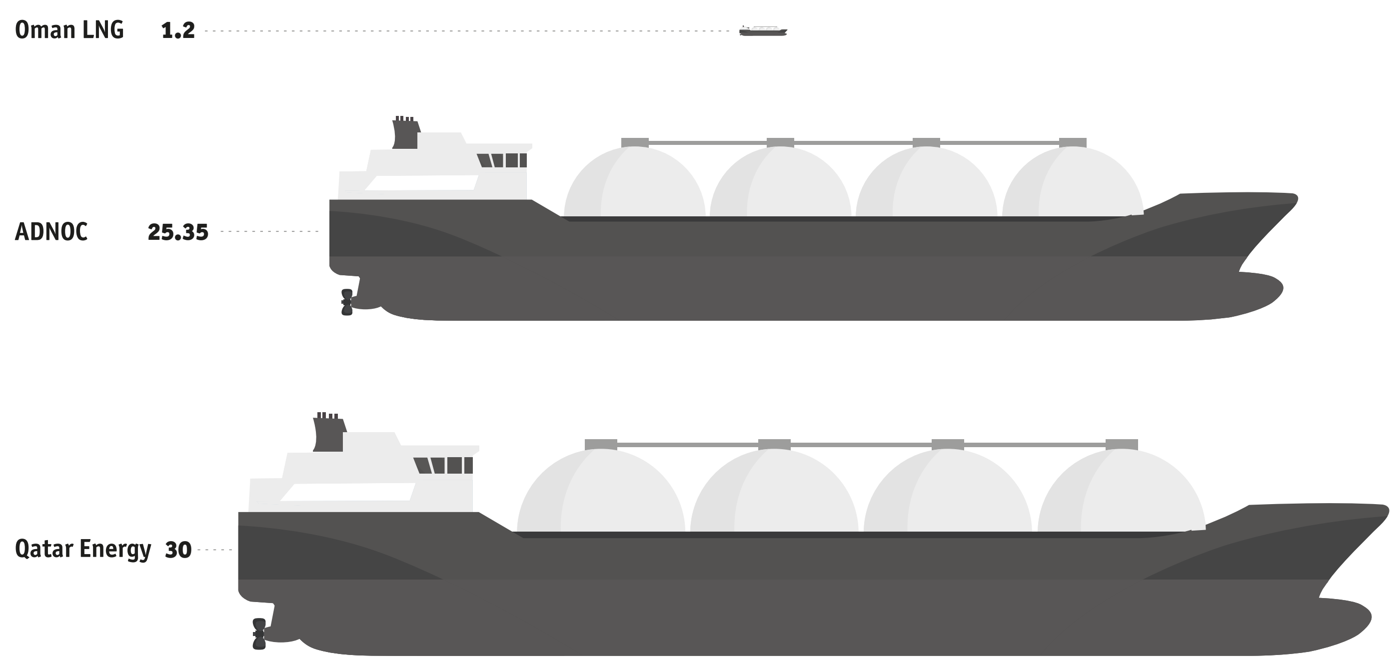
SEFE – ADNOC [21]
Quantity: **0.7 million tonnes**
Origin: **The Island Terminal, UAE**
Duration: **3 years from mid-2025**

SEFE – ADNOC [24]
Quantity: **1 million tonnes/year**
Origin: **Ruwais LNG Terminal, UAE**
Duration: **15 years from 2028**

EnBW – ADNOC [25]
Quantity: **0.6 million tonnes/year**
Origin: **Origin: Ruwais LNG Terminal, UAE**
Duration: **15 years from 2028**

SEFE-Oman LNG [26]
Quantity: **0.4 million tonnes/year**
Origin: **Qalhat LNG terminal, Oman**
Duration: **3 years from 2026**

LNG contract volumes from the Arabian Peninsula
according to supplier
in million tonnes



Map showing Qatar, the United Arab Emirates and the northern part of Oman including LNG export terminals and important gas fields

Judgments for the future of the planet

How climate litigation is advancing the fossil phase-out

Enforcing climate protection through legal action

Legal strategies and litigation are effective instruments. On the one hand, their intended purpose is to further develop existing and frequently inadequate environmental and climate protection legislation. On the other hand, the aim is to ensure that the legislation already in force is consistently applied, since many ambitious environmental laws already exist in theory, but are not consistently enforced due to insufficient political will or other factors.

Translating environmental and climate protection into the language and logic of law is a highly contested process involving various stakeholders such as NGOs, fossil fuel companies and courts. Deutsche Umwelthilfe plays a central role in this.

The first lawsuits in which courts took climate change issues into consideration were filed in the 1990s in the U.S. and Australia.[1,2] The idea of using the law in a strategically to benefit climate protection has since spread globally. Following a host of climate lawsuits in Europe in the 2000s, an increasing number of cases have also started cropping up in the global South since 2010. The latter are characterised by a focus on the protection of human rights, as these are particularly threatened by climate change-related risks and harms in the Global South.[3]

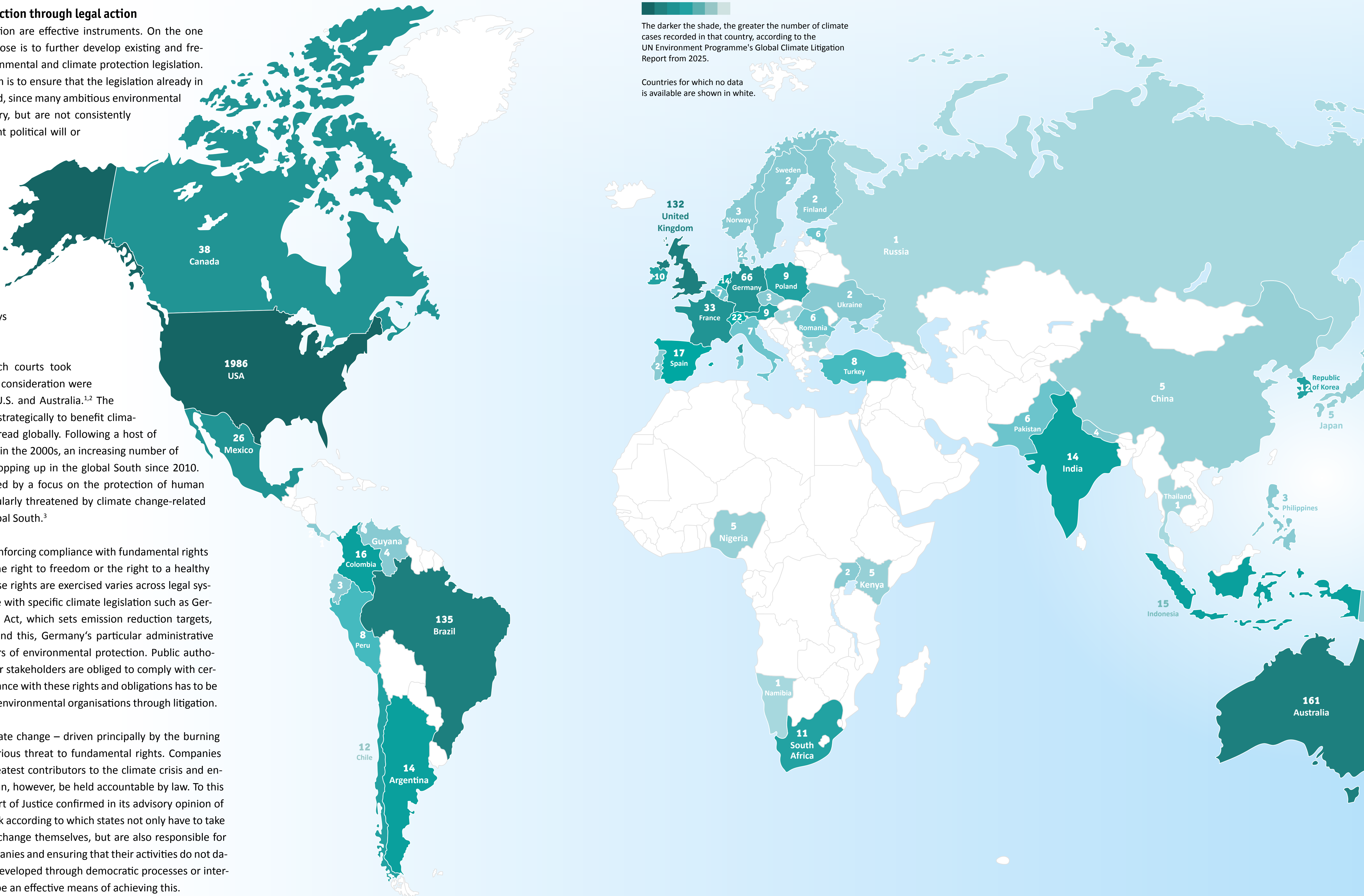
Climate litigation aims at enforcing compliance with fundamental rights such as the right to life, the right to freedom or the right to a healthy environment (the way these rights are exercised varies across legal systems), but also compliance with specific climate legislation such as Germany's Climate Protection Act, which sets emission reduction targets, among other things. Beyond this, Germany's particular administrative law also deals with matters of environmental protection. Public authorities, companies and other stakeholders are obliged to comply with certain requirements. Compliance with these rights and obligations has to be consistently reinforced by environmental organisations through litigation.

The consequences of climate change – driven principally by the burning of fossil fuels – pose a serious threat to fundamental rights. Companies and states that are the greatest contributors to the climate crisis and environmental destruction can, however, be held accountable by law. To this end, the International Court of Justice confirmed in its advisory opinion of July 2025 a legal framework according to which states not only have to take measures against climate change themselves, but are also responsible for effectively regulating companies and ensuring that their activities do not damage the climate.[4] Rules developed through democratic processes or international negotiations can be an effective means of achieving this.

Global distribution of climate litigation[5]

The darker the shade, the greater the number of climate cases recorded in that country, according to the UN Environment Programme's Global Climate Litigation Report from 2025.

Countries for which no data is available are shown in white.



Legal strategies: levers against fossil power

Broadly speaking, there are two levels to legal work as a means of opposing oil and gas production: creating law and enforcing law. New legislation can be enacted to strengthen environmental and climate protection. Such processes can be triggered by international agreements or public pressure. Alternatively, individuals or environmental organisations can bring legal action against fossil projects or companies, to ensure that applicable law is enforced.

Climate lawsuits against fossil fuel companies take different legal approaches: most (38 %) are filed because of climate damage.[6] These lawsuits claim compensation for damages caused by extreme weather events, for example, where it is clear that a company's greenhouse gas emissions has made a relevant contribution to the climate crisis. In 2023, half of global CO_2 emissions were generated by only 36 corporations.[7] These claims for damages have increased sharply since 2017.

Since 2019, there has also been an increase in litigation for misleading advertising campaigns in which companies are prosecuted for “greenwashing” in the interests of consumer protection. Deutsche Umwelthilfe is also systematically promoting this in Germany. Other lawsuits are directed against inadequate emission reduction targets compared to the Paris climate benchmark, incorrect assessments of environmental impacts and permits for individual fossil projects. Further proceedings are aimed at preventing corporations from concealing financial risks associated with the expiring fossil business model in their annual reports – such as possible “stranded” assets or costly restoration obligations resulting from environmental and climate protection requirements. In some isolated cases, criminal proceedings were initiated against corporations such as BP and TotalEnergies.[6]

Enforcing environmental law: legal action against fossil projects and missing climate protection measures

Many legal disputes against oil and gas production address the issue at the root: the permits for the approval of such projects. The subject of such legal disputes include both substantive law, for example nature and climate protection laws, and errors in the approval process.

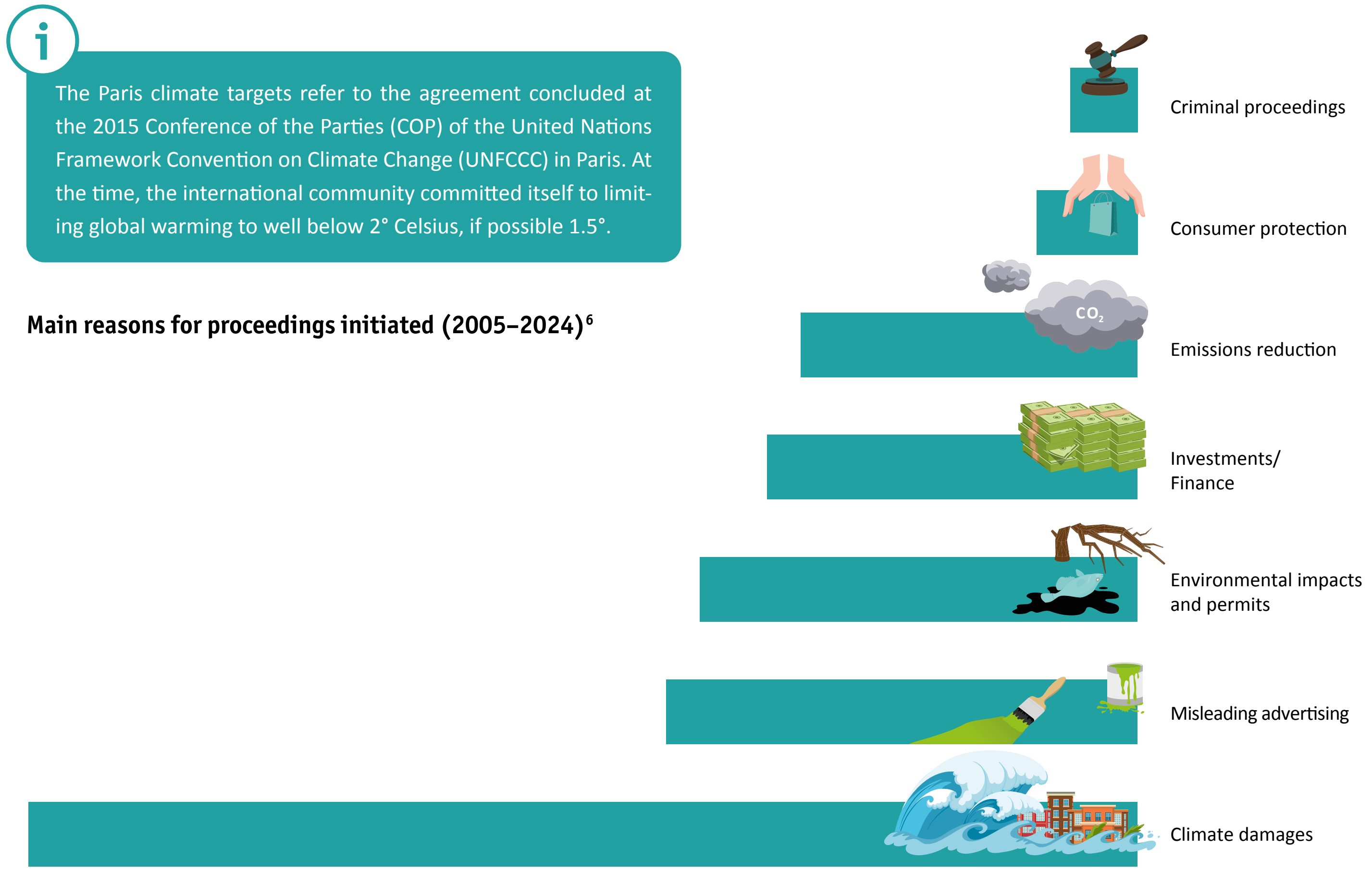
The Environmental Impact Assessment (EIA) is a central element of permit procedures and aims to ensure that all environmental and climatic impacts of a given project are assessed. The legal basis for this assessment ranges from national environmental law to EU requirements and international obligations, such as cross-border effects. The EIA is designed to systematically record and assess all significant environmental effects. For that very reason, it frequently forms the practical basis for making legal violations – such as insufficiently considered protected environmental interests or exceedance of pollution limits – visible and legally challengeable in the first place.

The substantive standards by which a project can ultimately fail can be found in the relevant sector-specific-laws, e.g. in nature conservation law, immission control law, climate protection law or other special legislation. A violation of the standards laid down in these laws constitutes the most effective weapon for claimants: permits can be revoked, projects prohibited or only allowed under significantly more stringent conditions. Fossil companies are thus obliged to comply with environmental and climate standards. Therefore, damage to nature and the climate can at least be limited.

i

The Paris climate targets refer to the agreement concluded at the 2015 Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC) in Paris. At the time, the international community committed itself to limiting global warming to well below 2° Celsius, if possible 1.5°.

Main reasons for proceedings initiated (2005–2024)[6]



Finch vs. Surrey County Council

All climate impacts of a project must be taken into account in the environmental assessment. This also includes the emissions that occur during the burning of the extracted oil or gas – because it is only for this burning that it is extracted. Nevertheless, permitting authorities have so far excluded these emissions from the environmental impact assessment of fossil projects. Only through lawsuits such as Finch vs. Surrey County Council was it enforced in 2024 that such downstream emissions be examined as well. This makes this verdict a precedent. Sarah Finch, on behalf of the Weald Action Group in the United Kingdom, brought an action against the Surrey County Council, which had granted new drilling permits to the operator of the Horse Hill oil field south of London. The UK Supreme Court ruled in 2024 that unaccounted emissions from the burning of the extracted oil (so-called Scope 3 emissions) must be included in the EIA and the permit was therefore unlawful. The ruling requires authorities in the UK, such as the Surrey County Council, to comprehensively assess the climate and environmental impact of Scope 3 emissions and makes it difficult for oil and gas companies to simply ignore the climate impact of their projects as they had been doing.[8] As the ruling was made on the basis of EU law despite Brexit, it is also highly relevant for other EU member states.

Greenpeace Nordic et al. vs. Norway

In order to create similar precedents in other jurisdictions, further lawsuits have been filed, for example in Norway: In the case of Greenpeace Nordic & Natur og Ungdom v. Norway, the Court of Justice of the European Free Trade Association (EFTA) ruled in 2025 that scope 3 emissions must also be taken into account in the environmental assessments of three oil and gas projects.[9] These emissions account for 95 % of the project's total CO_2 emissions and would contribute significantly to the climate crisis. The fallout would include over 104,000 more heat deaths by 2100.[10] The judgment thus confirmed the case law of Finch vs. Surrey County Council before an international court.

Sustaining the Wild Coast NPC et al. vs. Minister of Mineral Resources and Energy et al.

Indigenous coastal communities of South Africa's Wild Coast, along with environmental organizations, are suing against Shell's planned seismic tests for offshore fossil drilling. They argued that the permit had been granted without adequate community consultation and without an environmental or human rights assessment.[15] In 2022, the High Court in Makhanda declared the permit unlawful on the grounds that it failed to respect the cultural rights and livelihoods of the affected communities. Following an appeal by Shell, the Supreme Court of Appeal upheld the finding of unlawfulness but permitted a fresh application to be made. In 2025, the Constitutional Court of South Africa is now considering whether this “cure” of a defective permit is legally permissible.[18] The case is regarded as a landmark for the protection of coastal communities and for the obligation to subject fossil fuel projects to comprehensive environmental and human rights scrutiny.

DUH, MOB en Saubere Luft vs. Ministerie van Economische Zaken (North Sea gas extraction N05)

In addition to preserving one of the last and largest stone reefs in the German North Sea and protecting porpoises and seals, there is more to the Deutsche Umwelthilfe's lawsuits against the gas expansion off the coast of Borkum. Similarly to Finch vs. Surrey County Council, the aim is to legally enfoce that Scope 3 emissions be taken into account in the environmental impact assessment when approving the projects.[14] The DUH lawsuits were able to delay the start of gas production by almost two years. The project can still be stopped, decisions in the main proceedings are still pending.

Deutsche Umwelthilfe vs. State Office for Mining, Energy and Geology

Compared to the other countries bordering the North Sea, Germany operates but a few fossil projects in the North Sea. The largest of these is the Mittelplate oil field in the middle of the Wadden Sea, a UNESCO World Heritage Site. Since 1987, a large oil platform has been extracting oil there. To this end, the DUH has examined the supporting permit documents and found that the environmental impact assessment required under European law by the platform in the Wadden Sea (the so-called FFH compatibility assessment) has never been carried out.[12] The DUH has therefore brought an action,[13] which has yet to be decided in summary proceedings (as of May 2026).

Deutsche Umwelthilfe vs. Federal Republic of Germany (LULUCF lawsuit)

While the successful constitutional complaints of March 2021 set basic standards for the constitutionality of the German Climate Protection Act, the following litigation example shows that courts are now also demanding the concrete implementation of governmental climate protection obligations. In May 2024, the Berlin-Brandenburg Higher Administrative Court ordered the Federal Government to adopt effective measures for achieving the climate goals in the land use, land use change and forestry (LULUCF) sector.[19] Simply put, this so-called land use sector encompasses our landscapes – forests, moors, grassland and other areas of agriculture and forestry – which are technically intended to bind large amounts of CO_2, therefore acting as an important greenhouse gas sink. Currently, however, they cause net additional emissions in Germany because, due to a lack of protection, drained peatlands, over-exploited forests and intensively farmed soils release more greenhouse gases than are stored there. The judgment became final on 13 September 2024, as the Federal Ministry for the Environment did not file an appeal.[20] In Germany, this is the first time climate change litigation against the Federal Government has led to a legally binding ruling, which obliges it to act and implement applicable climate law. In order to enforce the judgment, Deutsche Umwelthilfe filed an enforcement application in January 2025 to demand the implementation of necessary measures.[21]

Climate lawsuits for statutory improvements: enforcing legal rights

Climate movement vs. Germany

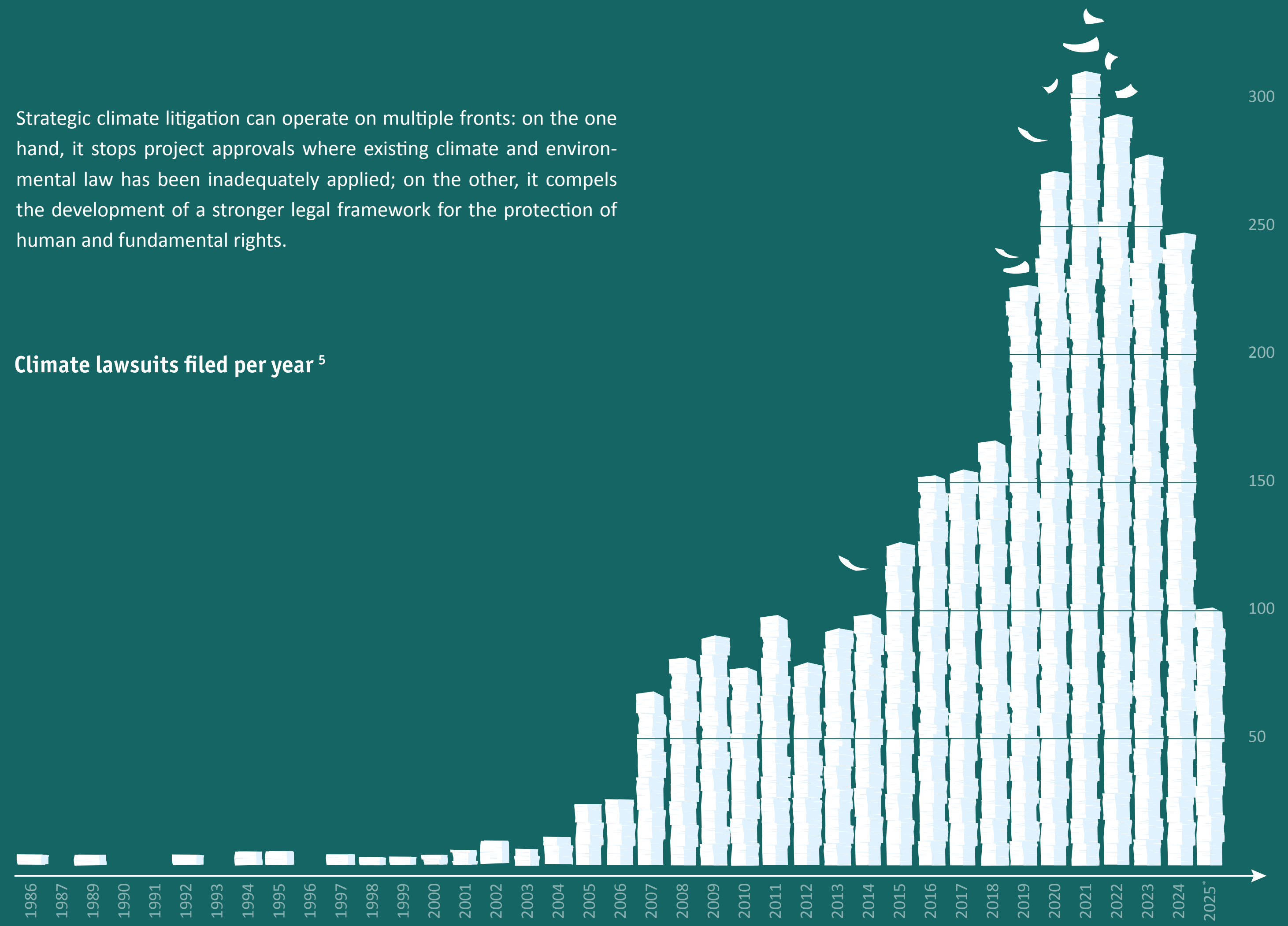
In March 2021, the German Federal Constitutional Court found, as a result of several proceedings supported by environmental organisations, including Deutsche Umwelthilfe, that parts of the German Climate Protection Act (Klimaschutzgesetz) infringed fundamental rights at the time, as it shifted burdens onto the period beyond 2030 and thus onto future generations. The then Federal Government, consisting of the SPD and the CDU, was consequently required to amend the legislation.[22]
In 2024, the subsequent government – formed by the SPD, the Greens, and the FDP – weakened the act again, whereupon DUH supported a further constitutional complaint before the Federal Constitutional Court and, on this occasion, also appears as a complainant in its own right.[23] The complaint argues, amongst other things, that the abolition of binding and sector-specific emissions reduction targets and their replacement with a new "multi-year, cross-sectoral aggregate accounting" framework blurs lines of accountability and unconstitutionally defers the necessary emissions reductions to the future – in contravention of the Federal Constitutional Court's 2021 climate ruling – with the risk of a later "CO_2 emergency brake" being enacted to meet climate obligations.[23]
The complaint is pending.

Association KlimaSeniorinnen Schweiz et al. vs. Switzerland

At the international level, the European Court of Human Rights (ECtHR) set new standards with the decision on the lawsuit of the KlimaSeniorinnen (climate seniors) in 2024. The KlimaSeniorinnen – a Swiss association of older women – brought proceedings against Switzerland before the ECtHR, arguing that their country's climate policies failed to provide adequate protection against the health impacts of climate change, and heat waves in particular. The court ruled that Switzerland had violated the European Convention on Human Rights (ECHR) with its inadequate climate protection measures.[24] This is the first time that an international court has found that inadequate climate protection violates human rights – establishing an important new foundation for future litigation and for the definition of states' obligations.

Strategic climate litigation can operate on multiple fronts: on the one hand, it stops project approvals where existing climate and environmental law has been inadequately applied; on the other, it compels the development of a stronger legal framework for the protection of human and fundamental rights.

Climate lawsuits filed per year [5]



* provisional data

Fossil fuel corporations' responses to environmental lawsuits – SLAPP

With the increasing success of lawsuits against fossil projects, corporations have developed their own strategies to prevent environmental lawsuits from individuals or NGOs. These so-called SLAPP suits – Strategic Lawsuits Against Public Participation – are pursued with the aim of intimidating environmentalists and NGOs and discouraging them from asserting their rights. A prominent example is the SLAPP suit brought by Energy Transfer against Greenpeace USA, seeking damages of nearly $300 million. The SLAPP lawsuit against Greenpeace USA relates to protests against the Dakota Access Pipeline, operated by Energy Transfer, with the company claiming that it was Greenpeace – rather than indigenous water protectors – that organised the demonstrations against the pipeline.[25]

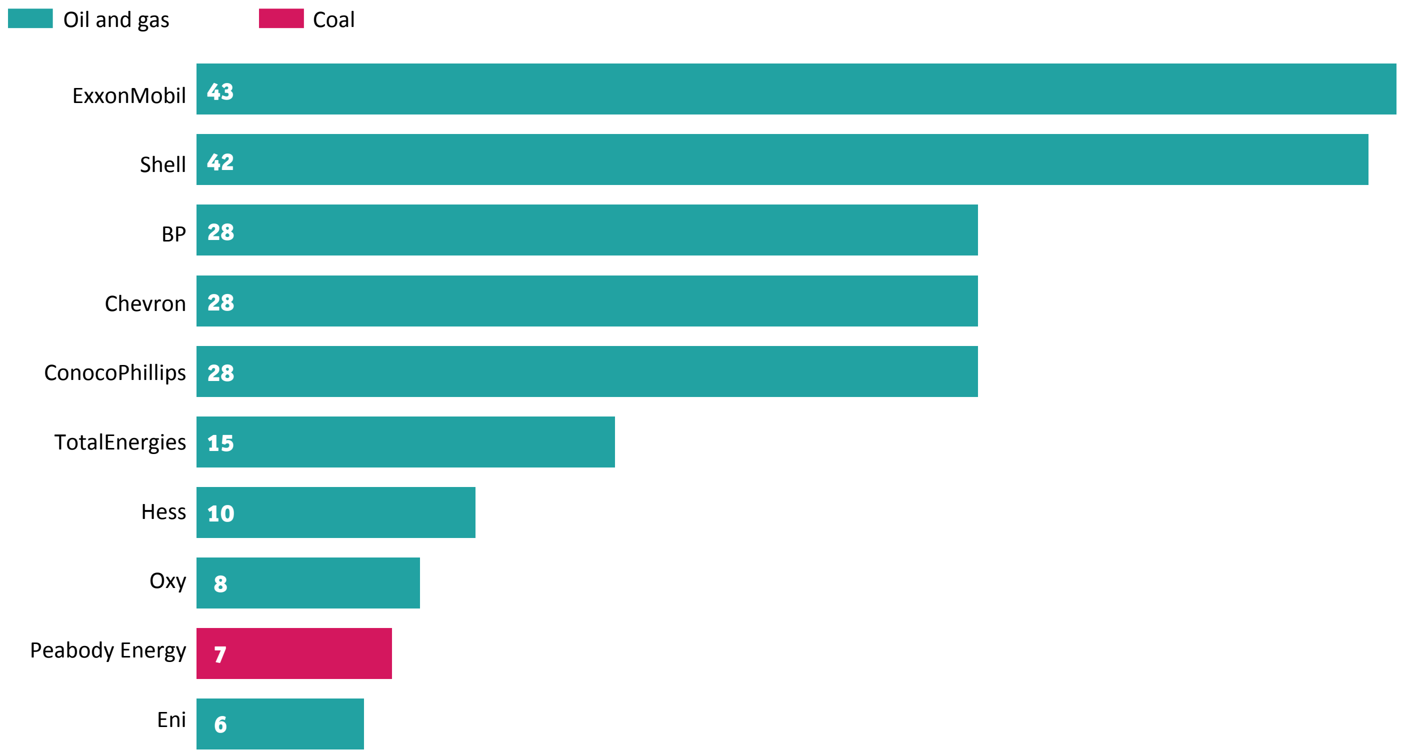
With this strategy, lawsuits are used as a means of pressure designed to intimidate and financially overwhelm NGOs and individuals.[26] At the same time, these proceedings reveal the extent to which fossil fuel corporations feel threatened by successful environmental litigation – a telling indication that legal resistance is genuinely destabilising their business model. In the past decade alone, 152 such cases have been brought in the U.S.[27] Germany has also seen instances of SLAPP litigation, such as a 2017 case in which RWE sued journalist Jannis Große for 2.1 million euros in damages following his reporting on the occupation of a power station.[28] Deutsche Umwelthilfe has itself been subjected to similar proceedings.

Legal power structures: Who protects whom?

Every fossil project involves lawyers acting in the interests of fossil fuel corporations. A report by Law Students for Climate Accountability sets out that certain law firms have played a significant role in the climate crisis. The five highest-grossing firms in London – collectively known as the Magic Circle – advised on contract structuring and financing arrangements for fossil fuel transactions worth over 320 billion euros between 2018 and 2022. The firms in question are Clifford Chance, Allen and Overy, Freshfields Bruckhaus Deringer, Linklaters, as well as Slaughter and May.[29]

Top 10 most sued fossil fuel companies

Climate lawsuits from 2005–2024[5]



Outlook: Law as a driver and anchor of transition

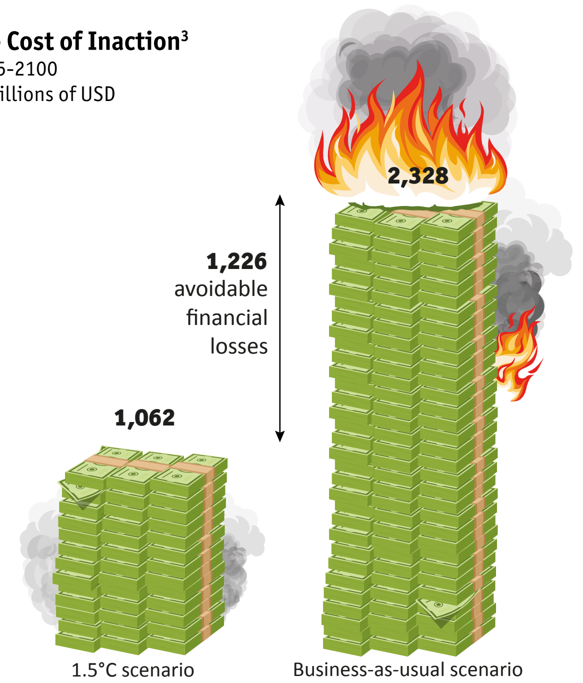
Law is a decisive instrument in the struggle for the future of our planet. Whilst fossil fuel corporations face significant financial and legal risks, environmental organisations are making use of legislation, international agreements, and judicial precedent to assert their right to environmental and climate protection. The growing number of successful climate lawsuits – including *Finch vs. Surrey County Council, Greenpeace Nordic and Others vs. Norway* and also the lawsuits of Deutsche Umwelthilfe – demonstrates that courts are beginning to hold fossil companies accountable for the impacts of their business model and to oblige public authorities to apply the law as it stands. Going forward, it will therefore be essential, first, to establish a sufficiently ambitious legal framework for environmental and climate policy; second, to ensure that public authorities and other duty-bearers apply and enforce these requirements in accordance with the law; and third, to guarantee effective judicial protection where they fail to do so. This requires robust democratic institutions and an active civil society. The precedents successfully established through litigation show that a fossil-free future can be achieved through the instruments of law.

Fossil phase-out now!

Renewables make it possible

Renewable power generation is overtaking fossil fuels worldwide. This year, electricity production from wind and solar energy surpassed coal power generation for the first time.[1] In the EU, renewables outpaced all fossil fuels in the power mix last year.[2] The direction of travel is clear: renewables hold decisive advantages over fossil fuels. Even in a world without climate breakdown, there would be compelling reasons to phase out fossil fuels..

The Cost of Inaction[3]
2025–2100
in trillions of USD

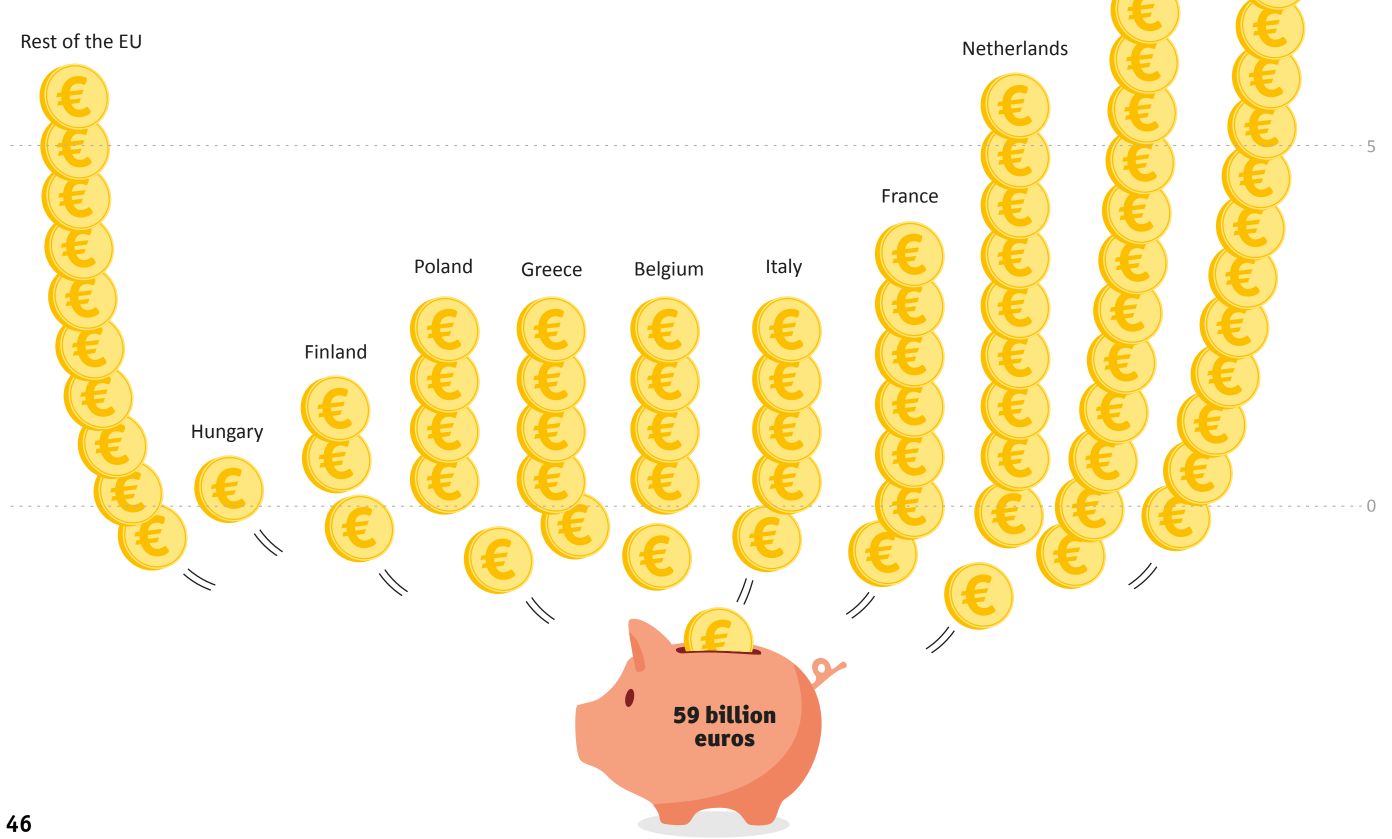


Not taking action is not an option – and comes at an enormous cost

A cleaner, healthier and better world does not come free of charge. The Climate Policy Initiative, for instance, estimates that meeting the 1.5-degree target will require global financing of $266 trillion. That is a substantial amount of money. It is, however, far less than the cost of an unmitigated climate catastrophe: $1,226 trillion. Climate protection is an investment in the future that will pay off.

Estimating climate costs is important to illustrate the costs of inaction. At the same time, no single figure can adequately capture what unmitigated climate breakdown entails: damage from storm surges, premature deaths from heat and air pollution, drought and food crises, species extinction, and the collapse of entire ecosystems.

Europe saves billions through reduced fossil fuel imports through the expansion of renewables[4]
2019–2024
in billions of €

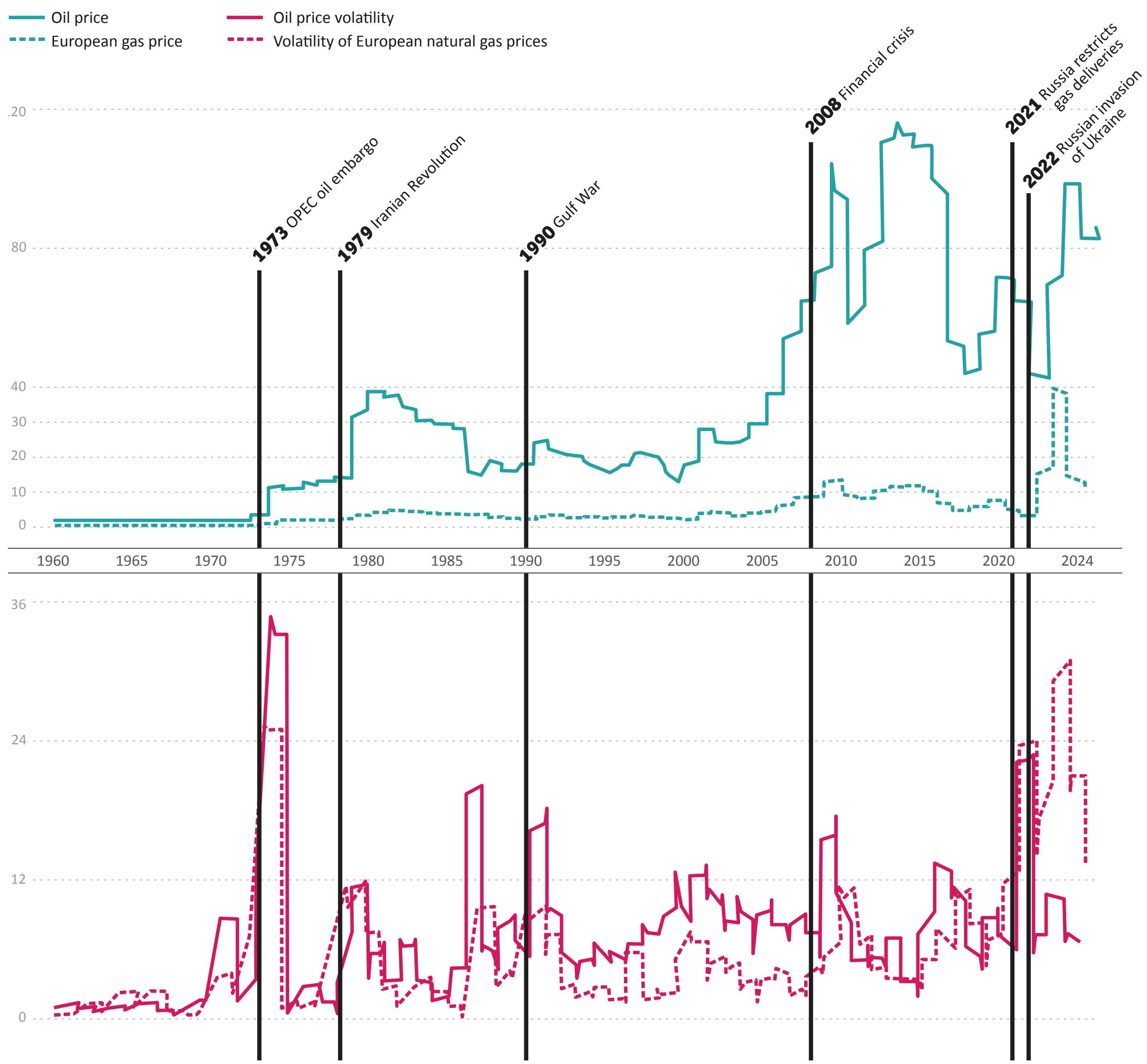


No fossil imports, no fossil dependencies

Expanding renewables saves considerable sums of money. Continuing to rely on fossil fuels means remaining dependent on regimes that are often authoritarian. In 2024 alone, Germany imported fossil fuels worth 76 billion euros. The consequences of a major supplier cutting off supply became starkly apparent to Europe in the context of Russia's invasion of Ukraine. The accelerated expansion of wind and solar energy between 2019 and 2024 has already saved the EU 59 billion euros that would otherwise have been spent on fossil imports. Germany alone avoided 13 billion euros in expenditure – the majority through reduced fossil gas imports.

Our dependence on fossil fuels also exposes households and businesses to extreme price fluctuations. Oil and gas have always been vulnerable commodities, but this volatility has in fact grown over the years. Geopolitical crises and deliberate supply restrictions – as seen with the OPEC oil embargo of 1973 or in the run-up to Russia's invasion of Ukraine in 2021 and 2022 – can trigger economic crises and drive households into financial ruin. The price indexing of oil and gas compounds this effect, as price spikes in both combustibles tend to occur simultaneously.

Fossil fuel price volatility places us under pressure[5]



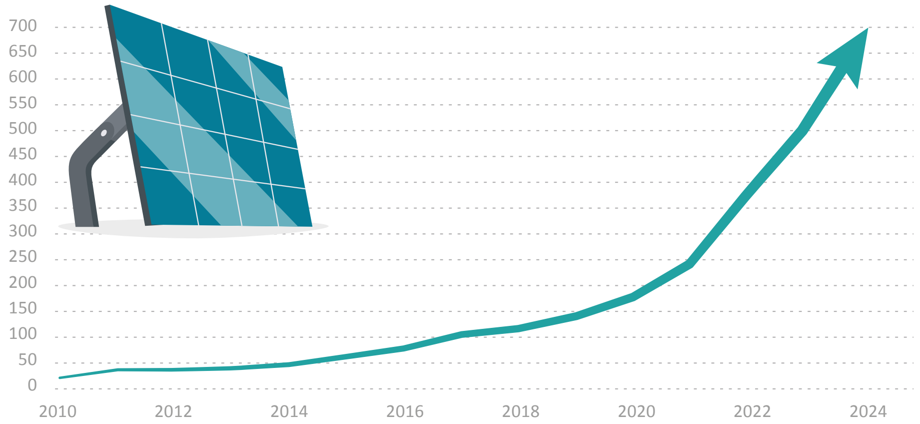
We are already on our way – just not fast enough

The technologies we need to make ourselves independent of oil and gas are already available. The largest share of Germany's gas consumption goes towards heat production in buildings and industry and can be replaced by heat pumps. For power generation, renewables can be combined with battery storage facilities, flexible demand models and smart grids to largely replace gas-fired power plants. Oil, used predominantly in the transport sector, can be replaced through electrification of road and rail, and by shifting towards bus and train transport. The energy transition is, in essence, an electrification transition – one that brings with it clear benefits such as cleaner air and substantially higher energy efficiency. Globally, the key technologies for a clean energy future are advancing rapidly. Prices for battery storage systems in particular are plummeting, driven by technological innovation, growing production volumes, and increasingly efficient manufacturing processes: average battery prices fell by 40% between 2023 and 2024 alone.[6]

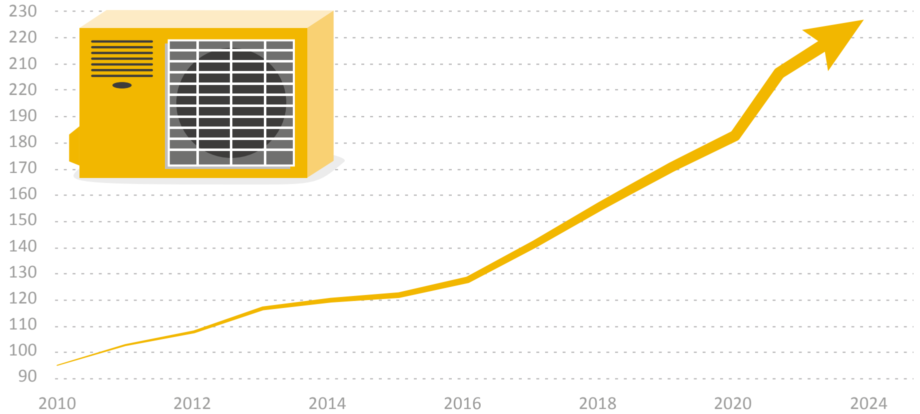
German companies are already well positioned in the clean technology sector, holding a 13 % share of global trade – a multiple of their overall export share. Yet they risk being left behind by global developments.[7] Fossil fuel subsidies in the billions are hampering domestic uptake of future technologies. The continued use of fossil fuels in power generation pushes up power prices – not to mention the dramatic rise in fossil fuel prices following Russia's war of aggression. The consequences of the hesitant energy transition policies of recent years become evident, for example, in the collapse of the German solar industry and the current difficulties facing the German automotive sector, which failed to keep pace with the shift to e-mobility.

Caption: Globally, the key technologies of energy transition are advancing rapidly[8]

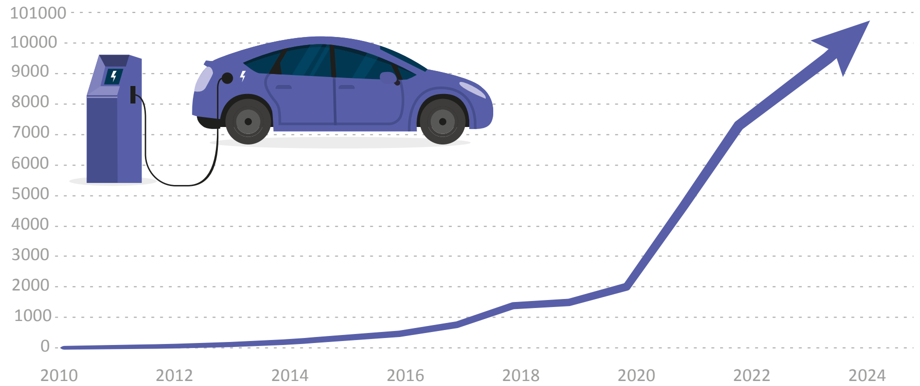
Global PV module production[9]
in GW



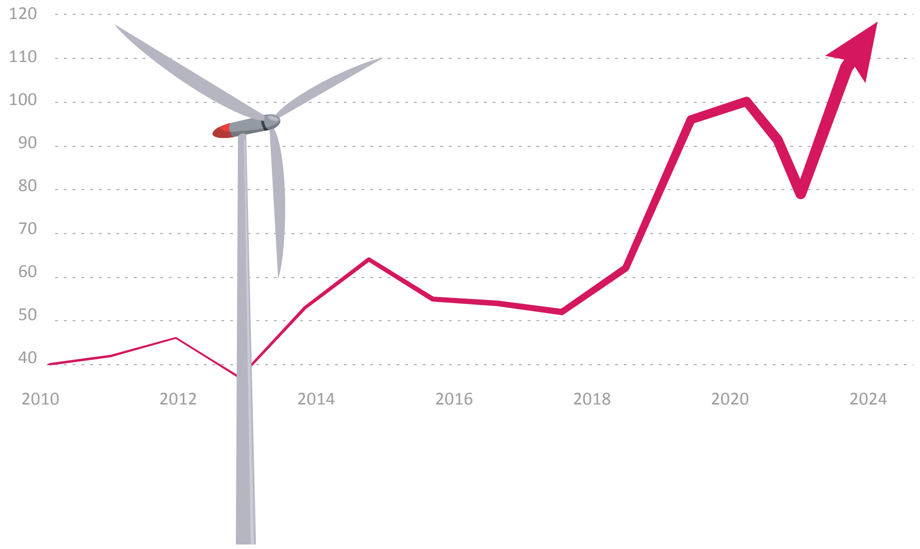
Global installation of heat pumps[9]
in millions



Global electric vehicle sales figures[10]
in thousands



Global wind capacity additions[11]
in GW



The path to a cleaner, healthier and climate-friendly world is open

The good news is that it is not too late. Decisive action can free us from dependence on oil and gas. A resolute expansion of renewable energy and storage technologies would massively reduce dependance on fossil fuel imports. Solar and wind energy, paired with battery storage infrastructure and flexible power grids, would make Germany more resilient to geopolitical uncertainty, strengthen democratic governance, and increase security of supply.

The transition to renewable energies and electrification offers the only genuine opportunity to permanently reduce energy costs for households and businesses. Studies have shown that the targeted expansion of wind and solar capacities and intelligent power infrastructure could reduce power prices by up to 23% by 2030.[12] The use of electric cars as power storage also contributes to reducing the system costs across the energy sector by up to 22 billion euros anually throughout the EU, delivering significant savings to consumers.[13]

State and public institutions hold important levers: they can phase out fossil subsidies, stop new oil and gas projects, align planning and approval rights with climate targets and consistently prioritise investments in renewables, efficiency and sufficiency. Public procurement, support programmes, clear guidelines for companies and targeted assistance for low-income groups can make the transformation socially just. This includes directing land use and financial flows specifically towards renewable energy, efficiency and public transport, strengthening local energy initiatives, redistributing public space and integrating climate and social policy.

What matters is making decisive use of this framework now. The energy transition is not an end in itself, but the necessary response to the ecological, social and economic challenges of our time. A rapid move away from fossil fuels protects not only the climate and nature, but also makes our society more resilient to price risks and geopolitical crises. The expansion of renewable energies, accompanied by storage and grid infrastructure, creates planning security, reduces costs over the long term and strengthens regional added value. At the same time, it opens up spaces for participation: community energy projects, municipal initiatives and cooperative models combine climate action with democratic participation.

The energy transition does not merely represent a technological shift; it brings far-reaching benefits for public health, quality of life, and ecological diversity. A renewable energy system produces fewer air pollutants, reducing rates of respiratory and cardiovascular diseases and easing the burden on the healthcare system.

If we do the right thing now and move forward swiftly and courageously, we can build an energy system that is secure, affordable, and fair – laying the foundation for a future worth living. The tools are there, so is the expertise. What is needed is the collective will to stop postponing the transformation and instead embrace it as an opportunity for a modern Germany, charactarised by solidarity, that is fit for the future.

List of endnotes

From the well to the petrol pump

Where does German oil come from?

P.6 – P.9

Author: **Clara Winkler**

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From wellhead to burner

Where does German gas come from?

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Under pressure

Protected areas under attack of the fossil industry

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Invisible but destructive

How methane fuels the climate crisis

P.26 – P.29

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Fossil billions

Germany's financing of oil and gas projects abroad

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Shackled to gas in the long run

Germany's LNG supply contracts

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