



**The Gas Value Chain Company GmbH**

## **ACCELERATED DECARBONISATION COMMANDS EVER MORE GAS**

- **The removal of U.S. sanctions will enable Nord Stream 2 to contribute significantly to lower CO2 emissions and cleaner air -**

**by**

**Wolfgang Peters**

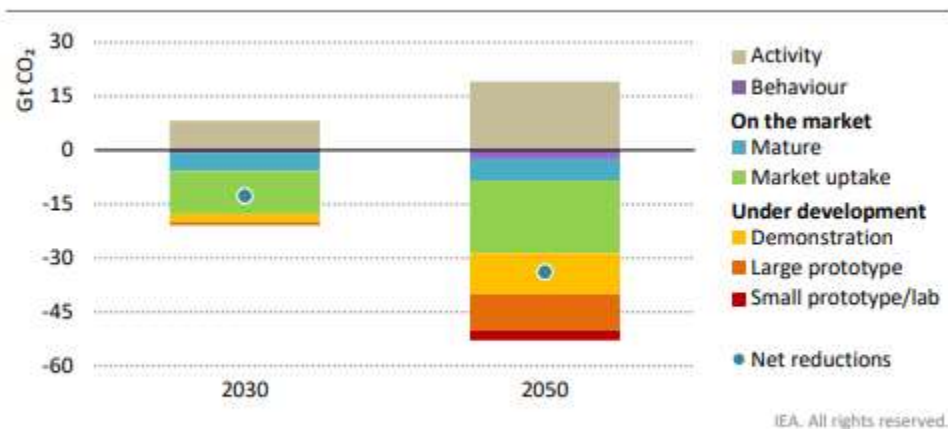
Friedrichskoog, July 2021

## Current renewables technologies cannot decisively accelerate decarbonization – gas can<sup>1</sup>

While the ‘young generation’ (‘Fridays for Future’ and others) is taking court action in order to accelerate decarbonization, it runs the risk of a severe financial burden and subsequent negative social impact thanks to ideologically misguided efforts at decarbonizing.

According to the International Energy Agency, half the technologies needed to achieve net-zero carbon beyond 2030 are only at the research and development stage<sup>2</sup>.

**Figure 4.22** ▶ Global CO<sub>2</sub> emissions changes by technology maturity category in the NZE



IEA. All rights reserved.

*While the emissions reductions in 2030 mostly rely on technologies on the market, those under development today account for almost half of the emissions reductions in 2050*

Source: [https://iea.blob.core.windows.net/assets/beceb956-0dcf-4d73-89fe-1310e3046d68/NetZeroBy2050-ARoadmapfortheGlobalEnergySector\\_CORR.pdf](https://iea.blob.core.windows.net/assets/beceb956-0dcf-4d73-89fe-1310e3046d68/NetZeroBy2050-ARoadmapfortheGlobalEnergySector_CORR.pdf)

The renewables technologies deployed today are extremely costly, harm the environment and, in some cases, potentially also human health<sup>3</sup>. In any event, they are not adequate to bring net-zero carbon about.

In the meanwhile, we do have natural gas – the ‘low hanging fruit’ capable of substantially reducing CO<sub>2</sub><sup>4</sup> before it is replaced by non-fossil gases over time: bio methane, synthetic gas and hydrogen.

After the recent decision of the German Constitutional Court<sup>5</sup> qualifying German climate protection legislation beyond 2030 as insufficient, German politicians, with an eye on federal elections in September, are competing for the most ambitious net-zero carbon headlines without defining the concrete and realistic measures needed to achieve the targets. More renewables

<sup>1</sup> An abbreviated version of this paper was published in Natural Gas World (<https://www.naturalgasworld.com/accelerated-decarbonization-commands-ever-more-gas-global-gas-perspectives-89750>).

<sup>2</sup> Net Zero by 2050 A Roadmap for the Global Energy Sector ([https://iea.blob.core.windows.net/assets/beceb956-0dcf-4d73-89fe-1310e3046d68/NetZeroBy2050-ARoadmapfortheGlobalEnergySector\\_CORR.pdf](https://iea.blob.core.windows.net/assets/beceb956-0dcf-4d73-89fe-1310e3046d68/NetZeroBy2050-ARoadmapfortheGlobalEnergySector_CORR.pdf)), page 184 ff.

<sup>3</sup> E.g. the low frequency emissions from wind-turbines (‘Infraschall’) are a source of increasing concern, see e.g. <https://www.aerzteblatt.de/archiv/205246/Windenergieanlagen-und-Infraschall-Der-Schall-den-man-nicht-hoert>

<sup>4</sup> ‘CO<sub>2</sub>’ is supposed to include CO<sub>2</sub> equivalents throughout this paper.

<sup>5</sup> <https://www.bundesverfassungsgericht.de/SharedDocs/Pressemitteilungen/EN/2021/bvg21-031.html>

expansion is promised – but again with no hard numbers on the quantity of CO2 emissions these would cut.

The German Minister of the Economy boldly stated that Germany aspires to become the ‘global leader’ in hydrogen. A decade behind South-Korea and Japan, Germany’s real problem with the development of a substantial hydrogen market will be its ideological insistence on ‘green’ hydrogen.

Cutting CO2 emissions using more gas faster *now* will leave the ‘young generation’ with a manageable residual carbon budget.

In this context, it is gratifying that Nord Stream 2, after the German-American accord, is well on its way towards commercial operability. Shifting 55bn m<sup>3</sup>/yr of Russian gas away from the aged Ukrainian transit system yields an instant cut of 11mn metric tons/yr of CO2 emissions<sup>6</sup>.

The facts and numbers presented below are meant to underscore the author’s approach of putting (realistic) pragmatism over (unrealistic) ideology.

### **The Celebrated Renewables Proliferation In The Power Sector As Well As CO2 Reduction Achievements Claimed Are Misleading**

The much celebrated ever-rising share of renewables in the power sector hides two facts. First the reported numbers are average annual output numbers and not the periods of available (or unavailable) load matching demand. Second, the power sector is only 20% of Germany’s primary energy demand while the transport sector is about 30% and the heat sector over 40%.

Oil products, predominantly serving the transport and the heat sector have, between 1990 and 2019, been stable at 35%. Hard coal shrunk from 15% and lignite from 21% to 9% each, while gas rose from 15% to 25%. The government’s bureaucratic and excessively expensive coal-exit resolution did not achieve this: the market did. Low gas prices and high CO2 prices gave gas the edge over coal and lignite in the power generation merit order.

The renewables trajectory is impressive but sobering at the same time. While they rose from 1% in 1990 to 15% in 2019, solar is at 1.3% of primary energy and wind power at 3.1 %. This renders the recent statement of Mr. Altmaier, the German Minister of the Economy, that wind-turbines are ‘the cathedrals of the Energiewende’<sup>7</sup>, nothing less than preposterous.

Also the CO2 reductions claimed to have been achieved ‘since 1990’ (never mind the much celebrated Corona dip) are presented in misleading fashion. CO2 emissions indeed declined substantially in the early 1990s. However, this was mainly due to structural reforms in East Germany after re-unification. Since the enactment of the German renewables law (‘EEG’) in 2000, CO2 emission reductions were, outside the power sector, negligible.

---

<sup>6</sup> Nord Stream 2 caught between politicization, hypocrisy and ignorance: a few inconvenient truths: Both U.S. sanctions and EU regulations obstruct climate efforts and pose risks to security of supply, page 14 ff. (<https://gasvaluechain.com/cms/wp-content/uploads/2020/04/2020-04-28-GVC-Paper-Nord-Stream-2-Hypocrisy.pdf>).

<sup>7</sup> <https://www.gdv.de/de/themen/positionen-magazin/kathedralen-der-energiewende-54114>

## Beneficial Role Of Gas For Climate, Clean Air And Oscillating Renewables

Gas-fired power generation achieves substantial CO<sub>2</sub> emission reductions vs. coal and lignite. For example, power generation using the entire 55bn m<sup>3</sup>/yr of gas from Nord Stream 2, would reduce CO<sub>2</sub> emissions by about 160mn mt/yr relative to coal. Put in perspective: 160mn mt/yr of CO<sub>2</sub> nearly equals the emissions of the entire German transport sector (165.5 mn mt/yr<sup>8</sup>).

Gas also substantially improves air quality: no particulates and barely any NO<sub>2</sub> (nitrogen dioxide). While previously widely ignored, a recent decision of the European Court of Justice, chiding the German government for violating the European clean air quality standards for several years<sup>9</sup>, should give reason for politicians, regulators and others to think again. Just as the rise of gas in power generation delivered substantial CO<sub>2</sub> reductions (and clean air improvement), so it can in transport.

Gas is not the competitor of renewables in power generation but their 'friend and helper' on three counts: (i) stable frequency in the power grids in the face of non-dispatchable, oscillating wind and solar power (ii) power supply during periods of the so-called 'Kalte Dunkelflaute', i.e. it is cold and there is neither wind nor sun (as we saw once more earlier this year) and (iii) power supply ramp-up (you cannot ramp-up wind and solar) to cover peak demand which will grow with heat pumps and e-mobility.

The heat sector is, for good reason, called the 'sleeping giant'<sup>10</sup>: the replacement of aged oil boilers by modern gas condensing boilers would cut CO<sub>2</sub> emissions hugely. The same goes for the deployment of LNG for trucks and marine transport.

## Fossil Gas Will Turn Non-Fossil When It Has Served Its Purpose – And With A Huge Cost Benefit

Fossil gas will over time converge towards non-fossil gas. There is a clear correlation between the degree of decarbonisation and the composition of gaseous molecules. By enabling as much as 65% decarbonisation relative to 1990, fossil gas makes a substantial contribution. Beyond that point non-fossil ('green') gas takes over.

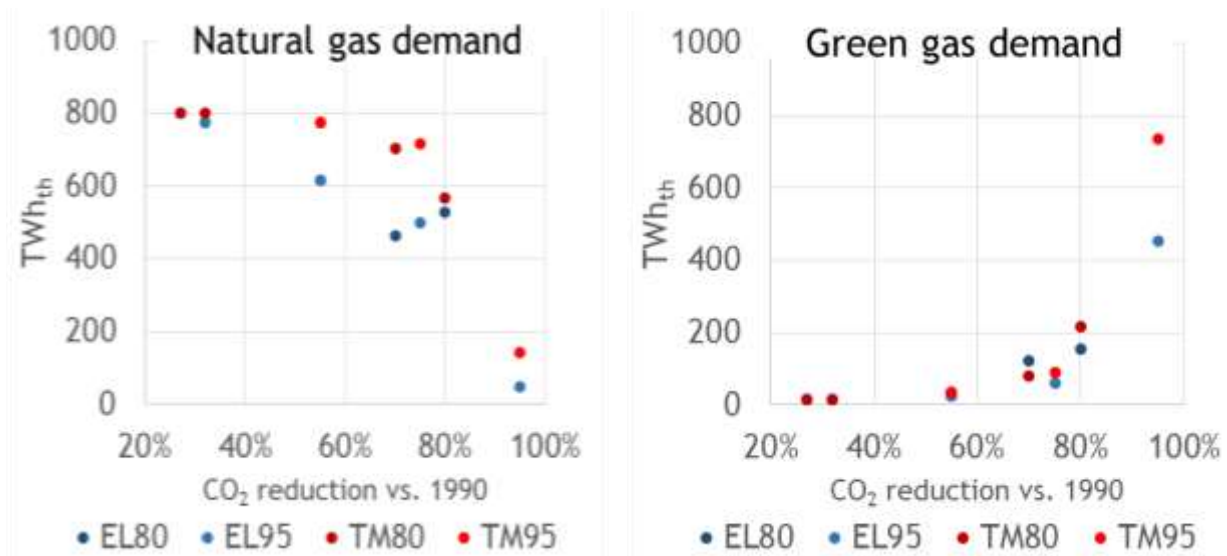
---

<sup>8</sup> <https://www.umweltbundesamt.de/daten/verkehr/umweltbelastungen-durch-verkehr#verkehr-belastet-luft-und-klima>

<sup>9</sup> See e.g. <https://www.reuters.com/world/europe/germany-persistently-broke-air-pollution-rules-eu-top-court-rules-2021-06-03/>

<sup>10</sup> See e.g. <http://www.themen-magazin.de/artikel/schlafender-riese-mit-viel-potenzial/>

## CORRELATION BETWEEN DECARBONISATION DEGREE AND FOSSIL/NON-FOSSIL GAS



Source: Hecking/Peters, 'The underrated long-term relevance of gas in the decarbonizing German energy space'<sup>11</sup>

Non-fossil gas would, besides biogas and synthetic gas (in modest quantities) consist of hydrogen, another 'gaseous molecule', thus fit to be transported and distributed in (most of) the existing gas grid.

Politicians and others seem to have forgotten that gaseous molecules feature a much higher energy density than electrons. The costs for transporting electrons are, on a €/kWh-basis, higher by a factor of over six vs. the costs for transporting gaseous molecules<sup>12</sup>.

The 'dena-Leitstudie 2017'<sup>13</sup> compared the transport and distribution costs of an 'all-out electrification' scenario ('EL') with a 'technical mix' scenario ('TM') continuing to deploy gaseous molecules. In the 'Electrons-scenario', transport and distribution costs for electricity would exponentially rise from €21bn in 2015 to €41.5bn in 2050. Also in the 'Molecules scenario', the costs for transport and distribution of electricity rise, but significantly less than in the Electrons scenario: namely from ~€ 21 billion in 2015 towards ~€ 32.4 billion in 2050. The credit clearly falls to gas: the higher direct end use of molecular gas and its existing infrastructure alleviates the need for ever more expensive new-built electricity grids<sup>14</sup>. Transport and distribution cost for gas (i.e. gaseous molecules) would essentially stay flat: they would modestly rise from €5.3bn in 2015 towards €5.4bn in 2050<sup>15</sup>.

<sup>11</sup> Hecking/Peters, 'The underrated long-term relevance of gas in the decarbonizing German energy space', page 15 ff ([https://gasvaluechain.com/cms/wp-content/uploads/2017/02/ewi\\_ERS\\_GVC\\_Gas\\_in\\_the\\_decarbonizing\\_German\\_energy\\_space\\_Paper.pdf](https://gasvaluechain.com/cms/wp-content/uploads/2017/02/ewi_ERS_GVC_Gas_in_the_decarbonizing_German_energy_space_Paper.pdf))

<sup>12</sup> Ibid, page 28 ff.

<sup>13</sup> dena-Leitstudie Integrierte Energiewende. Impulse für die Gestaltung des Energiesystems bis 2050. Ergebnisbericht und Handlungsempfehlungen. Deutsche Energie-Agentur GmbH. Berlin, 2017 (<https://www.dena.de/themen-projekte/projekte/energiesysteme/dena-leitstudie-integrierte-energiewende/>).

<sup>14</sup> Hecking/Peters, 'The underrated long-term relevance of gas in the decarbonizing German energy space', page 29 ff ([https://gasvaluechain.com/cms/wp-content/uploads/2017/02/ewi\\_ERS\\_GVC\\_Gas\\_in\\_the\\_decarbonizing\\_German\\_energy\\_space\\_Paper.pdf](https://gasvaluechain.com/cms/wp-content/uploads/2017/02/ewi_ERS_GVC_Gas_in_the_decarbonizing_German_energy_space_Paper.pdf))

<sup>15</sup> Ibid.

The recent furor in Berlin about the last-minute withdrawal of a proposed law on 'Spitzenlastglättung'<sup>16</sup> (smoothing of peaks) – which would allow nothing less than cutting off power supply to domestic users in planned-economy fashion when e-charging or turning up their heat pumps, in order to avoid reinforcing the distribution grids – provides a first taste of the above projected cost explosion.

### Germany's 'Green Hydrogen' Ideology Is A Fallacy

In Germany, ideology is standing in the way of a substantial hydrogen economy. Ignoring CO<sub>2</sub>-neutral hydrogen derived from methane leaves just the limited output capabilities available from wind-power.

A substantial ramp-up of a hydrogen economy with respective scale effects and cost degression cannot be achieved with 'green' hydrogen produced with 'green' wind-power only. An onshore wind-turbine in northern Germany delivers on average some 1,900 full load hours and its output is meant for the grid. Only when supply exceeds demand and (wind-) power is sold into neighboring countries at negative prices in order to retain grid stability is such 'surplus' wind-power available for electrolysis. Moreover, when Germany's neighbors turn down their shutters in order to protect their own grid stability and the wind-turbine operators are 'ordered' to cease production (against handsome compensation). Also such 'phantom' wind-power would be available for electrolysis.

Let's 'optimistically'<sup>17</sup> assume a collectively available 400 full load hours/yr. An electrolyser would then be operating at only about 4.5% utilization, with a negligible output of green hydrogen and no doubt vastly uneconomical.

Even if, contrary to the current goal of maximising renewable energy in the grid, one were to assume on-shore wind-turbines were fully directed at electrolysers, the 1,900 full load hours/yr would still only yield 21% utilization.

Also off-shore wind is not the 'silver bullet': its average 4,500 full load hours would still only yield ~51% utilization, assuming full dedication. Also here, it would be much less if only 'surplus' wind-power' were available.

German wind-power then, with its 3.1% share of primary energy, is clearly unfit for a hydrogen economy of any size, even if it were doubled.

Without admitting this 'indigenous shortfall', the German government is seeking to forge partnerships with African countries to generate and export green hydrogen. Electrolysis, however, requires freshwater, which is scarce in (most of) Africa. Imports from Africa will therefore in all likelihood trigger controversies similar to the production of biomass where it competes with food production. Here, the controversy would be whether it is ethical to cannibalize a region's scarce freshwater supplies for producing and exporting renewable energy.

---

<sup>16</sup> <https://www.check24.de/strom/news/strom-gesetz-zur-spitzenglaettung-zurueckgezogen-67964/>

<sup>17</sup> 2019 saw a new record of 211 hours with negative prices, see e.g. <https://www.handelsblatt.com/unternehmen/energie/negativer-strompreis-die-energie-industrie-muss-strom-immer-haeufiger-verschenken/25382850.html?ticket=ST-15181102-KREPrN3RcVYPoOP6b9cG-ap5>

Both Norway and Russia are seriously engaged in developing hydrogen from methane. These efforts should, no matter what the ‘colour’, be appreciated fully. If such CO<sub>2</sub>-free hydrogen were accepted, it would, among other benefits, also open the door for a gradual decarbonisation of fossil gas through blending, in accordance with the trend shown on the charts above, but perhaps even more smoothly and quickly.

In this context, it is disappointing to see the – I dare say – obstructive position of the German networks regulator BNetzA. It refuses to extend the existing regulation for gas grids to hydrogen. While a German law recently passed caters for the regulation of hydrogen grids – which is a step in the right direction – it is by no means clear – and highly controversial – whether it will be a joint gas/hydrogen regulation or separate.

While using the existing gas grid to blend hydrogen up to the prescribed technical limits is already happening in some places, the crunch will come when extra costs (e.g. for re-fitting compressors) materialise. If the BNetzA continues to refuse ‘socialising’ the costs across all gas grid users, it would make the gradual blending of hydrogen next to impossible. This is an amazing attitude for an agency, which once forced the merger of German market areas and introduced a ‘postage stamp’ entry/exit system across Germany. While it has become common practice to offer motorists gasoline that includes greener fuels, the agency is blocking an analogous path for gas.

In this context, it is worth reiterating that the modern, state-of-the-art Nord Stream 2 is capable of carrying hydrogen, once fossil gas has served its purpose and, needless to say, all manner of fossil gas blended with carbon-free hydrogen.

### **The Final Curtain – Or Further Spanners In The Works For Nord Stream 2?**

After the recent accord reached between the German and the American government on lifting the U.S. sanctions, Nord Stream 2 is well on its way towards completion. Commissioning and the start of commercial operations are, however, still outstanding. It is evident that its opponents will continue to try to trip it up even at this final stage<sup>18</sup>. It appears, therefore, appropriate to revisit – and dismiss – some of the misguided concerns about the project. Coincidentally, various points asserted by the opponents are also relevant in the context of the caveats contained in the German-American accord.

### **Dependency On Russia Is ‘Yesterday’s News’ – And So Is Russia’s Ability To Use Gas As A Geopolitical Weapon**

The Nord Stream 2 opponents continue to lament Europe’s rising dependency on Russia. As we have explained earlier<sup>19</sup>, this attitude is a hangover from 2009, the year of the so-called Ukrainian gas crisis. Given the state of the European and global gas markets today, the alleged dependency on Russia is ‘yesterday’s news’.

---

<sup>18</sup> E.g. in the U.S.: <https://www.bloomberg.com/opinion/articles/2021-07-22/republicans-may-still-try-to-kill-germany-russia-nord-stream-2>; Ukraine and Poland: <https://www.euronews.com/2021/07/21/ukraine-poland-slam-insufficient-deal-struck-by-germany-and-u-s-on-nord-stream-2>

<sup>19</sup> ‘Nord Stream 2 caught between politicization, hypocrisy and ignorance: a few inconvenient truths: Both U.S. sanctions and EU regulations obstruct climate efforts and pose risks to security of supply’ (<https://gasvaluechain.com/cms/wp-content/uploads/2020/04/2020-04-28-GVC-Paper-Nord-Stream-2-Hypocrisy.pdf>), page 25 ff.

This is because Europe has in the last 12 years developed a deep and liquid transnational wholesale traded gas market. In the event of a supply curtailment, the price would go through the roof and thus send out a 'price signal'. The sellers of meanwhile over 500bn m<sup>3</sup>/yr of destination-free or -flexible LNG continuously monitor the price spread between Europe and Asia and would direct – or even re-direct – LNG tankers to Europe with a response time of about three days. And Europe has about 220bn m<sup>3</sup>/yr of re-gas capacity and so could easily absorb it.

Second, Europe is not vulnerable to any price diktats from Moscow as Gazprom is, like any other supplier, merely a price taker. The 'achievable price' is the wholesale traded market price. Most of Gazprom's long-term sales are hub-indexed and its sale of various traded products by auction match Dutch Title Transfer Facility ('TTF') hub price levels<sup>20</sup>. One of the few exceptions is Poland: it has, in violation of European law, locked up its market and so it does not benefit from Europe's traded markets.

The caveats in the German-American accord stipulating sanctions if Russia were using Nord Stream 2 – or gas at large – as a geopolitical weapon are well-meant and address concerns of uninformed politicians. They are, however, in the face of the market changes described, yesterday's news as well: Even if Russia would try to use gas as a geopolitical weapon, it would simply not work anymore.

### **Misguided Political Arguments By And About Ukraine**

The continued laments about the 'Ukrainian losses' – of both transit revenue and political leverage against Russia – are misguided.

While indeed less transit through Ukraine would mean about \$2bn less in revenues, this is less than 2% of the national budget<sup>21</sup>. Given the reduction in CO<sub>2</sub> emissions achieved by shifting 55 bcm/a from Ukraine towards Nord Stream 2 I dare say a 'small price to pay' in the interest of climate protection. Put in perspective: The German citizens have, in 2019, paid €26bn so-called 'EEG-Umlage', the renewables subsidy passed onto consumers' electricity bills.

While we are painfully aware that Ukraine is exposed to Russian aggression, Ukraine's security does not hinge on less or no gas transit. Past events such as the Crimea invasion cast doubt on the assertion that energy transit constitutes any political leverage at all. If so, however, there is also the 'Druzhba' pipeline transiting Ukraine. It carries large quantities of Russian crude oil<sup>22</sup>, which is up to five times more valuable than gas.

### **Reverse Leverage: Nord Stream 2 Doubles The Sanction Potential Against Russia**

The German-American accord stipulates sanctions if Russia were to use Nord Stream 2 (or gas at large) as a geo-political weapon. As explained above, this is no longer possible for Russia thanks to the state of the European and global traded gas markets.

---

<sup>20</sup> Ibid, page 32 ff.

<sup>21</sup> For more detail see GVC paper 'Klimaschutz geht nur mit Gas – der Nutzen von Nord Stream 2' ([28-04-21-Klimaschutz-Gas-geht-nur-mit-Gas-der-Nutzen-von-Nordstream-2\\_PT-Magazin.pdf](https://www.gasvaluechain.com/28-04-21-Klimaschutz-Gas-geht-nur-mit-Gas-der-Nutzen-von-Nordstream-2_PT-Magazin.pdf) (gasvaluechain.com), page 28.

<sup>22</sup> Ibid, page 28.



In contrast, however, the completed Nord Stream 2 enhances Europe's leverage to use gas as – let's say – a 'disciplinary tool' if need be: If one really felt the need to 'punish' Russia severely, and there was the political will to accept the rising costs (but – thanks to global LNG - not any physical supply shortfall), an embargo on the import of Russian gas via Nord Stream 1 and Nord Stream 2 would comprise a painful 110 bcm/a on pipelines fully owned by Gazprom, i.e. without inflicting collateral damage on transit countries such as Ukraine and Poland<sup>23</sup>.

I hasten to emphasize that I consider the fixation on gas entirely emotional and irrational. An embargo on Russian crude oil, imported in large quantities by the EU but also by the U.S., would inflict 'punishment' three to five times larger than gas<sup>24</sup>.

### Political Fake Arguments By Poland

The Polish assertions of increased dependency on Russia are false. Poland has five sources of gas supply. The sum of the four non-Russian sources exceeds its domestic consumption<sup>25</sup> This remains the case also if virtual reverse flow through the Yamal transit line would cease<sup>26</sup>.

The assertion that Nord Stream 2 would negatively affect the single European gas market is wrong. Indeed, the contrary is the case: the absence of Nord Stream 2 supplies competing in the European traded markets would necessitate higher LNG imports in permanent competition with Asia at respectively elevated European price levels.

Germany's Ewi Institute calculated the welfare loss for European consumers in the 'high LNG demand' case at €24.4bn/yr without Nord Stream 2 supplies. Gas Value Chain assumes on average that European prices will need to be \$3.3/mn Btu higher in order to attract global LNG in competition with Asia. This would in turn cause a welfare loss of some €50bn/yr. Europe would do better by fostering competition between pipeline gas and LNG.

### U.S. Sanctions

In previous publications<sup>27</sup>, I have characterised the U.S. sanctions as an intolerable interference with European energy autonomy. Adding insult to injury was the undeniable fact that the motivation was not an honest concern about the security of an ally, but rather a camouflaged marketing campaign for U.S. LNG.

---

<sup>23</sup> For more detail see 'UOKiK NS2 Decision: 'Alternative Facts' & 'Sanctimonious Hypocrisy' - UOKiK should clean up the foreclosed Polish market in front of its own doorsteps instead of acting 'Headmaster' for the EU' ([https://gasvaluechain.com/cms/wp-content/uploads/2020/12/2020-12-14-GVC\\_Paper\\_UOKiK\\_Alternative\\_Facts\\_\\_Sanctimonious\\_Hypocrisy.pdf](https://gasvaluechain.com/cms/wp-content/uploads/2020/12/2020-12-14-GVC_Paper_UOKiK_Alternative_Facts__Sanctimonious_Hypocrisy.pdf)), page 36 ff.

<sup>24</sup> Ibid.

<sup>25</sup> For more detail see 'Poland, a 'failed state' in gas trading – Poland's deliberate obstruction of European traded gas market integration and its misguided quest for diversity hinging on 'ideological physicality' (<https://gasvaluechain.com/cms/wp-content/uploads/2018/07/GVC-Market-Study-Poland-06-18.pdf>), page 10 ff.

<sup>26</sup> Ibid, page 16 ff.

<sup>27</sup> 'Nord Stream 2 caught between politicization, hypocrisy and ignorance: a few inconvenient truths: Both U.S. sanctions and EU regulations obstruct climate efforts and pose risks to security of supply' (<https://gasvaluechain.com/cms/wp-content/uploads/2020/04/2020-04-28-GVC-Paper-Nord-Stream-2-Hypocrisy.pdf>), page 10 ff.

This puts any concessions of Germany in the accord into a questionable light. At least, the accord does not contain any outright commitments to buy U.S. LNG. This is, coincidentally, serving the interests of U.S. LNG exporters: they neither want nor need political support as they only want to be free to choose the destination with the highest netback. In 2019 and the better part of 2020, when the Asian/European price spread had collapsed, we saw substantial quantities of U.S. LNG coming to Europe. Thereafter and to this day, exponentially rising Asian prices have (re-) directed trade flows predominantly towards Asia.

The waiver of all sanctions is in any event a decision, which does not hurt U.S. LNG exporters at all and, at the same time, benefits European consumers.

It would be highly desirable that the next PEESA<sup>28</sup> sanctions report to Congress due 17 August 2021 would expand the list of waivers to crucial contractors, which withdrew from the project out of concern for negative impact on their business elsewhere in the world. The certification company DNV GL is a prime example.

### Time To Get Honest On Full Value Chain Emissions And Sustainability In All Sectors

The gas industry has made serious efforts to make its full value chain emissions transparent, admittedly also due to the expected European carbon levy on energy imports. In contrast, politicians – as well as car manufacturers with their avalanche of 'life-style' commercials – never tire of singing the praises of e-mobility in traffic, i.e. only a fraction of the full e-mobility value chain.

The full value chain emissions and negative social and ethical impacts of e.g. battery production and the mining of minerals remain concealed. The harrowing pictures on cobalt mining by child labor in Congo<sup>29</sup> under the most precarious circumstances, published by 'Die Welt'<sup>30</sup> and the 'Financial Times'<sup>31</sup>, are only the tip of the iceberg: the entire CO<sub>2</sub> 'back-pack' of e-mobility is much larger.



Source: <https://www.dw.com/en/is-child-labor-the-price-for-e-cars/a-40195923> Source: <https://www.ft.com/content/c6909812-9ce4-11e9-9c06-a4640c9feebb>

<sup>28</sup> Protecting Europe's Energy Security Act (PEESA), as Amended (BUREAU OF ENERGY RESOURCES) APRIL 9, 2021 (<https://www.state.gov/protecting-europes-energy-security-act-peesa/>)

<sup>29</sup> According to the FT, some 15 to 17 to/yr of cobalt in Congo is produced by so-called 'informal mining', with child labor and frequent deadly accidents (<https://www.ft.com/content/c6909812-9ce4-11e9-9c06-a4640c9feebb>)

<sup>30</sup> Die Welt: <https://www.dw.com/en/is-child-labor-the-price-for-e-cars/a-40195923>

<sup>31</sup> Financial Times: <https://www.ft.com/content/c6909812-9ce4-11e9-9c06-a4640c9feebb>

Germany is trumpeting its so-called value chain law ('Lieferketten-Gesetz'), which imposes ecological and ethical conditions for the upstream supply chain of German enterprises. One can only hope that the impact of this law will not stop with T-shirts from Bangladesh.

It is high time to get honest on full value chain emissions as well as social and ethical impacts in all sectors.

I am convinced that this will put the (temporary) deployment of fossil gas in a totally different light.

## About the Author



Wolfgang has been working in the oil and gas industry for some 37 years: for Mobil, Duke and RWE. He held senior management positions across the entire value chain in various countries. After ~15 years in upstream, he was twice responsible for market entry into the Dutch retail market. Later, he served as RWE's chief negotiator for Nabucco supplies in Azerbaijan, Iraq and Turkmenistan. Moreover, he served as CCO/CEO of RWE Transgas a.s. in the Czech Republic from 2008 to 2016. With Gazprom, he negotiated and litigated successfully about the decoupling of oil and gas pricing.

'The Gas Value Chain Company GmbH' (GVC) offers services as 'partnering commercial operator' (as opposed to a mere consultancy). Wolfgang also acts as commercial expert in arbitrations and, lately, also in due diligence procedures. His gas advocacy engagement has rendered multiple publications (<https://gasvaluechain.com/publications-interviews/>) and presentations (<https://gasvaluechain.com/news-events/>).

Wolfgang has also continued to maintain cooperation with Brussels-based Eurogas ([www.eurogas.org](http://www.eurogas.org)), where he served as board member for 8 years: GVC joined Eurogas as its first new 'liaising member' in 2016.

From September 2019 to October 2020, Wolfgang served, in accordance with requirements of the European Commission, as interim Chairman of the Supervisory Board of Česká republika a.s. in Prague.

### Impressum:

The Gas Value Chain Company GmbH  
Koogstrasse 116  
25718 Friedrichskoog, Germany  
Mail: [wolfgang.peters@gasvaluechain.com](mailto:wolfgang.peters@gasvaluechain.com)  
Web: [www.gasvaluechain.com](http://www.gasvaluechain.com)  
Registered at Local District Court, Pinneberg  
Commercial Registry No.: HRB 14645 PI