



Political Risks in Global Energy: From “Resource Nationalism” to “Molecules of Freedom” and Climate Weapons

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From “Resource Nationalism” to “Molecules of Freedom”

The subject of big politics influencing the energy sector has been around for quite some time with a number of classical examples that are worth remembering, including the 1973 oil crisis, which tripled the average annual oil price, pushing it above \$50 per barrel for the first time in the 20th century. There was also the 1979 crisis, when the average annual prices doubled and exceeded an equivalent of today’s \$100 per barrel.

Equally, the use of political pressure like the extra-territorial sanctions imposed by the United States is not new. There is a clear resemblance between the sanctions Ronald Reagan imposed on the construction of Urengoy-Pomary-Uzhgorod gas pipeline and the efforts by the United States to thwart the Nord Stream 2 project.

In an ideal world, energy would be an exclusively business matter. However, it acquired such a big role in today’s economy that achieving this ideal seems like a utopia. Energy supply in general and oil and gas trade in particular have always been and will always be inseparable from politics. At the same time, everything changes, and this inseparable link may evolve under the influence of outside factors or in the course of the energy complex’s development.

Since 1973, the aggressive behaviour by energy suppliers seemed to dominate the political risks associated with international energy trade, as demonstrated by the oil crises mentioned above. In 1973, Arab exporters embargoed oil supplies to countries that supported Israel during the so-called Yom Kippur War.¹ In 1979, the crisis erupted after Iran, a major oil supplier that could potentially deliver natural gas to Europe, left the market, even if temporarily, in the aftermath of the Islamic Revolution.² At the time, there was much talk about oil market cartelisation, with Arab exporters still playing the main role in this process.

¹ *The Yom Kippur War was a military conflict between a coalition of Arab states and Israel. It started on 6 October 1973 with attacks by Egypt and Syria, and ended in 18 days.*

² *The Islamic Revolution was a series of events in Iran that led Shah Mohammad Reza Pahlavi to emigrate, resulted in the abolishment of the monarchy and the creation of a new administration headed by Ayatollah Khomeini. The revolution started on 7 January 1978 and ended on 11 February 1979.*

In the 1990s, this process evolved into the concept of resource nationalism, as it was called. It presupposes the dichotomy of the world between two notional camps, opposing those who own resources to those who consume them. The gist of the concept was that countries producing most of the world's goods and services lacked sufficient hydrocarbon reserves, which made them dependent on energy suppliers. Countries with oil and gas reserves, in turn, have been able to achieve sovereignty over their subsoil resources by nationalising them or limiting the role of Western corporations to that of investors or technological partners. Having started in the Middle East, this process spilled over into Africa and Latin America.

In the post-Soviet space, the same process started only in the 2000s with the tightening of operational terms for major Western corporations. This is how the idea of there being “a world of reserves” and “a world of consumption” came to exist.

This triggered political speculation in the West. Posing as a victim of exporters and pretending that energy could be used against them as a weapon at any time, Western countries started pushing for political concessions while also threatening to cut energy imports that were vital for fuel exporters. However, it is obvious that developed countries had the key political and economic tools at their disposal, and energy supplies tend to bring about steady political and economic ties that would be better described as mutual dependence rather than a one-way dictate of the supplier.

It did not take long before other details were added to the theory of resource nationalism. Some claimed that high prices were unfair, since they were primarily helping the Arab monarchies and Russia enrich themselves. The term *petrostate*, denoting a state whose wealth stems from the sale of oil, became popular. Everyone was saying that oil revenues fuel authoritarian trends in exporting countries. The objection that there are major hydrocarbons exporting countries like Norway and Canada that are unquestionably democratic was brushed aside by saying that they did not count, since they were protected from drifting towards authoritarian rule by democratic traditions and well-developed institutions.

In other words, it seemed that countries with democratic institutions had the right to produce and export hydrocarbons without creating any political risks, while other countries, for example Arab states and Russia, the so-called autocracies, posed a threat to members of the Organisation for Economic Cooperation and Development (OECD). It was alleged that oil reserves caused these countries to stumble off the road to democracy, while petrodollars reinforced their autocratic aspirations. This led to the idea that they can cut

supplies at any moment and put oil and gas importing democracies at risk. It was this anxiety that placed the idea of controlling the key exporters on the agenda.

However, the situation has radically changed over the past years, reshaping the agenda of energy politics. The change started with the shale revolution, and continued with the green revolution.

The shale revolution³ started in the United States, giving OECD countries hope that they would now have their own hydrocarbons reserves. It was positioned as the end of traditional hydrocarbons producers.

In reality, the United States remains the only country to produce oil and gas from shale rock. Other countries had their own shale extraction projects, but they did not reach the desired scale or produce an economic effect. The shale revolution failed to spill over into other countries, although it did help calm down some phobias. In some countries, for example Poland, shale gas was elevated to the rank of national ideology. There was serious talk that Poland could use shale gas to stop importing Russian gas, and could even export its gas to other EU countries. It would also launch the production of the corresponding equipment (primarily drilling equipment) as a way to reset national manufacturing. These expectations have not materialised. Instead, non-conventional oil and gas became a hot topic, giving rise to experiments not only with shale, but also gas hydrates and biogas.

The most notable effect from the shale revolution was that it calmed down the fears among Western countries of becoming dependent on petrostates. Everyone rejoiced at the discovery that the “democratic world” had vast hydrocarbons reserves.

The United States made great strides in expanding its oil and gas production from shale rock. Back in the preceding decade, the International Energy Agency, a body created by OECD countries in 1974 in response to the Middle East oil crisis, claimed in its projections that the United States would remain a key oil importer, as well as the world’s biggest gas importer. But the shale revolution turned everything upside-down. It was now the United States that became the number one gas producer, saturated the market and carried on with a plan to build LNG terminals for exporting this gas. It took the US a little longer to begin oil exports, also emerging as the number one producer.

The transformation of the United States into a hydrocarbons exporter was a pivotal point, radically changing the whole concept of what it meant

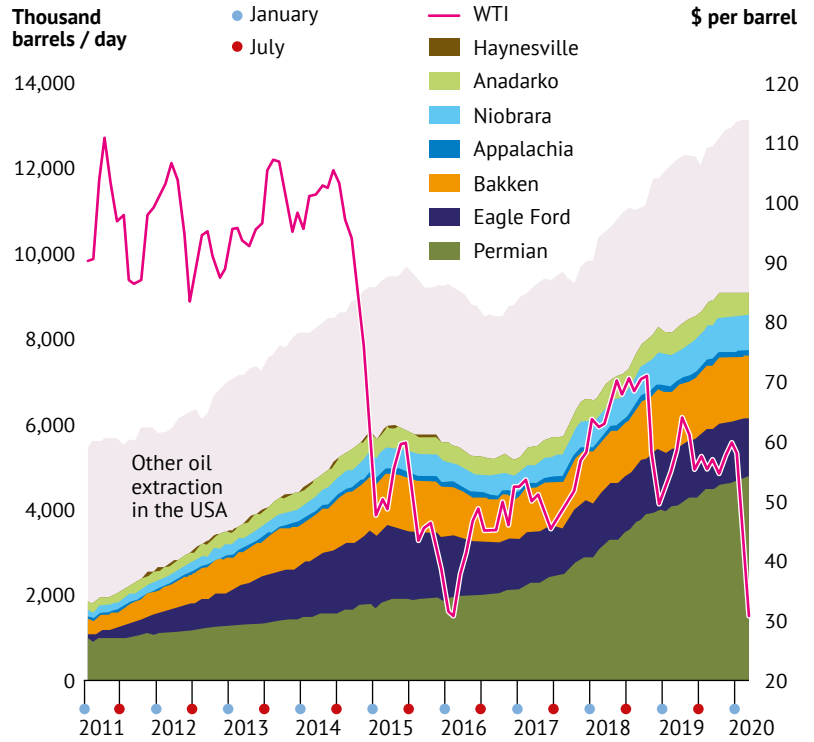
³ The shale revolution refers to extracting tight gas from low-permeability reservoirs using horizontal drilling and fracturing bedrock formations.

The largest cases of a one-time oil production reduction in world history



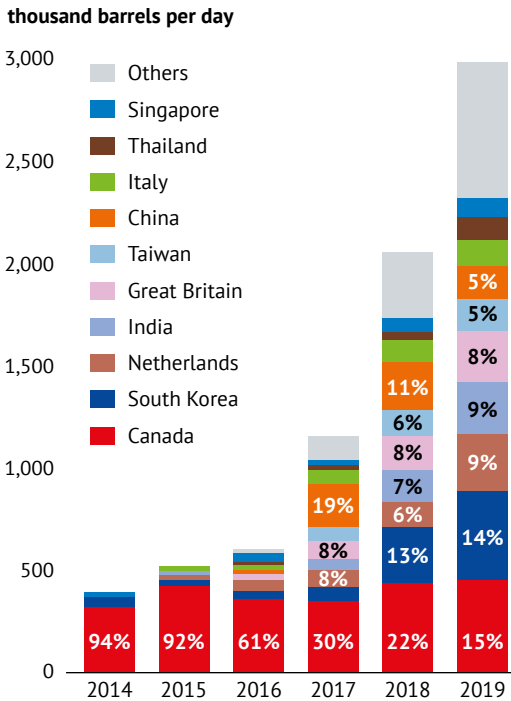
Source: Bloomberg

Dynamics of oil production (without NGLs), including production on the main shale formations



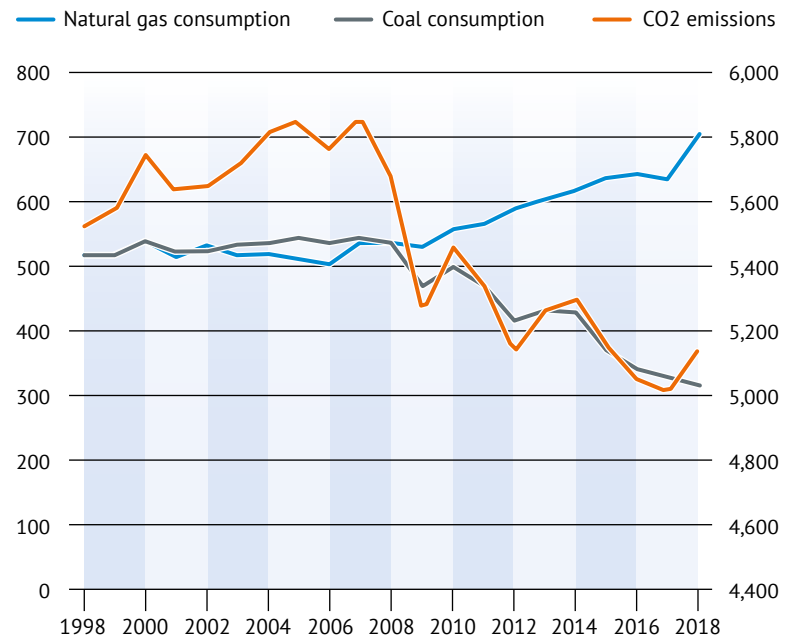
Sources: DOE, DPR, NESF calculations

Major US Oil Buyers (2019)



Source: IEA, NESF

Dynamics of natural gas and coal consumption (mln toe), as well as CO2 emissions (mln t) in the USA



Source: BP Statistical Review of World Energy 2019

to be an exporter. Only recently oil and gas exporters were viewed as authoritarian countries seeking to obtain political privileges through arm-twisting and extortion in the energy sector, while channelling export revenues into strengthening their authoritarian rule. But now there is a “wholesome” exporter ready to share its precious energy resources with its political partners. The United States has been relying on political tools to survive in a competitive market by seeking to discredit its competitors and convince the world to buy its fuel. This story reached its logical conclusion with the idea that American LNG contained the “molecules of freedom.” The United States proposed reshaping the gas market to give it a structure similar to the oil market, which meant creating a global market with a single system of pricing, the capability to promptly reroute gas from one region to another and active development of futures and other speculative tools.

In essence, the United States drew a line between fuels that were *legitimate*, and those that were *illegitimate*. The *legitimate* fuel became more than just a type of goods. It became a product that did not carry the risk of political arm-twisting: a state would pay not only for oil and gas, but also for the fact that the United States would not ask for any political concessions in exchange. From the outset it was believed that political blackmail was inherent in other fuel suppliers. Therefore, the United States could free civilised countries from dangerous exporters, albeit for a fee. An approach of this kind has a devastating effect on market competition in the energy markets.

As for the green revolution as the second phenomenon, it is based on the idea that a total rejection of oil and gas is around the corner. The EU is behind this idea, understanding that shale fuels from the United States would only partially replace hydrocarbon deliveries from Russia. Green technology can be the future of new energy made in Europe.

Biofuel was the first stage in the green revolution, carrying the promise that oil and gas imports may no longer be needed. However, it did not take long before the project exhausted itself. Then came solar and wind power as the second wave in the green revolution. As such, these two sources remained quite expensive and unstable, and also unable to fully replace hydrocarbons in the transport sector, utilities, chemical and a number of other industries.

It could seem that these two revolutions should have removed the OECD countries’ concerns that they would be left without oil, gas, heat, fuel or electricity. On its face, this could take politics out of the energy business altogether. But something went wrong. The political factor is still there, although it went

through a serious transformation. With the shale revolution, politics emerged as a tool for selling US oil and gas. The green revolution discredited the situation with hydrocarbons. If in the past hydrocarbons were accused of various political sins, now they were supplemented with climate-related wrongdoings, justifying subsidies for more expensive green energy sources.

This anti-competitive policy reinvigorated the climate agenda that contained calls for radical measures going as far as rejecting hydrocarbons. As a fuel exporter, the United States, together with the EU and Japan, were weighing this option as a way to artificially contain both energy exporting countries and the emerging Asian economies, primarily China, whose economic growth goes hand in hand with increasing coal, oil and gas consumption. However, in today's environment this would mean that Washington would have to jeopardise its interests as an oil and gas supplier.

A New Format for the Oil Market

Starting in the same year 1973, political risks related to the oil sector became intertwined with the political situation in the Middle East, since developments in this region could cause serious price volatility. The situation has changed considerably over the past years. Wars in the Gulf no longer frighten anyone. The fact that the drone attack against Saudi Arabia's oil facilities went almost unnoticed for the markets is a telling example.

Saudi Aramco's major oil production sites in Abqaiq and Khurais in central Saudi Arabia faced drone attacks in the early hours of September 14, 2019, followed by a fire. The following day, Western media and think tanks started turning out forecasts on an imminent spike in oil prices, with some predicting an increase up to \$100 per barrel. There was much talk about the tremendous impact of this incident on the market, how unprecedented it was, as well as about the record one-time contraction in global oil production, bigger than during the revolution in Iran or the famous 1973–1974 oil embargo.

However, the price of oil increased by a mere 15 percent, and *Brent* did not even reach \$70 per barrel. After that, the news got worse for the bulls as Saudi Arabia started reporting that its exports and production recovered. There were reports that could reassure the bulls (like the one published by Reuters alleging that it will take months to repair the facilities), but they quickly disappeared from the newswires, and oil prices started to decline. It did not take long for predictions of \$100 per barrel to be replaced by forecasts of oversupply and a dip in prices. Which is exactly what happened, and all this took place before

the coronavirus spread around the planet. Rather than causing the downfall, the pandemic brought the situation to its logical conclusion.

In fact, the market did not notice the largest one-time contraction in global oil production in history, caused by political reasons. Many experts even rejoiced at the fact that politics no longer affected the price of oil. Of course, this was an exaggeration. The influence did not disappear, but took on a different appearance.

The situation in the Middle East remains quite complicated and tense with a civil war raging in Yemen near the Strait of Hormuz, a major oil transportation artery, and rising tensions between Saudi Arabia and Iran. However, all these stories had little effect on oil futures traders. One of the reasons is that the oil market has become much more globalised, making it easier for buyers to find new suppliers in case of an interruption in deliveries. Market supply currently exceeds demand. Major economies have solid reserves, so even if supplies stop they will have enough to last until they find another supplier. Russia still accounts for over 60 percent of oil imported by Poland, without creating any negative emotions, while the Poles talk about the “horrible Russian gas” almost every day, since a single market for natural gas does not exist, and buying LNG is not always a solution.

However, this does not mean that the oil market has become detached from politics. The “second advent” by the United States to the oil market as an exporter was the key factor in this new political environment. The United States ramped up shale oil production and started pushing it on the market. Oil production reached unprecedented heights on the back of the shale revolution, doubling compared to 2010. Only during the first OPEC+ agreement to adjust production levels the United States increased its oil output by about 4 million barrels per day. In 2019, oil exports from the United States went up 52 percent, almost reaching 3 million barrels per day.

In fact, processing light oil is not as profitable for American refineries, many of which are privately owned, as working with heavy oil that offers a higher profit margin. It is for this reason that the United States seeks to export its light oil produced using fracking technology, also known as hydraulic fracturing, while continuing to import heavy oil, primarily from Canada, Mexico and Saudi Arabia, with all these countries falling within the sphere of American political influence.

However, other global suppliers have to be pushed aside in order to sell oil on a highly competitive market. This is where political leverage came in handy for the United States. There were two main instruments for achieving

this goal: sanctions and trade wars. The United States imposed stiff sanctions on Venezuela and Iran, and forced its political allies to join in. It is telling that in 2018 alone, after the United States reinstated its sanctions, oil deliveries from Iran to the EU dropped by almost 9 million tonnes, while oil exports from the United States to the EU increased by almost 14 million tonnes.

Iran retains the capability to quickly increase its oil output to 1.8 million barrels per day,⁴ while the same figure for Venezuela stands at just 150,000 barrels. This is attributable to the fact that the country's oil industry has been devastated, and restoring it would not be easy. Even more importantly, Venezuela's daily oil production shrank by more than 2 million barrels since 2010, although it is hard to tell to what extent this contraction resulted from poor management or harsh sanctions. Still, the effect from sanctions is becoming increasingly apparent. The United States consistently tightens its sanctions against Venezuela, as well as against those who buy its oil. The military conflict in Libya has to be taken in consideration as well, since it removed 1.15 million barrels per day from the market since the beginning of 2020.

Russia also suffered from sanctions in the oil production sector with restrictions against offshore and shale projects. That said, the United States did not risk sanctioning Russian exports.

Neighbouring Canada is the largest consumer of US shale oil: it imports 460,000 barrels per day, or 15 percent of total oil exports, in order to mix US light oil with its heavy oil. The second largest importer is South Korea, the main ally of the United States in Asia. This country accounts for 14 percent of exports, or 427,000 barrels per day. It substantially increased its oil imports from the US in 2018, which coincided with the US sanctions on Iranian gas condensate, replaced in South Korea by shale oil. American exports to Asia totalled 1.4 million barrels per day in 2019, or 48 percent of the total exports. Another 1.1 million barrels per day, or 37 percent of total US oil exports, went to Europe.

Expanding oil exports to China is the key objective for the United States, which can rely on trade wars, primarily with China, as another tool for achieving its goals. It is telling that hydrocarbons instantly became a prominent element of the trade war.

In January 2020 the United States threatened to impose prohibitive tariffs on a wide range of Chinese goods, forcing Beijing to sign a trade deal. Under its terms, China will have to increase imports from the United States by

⁴ Reserve production capacity means the production level that a country can reach within 30 days and maintain it for at least 90 days.

\$200 billion compared to 2017, including a \$50 billion increase in fuel imports in 2020–2021. If China refuses to buy fuel, it could shatter the deal and pave the way to restrictions on Chinese exports to the US market.

The United States is openly pushing China to buy American oil and LNG, with a special emphasis on oil, creating problems for China’s other oil suppliers, including Russia. According to China’s General Administration of Customs, oil imports from Russia increased by 8.6 percent to 77.7 million tonnes in 2019. At the time, Russia fell behind Saudi Arabia, only to become China’s top oil supplier in early 2020. American oil is the main competitor for the light crude that Russia mostly exports to China. There is a paradox that Russia is accused of using energy exports as a weapon, but in fact this weapon is directed against Russia.

Oil price volatility has been an interesting subject in 2020. The demand for oil fell sharply in March and April against the backdrop of the coronavirus pandemic. Coupled with the decision by Saudi Arabia to ramp up exports and lower its export prices, this resulted in a slump. This made shale oil production unprofitable, and production in the United States started to fall in April and May. Newswires were filled with reports on the historic lows in the number of drilling wells in the United States and multiple bankruptcies among shale deposit operators. However, it would be naive to expect the US shale sector to collapse entirely. Oil production in the United States can be switched on just as easily as it is switched off. When prices are low, shale oil becomes unprofitable considering its high production cost. The breakeven point for the key shale deposits is in the range of \$35–\$45 per barrel. But as soon as the price goes up, production can be restored fairly quickly, and the sector once again becomes profitable. This is a unique feature of shale deposits. Developing them includes two key stages: drilling a well and pumping pressurised liquid to fracture bedrock formations, which starts oil extraction. Over the past year, the number of drilled wells that have not been put into operation has been on the rise. This means that once the price of oil reaches \$45–\$50, the United States may move quickly to recover its production volumes. Conserving horizontal wells and reanimating them is a fairly straightforward process that does not take much time.

It may well be that the oil sector will benefit from the *too big to fail* approach just like the banking sector did during the 2008-2009 crisis: some chosen companies will receive financial support from the government in complete disregard of the liberal market ideology principles.

The market currently operates under a new OPEC+ deal, and Saudi Arabia and Russia have agreed to substantial production cuts. For example, Russia’s

production in May dropped by 17.2 percent compared to April. This pushed oil prices back up, and once the barrel is traded at \$50, production levels will go back up. If the demand does not follow, it will have to be seen which of the big three oil producing countries (the United States, Russia or Saudi Arabia) will be the first to recover production and win the market. Even if Russia succeeds in fending off this threat, it may well be that new sanctions will be imposed on its oil exports, or China will face political pressure as part of its trade talks to buy more American oil to the detriment of other suppliers.

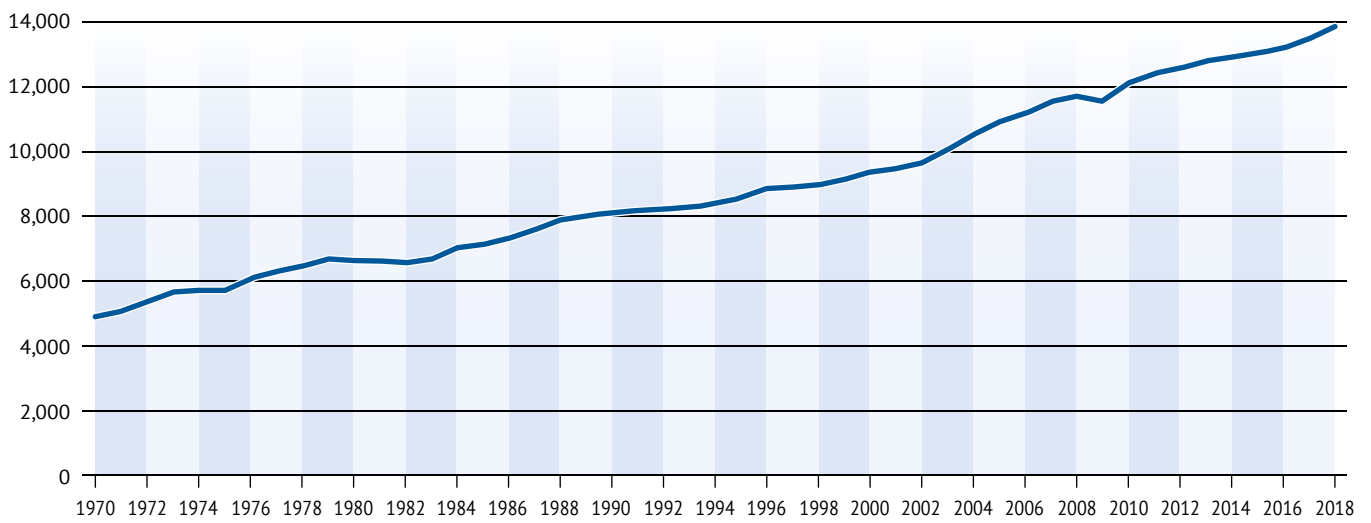
The Rise of the Gas King

When the world's hegemon, the United States, ceased to be a major energy importer and emerged as a key oil and gas exporter, this affected the equilibrium within the traditional Western block as it existed since the end of World War II, without changing the logic underlying the development of the global energy market.

This process is primarily related to the growing energy consumption that has defied the spread of energy saving technology and the massive effort to promote energy saving behavioural patterns. The problem of energy poverty is far from solved. According to the *2019 Energy Progress Report*, released under the auspices of the UN Development Programme, 840 million people worldwide (11 percent of the global population) lacked access to electricity, and 2.9 billion people, or almost 40 percent of the global population, did not have access to clean cooking solutions. Financial, economic and energy crises and even world wars leave dents in the growth curve representing the global demand for energy. Since 1970, or in almost half a century, global primary energy consumption increased 2.8-fold by 8.9 billion tonnes in oil equivalent. The global population doubled over the same period, and the real GDP surged 4.3-fold.

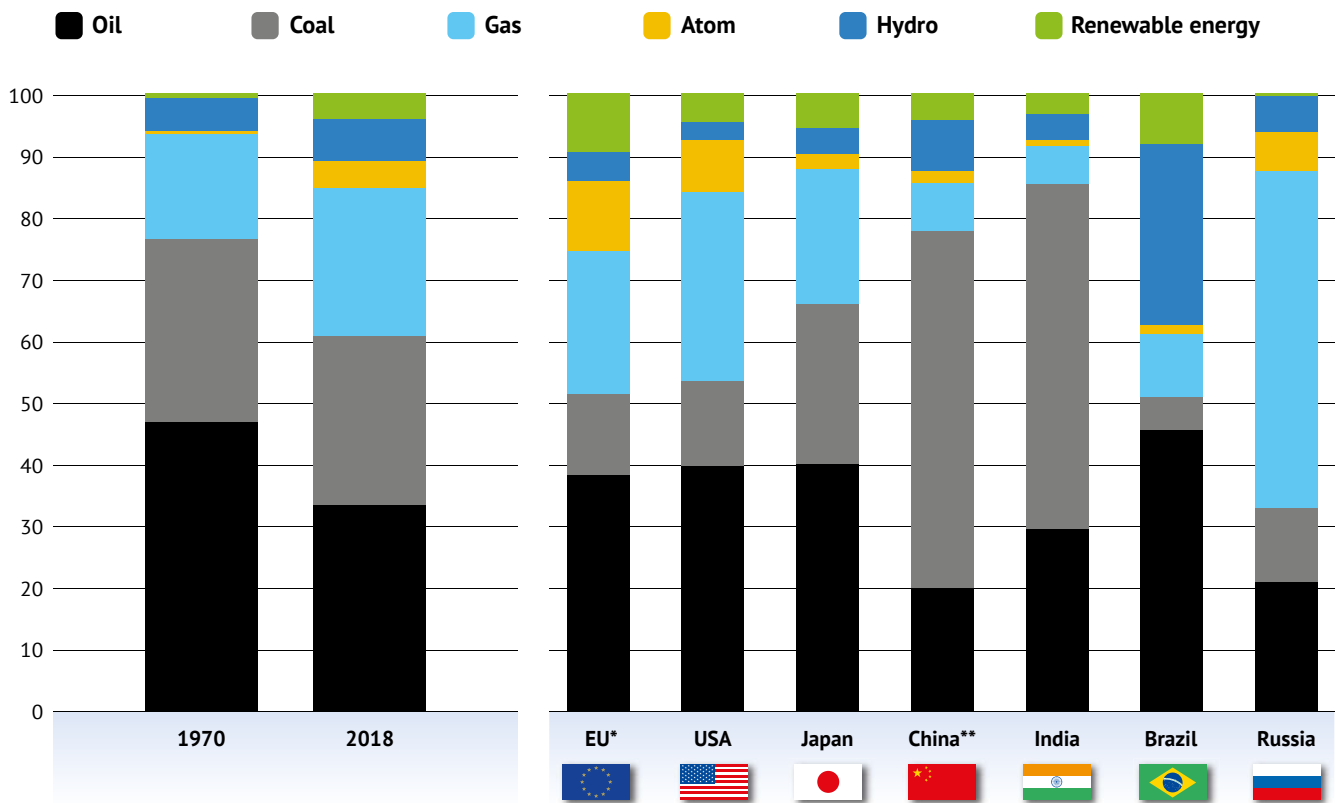
For now, it is too early for us to understand the ramifications of the COVID-19 pandemic, which placed the world's major economies on strict lockdown and resulted in a sharp fall of demand for energy resources at a scale not seen since the military cataclysms of the first half of the 20th century. Still, it is unlikely that changing some of our social habits or reorienting the economy to accommodate more telecommuting puts the energy complex on a trajectory of steady decline.

Primary energy consumption in the world, million toe



The structure of primary energy consumption in the world in 1970 and 2018, %

The structure of primary energy consumption by the main world players, %



* including UK ** PRC and Hong Kong

Source: BP Statistical Review of World Energy 2019

Second, hydrocarbons continue to dominate the global energy mix, whether we like it or not. This is how things stand. In 1970 oil, coal and gas accounted for 94 percent of primary energy, and in 2018 this figure stood at 85 percent (according to *BP Statistical Review of World Energy*). Counting from the turn of the millennium, when the renewable sector was born and environmental activism took on a devotional dimension, it appears that the share of hydrocarbons in the overall energy mix declined by a mere 2 percentage points over a period of 18 years.

On the other hand, the growing social demand for cleaner energy sources is perfectly logical and justified. With their basic energy needs satisfied, people are beginning to expect better “service quality.” As such, the Blue Skies policy has become essential for China, which completed the main phase in its industrialisation in the 1990s and early 2000s.

This is how the energy sector always evolved, with firewood replaced by coal, in turn edged out by oil in the mid-20th century. Today we are on the threshold of the golden age of gas, as proclaimed by the International Energy Agency, which was created as a counterweight to OPEC. In fact, since 1970 natural gas consumption has grown faster than any other energy source. Its share in the overall energy mix used to be almost half of the coal’s percentage, but now it is only 3 percentage points behind. Still, natural gas so far is the world’s third most popular energy source, despite its environmental benefits compared to coal and oil, the available reserves and technological progress.

Energy security used to be among the factors that stood in the way of expanding the use of natural gas. There were few gas suppliers, and the sector faced transit risks related to transporting gas by land over large distances, as well as geopolitical concerns. The supply of Soviet natural gas to Western Europe in the 1970s and 1980s as mentioned above is a textbook example. At the time, the United States went to great lengths in its political and diplomatic efforts to prevent the construction of the Urengoy-Pomary-Uzhgorod gas pipeline. History is now repeating itself with Nord Stream 2 and TurkStream pipelines, targeted by Washington’s extra-territorial sanctions and diplomatic wars. The difference between the two eras is that the American opposition to Soviet gas supplies to Europe was a matter of an ideological standoff between Washington and Moscow. Today, these measures constitute an ill-disguised attempt by the United States to find a market for its LNG.

On the flip side of the coin, the scarcity of natural gas suppliers is hardly an issue anymore. There is a vibrant LNG market that grew almost 1.5-fold (47 percent) over the past five years, which is mostly attributable to gas that is not produced for a specific market and can be delivered to any port. This offers the possibility to reroute gas depending on demand trends on regional

and national markets. The sources of natural gas are becoming increasingly diversified, and the European pipeline infrastructure has become more flexible with the launch of gas pipelines linking Russia to the European Union through the Baltic Sea, and TurkStream through the Black Sea, along with the relevant infrastructure in the Balkans, and the Southern Gas Corridor from the Caspian Sea to Turkey and on to southeastern Europe, as well as due to market integration within the EU into a common space.

The prospect of circulating pipeline gas between Europe and China as the largest importing markets can no longer be viewed as pure fiction. The Power of Siberia 2 pipeline, currently in the design phase, is expected to offer this possibility by linking Western Siberia to China. It will connect gas deposits on the Yamal Peninsula and the Urengoy fields to both the EU and China. This, along with the growing LNG trade, the evolution of pricing mechanisms and enhanced connectivity between regional markets, could pave the way to building a global liquidity market for natural gas, laying the groundwork for further sustainable growth in global natural gas consumption.

From this perspective, the attempts by the United States to secure non-competitive advantages through blunt diplomatic pressure, sanctions and trade wars (in the case of the trade deal with China) not only appear as a remnant of a bygone era and an artificial barrier to the development of the global energy sector based on eco-friendly and affordable fuel, but are also like cutting the branch that the Americans have just chosen to sit on. Coordinating interests and engaging in multilateral dialogue would be much more effective. This would have the benefit of improving the economic standing of the gas market that is still in the making and thus vulnerable.

The price of gas fell dramatically over the past year. For example, the average price traded at the TTF in Europe halved in the first four months of 2020 compared to the same period in 2019. The spot price for Japan fell 44 percent, compared to a 33 percent decline in the price of oil. Unlike oil prices, which are universal, hub-based pricing covers only part of the supplies, while spot transactions account for only a fraction of LNG sales in Asia. Nevertheless, this situation clearly has a negative impact. The need for effective price stabilisation mechanisms will be increasingly felt as the market becomes global.

The Gas Exporting Countries Forum (branded by the US and European media as the “gas OPEC”) emerged in 2008 from an informal club of exporters into an international organisation with a charter and permanent headquarters in Qatar. It has been unable to coordinate production and export operations, and is not regarded by the public as a platform for joint action to counter crisis situations. However, things could get moving in the near future considering the dire state of the market.

Climate as Europe's Weapon

Still, it is the European Union, not the United States with its keen interest in partitioning the fuel market to its advantage rather than destroying it, that poses the biggest threat to the energy sector and could prevent its development from running its natural course. Designed to scale back hydrocarbons use or even boycott them altogether, climate politics has become Europe's tool for reshaping reality to its advantage. Europe started this game, having depleted its own oil and gas reserves, leading it to become increasingly dependent on imports.

Over the past 20 years, oil reserves in the EU, including the UK, shrank by 45 percent, and natural gas reserves decreased by 69 percent. During the same period, the respective indicators doubled and tripled in the United States. In 1998, the EU countries covered almost 24 percent of their consumption with the oil produced within the union, but in 2018 this indicator fell below 12 percent. The EU's deficit in the gas sector grew from 46 to 76 percent over a 20-year period.

It was this obvious trend that offered the EU a foundation for aggressively pushing the climate agenda internationally in the 1990s and early 2000s, and even during the Obama presidency, when the situation in the United States changed (the sharp rise in the country's gas reserves dates back to 2006, and 2008 for oil), there was still political support for the climate agenda. The Western consensus resulted in the adoption in 1997 of the Kyoto Protocol to the 1992 United Nations Framework Convention on Climate Change. The United States signed this document but never ratified it, failing to fulfill its obligation to reduce greenhouse gas emissions. Nevertheless, 196 national delegations gathered in December 2015 near Paris in Le Bourget to adopt a new agreement as part of the UN climate convention to replace the Kyoto Protocol. It was called the Paris Agreement, as a reference to the conference's host city. The Paris Agreement entered into force in November 2016 after the main greenhouse gas emitters – China, the United States and the European Union – signed and ratified it. Interestingly, China and the United States ratified the agreement at the same time during a G20 summit. For the agreement to take effect, it had to be ratified by at least 55 countries accounting for 55 percent of emissions, and the EU with its 28 countries made a decisive contribution to achieving this quorum. It is symbolic that within just a few days after the United States ratified the Paris Agreement, Donald Trump won the presidential election. Having criticised his predecessor for his climate policy, Trump announced on June 1, 2017 his intention to withdraw the United States from the agreement. In August

of the same year the Trump administration officially notified the UN of its plans to pull out of the agreement “as soon as it is eligible to do so.” Since the official withdrawal notice can be made only three years after ratification, the United States had to wait until November 2019. Finalising the pullout will take another 12 months, which will be after the presidential election in the autumn of 2020.

The Paris Agreement does not set out any quantitative commitments on cutting greenhouse gas emissions or punishing those who fail to comply. It is designed to create a lasting mechanism that would denounce the use of fossil fuels, disincentivise their use through additional taxes and regulatory restrictions, with the ultimate goal of completely abandoning them. The adepts of the agreement keep insisting that it is not about carbon pricing, although it is clear that these payments are factored into the agreement at a conceptual level. Under the document, there can be different ways for taking money away from hydrocarbons producers and exporters, ranging from payments for greenhouse gas emissions to setting special interest rates for hazardous businesses. For example, credit institutions with a total of \$50 trillion in assets committed in late September 2019 to UN Principles for Responsible Banking, undertaking to “align their business strategy with the SDGs and the Paris Climate Agreement.” This means higher interest rates for hydrocarbons producers, which runs counter to the principles of a market economy.

It is obvious that the European Union is interested more than anyone else in pushing this policy at the international level in order to stay economically and politically relevant amid global competition. On the face of it, the adoption by the EU of a strategy worth 10 trillion euros to decarbonise its economy by 2050 (the so-called Green Deal) and implementing it in EU regulations, external trade and foreign policy could be regarded as economic suicide. However, it starts to make sense in the context of the crusade against fossil fuels and an economy dominated by hydrocarbons, leading to a “hydrocarbons tax” and restricting investment in activities at odds with the principles and objectives of the Paris Agreement.

The EU’s actual energy mix exposes the weakness of this approach: it is tilted, albeit only slightly, towards the green economy compared to the global average. Hydrocarbons account for 74 percent of energy used by the EU, while new renewable sources of energy that are at the center of these initiatives account for less than 10 percent (2018 data as per BP’s statistics). Accordingly, achieving decarbonisation would require replacing three quarters of the current energy consumption, which would be a long shot both from an economic standpoint, as well as from a technical perspective. Nevertheless, the policy of constraining the future use of hydrocarbons is consistent with the EU’s strategic and tactical objectives to secure energy supply on beneficial terms.

This policy could offer Asian economies that import fuel, including both developed (Japan and South Korea) and developing countries (China and India), a tactical advantage in order to push prices down. Hydrocarbons account for 90 percent of India's energy mix, 88 percent in Japan and Korea, and 85 percent in China. Moreover, coal makes up over half of the energy balance in China and India, with 58 and 56 percent, respectively, which results in higher pollution levels. The situation with coal consumption in Japan and Korea is better, but its share is significantly larger compared to the EU with 26 and 29 percent, respectively. This means that these economies would suffer from any increases in taxes on hydrocarbons.

With the United States now part of the gas exporters' club and capable of satisfying its demand for oil on its own, and considering its withdrawal from the Paris Agreement, Europe has become somewhat ideologically and politically isolated in its attempts to achieve an energy transition, creating a window of opportunity for opposing this agenda.

Less Politics, More Economics

Considering that hydrocarbons overwhelmingly dominate the global energy balance (85 percent) and its resistance to change, opting for gradually replacing coal and oil with a combination of natural gas and renewable sources of energy appears as not only a reasonable approach to developing the energy sector in the long run, but also the only viable option in view of the 17 UN sustainable development goals.

The COVID-19 pandemic offered us a glimpse into the world of declining hydrocarbons consumption, marked by economic recession and social isolation, where planes are grounded, cars stay off the roads, borders are closed, and people are under lockdown. This led to a substantial, albeit far from dramatic, decline in the demand for oil, gas and coal. At the height of the lockdowns and quarantines, the demand for oil fell by about 25 to 30 million barrels per day (by 25 to 30 percent), while in the first quarter of 2020 it was down by an average of just 5 percent, and coal and natural gas were down by 8 and 2 percent, respectively, data from the International Energy Agency show. The IEA expects the annual decline to total 9.1 percent for oil, 7.7 percent for coal and 5 percent for gas. If this forecast materialises, this would be a heavy blow for each of these sectors, without changing the energy balance in any significant way. According to our estimates, in this scenario the share of hydrocarbons could decrease by about 0.5 percentage point.

The renewable energy sector has not benefited during the epidemic from the economic lockdown or social distancing. According to the IEA, production and consumption of renewable energy in the first quarter of 2020 increased by 1.5 percent on the back of higher output from new capacity. But the sector was spared any negative impacts, since in most countries renewable energy sources have non-competitive advantages such as priority grid access. Nevertheless, the average growth rate in the second through fourth quarters could decline to 0.6 percent. This is partially attributable to lower output from hydropower plants after a dry winter and poor economic efficiency of biofuel, accentuated by the drop in the price of oil and petrochemicals. In addition, the decline in the price of traditional types of fuel makes renewables less competitive, and calls for more state support. The European Union is already discussing a new programme to support the energy transition with an annual budget in the tens of billions euros to promote renewable sources of energy, hydrogen and electric mobility.

The slump in energy consumption was followed by lower carbon dioxide emissions, decreasing by 5 percent in the first quarter, with full-year decline expected to reach 8 percent (2.6 million tonnes). This would be an unprecedented, even if one-time, decline resulting from the coronavirus crisis. For comparison, emissions were down 1.5 percent during the 2009 financial crisis, but were quick to recover.

The United States offers an example of an effective long-term strategy to reduce air pollution. The country consumed a little over 1 billion tonnes of coal and natural gas in oil equivalent per year between 1998 and 2018. In the first decade of this period, these two types of fuel were more or less on par, with coal having a slight edge. During these ten years CO₂ emissions increased, albeit slightly. During the 2009 crisis the demand for coal in the United States plunged, and has been consistently declining ever since. During the next ten years it fell by 40 percent (about 220 million tonnes in oil equivalent). At the same time, natural gas consumption started growing, adding 160 million tonnes in oil equivalent. As a result, coal and gas consumption remained at the same level in 2018 as it was in 1998, but the ratio between them changed from 50/50, to 70 percent gas and 30 percent coal. This led to a 7 percent decline in emissions. Compared to the peak reached in 2007 (5.86 billion tonnes of CO₂), emissions decreased by 12 percent, or over 700 million tonnes. At the same time, global emissions grew 49 percent.

The past few years witnessed the publication of multiple articles and books proclaiming that green energy would soon become cheaper than hydrocarbons. Sometimes this is presented as an accomplished fact. However,

this raises the question as to why green energy has not been able to beat hydrocarbons in the open market? As a matter of fact, green energy still benefits, both directly and indirectly, from various subsidies. Not only does it have to be produced but also transported and stored in order to ensure reliable supply throughout the day. In addition, maintenance for wind farms and solar panels is often left out of the equation, and so is the question of raw materials used to manufacture them (the rare-earth metals). All this requires substantial support, direct subsidies and efforts to rein in competition among different types of fuel. Non-market measures to support green energy is not viewed as politics but rather as a good cause of saving the planet from global warming and local cold spells.

There is another example regarding the economic effect produced by green energy. Among European countries, Denmark has the most expensive energy for manufacturers, followed by Germany. In terms of household energy costs, these countries change places, with Denmark being the absolute leader in terms of the share taken by renewables in its energy mix, and Germany in second place.

It can be concluded that politicising the energy sector has always been, currently is and will probably remain an instrument of international politics for putting the breaks on the development of some countries, while offering others non-competitive advantages. The shortcomings of this instrument include increasing geopolitical tensions, since this sector directly affects national security. It also hampers economic development, caused by an artificial restriction of access to affordable and accessible energy. This explains why with a fifth of the 21st century already behind us, the issues of energy poverty and sustainable development are far from resolved.

If the energy sector becomes less politicised, this will facilitate normal competition and drive economic growth, ensuring better standards of living and opportunities for a responsible use of resources.

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