The 21st Century European Gas Market: A Dangerous Interdependence?

Introduction

"So, we're supposed to protect you against Russia, and you pay billions of dollars to Russia and I think that is very inappropriate. Germany is totally controlled by Russia because they are getting 70% of their energy from Russia and a new pipeline" (President Donald J Trump, Brussels NATO summit, 11/07/2018).

So spoke President Trump in 2018, beginning a process that would lead to America sanctioning Western firms involved in the construction of the Nordstream 2 gas pipeline. The pipeline runs under the Baltic, directly linking Russian natural gas fields to German consumers. Western engineering companies have withdrawn from the project and work remains suspended. Russian energy giant Gazprom has re-deployed the Akaedemik Cherskiy, a Pacific based Russian subsea-pipe laying vessel, in hope of completing the final section.[1]

The purpose of this paper is to look beyond 'Trumpian' hyperbole, whilst not dismissing the security concerns expressed therein. I will demonstrate why the construction of this pipeline, and the supply of Russian gas to the EU, is legitimately considered a geostrategic dilemma. As such, the nature of the issue will be shown to be beyond the scope of conventional economics and business theory. Rather, I will propose that it is best understood through the conceptual lens of 'geoeconomics' which centres on the interface between economics, geography and security. A typology of geo-economic strategies is presented in appendices, together with an idea-type model to aid reader understanding. In the body of this paper I will use the following simple definition: geoeconomics is the use of economic ways and means to achieve geostrategic ends (Wigell, 2015).[2] The Western concern is that Russia will use its position as principal supplier of natural gas to the EU to exert leverage on consumer countries to achieve its own long held strategic objectives. These can be summarised as a desire for control in the 'near abroad', the maintenance of

[1] The Akaedemik Cherskiy's 3-month voyage from eastern Siberia is nearing completion. The vessel's current location can be found here: https://www.vesselfinder.com/?imo=8770261

[2] Wigell's 2015 typology of geoeconomic influencing differentiates between neo-imperial, neo-mercantile, hegemonic and liberal-institutionalist types of influence. These are outlined in appendix 1 and then applied to the model in appendix 2.

'great power' status and the management of a complex relationship with Western Europe (Gerganus and Rumer, 2019). Russian energy geoeconomics have the potential to serve all three strategic drivers.[3] Control of energy supply offers a mechanism to influence the 'near abroad'. Hydrocarbon sales provide the finances requisite for a great power. Energy interdependence with the EU suggests a way to manage the relationship with a wealthy neighbour (Rovner, 2015).

Examples will be provided, from Eastern Europe, where Russia has deployed the 'energy weapon' to promote political outcomes in its favour. I will examine how this economic leverage has been used, and how in Ukraine it has been combined with more traditional geopolitics. As such, control of energy supplies through an extensive pipeline network will be seen to be part of a foreign policy toolbox used by Russia. That there is an east-west divide, not only in Europe but within the EU, will be a constant theme in this study. Higher dependency on Russian energy, combined with geopolitical history, ensures that eastern EU states are more concerned about Russian leverage. The prospect that such simple 'energy cut-off blackmail' could also be applied to wealthy western EU states will be evaluated, as will other, more nuanced forms, of influencing that could be brought to bear.

Perceived geostrategic problems often prompt strategic responses. Those responses combined with changes in other related factors, in this case an evolving gas market, may alter a strategic situation. American fears over the current primacy of Russia in the European market have led to economic sanctions against Nordstream 2 participants being included in the National Defence Authorisation Act for Fiscal Year 2020 (NDAA 2020).[4] This is not a new strategy; American sanctions were first directed at European engineering firms during the cold war when Western Germany started to take deliveries of gas from the Soviet Yamal pipeline. Those sanctions' effect on transatlantic relations was then described by Margaret Thatcher as "deeply wounding" (New York Times, 02/07/1982). The political rationale behind that policy will be seen to have direct comparisons with the

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[3] For a Russian perspective on strategic priorities, great power status and international relations in a multi-polar world see Suslov, Dimitry, 2106, *The Russian Perception of the Post-Cold War era and Relations with the West*, Harriman Institute, Columbia University, 09/11/16

[4] At the time of writing this paper a bipartisan group of Senators are putting forward a bill to clarify and extend these sanctions to include Gazprom Flot, operator of the Akaedemik Cherskiy. See "Protecting European Energy Security Clarification Act 2020, ROS20477, 116th US Congress 2D Session

Nordstream case. I will question whether American concerns are justified, then and now. The irony of one great power using blunt tools of influence to prevent allies being influenced by a competing power will be highlighted. I will explore an American perspective that acknowledges this paradox and calls for more subtle means to be deployed to encourage the 'marketisation' of European gas supply. This term maybe open to different interpretations. Gazprom argue that, as a cheap and reliable supplier, their predominance is an exemplifier of a functioning 'free market'. From an American perspective marketisation centres on giving gas buyers greater choice of supplier and legitimises state policies to nudge the market in a multipolar direction (Collins and Mikulska, 2017). Beneficiaries of this process would include American natural gas companies. American influencing, be it through hard or soft power, will then be shown to have a commercial as well as political motivation. Whether or not the potential gains to American corporations invalidate the 'moral authority' of this round of American sanctions will be examined.

Far from being passive, the EU will be shown to have developed its own strategy to lessen the effectiveness of Russian geoeconomics and attain 'energy security'[5]. Firstly, this is sought through the substitution of imported pipeline gas with seaborne liquified natural gas (LNG). Secondly, through legislation on monopoly control of pipelines and the augmentation of transmission networks. Thirdly, the EU is seeking to 'decarbonise' as part of a process described as the 'fourth energy transition'. Under this process legislation will be used to drive down the market share of hydrocarbon energy in favour of renewable sources. Substitution of pipeline gas with LNG and the marketisation of infrastructure will please LNG suppliers, notably America. Whilst a successful 'energy transition' presents serious strategic and economic issues for *all* current oil and gas suppliers, not least Russia.

An evolving EU energy market thus represents a fundamental change in the strategic situation. In neo-realist theory "states seek to exert power over other states through a combination of military, economic and diplomatic means" (Gotz, 2018, p.3). The fruition of EU energy policy has the potential diminish Russian capability in all three areas. Most directly, the negation of interdependence will weaken the geoeconomic element of the

[5] Raphael and Stokes (2019) define energy security as existing "when there are energy sources large enough to meet the energy needs of the political community. Those sources must be able to deliver such quantities of energy in a *reliable* and *stable* manner, and for the foreseeable future" (P.351). This paper will focus on how reliability and stability are affected by geopolitical issues.

Russian state's geostrategic toolbox. The implicit drop in state revenues in turn threatens Russia's capacity to develop military capability and maintain the social welfare of its population[6]. Deficiencies in these areas challenge Russia's 'great power' status. Hence, Russia's seat the 'top table' maybe no longer assured and the need for states and international institutions to heed 'the Russian voice' diminished.

Such a threat requires a strategic response. Russia is partly addressing the problem through the construction and operation of a new pipeline (Power of Siberia) through which it can access the Chinese market. I will propose that this does not represent sufficient diversification. The Chinese government is seemingly aware of the concept of geoeconomics and will not allow sufficient market access for China to replace Europe as an income stream for Russia. Further, Russian strategy which is documented in its newly released "Energy Strategy 2035" (ES-2035), does not seem to extend much beyond building new pipelines to sell oil and gas. This may be due to the closeness of leading figures in the hydrocarbon sector to the political elite. Without reform, Russia faces a 'wicked problem' to which there is no apparent answer.

The central conclusion will be that the strategic balance of the European energy market is changing. Change, driven by strategising, counter strategising, and market evolution, has led to a powershift. Russian geoeconomic policies have prompted a response by the West to which Russia's counter response is inadequate. As a consequence, Russia is left the vulnerable party in the interdependency, thus endangering its ability to secure its own strategic goals.

The paper will proceed as follows:

Section 1. Will briefly explain the physical nature of the European gas market in simple non -technical language through tables, diagrams and maps.

Section 2.
Will examine how Russian has used its geoeconomic 'energy weapon' to further its strategic goals regarding CEE states.

[6] Senator Lindsay Graham (2014) has described the Russian economy as "simply that of an oil and gas company", and hence uniquely exposed amongst the great powers to declining hydrocarbon revenues (Newsmax 26/03/2014, p.1)

Section 3.

Will focus on the case study of Norstream 2. I will examine America's use of 'geoeconomic levers' as a response to perceived European energy vulnerability.

Section 4.

Will consider how the EU's energy security strategy is affecting its interdependence with Russia. The balance of power in the energy relationship will be seen to have swung away from Russia.

Section 5.

Will examine Russia's situation. I will illustrate that trade creates two-way dependencies and that Russia's reliance on gas sales to the EU puts it in a vulnerable position. Russia's strategic response to that vulnerability will be analysed and found wanting.

Section 1. The European Gas Market

Data in the tables below demonstrates that Russia is a 'gas superpower'. It has the world's largest gas reserves (table 1) and is the second largest global producer after the USA (table 2). It is also significant consumer, particularly given its relatively small share of global GDP (table 3). This is due to high levels of energy inefficiency related to a subsidised domestic market. Nevertheless, the gap between annual production of 669.5 billion cubic meters (bcm) and consumption of 454.5 bcm allows Russia to be the world's gas largest exporter (BP, 2019). The vast majority of Russian gas is exported through a pipeline network that originated in the Soviet era. Pipelines were first built to Warsaw Pact states and then extended to Western Europe, notably via the Yamal pipeline in the early 80's (figure 1). In 2019 Russia exported some 164 bcm of gas to the European Union and nearly 23 bcm to Turkey (table 4).

Table 1. Reserves (trillion cubic meters)

Country	End 2018	Share of global total
Russian Federation	38.9	19.8
Iran	31.9	16.2
Qatar	24.7	12.5

USA	11.9	6.0
Europe	3.9	2.0
EU	2.3	1.2

Source: BP statistical review 2019

Table 2. Production (billion cubic meters)

Country	End 2018	Share of global total
USA	832.8	21.5
Russian Federation	669.5	17.3
Iran	239.5	6.2
Qatar	175.5	4.5
Europe	250.7	6.5
EU	130.1	3.4

Source: BP statistical review 2019

Table 3. Consumption (billion cubic meters)

Country	2018	Share of global total
USA	817.1	21.2
Europe	549.0	14.3
EU	461.6	12.0
Russian Federation	454.5	11.8
China	283.0	7.4

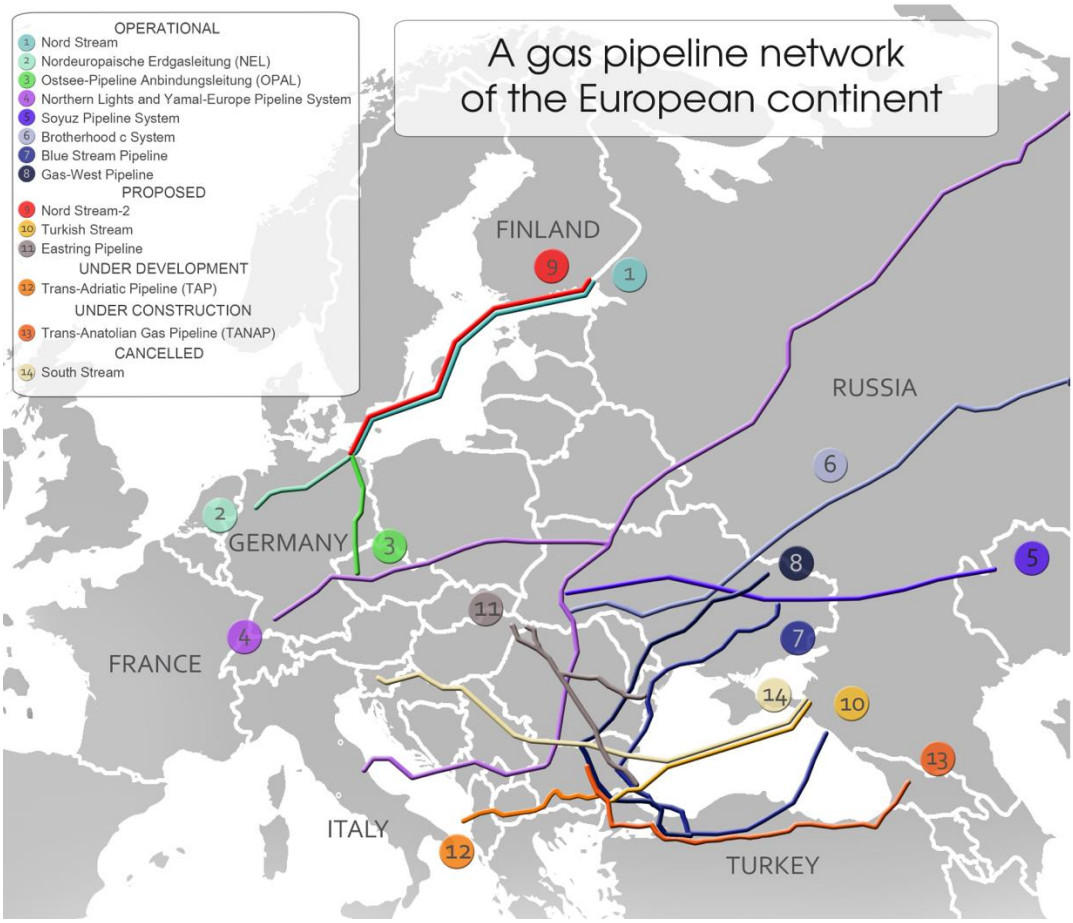
Source: BP statistical review 2019

Table 4. Russian Pipeline Exports 2018 (billion cubic meters)

France	8.9
Germany	55.3
Italy	25.2
Netherlands	7.4
Other EU	67.1
Turkey	22.8

Source: BP statistical review 2019

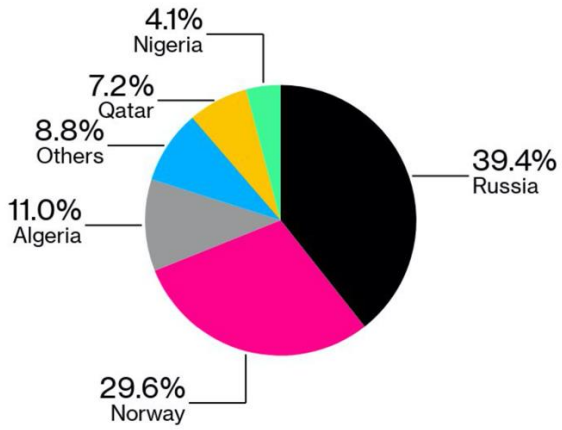
Figure 1. Russia’s export pipelines.



Source: Southfront.org (2017)

In the EU, by contrast, production (250.7 bcm) is heavily outweighed by consumption (461.6 bcm) making the EU a significant buyer of global gas (tables 2 & 3). By far the biggest buyer in the EU, and the biggest European consumer of Russian pipeline gas is Germany which purchased 55 bcm from Russia in 2018 (table 4). EU states buy gas from a variety of countries in both LNG and pipeline form. The key sources of EU gas imports are shown in figure 2. The biggest supplier is ‘security rival’ Russia followed by ‘security partner’ Norway. The most important supplier of the ‘others’ in figure 2 is the USA.

Figure 2. EU Gas Imports by Country 1H 2019



Source: Eurostat 2020

Even accepting the assumption that Russia wishes to use its energy reserves to exert political influence, from the statistics alone it is not clear why gas market interdependence is a geostrategic problem. After all Russian oil exports to the EU far exceed gas exports in terms of value. For Russia 80% of hydrocarbon export incomes come from oil and only 20% from gas (Rossbach, 2017). For Europe, as seen in figure 2 (above) there are other gas supply options. The answer comes down to the nature of the gas market, particularly logistics and their effect on prices. Crude oil and related products are traded in highly fungible markets in which buyers and sellers usually have a high degree of choice. Were Russian oil supplies interrupted, substitutes could be quickly sourced. By contrast gas markets are less fungible. LNG, with the inherent flexibility of a seaborne commodity has been described as 'the new oil' (Kapitonov, 2020). Yet, whilst the LNG market is rapidly developing, many European states do not have the import facilities to replace pipeline gas. CEE states lag behind the West and landlocked countries clearly have less options. Gas is more expensive to transport by sea, requiring liquification, freight and regasification costs. The larger LNG exporters such as Qatar and the USA are not geographically close to the EU and may have higher production costs than Russia. Therefore, for the European consumer seeking the most competitive prices and reliable supply Russian 'national champion' Gazprom is often the preferred trading partner. Consequently, Europe-Russia energy security discussions usually focus on the natural gas trade (Collins, 2017). The perpetuation of Russian supply dominance has led to its pipeline network (figure 1) being described as 'veins of influence' (Le Bon, 2015). Collins describes the transmission networks as a "natural strategic fulcrum for the Kremlin" (2017, p.1). The dependency of European states on Russian pipeline gas, defined as a percentage of direct Russian imports divided by total gas demand, is shown below (figure 3). The westernmost countries

generally have a lower dependence, being either gas producers themselves or supplied from non-Russian sources. From Germany and Italy eastwards dependence generally grows. Of note is the current low dependency of Ukraine, the victim of notorious Russian supply cut offs in 2009 and 2014. This can be explained by improvements in the EU gas pipeline infrastructure that allows for 'reverse flow' from west to east. Although Ukraine uses Russian gas it comes indirectly via EU states. Such dynamic changes in European gas networks, will be analysed as 'strategic responses' in later sections of this paper.

Figure 3. Dependency on Russian gas exports

Source: Baker Institute (2017)

Section 2. A Blunt Instrument

The most direct applications of the 'energy weapon' have been seen in eastern Europe. Here dependency of piped Russian gas is at its highest (figure 3, above). These central and eastern European (CEE) states are either former Warsaw Pact countries or former members of the Soviet Union. As such they are part of Russia's 'near abroad' and part of a desired sphere of Russian influence.[7] The use of coercive gas geoeconomics began shortly after the dissolution of the Soviet Union. This was exemplified by the cutting of gas supplies to the Baltic states whilst the status of their Russian speaking citizens and former Soviet military infrastructure was being debated. Wigell (2015) describes this strategy as 'neo-imperialist' in that economic primacy is used to create an 'informal empire' (appendix 1). Such policies continued in the Putin era when former allies were seen to be acting against Russian interests. In 2008 supply was halted to the Czech Republic as its government discussed missile defence cooperation with America.

Supply interruptions and price manipulations were applied to the Ukraine on seven occasions between 1993 and 2015. Gazprom's oft given explanation was non-payment of outstanding bills; but work by Western analysts undermines these claims.[8] Smith Stegen (2011) and Collins (2019) show how the timing of these actions coincide with political discord between CEE states and Russia. Examples include disagreements over the status of Sevastopol, the division of the Black Sea fleet, the Orange revolution and the annexation of Crimea. In 1993 Russia and Ukraine agreed to resolve issues over the fleet and its home port at the Massandra summit. Prior to the summit, for ostensibly commercial reasons concerning debt, Gazprom cut Ukrainian supplies by 25%.[9] At the summit Russia offered to cancel Ukrainian energy debt in exchange for nearly full control of the naval vessels. Thus the 'carrots and sticks' of geoecomomics were openly displayed. President Medvedev, acknowledged in a 2010 interview that gas prices played a key role in the Russia's favourable arrangement with Ukraine over the Black Sea fleet (Interfax, 2010).

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[7] See key Russian leadership speeches on the 'near abroad', for example Andrei Kovzyrev at the 1992 Helsinki OSCE Summit or Valery Gerasimov at the 2015 Moscow Conference on International Security.

[8] Smith Stegen (2011) points out that consumers in the ex-Soviet sphere were in receipt of 'below market' gas prices subsidised by Russia and allowed to make late payments. Their adjustment by Gazprom can therefore be presented as a return to normal market conditions. Yet, over 2 months in 2014 Gazprom raised Ukrainian prices from $268.5 per thousand cubic meters (mcm) to $ 485 mcm, roughly double its price to German consumers (Reuters, 03/04/2014).

[9] Collins (2015) argues that Gazprom deliberately allows the debts of its eastern customers to build up, and rarely utilises conventional commercial legislation and legal practices to recover outstanding amounts. Thus, a justification for supply disruptions and sudden price hikes is kept 'in hand'.

However, the success of neo-imperialist geoeconomic policies has not been universal. Attractive energy prices given to Ukraine's Yanukovych government discouraged it from signing accords for greater integration with the EU; but did not forestall the Orange revolution. Nor, did subsequent price hikes and supply disruptions bring Ukraine back into the fold. When in 2014 Russia decided to annex the Crimea and intervene in eastern Ukraine, gas geoeconomics were 'fused' with the more conventional geopolitical tools of open and covert military force. This accelerated a strategic response by a Ukrainian government already working with the EU to improve gas infrastructure. Principally, this consisted of investments in Ukraine and neighboring EU states to facilitate reverse flow of gas eastwards.[10] Thus, gas from Russia and other countries that had already been transported to the EU was supplied to Ukrainian consumers. Now, Ukraine is no longer dependent on direct Russian energy supplies (figure 3, above) and hence Russian influencing is diminished. Gazprom has lost a lucrative market and been forced to renegotiate transit fees to neighbouring states (Kapitonov, 2020).[11]

Section 3. Nordstream 2, America and the EU.

The physical effects of Gazprom's disruptions in the east have been felt in western Europe. The winter 2009 Ukrainian cut-off caused gas pressure to drop as far westwards as France. Schools and businesses in south eastern Europe were unable to operate their central heating and forced to close (Guardian 08/01/2009). Use of the 'energy weapon' in the east also created a concern among Western policy makers and security analysts: namely, what could happen if Russia targeted a larger economy considered systematically important to Europe? If this were to happen tactical concessions of the sort seen in the east could be elevated to strategic importance. Collins argues that increasing dependence on Russian gas in western European states "could expose them to manipulation, undermine resolve to stand up the Russian revanchism in the east and ultimately, divide and weaken the EU and NATO" (2015, p.6).

[10] See: "How the EU helps Ukraine to improve its energy infrastructure", *EU Neighbours East* ,17/01/2019.

[11] Partial restoration of Ukraine-Russia relations agreed in early 2020 included a new gas transit deal for 65 bcm in 2020 and 40 bcm p/a for the 4 following years. Ukraine agreed to drop $12.2 bn in claims made in international courts but will keep $2.9 bn already awarded by arbitrators. The agreement does not include Russian gas sales to Ukraine, but President Putin is reported to have offered 15bcm p/a at a 25% discount. (FT, 06/01/2020).

Germany is by far the largest European consumer of Russian pipeline gas (table 4). It is directly liked to Russia through the Nordstream pipeline (figure 1) which has a capacity of 55 bcm p/a. Completion of the Nordstream 2 project will see this capacity doubled to 110 bcm. Consequently, debate has focused on whether Germany is already open to (subtle or overt) Russian geoeconomic influencing and if the completion of Nordstream 2 will cement this position.[12] American concerns about German (and wider west European) vulnerability to Russian influence through energy dependence are not new and have triggered geoeconomic responses. In the early 1960s, President Kennedy sought to halt the 'Friendship' oil pipeline leading from the Tatarstan region to Europe by pushing German companies to renege on contracts to produce steel pipe for the project. In the early 80's President Reagan imposed sanctions on the European subsidiaries of US companies involved in the construction of the 'Brotherhood' gas pipeline (linking Siberia and Germany) and prohibited the use of European licenced US technology. In 2019 America launched sanctions against international companies working on the Nordstream2 pipeline (NDAA 2020). In the latter two cases America proposed that European energy requirements could be better met by the consumption of hydrocarbons supplied by private American firms. President Regan suggested imports of American coal and President Trump has advocated greater European consumption of American LNG. Rumer (2018) believes the key motivation behind the sanctions is to re-balance trans-Atlantic trade relations seen as unfair to America. Under Wigell's geoeconomic typology American measures would be classed as neo-mercantile, containing as they do both economic 'carrots and sticks' designed to garner influence (appendix 1).[13]

A central argument against sanctions is that there is little evidence that European security policy has been affected by a long history of dependency on Russian gas. In the 1980's European governments willingly accepted the basing of American medium range nuclear missiles. Germany was fulsome in its condemnation of the 1981 imposition of martial law in Poland. Similarly, Germany was a strong proponent of joint US/EU sanctions against

[12] The position of former Chancellor Gerhard Schroder as chair of Nordstream AG, and his seat on the board of Rosneft, has led to accusations that elements of the German political elite are to some extent complicit in Russian influencing. Schroder has countered that these claims are evidence of anti-Russian bias. (BBC, 20/09/17).

[13] An effect of American neo–mercantile influencing has been to acerbate east/west differences within the EU. In 2006 the Polish defence minister underlined Polish opposition to European dependency on Russian gas, comparing Nordstream to the 1939 Molotov-Ribbentrop pact. In 2019 Presidents Trump and Duda signed an agreement for Poland to buy 1.5 Million tons of American LNG (Reuters, 12/06/2019).

Russia following the annexation of Ukraine in 2014. Given the un-even efficacy of gas geoeconomics in the east, and the fact that the neither the Soviet Union nor Russia have actually threatened German energy supply, there may be merit in the argument that sanctions, targeted at allies, are an inappropriate reaction.[14] However, whilst opposing sanctions, Rumer concedes that the relationship between German business leaders and the Kremlin is "not healthy, particularly as Gazprom's business practices are skewed to favour elite Russian individuals already subject to EU and US sanctions" (2019.p1). Collins (2017) and Rossbach (2018) suggest that these links open up Europe to more subtle forms of influencing than that used in 'eastern style' supply disruptions. As such they form part of a 'hostile political measures' strategy under which Russia finances political parties and elite groups within the EU that have an anti-integrationist or anti Euro-Atlantic stance (Cohen and Radin, 2019).

Whether US influencing is driven by commercial interests, legitimate political concerns, or (as seems likely) a combination of both, questions surround its efficacy. The arrival of the Akaedemik Cherskiy in the Baltic sea suggests Nordstream 2 is likely to be completed by the end of 2021 (Burbeza, 2019). If this is the case, sanctions will not have achieved their objective. Yet, they have had a negative effect on relations within the Euro-Atlantic community. To Rumer, the political cost is too high. Sanctions "offer a serious insult to Germany" and "will push Russia into greater energy co-operation with China as it develops alternative markets" (2019 p.1). Thus, "our allies are driven apart and our enemies pushed together" (ibid). American relations with Germany certainly have been tested. Chancellor Merkel has questioned the legitimacy of 'extraterritorial sanctions' intended to change the energy policy of an ally (FT, 18/12/2019). In the eastern EU suspicions of German complicity with Russia (and potentially lost gas transit revenues) have led to support for sanctions. To those in the American administration displeased with wider EU policy, sanctions' centrifugal effect on relationships within the block may be a welcome 'side effect'.[15]

[14] For a comparison of Reagan and Trump era sanctions see Vicari, MS, "How Russian Pipelines Heat Up Tensions, From Reagan's Battle over Yamal to the European Row over Nordstream2", *Vocal Europe*, April 2016.

[15] In an interview with the author (01/05/2020) Rumer suggests that America is deliberately favouring 'pliant' allies (Ukraine and Poland) over Germany. This brings to mind Donald Rumsfeld's 2003 division of European states into 'old' and 'new' categories as expressed when attempting to garner support for the invasion of Iraq. See Grote (2007).

An alternative strategy is proposed by Collins and Mikulska (2018). Firstly, they recognise that western European gas consumers are commercial enterprises, rather than governments. As such decisions are based on upfront costs and reliability of supply. Secondly whilst they identify pockets of liberalised gas trade and improving LNG import infrastructure these are not yet sufficient to support an 'open' continent wide gas market as exists in America. Their proposed strategy is for the American government to use federal funds to stimulate infrastructure projects that enable increased imports of LNG and its distribution through European pipeline networks.[16] Stimuli would include: forgivable debt, direct American government financing of strategic gas import projects, assured payback to private project developers, matching European Resilience Initiative funds given to countries investing in gas infrastructure, and provision of preferential loans through Washington's Import-Export Bank. The authors suggest that such measures would not be prescribed under EU competition law, as whilst favouring seaborne LNG, they are 'molecule neutral'. As such the import infrastructure created would be open to all international sellers of LNG. Such a financial 'nudge strategy' is considered by its proponents as less potentially damaging to Euro-Atlantic relations than sanctions. Yet, it is still a form of geoeconomic influencing. Collins admits the irony of America using influencing techniques to reduce the openness of Europe to Russian influencing.[17] In terms of Wigell's typology (appendix 1) such measures would be classed as the non-coercive geoeconomics of a hegemon, rather than the neo-mercantilist policies of states which believe trade is a zero-sum game.[18]

Section 4. A European Strategic Response

I have demonstrated above that since the fall of the Soviet Union, Russia has used geoeconomic strategies upon eastern European states. In the west, particularly in Germany, close ties have been shown to exist between commercial/political elites and Gazprom. These suggest vulnerability to more subtle forms of Russian influencing. Yet, despite widespread recognition of these issues Europe continues to buy increasing

[16] An example of such a project is the connection of underutilised Spanish LNG import terminals with north European networks by reviving stalled plans to build a cross Pyrenean pipeline.

[17] Collins, Gabriel, Interview with author 06/04/2020

[18] A bi-partisan group of senators have introduced a bill proposing a European Energy Security and Diversification Act under which $1 billion of financing measures will be offered to aid allies in reducing dependency on Russian energy.

amounts of Russian gas. Statistics in the table 5 (below) suggest that over the last decade dependency has worsened. Therefore, the fears of those critical to EU policy appear justified.

Table 5. Russian gas exports as % of EU total consumption

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
35	30	32	39	37.5	37	39.9	39.3	40.2	41

Source: Statista (2020)

However, it would be wrong to assume from the above numbers that the leadership of the EU is unaware of the strategic questions raised by dependency on Russian energy. Nor, that it is incapable of a strategic reply. When Russia applied a hybrid (geoeconomic and geopolitical) strategy to the Ukraine, the military component ensured that threat perception in the West was heightened. This had a centripetal effect on the EU, resulting in sanctions on Russia (Wigell, 2015). These were enthusiastically backed by Germany. Further, European leaders were obliged to *publicly* respond to energy dependence. Donald Tusk declared that "One thing is clear, excessive dependency on Russian energy makes Europe weak" (FT,12/04/2014). He subsequently added that "Germany's dependence on Russian gas may effectively decrease Europe's sovereignty. I have no doubts about that," (EURACTIV, 13/03/2014). In 2017 a Jacques Delors Institute paper described dependency on Russian gas simply as "a mistake" (September 2017, p.6).

Study of EU documents, statements and policies reveal that the EU recognised its energy security issue long before the annexation of Crimea. In 2005 an 'Energy Union' first was legislated as a goal and in 2017 "Energy Union Strategy" became an official project of the European Commission (EC). Reading of the associated documents reveals a drive to migrate responsibility for energy policy away from member states and towards Brussels. An EU Energy Union could "act as one to jointly negotiate with Russia, support countries affected by supply disruptions, build infrastructure to reduce individual members dependence on Russia and encourage emerging non-European suppliers" (Tusk, FT

12/04/2014).[19] Rossbach (2018) sardonically describes the policies proposed as "based upon the standardised EU response to all problems – deeper integration" (p.60).The proposal for an energy Union was complemented by the 2009 'Third Energy Package', the 2010 'Gas Security Supply Regulation' and the 2019 'Gas Directive'. Common themes run through these policy documents which can be summarised as follows:

1. The introduction of legislation to counter 'vertical integration' of gas supply, whereby the operation of import pipelines is controlled by the energy suppliers.

2. Encourage the improvement of EU and partner countries' energy supply infrastructure: storage, reverse flow and interconnector pipelines.

3. Promote the construction of import facilities: LNG terminals, regasification and storage.

4. Facilitate the construction of a 'Southern Gas Corridor', a pipeline system linking Azerbaijan via the Caspian to the southern EU.

Through these measures the EU leadership hopes to secure four objectives. Firstly, to reduce the likelihood of future 'cut-offs' by increasing the legal and operational complexity of Gazprom 'turning off the tap'. Secondly, to reduce the exposure of states to any supply interruptions that do happen. Thirdly, to increase access to openly traded seaborne gas. Fourthly, to engage another significant supplier of pipeline gas. If these are fully achieved the EU would no longer be exposed to gas geoeconomics and have achieved the desired 'influence free' position illustrated in my model (appendix 2, figure 1A). Progress towards each of these objectives is examined in turn below.

The 'Gas Directive' (with its 2017 amendments) was adopted by the EC in 2019 with the aim of ensuring "that the core principles of EU energy legislation (third-party access, tariff regulation, ownership unbundling and transparency) will apply to all gas pipelines to and from third countries up to the border of the EU's jurisdiction".[20] Analysts have described the

[19] In the article Tusk suggested that infrastructure projects that furthered energy security should "enjoy the highest level of co-financing from Brussels – 75%" (FT 12/04/2014).

[20] For full text see https://www.ceep.be/gas-directive/

complex legislation as being “rushed through” (Burbeza, 2019, p.1). The motives behind the pace of the directive’s passage through the EC are seen as twofold. Firstly, the proposed amendment creates additional bureaucratic hurdles for Nord Stream 2. Secondly, they shift energy policy powers from member states to Brussels (Bochkarev, 2019). Under the new rules Nordstream 2 would have to provide “third party access, non-discriminatory practices and transparency” (Burbeza, 2019, p.1). Gazprom’s capacity within the line could be cut by up to 50%.[21] Unsurprisingly the legislation is opposed both by German firms and Moscow. Nordstream 2 AG have threatened to sue the EU citing the new rules as discriminatory against the investor, effectively ‘extraterritorial’ and inapplicable. They argue that Nordstream 2 is an extension of Nordstream, rather than a new project.[22] Industry sources believe that a case fought in the Court of Justice of the EU will shed light on the balance of power in the interdependent relationship between Brussels and Moscow. Gotev (2019) suggests that “Gazprom will have to give ground on its monopoly, if it is to see returns on its investment” (p.1).

Whilst the application of its rules on third party pipelines are potentially entangled in legal proceedings, the EU can claim to have made tangible progress with other strategic objectives. The Gas Supply Security Regulation (2010) required that permanent bi-directional capacity be established in all pipelines between member states and between member states and Central European Energy Partner (CEEP) countries. As a result, reverse flow connections have been added at key EU intersections, including those between Latvia and Lithuania, Romania and Hungary, Hungary and Slovenia, Czech Republic and Slovakia, Poland and Ukraine. “Today, gas can now flow not only east to west, but in all directions” (Pfluger, 2019, p.1). The EU has also increased its gas storage capacity by 75% since 2011 to represent around 20% of annual consumption. By locating enhanced storage facilities close to regional demand centres, back up supplies are now available to member states and their neighbours in case of unexpected events: protracted cold spells, accidents or third-party supply disruptions (ibid).

[21] In the case of Nord Stream 2, only the 22km section in German territorial waters will need to abide by the rules. But since the pipeline is a direct link between Russia and Germany, the rules will in effect apply to the whole line.

[22] Pipelines operational by 23 May 2019 are eligible for exemptions from EU rules.

The resilience of the EU gas network has been further augmented by increased capacity to import seaborne LNG. Today the EU has over 30 LNG import terminals and since 2010 regasification capacity has increased by 70% to 215 bcm. This equates to about 40% of total gas demand as of 2018 (BP, 2019). In Q4 2019, LNG became the second ranking source of gas imports to the EU, covering 28% of the total and surpassing the share of Norway (EU Gas Market Report, 2020). Significant milestones include the opening of a new terminal in Poland (with its associated American LNG supply deal), commencement of the building of Germany's first LNG terminal at Brunsbuttel and the coming online of floating storage regasification unit (FRSU) 'Independence' at Klaipeda port in Lithuania. While the ability of LNG to regularly compete on price with Russian pipeline gas is uncertain, its effect on Russian geoeconomics has been quickly felt. Once the 'Independence' began operation in 2015 Gazprom offered to reduce the price of 2015 supplies by 20%. Thus, the alleged strategy by which Russia offers differential pricing to states according to their political compliance is undermined.

The EU's efforts to find an alternative supplier of pipeline gas centre around Azerbaijan via the Trans Adriatic Pipeline project (TAP) which will link an existing pipeline network bringing Azeri gas through Georgia, Turkey, Greece and Albania to Italy. The 'Southern Gas Corridor' is expected to deliver 10 bcm of gas to the EU in 2020 with an option for an extra 10bcm p/a thereafter.[23] Such subsea pipeline projects are expensive. Together many of the projects listed above they lack immediate commercial justification. To aid their progress the EU has allocated significant funding. In 2017 alone the EU, via its 'Connecting Europe Facility', granted 873 million Euros to 17 energy projects and has made an additional commitment of 9 billion Euros through to 2027 (Pfluger,2019). Consequently, the European taxpayer is required to contribute a 'security premium' for diversification away from Russian supplies.

Of course, the EU taxpayers in NATO member states already contribute to the West's overall security. President Trump's declarations at the Brussels summit (above) illustrate that America is keen to link energy geoeconomics to the financing of wider security guarantees. Yet, despite its Energy Security Centre of Excellence (ENSEC COE) issuing

[23] Another source of pipeline gas is being explored under a memorandum of understanding to lay subsea pipeline connecting Israel's gas reserves with Cyprus, Greece and Italy. This project is opposed by Turkey (see Scott, Forbes, 02/012020).

valuable papers on the subject, NATO is seen in Brussels to be taking a 'back seat'. Brenden Devlin of the EC suggests this is due to the organizations "different memberships". He alludes that key western EU member states do not want America to steer energy strategy, as illustrated by negative reactions to sanctions on Nordstream 2.[24] Monaghan (2005) suggests NATO both supports European energy diversification strategy and 'ads value' through using its military capability to protect energy movements. He cites the role of naval assets in protecting Oil and LNG cargoes on the high seas. However, he cautions that "the alliance should not become entangled in disputes where different organizations play the main roles" (p.4). Firstly, because it could lead to the entrenchment of political positions, particularly in Moscow. Secondly because it risks exacerbating east/west divisions within NATO, for example those between Germany and Poland.

Questions need to be asked around the extent to which, through taking a lead role, the EU has changed the underlying strategic situation. The Azeri pipeline passes close to the Nagorno-Karabakh enclave disputed by Armenia and Azerbaijan. Here Russia is capable of "pulling geopolitical levers" that may re-start the conflict and endanger gas infrastructure (Recknagel, 2016). Further, Russia has opened its own 'third gas corridor' with the 'Turk Stream' pipeline potentially linking Russia through Turkey to the southern EU. NATO member Turkey has a troubled relationship with the EU and is outside the 'Energy Union'. However, its geography allows it to play a key role in the supply of gas to southern member states. Energy supply is likely to be an important component of Turkey's policy toolbox as it seeks to balance its relationships with Russia and the EU (Dempsey 2018). The extent to which LNG has transformed European energy markets is also a subject for debate. Without EU subsidy and the type of 'American nudge' initiatives proposed by Collins (above) its price appeal to commercial buyers is limited. It is significant that although LNG import capacity equates to 40% of EU demand its consumption only accounts for 28%. Energy security projects such as a trans-Pyrenean interconnector, linking Spain's underutilised LNG terminals to the rest of Europe, have been opposed by member states as 'not commercially viable' (Collins 2017). Perhaps the biggest strategic change born of EU investment is that, through reverse flow pipelines or new LNG terminals, those states most dependent on Russian gas increasingly have alternative suppliers. Further, that the gas system finally has sufficient storage capacity to endure supply disruptions. New infrastructure does not have to be fully utilised in order to advance energy security. Table 6

[24] Devlin, Brenden, Interview with author, 14/04/2020

shows that Europe continues to buy lots of Russian gas. Yet, as former US ambassador to Greece, Richard Morningstar puts it, “the very fact that alternatives exist keeps prices down” and “stops gas being used as a political tool and [Moscow] imposing monopolistic prices” (Prometheus Lecture, 2019).[25]

That said, concerns about EU investment in gas infrastructure remain. Firstly, over the cost. The concerns of certain member states about centralised EU budgets was highlighted by Brexit. Though energy security investments were not singled out in the debate on the issue, overall EU spending certainly was. This played a part in the EU losing not only a significant financial contributor, but its largest producer of natural gas.[26] Secondly there is a growing body of thought which contests that the EU should not be investing in gas at all. This was exemplified by the slowing of work on an EU funded Croatian LNG terminal which was subject to protests by environmental groups (Prtoric, 17/01/2019). The environmental movement has prompted Europe to respond. Officially the EU considers natural gas as a ‘transition fuel’. Whilst it is viewed as ‘greener’ that other fossil fuels it is still a significant contributor to global carbon emissions. Much is made in Brussels of the EU’s plans to “decarbonise’ as part of an ‘energy transition’. This involves moving away from hydrocarbon molecules towards electrons generated from renewable sources (Stevens, 2019). This programme is to be led by environmental legislation and the development of new technologies. On the consumption side technological developments include increased energy efficiency and the introduction of improved electric vehicles. On the supply side they involve the replacement of fossil fuels with solar, hydro, wind and (more controversially) nuclear energy sources.[27] Under these measures it is believed that Europe will be able to meet its obligations under the 2016 Paris Climate Agreement. A paper issued by the Jacques Delors Institute, and the recommendations of the ‘EU High Level Panel’ illustrate the level of ‘strategic buy in’ at the top of the EU.[28] For Delors “If there is one project today which carries a positive vision for Europe, it is definitely the energy transition” (2017, p.1). Realisation of the EU’s decarbonisation plan is likely to have serious strategic implications

[25] Russia’s ability to push in the direction of the red arrow shown in my model is thus impaired (Appendix 2).

[26] The UK exports via an interconnector pipeline to the EU’s gas network. Whether or not UK gas exports are covered by a free trade deal with the EU remains to be seen.

[27] The German government ordered the phasing out of nuclear power following the Fukushima disaster in 2011.

[28] Buy in at member state level is not universal, 8 eastern states have joined forces to argue that LNG should continue to play a role in a ‘climate neutral’ Europe (Simon, EURACTIV 22/05/20).

for Russia. Under the 'max case' scenario consumption of gas will be reduced by 75% and of the four major Russian import pipelines only one will be required (Devlin, personal communication, 2020 and Paltsev, 2014).

Section 5. Interdependence Viewed Through a Russian Lens

To understand the Russian perspective on its energy interdependence with the EU it is worth re-examining some of the concepts I have used. Firstly, to emphasise the obvious, but often forgotten, 'two way' nature of the interdependence. Trade creates mutual dependencies. Rumer (2018) puts it bluntly; "With nearly $40bn in revenue from its gas sales to Europe in 2017, Russia needs Europe's cash as much as Europe needs Russia's fuel' (p.1). In an equal relationship, 'influence' can flow in both directions. As the balance of power changes in a dynamic relationship so does the parties' ability to influence each other. Secondly, to recognise that the concept of 'energy security' can be expanded beyond reliable and affordable supply for the consumer. Rossbach (2017) suggests that for producer states, especially those with nationally controlled energy companies, the energy security priority is to ensure they have a market for, and stable income from, their exports. This concern is evident in Russian energy strategy documents which make clear that for Russia, energy security is about market access.[29] Thirdly, that the EU's ostensibly benign 'Energy Union' concept is not seen as such from Moscow. To Russia it appears that the West is trying to create an 'energy NATO' to limit Russia's access to markets, and that this is the "West's own geostrategic energy Weapon" (Mehdiyeva, 2017, p1). Viewed through the lens of Moscow's strategic frame, Western attempts to counter its energy policy form part of a hybrid warfare strategy.[30] This threatens the state's fundamental security.

It can be argued that the disruption of the trade flow, by either side, has so far been deterred by a kind of economic 'Mutually Assured Destruction'. Now, Western strategising, which promotes and benefits from an evolving market, is reducing dependence on Russia

[29] Institute of Energy Strategy. "Energy Strategy of Russia – for the period up to 2030". Moscow, (2010), pp. 22-23.

[30] There are clear parallels here with the debate over the origins of the hybrid strategies contained in the 'Gerasimov Doctrine'. For Russia, its geopolitical and geoeconomic strategies mirror those directed at it by the West. See: Gerasimov, address to the Moscow Conference on International Security (2015).

gas. Yet, Russia remains dependent on European money. Thus, mutual destruction is no longer assured, and Russia is exposed. Not only is the EU progressing into the 'influence free' zone of my model but is pulling levers of its own (appendix 2). This is evidenced by Brussels' willingness to exert its influence on the operation and ownership of Gazprom's pipelines, a hitherto jealously guarded monopoly (Kapitonov, 2020).

A state such as Russia, with a 'realist' perspective on geoeconomics, is beholden to respond to such changes in the balance of power with counter strategies (Wigell, 2015). Moscow's ES-2035 lists the following key objectives:

1) To sustain Russia's position in global energy markets
2) Export market diversification
3) Increased domestic energy availability and affordability
4) Strong reduction in energy intensity and emissions
5) Renewable energy system development.

Mitrova and Yermakov (2019) suggest that these goals have "different weights". "The first, to increase energy exports and revenues, is priority number one for the government and elites". "All other targets could be sacrificed in order to achieve it" (2019 p.1). Yet, as I have demonstrated, pushing more gas on Europe is problematic. The document suggests that the way in which Russia hopes to achieve its primary objective is through its progress on its second, market diversification. In this strategy particular emphasis is given to increasing Russia's share of Asian markets.[31] Russian energy's 'Pivot to Asia' is to be achieved in two ways: primarily the sale of piped gas to China through the newly opened 'Power of Siberia' pipeline and secondarily by the sale of LNG from Shakhalin and Yamal (figure 5). Moscow's emphasis on this strategy raises a simple question: in terms of Russian gas policy, can China become 'the new Europe'?

Figure 5. Russia's eastern gas infrastructure.

[31] See: "Energy Strategy of Russia – for the period up to 2035". Institute of Energy Strategy, Moscow, 2019, pp. 25-30.

Source: I.S.I.S 2018

In 2009 China became the world's largest energy consumer (BP,2019). 21st century gas demand growth has been rapid, at up to 20% p/a, and now totals around 300 bcm (Gazprom, 2019). Recognising the opportunity for a second major market for Russian gas, President Putin directed Gazprom CEO Alexey Miller to start the construction of 'Power of Siberia'. This 2,500-mile pipeline links gas fields developed in eastern Siberia to north eastern China (figure 5). Capacity is 38 bcm. Its future was secured by the $400 bn supply agreement signed between Russia and China in 2014. This was described by the Russian president as the "deal of the century" (Putin, 2014). Deliveries started in December 2019. In parallel came the development of the Gazprom Sakhalin Peninsular LNG project. China has used 'Belt and Road' funds to develop Yamal LNG facilities in partnership with Russian independent gas company Novatek (figure 5).[32]

Despite this level of investment, industry analysts doubt that China will become 'the new Europe' for Russian gas (Gabvev and Kapitonov 2019). The Chinese government appears fully aware of energy geoeconomics and the state's vulnerability as the World's largest

[32] Novatek was struggling to find sufficient funding to develop Yamal due to Western sanctions imposed on the company after the annexation of Crimea (FT, 01/08/2018). Yamal LNG is usually sold to the west, that it will now also be supplied to the east has been interpreted by some analyst as "Russia signaling that it has alternatives to Europe" (Utkin, ENI, 03/05/2019, p.1)

energy importer. Oil suppliers are limited to a 20% share of the Chinese market. This policy does not yet apply to gas but the opening up of the market to Russia is seen as part of an ongoing supplier diversification policy where no single gas supplier will be allowed to gain 'the upper hand' (ibid). Further, Russia's expensively developed eastern Siberian gas fields have no other significant domestic or international market. Thus, Russia cannot redirect its eastern Siberian gas supplies when displeased by the political stance or payment policies of the consumer. Critics of Gazprom's investment have suggested that as China develops domestic gas resources, Russia could become a swing supplier. Despite fears, expressed above, that Western opposition to Nordstream 2 drives Russian and China closer together, Rossbach (2018) notes that Russia has accepted 'junior partner' status in the energy relationship. China has 'gone cold' on buying gas from Western Siberia via the proposed Altai/POS 2 pipelines where Russia could 'play it off' against EU buyers (figure 5).

Therefore, although China and Russia share geostrategic interest in balancing the West, Russian gas geoeconomics in the east are limited (ibid). Further, China has a record of using its position as 'monopoly buyer' and 'principal investor' to undertake neo-imperialist influencing of its own. This is exemplified by the degree of control it exerts over Turkmenistan which supplies gas to western China through 'Belt and Road' debt funded pipelines.[33] Like the EU China is developing renewable sources of Energy. Whilst Russian gas is replacing 'dirty' coal in north eastern China, the government has also proclaimed its intention to phase out all fossil fuels.[34] Other Asian market opportunities exist, notably Japan, for Sakhalin LNG, but the eastern LNG market is extremely competitive, and current prices are low. Japan is also a Western ally unlikely to go against Western geoeconomic policies, such as energy sanctions, directed against Russia.

There is then, little evidence from its actions or strategic documents that Russia's response to changing energy markets goes much beyond 'doubling down' on hydrocarbon sales by building more pipelines and seeking new gas buyers. This, despite a very real threat to an industry that serves its national strategic drivers. An explanation for this is that government declarations of intent to deliver 'an advanced technological economy' have not been

[33] Turkmenistan's financial crisis is attributed to its inability to repay Chinese debt. Despite the strain imposed by falling gas prices, Gazprom, unlike Novatek, has declined Chinese investment in its networks (Eurasianet.org, 6/9/19).

[34] For analysis of Chinese decarbonisation strategy, see G20 China Report: OECD, (2016).

delivered upon.[35] There remains validity in Lindsay Graham's (2014) accusation that Russia is merely "an oil and gas company masquerading as a country". Official statistics show that hydrocarbon revenues have not exceeded 26.5% of GDP for 25 years. Yet, work by Movchan (2015) suggests that the real figure, including energy funded state budget expenditure and imports financed by exports, is closer to 57%. Further the "primitive economy" is dominated by state companies such as Gazprom and suppresses entrepreneurial culture.[36] Meanwhile the state turns a blind eye towards bribery and organised crime (Rumer, 2019). At the top of the country sit a political and economic elite whose interests are bound up with the continuance of the hydrocarbon economy (Mitrova 2019).

Whist President Putin ostensibly encourages economic modernisation a case can be made that the elite fear "Shah's disease". This term, coined by Rossbach (2018) is based on the example of 1970s Iran where the swift modernisation of an autocratic 'petrostate' unleashed societal forces that contributed to the downfall of its rulers. Yet, without reform Russia faces a 'wicked problem'. Measures taken by energy consuming states to counter its geoeconomic strategies have combined with commoditised and low-priced energy markets to endanger state income. This threatens not only its ability to project power but its financial capacity to develop its military capability and ensure the societal welfare of its citizens. Diminished capacity in these areas may hasten the decline of Russia as a 'great power'. This exposes the elite to internal pressures and offers the prospect of 'Thucydidean traps' as Russia attempts to balance rival powers. Some Western security experts believe that a declining Russia will present less of a problem for the West (Ruhle, SSI lecture, 2020). Others fear that a poorer Russia will be less predictable and more inclined towards military adventures that distract from problems at home (Collins, personal communication, 2020).

Conclusion

In this paper I have shown that Russia's energy relationship with the Europe is not 'business as usual'. EU states' energy networks are highly dependent on Russia for gas supplies. Russia has a proven track record of using its 'energy weapon' on countries in its

[35] On the proposed modernisation of the Russian economy see Vladimir Putin, "Millennium Manifesto", Moscow, (2000).

[36] The Russian economy was described as "primitive" by President Medvedev in his 2009 Moscow speech "On Russian Re-armament".

near abroad through a combination of deliberate supply interruptions, political patronage, debt and differential pricing policies. The close relationship between state owned ‘national champion’ Gazprom and the Kremlin has facilitated the company’s function as a policy medium. Through its ‘gas giant’, Russia seeks to pursue political objectives, exerting leverage upon consumer countries. These strategies have been seen to serve the long-standing strategic drivers that shape Russian foreign policy. These are control of the ‘near abroad’, maintaining great power status and managing a complex relationship with Europe.

The apparent prioritisation of states’ geostrategic ambitions over the conventional profit motive has led me to view energy interdependence through the lens of ‘geoeconomics’ where economic means are used to achieve geostrategic aims. I have referred to Wigell’s (2015) typology of geoeconomic strategy, which is outlined below (appendix 1). The geoeconomic strategies of neo-imperialism and neo-mercantilism have been demonstrated as ways in which Russia, a state with a ‘competitive strategic frame’, has exerted its influence through energy primacy. American influencing has been seen to be both hegemonic, utilising economic muscle to uphold primacy without coercion, and neo-mercantile in its use of sanctions. The EU has been seen to use to hegemonic geoeconomic strategies of its own to encourage its neighbours towards cooperation and integration. A model has been presented to demonstrate how states or institutions can push against countervailing geostrategy by developing their own policies designed to alter the existent strategic situation (appendix 2). I have analysed how central and eastern European states have worked with powerful allies to reduce the efficacy of Russia’s blunt use of the energy weapon. This is particularly evident in the example of the Ukraine. Here infrastructural improvements in partnership with neighbouring countries have increased energy security and undermined Russian influence. To achieve its desired political ends in Ukraine, Russia has been forced to adopt ‘higher cost’ hybrid strategies that combine geoeconomics with traditional geopolitics.

The Nordstream and Nordstream 2 projects directly linking Russian gas to German consumers have underlined concerns that more powerful, more solvent, states have also become dependent on supplies of Russian gas. This has raised the questions over what could happen if Russian geoeconomics were targeted on a country that is systematically important to the EU and NATO. American fears that energy interdependence provides Moscow with the means to exert influence over Western Europe have been manifested in the form of ‘extra territorial’ sanctions against Western firms involved in the project. These

concerns whether justified or not, are not new. Nor, is America's use of sanctions on European energy engineering firms that chose to work with Russia. This has been shown with reference to historical examples from the Soviet era. Then as now, there is little evidence that dependence on Russian gas has significantly influenced German foreign policy on security issues. I have highlighted the irony of America resorting to its own geoeconomic toolbox to counter the influence of a rival power over friendly states. That American LNG companies stand to benefit from American neo-mercantile policies has been explained. 'Softer' forms of economic influencing, namely economic nudge strategies, perhaps more appropriate for a 'benign hegemon' have been explored.

The EU leadership has been demonstrated to dispute American policies, but to share American concerns over the strategic situation. Consequently, it has adopted a range of policies designed to reduce its dependence on Russian energy. Thus, to achieve energy security and be free of geoeconomic influencing. Policies to this effect have been shown to be woven into EU strategy through their inclusion in a variety of strategic documents, notably the 'Third Energy Package' and the "Gas Directive' which afford a higher degree of central control over member state energy policy. These have been seen to include legislation against the operation of pipelines being controlled by the energy supplier together with the encouragement of greater storage, interconnector and reverse flow capacity. Thus, it is hoped, the likelihood and impact of supply disruptions are decreased. Market trends that offer greater choice of supplier have been encouraged, this exemplified by the building of new LNG import facilities. Through such investments EU states have the capability to access freely traded cargoes of gas from a range of supplier countries. The EU has also sought to develop a relationship with a second major seller of pipeline gas. This is being achieved through the building of a Southern Gas Corridor. Pipelines are being built which have the potential to link Azeri gas production sites with major consumers in south eastern Europe. NATO has been shown to be supportive of EU energy strategy. But, fears that direct involvement of the security alliance would entrench political positions, have relegated NATO to a secondary role.

The success of the EU in increasing the resilience of its energy networks has been demonstrated. But, doubts about the efficacy of EU strategic measures have also been raised. Gazprom protectively guards its monopoly position over Russian export pipelines and is threatening legal action over EU attempts to influence how Nordstream 2 will be operated. Geography dictates that the pipeline connection to Azerbaijan will be vulnerable

to Russian geostrategy. Similarly, Turkey is set to play an, as yet not fully understood, role in EU energy security. Hosting as it does, both Russia's Turkstream pipeline and the rival Southern Gas Corridor. LNG may prove not to be the panacea its proponents suggest. The private enterprises that dominate Western European energy markets are unlikely to favour a type of gas that will often be more expensive than that provided by Gazprom's pipelines. Consequently, much LNG infrastructure is under-utilised, though its very existence gives options to consumers and hence undermines Russian geoeconomic capability.

A growing body of thought suggests that both LNG and pipeline gas, as contributors to 'greenhouse gas' emissions, should only be a medium term 'stop gap fuel'. It is argued that an 'energy transition' should be encouraged whereby hydrocarbons are replaced by 'green' energy from renewable sources. I have shown that such a policy ideal has a great degree of high level 'buy in' within the EU. Policies being adopted have the potential to reduced EU gas consumption by up to 75%. Such 'decarbonisation' would allow the EU to become free of the influence of existing energy suppliers whilst hitting emission targets required in the 2016 Paris Climate Agreement. Were this strategy to achieve fruition it would both change the strategic situation and have a substantial negative effect on the treasuries of all current gas suppliers, not least Russia. The 'two way' interdependent energy relationship between Russia and the EU has been seen to be dynamic. The balance of power is changing in the EU's favour and long-established sureties are being eroded.

I have explored the Russian response to EU strategizing through examination of Russia's strategic documents. It is clear that Russia is aware of the need to maintain its own version of energy security. Strategy has been shown to remain focused on hydrocarbon sales and is manifested by the completion of the Power of Siberia line to China together with improvements in other eastern focused gas infrastructure. I have contested the idea that China will become Russian energy's 'new Europe'. It has been demonstrated that the Chinese leadership is aware of geoeconomics and will not allow one energy supplier to achieve primacy. Further it has been shown to be capable of leveraging its position as 'monopoly buyer' to exert its own influence over suppliers of pipeline gas. Thus, Russia is forced to accept 'junior partner' status in the energy relationship. That Russia is unable to develop an energy strategy beyond 'selling more hydrocarbons' is due to the close relationship between its economic and political elites, both of which benefit from the domination of the energy sector in a 'primitive economy'. I have shown that there is truth in Senator Graham's accusation that the Russian political economy is "just an oil and gas

company masquerading as a country". Moreover, that the leaders of the Russian 'petrostate' fear and block the reforms needed for its modernisation.

In conclusion, I have demonstrated that a 'dangerous interdependence' exists between Russia and the EU, and that the danger is greater for Russia. Russia is seen by many analysts as a power in decline. EU energy strategy has the potential to hasten that decline. Russia's energy relationship with the EU has embedded the position of those who benefit from hydrocarbons at the centre of the Russian state. Drastically declining state revenues will have dramatic effects on the Russian population *and* its leadership. Russia's relationship with competing powers may change. Currently Russia is both an energy superpower and a military one. When a power declines relative to its peers Thucydides' Trap informs us that on the historical record, war is more likely than not. The ability of the Russia, and its geostrategic rivals, to manage its decline is a strategic question that has the potential to shape the 'security landscape' of the 21st century.

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Appendix 1. A Geoeconomic Typology

Geopolitical theory's contribution to the study of inter-state relations is the linking political power to geographical space. From a realist perspective, the *ultima ratio* of geopolitics is military power.[37] By contrast, geoeconomic theorists emphasise the importance of economic capability in influencing neighbouring states. Geoeconomic influencing can range from the mutually beneficial trade of 'Kantian' liberal theory to Clausewitzian "war by other means" (Huntingdon, 1993). In contrast to conventional geopolitics backed by armed force, geoeconomic strategy can be more covert and thus deniable. Its effects on targeted states or alliances can be centrifugal and less likely to provoke balancing or alliance bandwagoning (Vihma and Wigell, 2016). A state may favour geopolitical or geoeconomic forms of power projection; or deploy a fusion of both as evidenced by Russian policy directed towards Ukraine.

[37] For the principals of realist thought see Waltz, K. *Theory of International Politics* (New York: Random House, 1979), Mearsheimer, John, J, *The Tragedy of Great Power Politics* (New York: WW Norton, 2001)

In a 2015 study of power projection by regional powers Wigell offers a typology of four ideal-type geoeconomic strategies: neo-imperialism, neo-mercantilism, hegemony and liberal institutionalism. A state's propensity to employ them will depend on its means (its economic regional primacy) and the strategic frame through which it conducts its relationship with neighbouring states. The latter is defined as "the beliefs, values and ideas that shape a polity's geostrategy" (ibid, p.5). President Putin's Russia is offered as an exemplifier of a country with a 'competitive' strategic frame seeking to make, zero-sum, relative economic gains. Germany by contrast is described as having a cooperative strategic frame where economic gains are used and pursued as an end to themselves with foreign trade policies emphasising common goals.[38]

Neo-imperialist strategies are essentially deployed by powers not only as a way to pursue economic objectives but also to create an 'informal empire'.[39] The emphasis is not on imperialist territorial control but on shaping an economic structure that fosters dependency and compliance. Russian energy policy as directed at countries in its near abroad is used by Wigell as an exemplar of neo-imperialist strategy. *Neo-mercantilist* strategies are not employed for direct geopolitical purposes but denote an economy focused notion of realism in term of zero-sum competition for resources or markets. These are attractive to states that define their national interest foremost in economic terms, essentially 'trading states'. Such policies could include the seeking of energy import monopolies in countries sufficiently powerful to resist coercive neo-imperialism. *Hegemonic* strategies deploy economic power as a means to uphold leadership without resorting to coercion. Gains are seen as mutual. American 'economic nudge policies' designed to encourage consumption of American LNG in Europe fall into this category[40]. Wigell considers the EU to operate a "quintessential hegemony strategy", relying on its "formidable economy to aid its attempts to export its policies to its neighbours" (2015, p.14). *Liberal-institutionalist* geoeconomic strategies are not pursued in aid of geoeconomic goals but rather denote an economy orientated idea of foreign policy idealism. States employing such strategies do not seek to convert economic

[38] Here, Wigell introduces liberal concepts of beneficial economic interdependence into the theory of geoeconomic strategy.

[39] For a historical contrast between traditional empire and informal empire, see Ferns, H.S, "Britain's Informal Empire in Argentina, 1806-1914". *Past and Present*, Volume 4, November 1953, pp. 60-75.

[40] Critics of sanctions imposed on Nordstream 2 would suggest that US policy towards the EU also contains neo-mercantilist strands (Rumer, interview with author, 2020).

power into political leadership. Rather, this is passed to institutions, or at least subtly exerted through them. German relations with the EU and NATO are an exemplifier.

Appendix 2. A Geostrategic Model

I have created the, below, ideal-type model (figure A1) to show how geoeconomic strategies pertain to the interdependencies of the European gas market. The model illustrates countries' relative strategic positions and opposing strategic directions. The 3 coloured lines represent routes of travel. The red line is desirable to Russia, where the EU is strongly influenced. Here, Russia can act in a neo-imperial manner towards a significant number of EU countries and exert neo mercantilist influencing on others. The amber line represents where those opposed to Nordstream 2 consider the EU is today, mainly vulnerable to neo-mercantilist policies. The blue line represents movement towards an 'influence free' EU ideal. The red arrow represents Russian gas geoeconomic strategy. It aims to push the EU towards the 'Russian ideal', thus narrowing gap A. The potential completion of Nordstream 2 is seen by its critics as helping to close this gap. The blue arrow represents EU strategy, an effort to reduce dependence, thus widening gap B.

The lower third of the model is divided into two sub-zones: 'hegemonic influence' and 'influence free'. Above the dotted line hegemonic influence is placed upon the EU's energy policy to favour the consumption of more American LNG. The European Commission's

strategy is to push below the dotted line. In this scenario the EU's energy security is such that it is no longer vulnerable to geoeconomic policies from energy suppliers.

That the lines slope downwards left to right illustrates that dependency on Russian gas and consequent exposure to Russian influence will *generally* weaken over time and *generally* declines from east to west. This is evidenced by analysis in the body of this paper. States grouped on the left are seeking to increase energy security and so move to the right. An 'eastern' state can achieve this through investment in energy infrastructure. Of course, A Polish LNG terminal or an Estonian solar project does not alter geography. Rather, it moves the states away from the geoeconomic influence of Russia and towards the more 'western' position where energy supply choices are greater.

Figure A1. Influence Model