



THE OXFORD
INSTITUTE
FOR ENERGY
STUDIES

A RECOGNIZED INDEPENDENT CENTRE OF THE UNIVERSITY OF OXFORD



Russia's International Energy Diplomacy

James Henderson

April 2017

Energy at the core of Russian diplomacy

India



Europe



Turkey

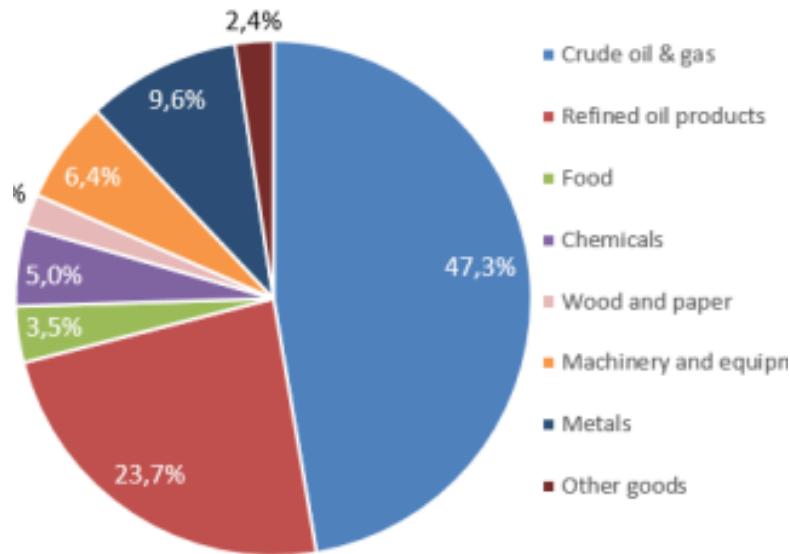


China

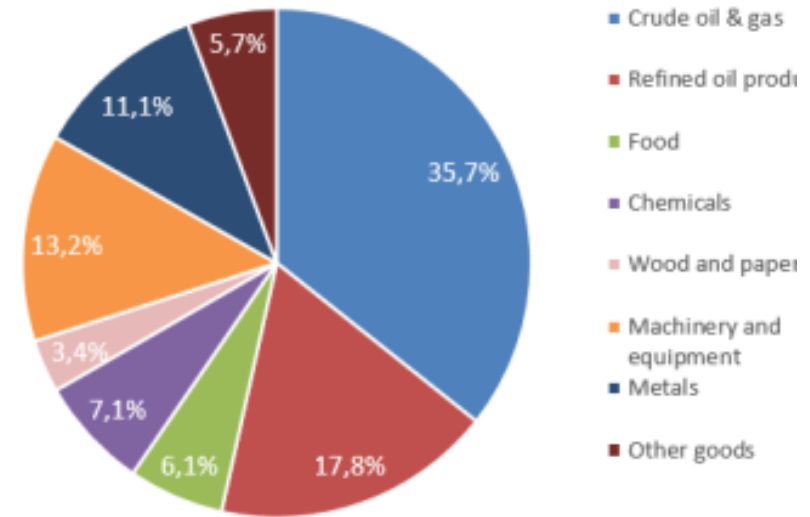


Russia's exports by product

December 2013



December 2015



- The share of energy is large, but declining
- Oil, gas and refined products account for 54%, down from 71% in 2013

Russian economy remains closely tied to oil revenues

FIGURE 3. CHANGES IN RUSSIA'S GDP GROWTH VS. CHANGES IN WTI OIL PRICE (CURRENT USD)

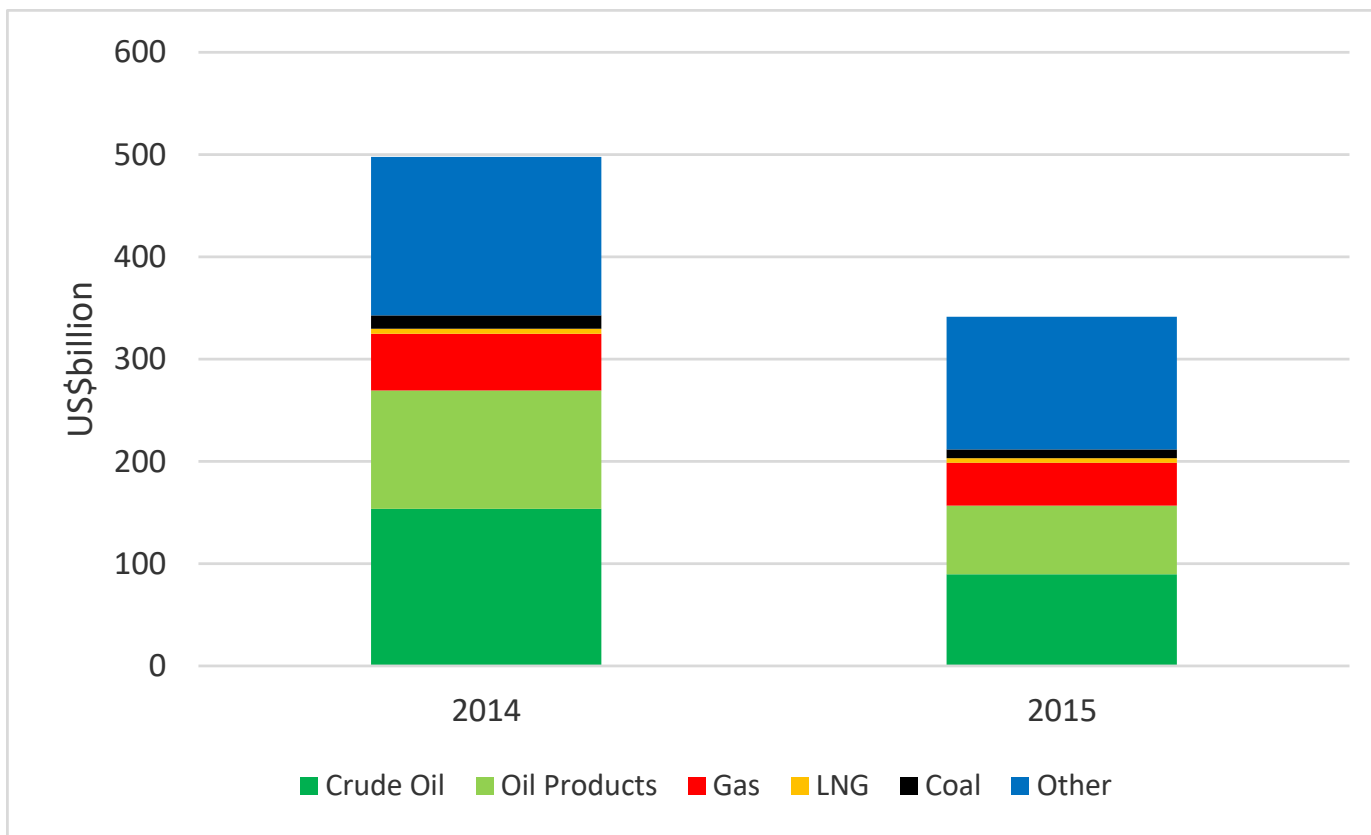


- The Russian economy has always been very reliant on oil and gas revenues
- GDP has been tightly correlated to the oil price (as has the Russian stock market)
- Political power is closely tied with the ability of the oil and gas sector to fund social and military spending



Oil is a key commodity for revenue generation and so it's political power is limited

Russian Budget Revenues By Source



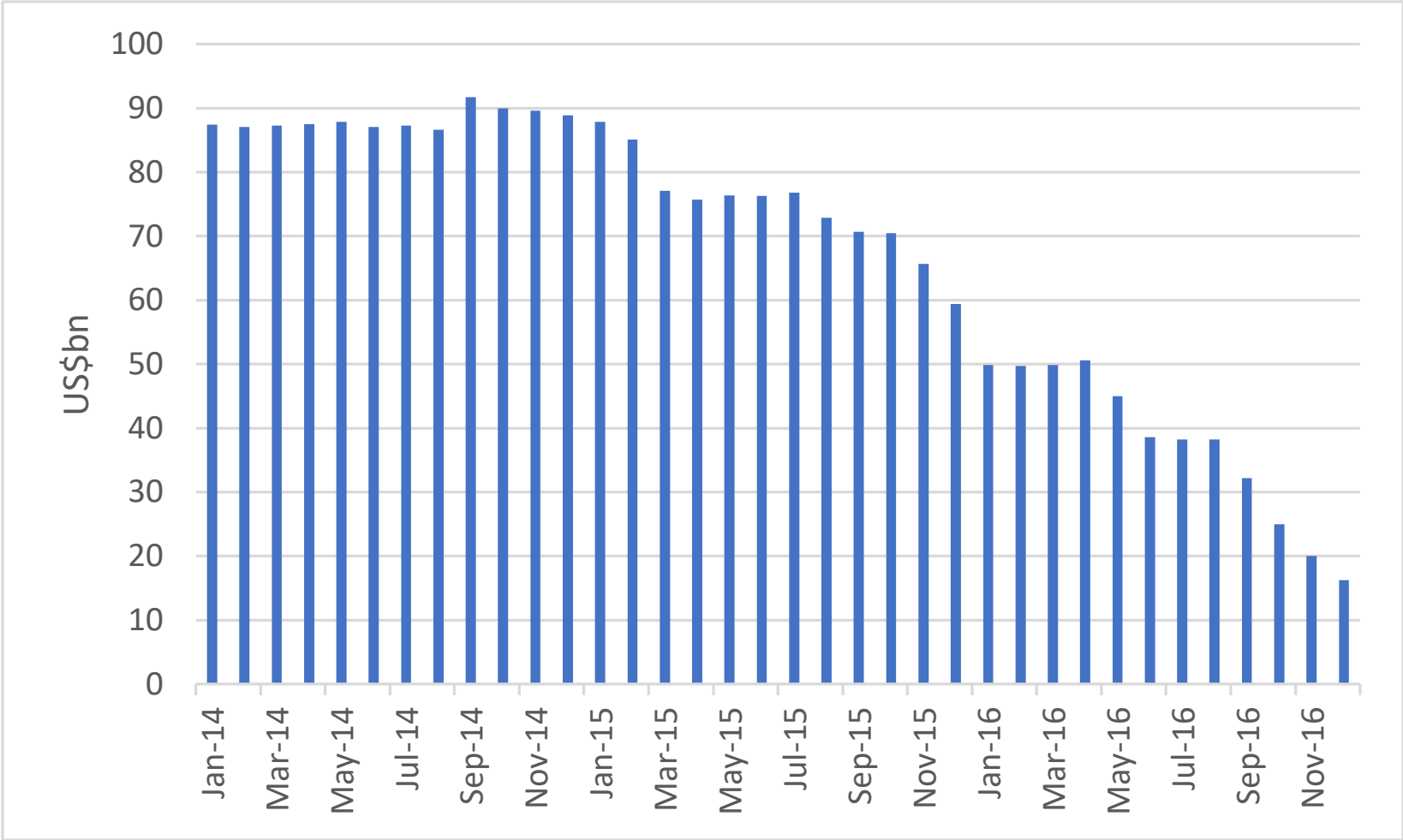
Source: Russian Customs Service

Dramatic decline in 2015 obviously due to fall in oil and gas prices



The Russian government has been hit hard by a lower oil price, underlining the reciprocal nature of the “energy weapon”

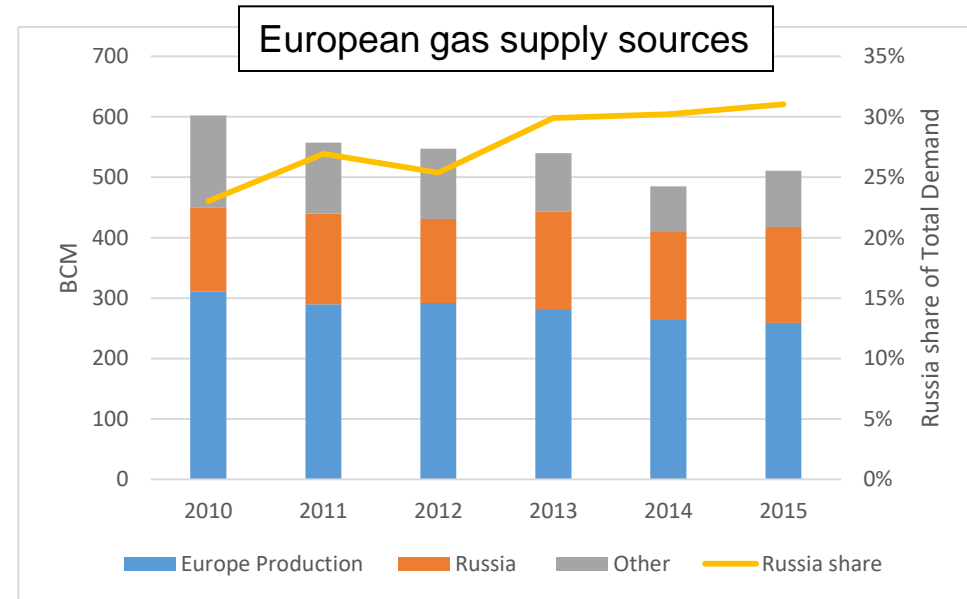
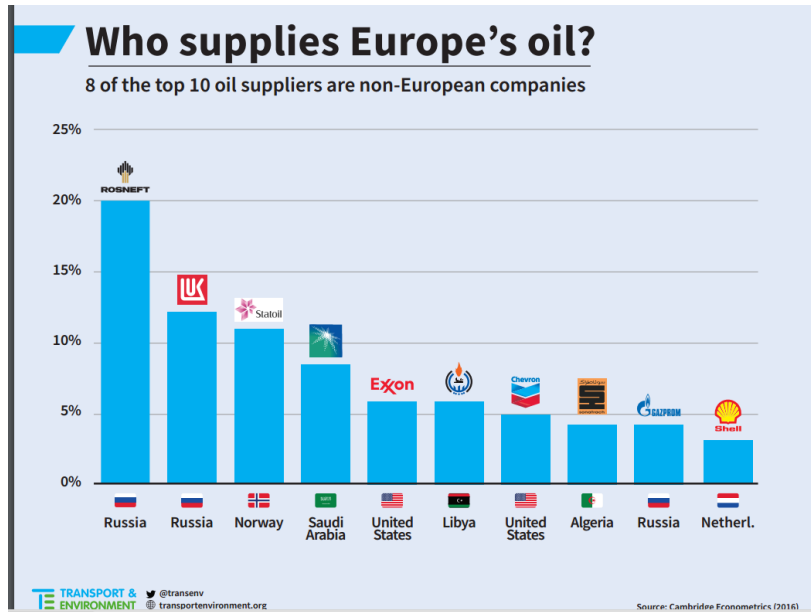
Reserve Fund nearing exhaustion



Europe remains Russia's largest export market for oil, gas and coal

Russia the biggest supplier of oil...

...and gas to European market

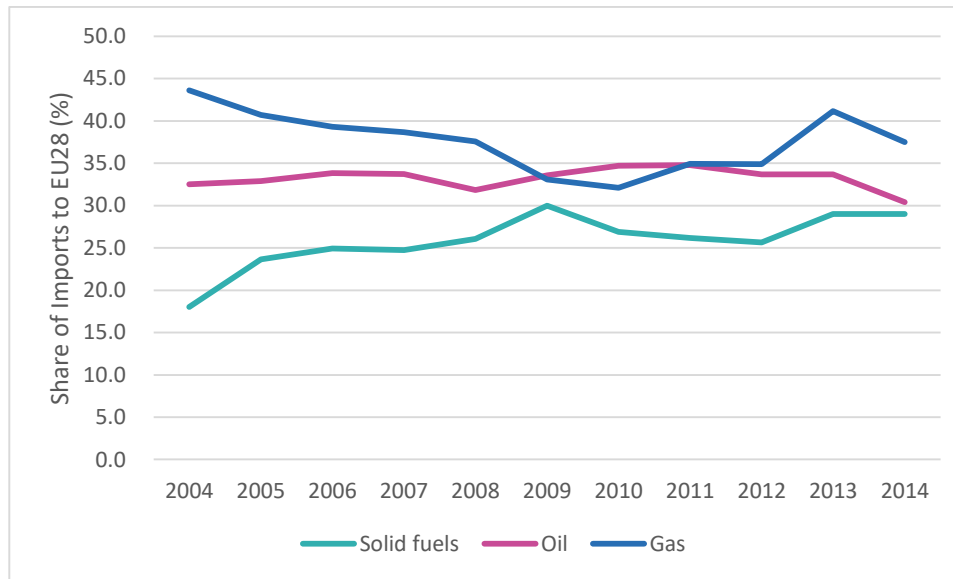


- Russia has been the largest supplier of oil imports to the EU for the past decade and provided more than 30% of non-indigenous supply in 2014
- Russia and Norway are the largest exporters of gas to the EU – Russia accounts for 31% of demand and two thirds of imports (excluding Norway)
- Russia overtook South Africa as the largest external supplier of coal to the EU in 2006 and now provides 29% of imports



Russia has the largest share of imports to EU28

Russian share of imports to EU28



- Russia overtook South Africa as the largest external supplier of coal to the EU in 2006 and now provides 29% of imports
- Russia has been the largest supplier of oil imports to the EU for the past decade and provided more than 30% of non-indigenous supply in 2014
- Russia and Norway are the largest exporters of gas to the EU – Russia accounts for 38% of imports while Norway accounts for 32%

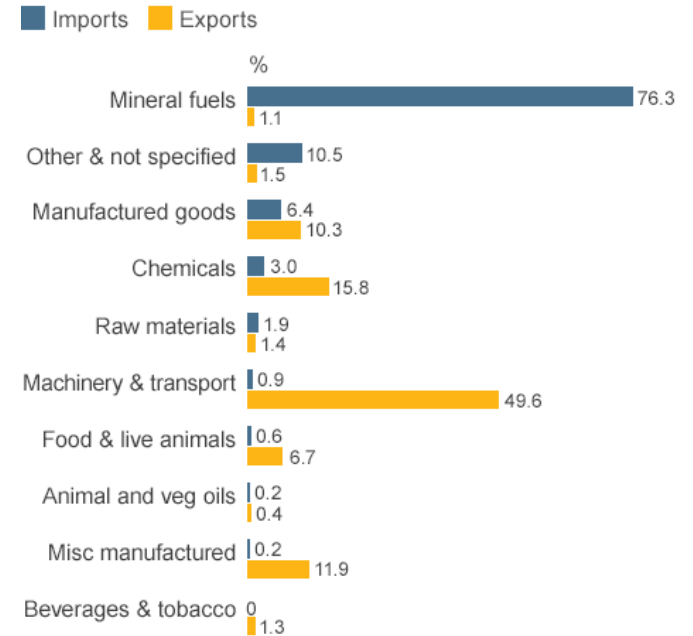


Russia's economic relationship with the EU is of vital importance



Eurostat 2014 data

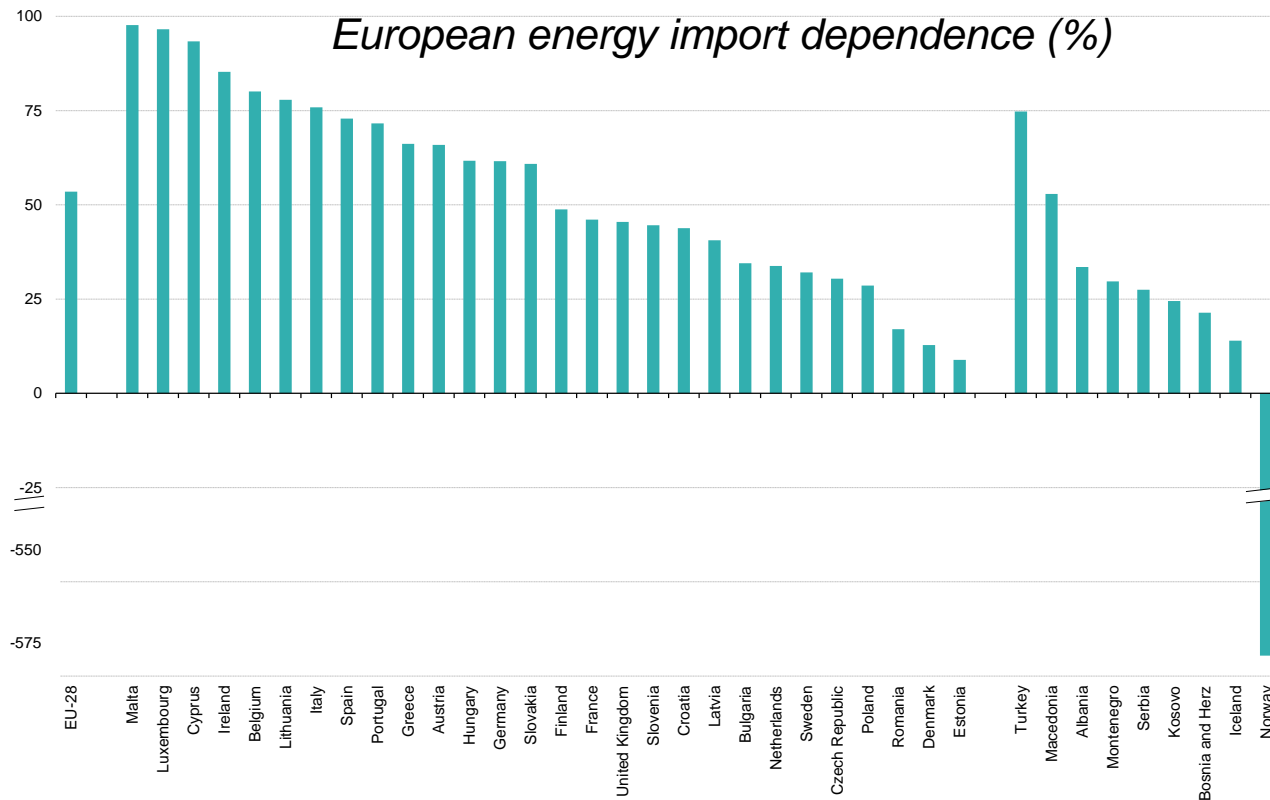
EU imports from and exports to Russia



Source: Eurostat

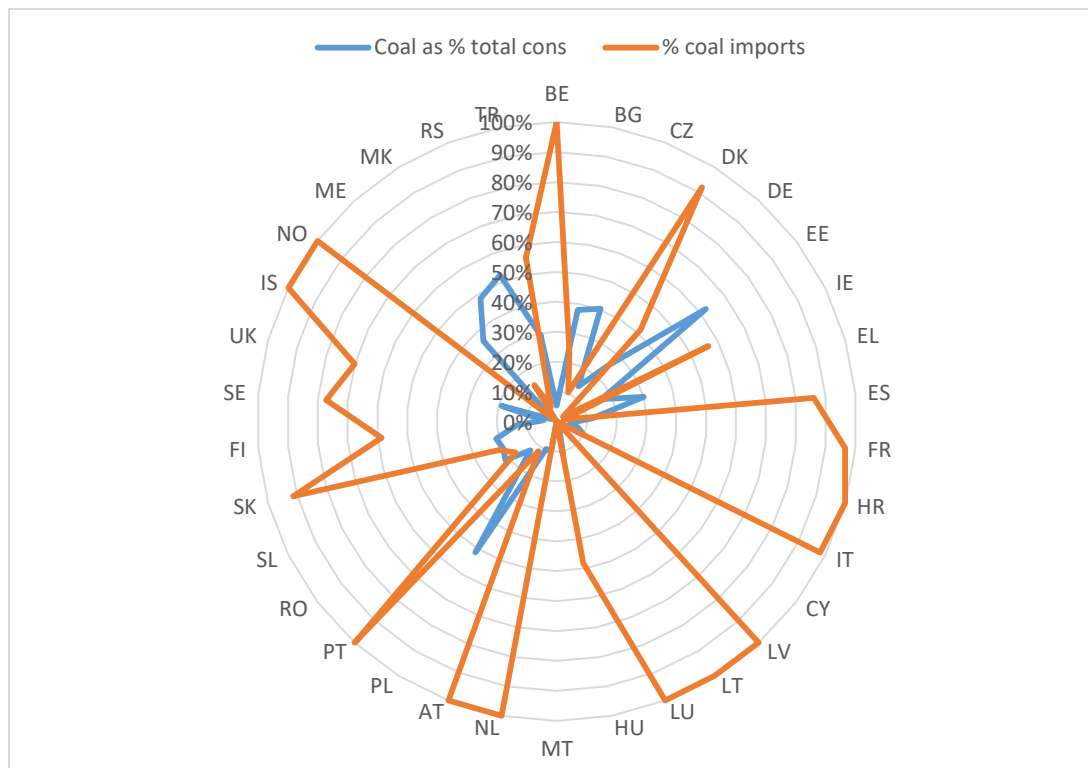
- Russia's relationship with the EU remains its most important trading interaction by far
- Exports of mineral fuels dominate that relationship, accounting for more than three quarters of revenues
- Clearly the dependency is two-way, other than in the very short term

European energy import dependency



- Overall import dependency is mainly related to hydrocarbons
- It has risen from c.45% in 2000 to 53% in 2014
- Norway also has a significant net export trade in hydrocarbons
- More than half the EU countries are dependent on imports for more than 50% of their hydrocarbon needs

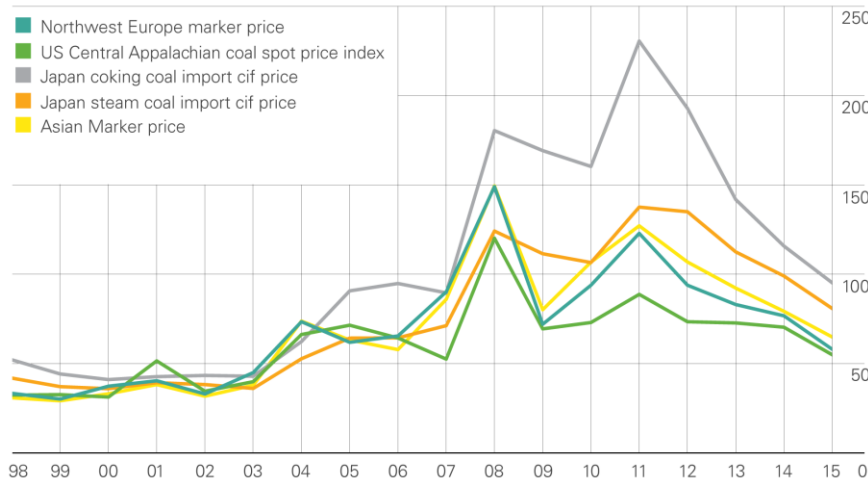
EU reliance on coal imports – demand located in producing countries



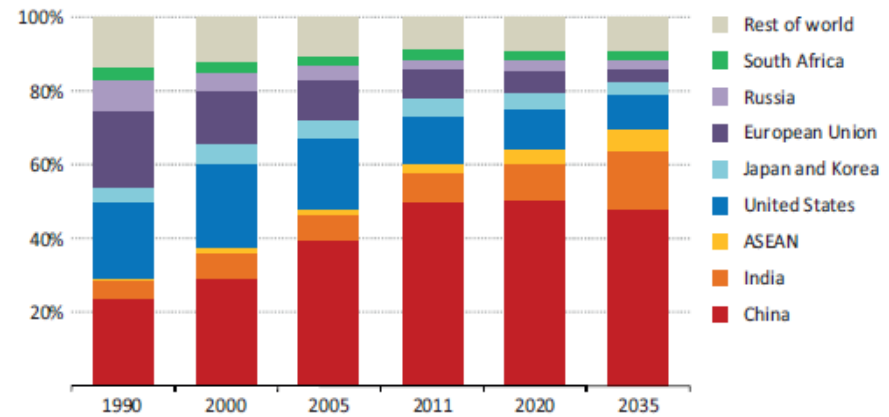
- In general the countries with a higher exposure to coal in their energy economy are less reliant on exports
- This implies a higher level of domestic production and a lower security of supply risk
- The major exceptions to this would appear to be the UK and Slovakia

Coal is a global commodity – EU becoming less important

Comparison of coal export prices (\$/t)



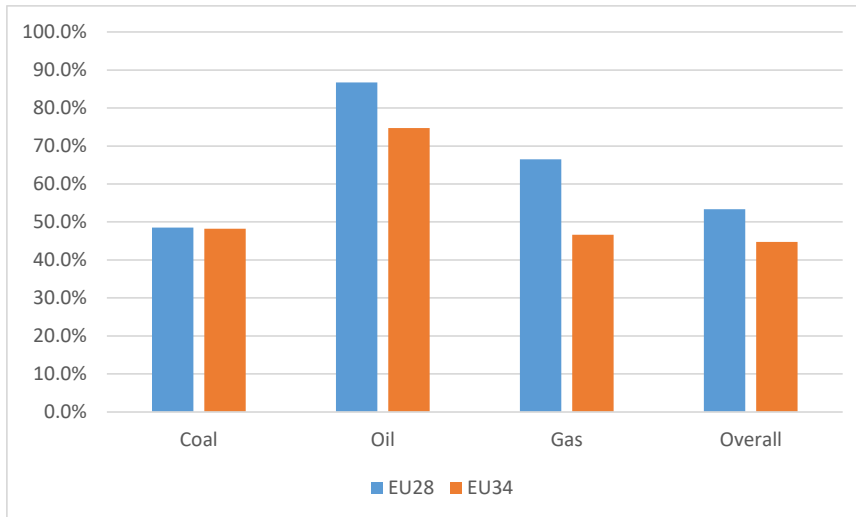
Share of global coal demand



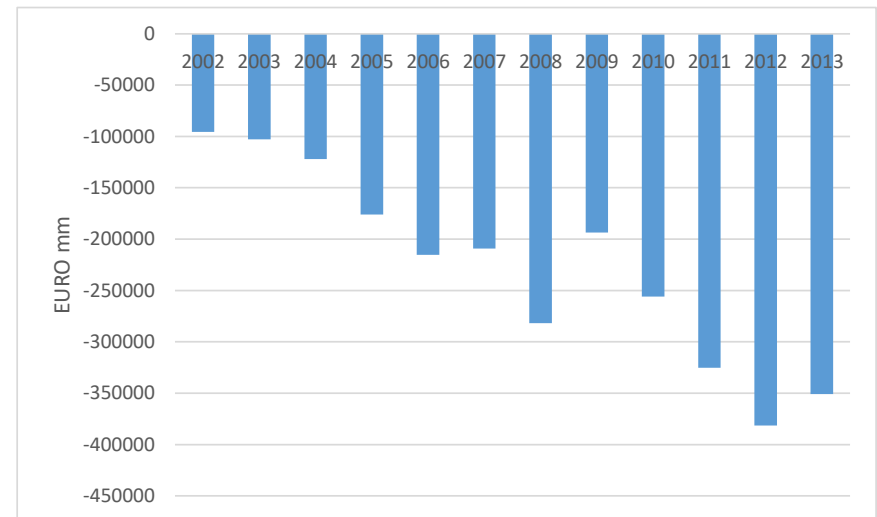
- Coal prices are set in a global market and appear fungible between regions
- The Russian export price moves in line with global trends, although at something of a discount
- The EU's share of the global market is in decline, and so prices will increasingly be related to the Asian market
- Although coal is diminishing in importance, any countries remaining reliant on it could be more exposed to potential security of supply risks

Oil and gas the major issues

Energy import dependence by fuel



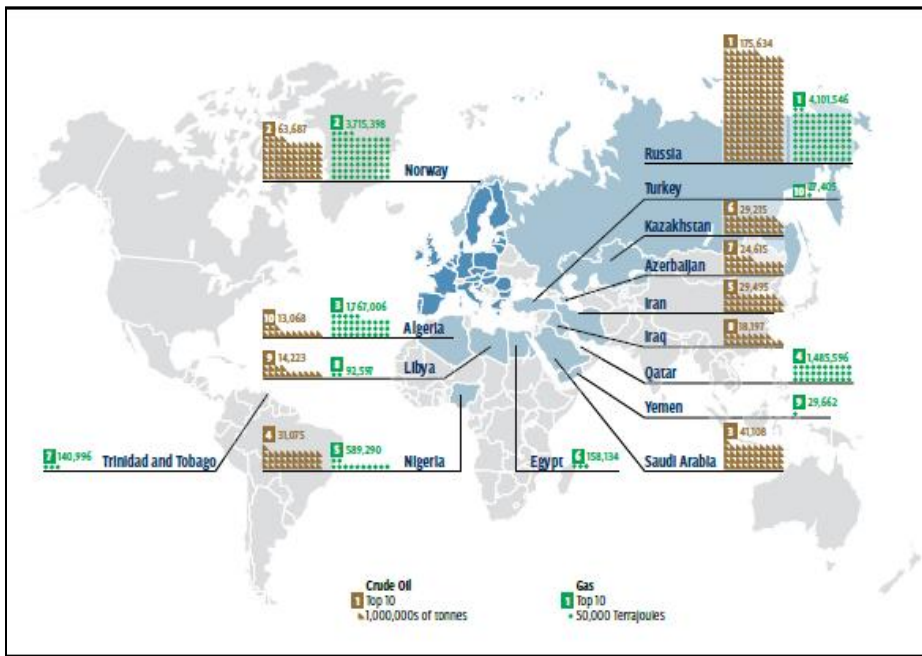
Energy trade balance (euro mm)



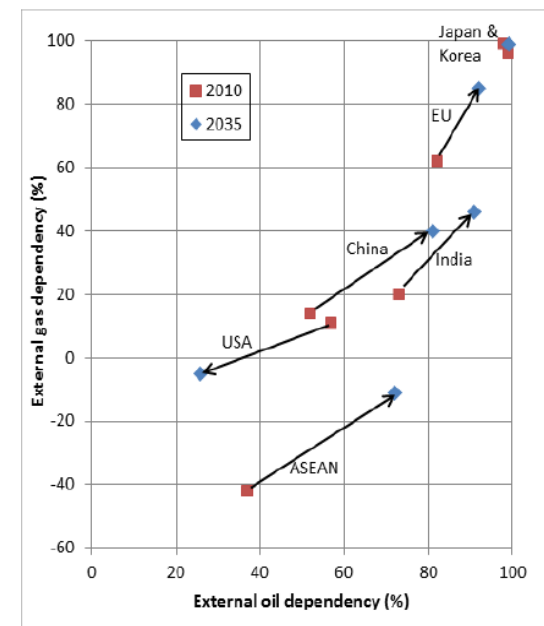
- More than 85% of the EU28's oil needs are imported (falling to 75% if Norway is included)
- Two thirds of gas consumption is also imported (47% with Norway)
- Rising commodity prices have cause a sharp rise in the region's energy import bill
- From Euro100bn in 2002 it reached a peak of Euro380 billion in 2011 (c.3% of EU28 GDP)

Europe's oil and gas sources and its dependency on them

Europe's sources of oil and gas



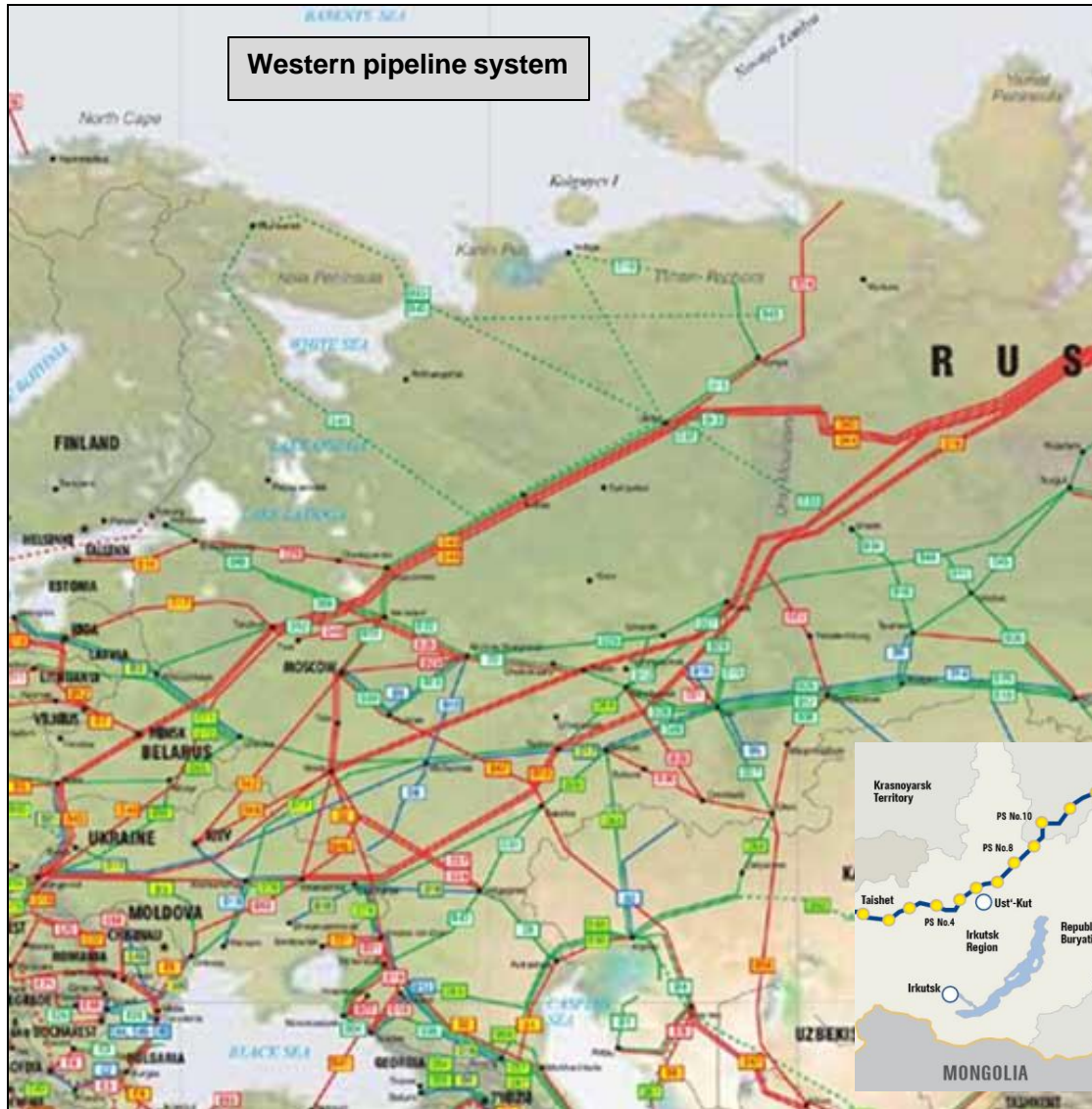
Regional dependency set to rise



- The EU is the second most import dependent region for oil and gas (behind Japan and Korea)
- According to the IEA, dependency is set to rise above 80% overall by 2035
- Only one region (USA) sees a decline in dependency, highlighting the supply risks



Russia's oil export system – pipes and ports remain largely west-focused, but ESPO now providing diversification

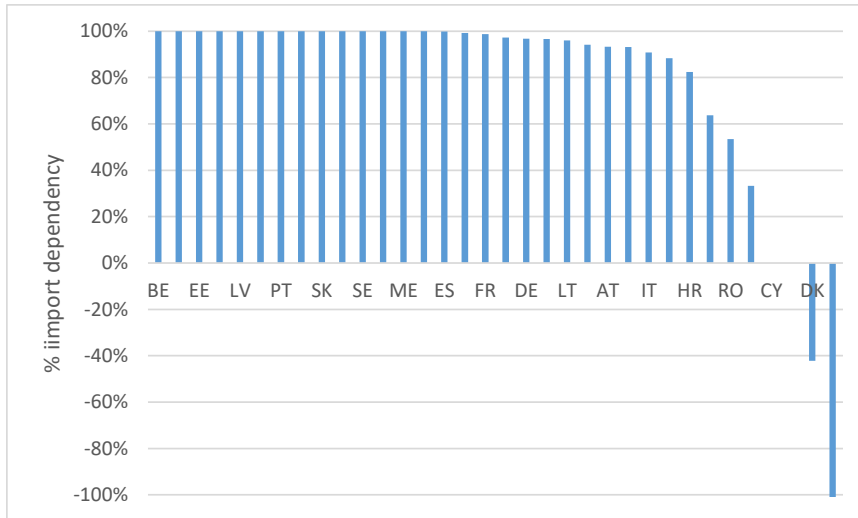


East Siberia Pacific Ocean Line

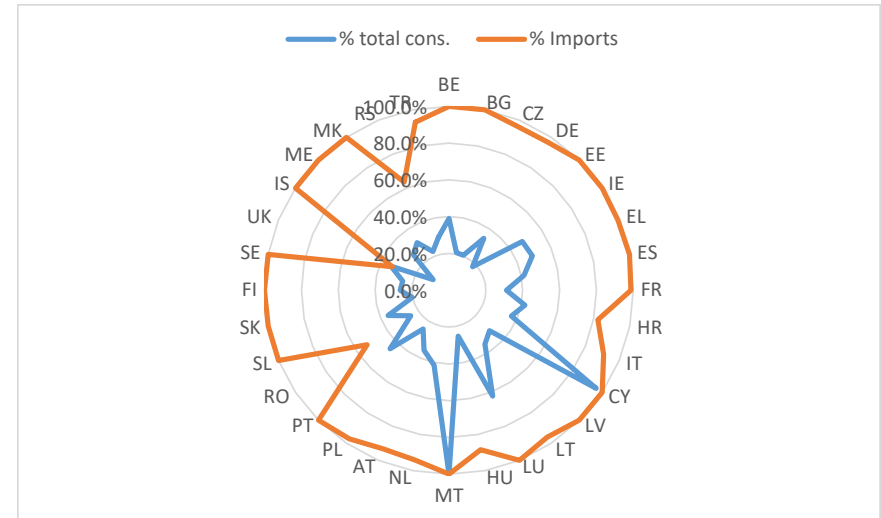


EU dependency on oil imports

EU oil dependency



Dependency versus share of consumption

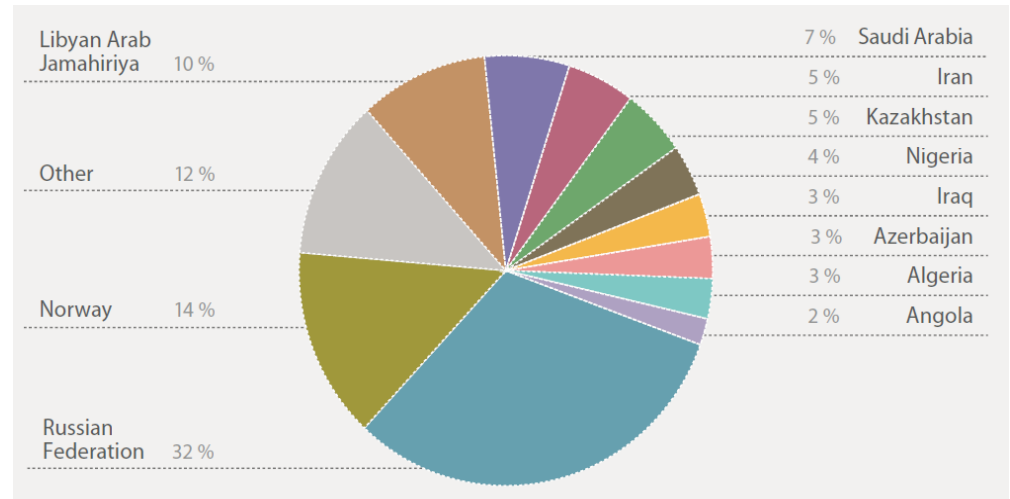


- EU oil dependency is high at 85% overall, with many countries at 100%
- Only two countries in Europe, Denmark and Norway, are net exporters
- The dependency vs. share of consumption ring shows a much greater level of reliance on oil to meet energy demand in many countries

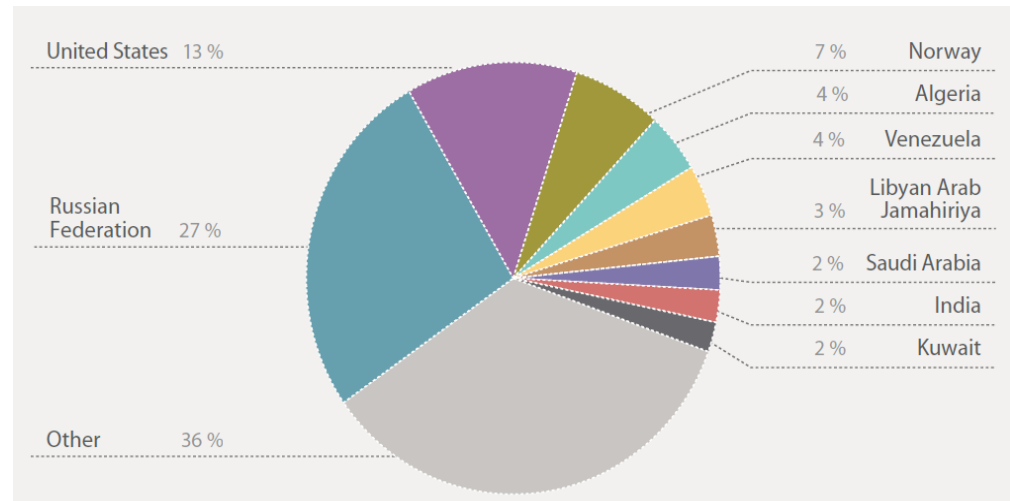
EU has multiple source of oil imports

- EU countries have diversified their sources of oil supply
- Russia is a major component, but the Middle East, Africa, Central Asia and Norway also have significant positions
- Oil products come from multiple sources, depending on refinery locations
- The majority of imports are seaborne – Russia accounts for the majority of pipeline imports
- Exposure to Middle East and North African crude has been the major risk over the past 30 years

Crude Oil Imports to EU (575mm tonnes)

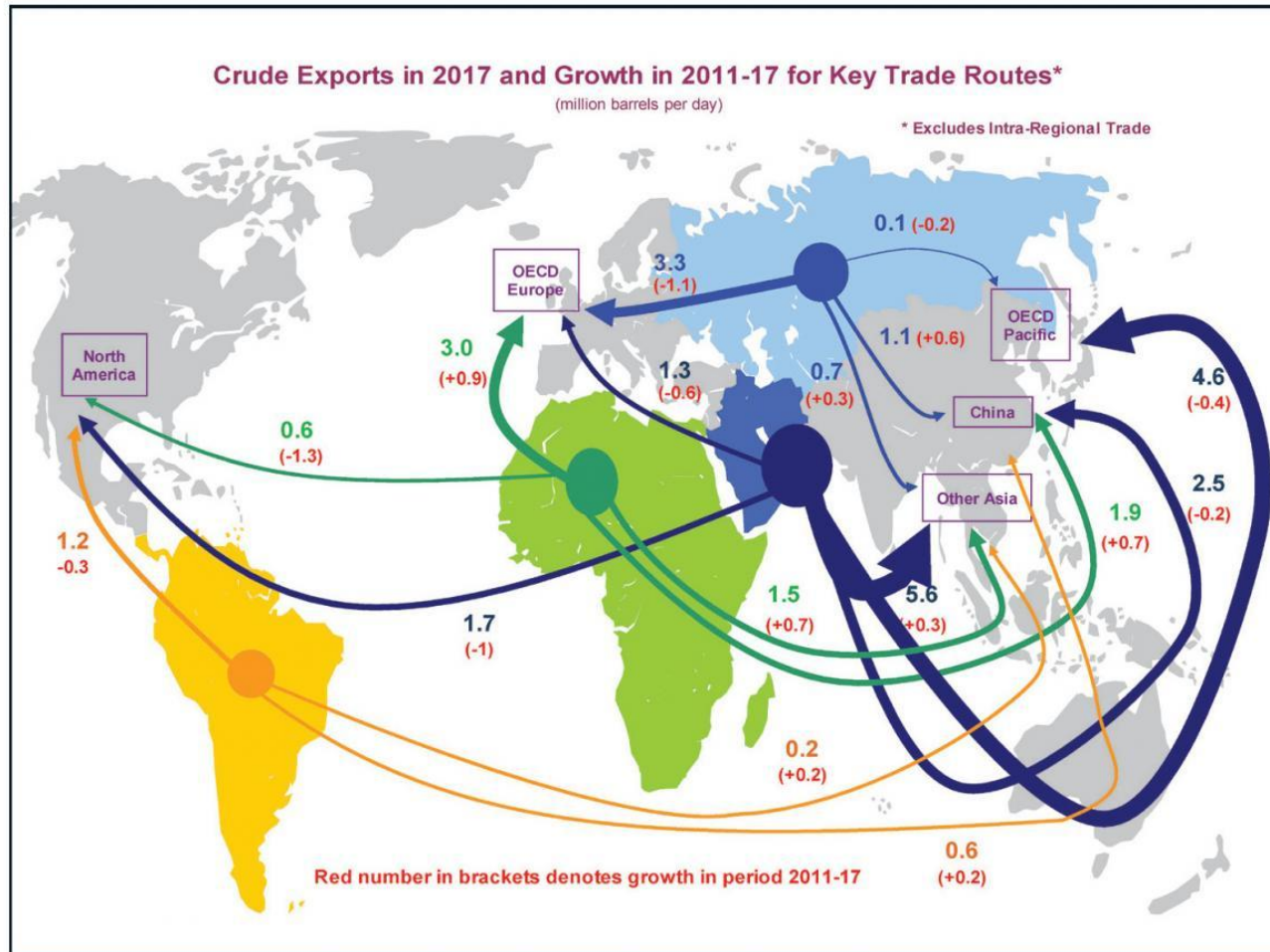


Oil Product Imports to EU (123mm tonnes)



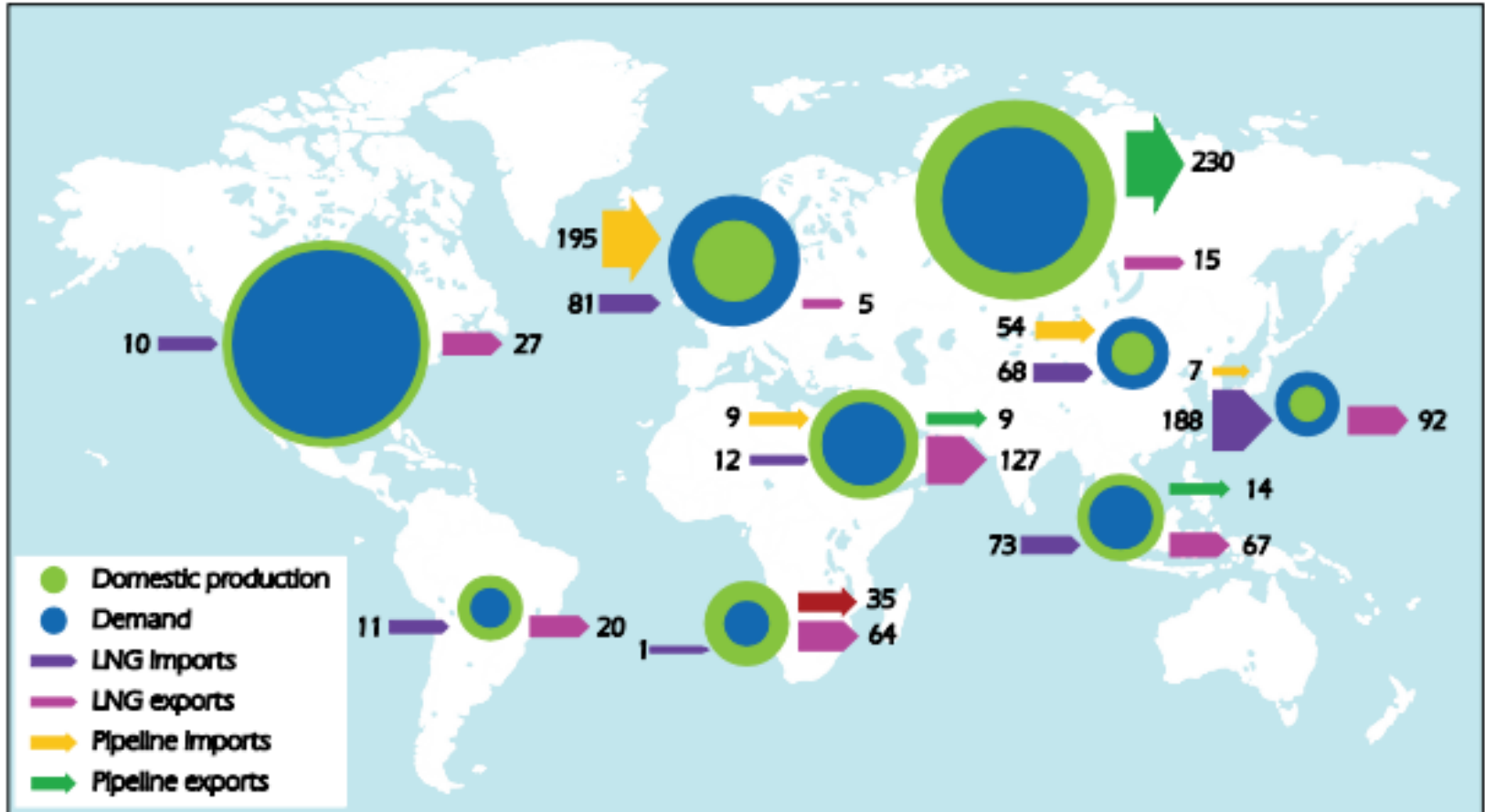
The oil market is too liquid to allow for much political influence

Figure 3: Globalisation of crude trade



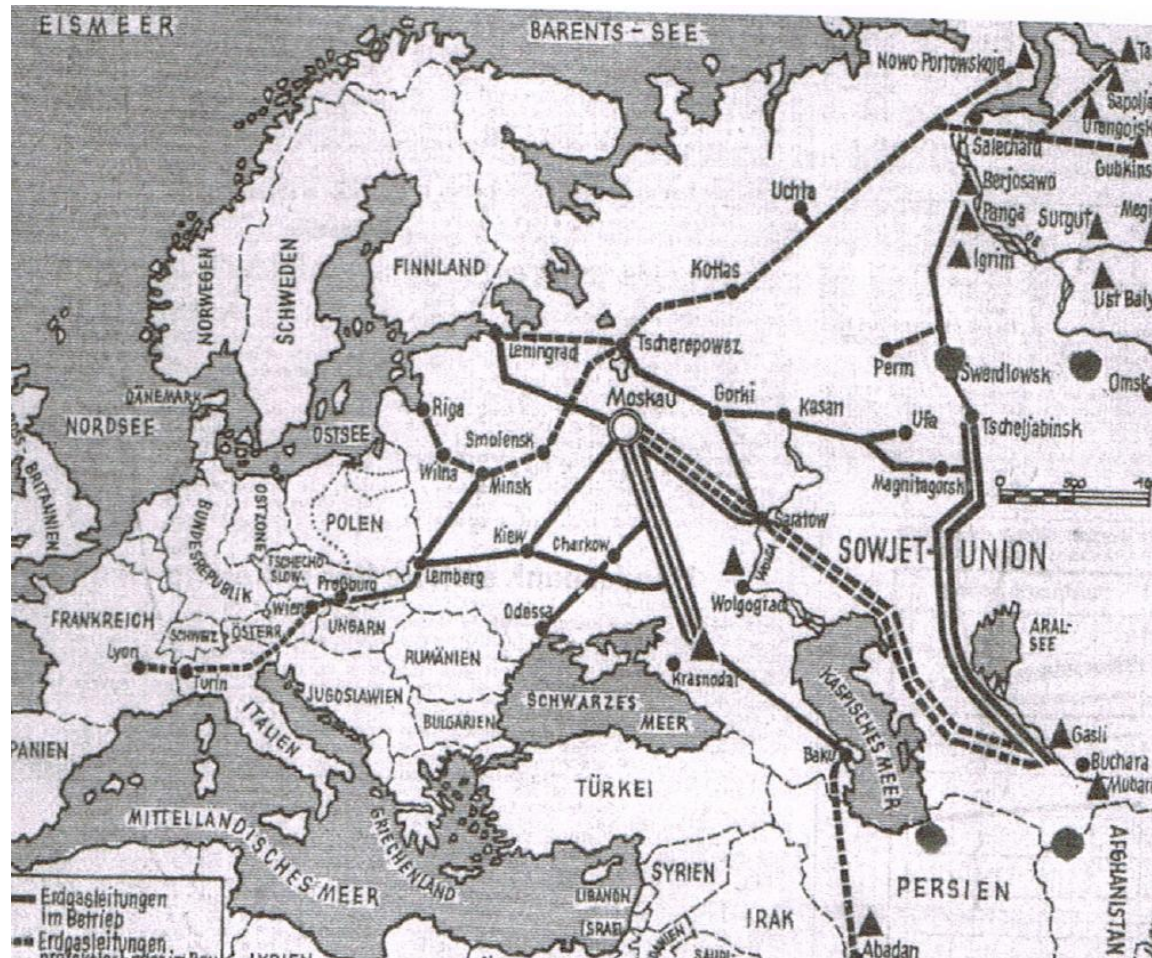
Russia is the largest gas exporter in the world

Map 9 Interregional trade in 2018 (bcm)



This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

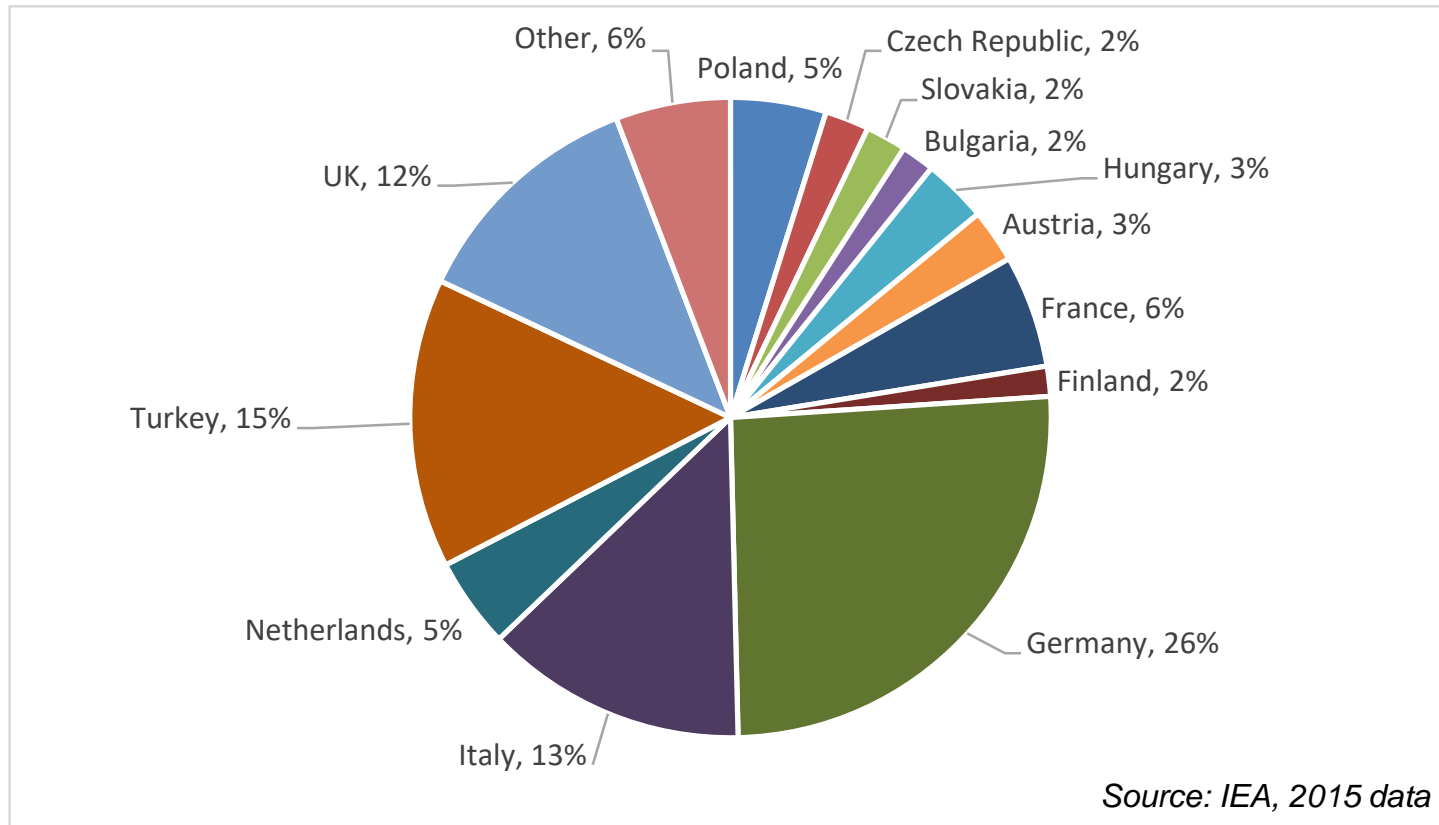
The first Soviet gas to Europe in 1968



- First gas flowed only 2 weeks after the Soviet invasion of Czechoslovakia
- Contract signed with Germany in February 1970
- France followed in 1972, with Finland and Eastern Europe shortly afterwards



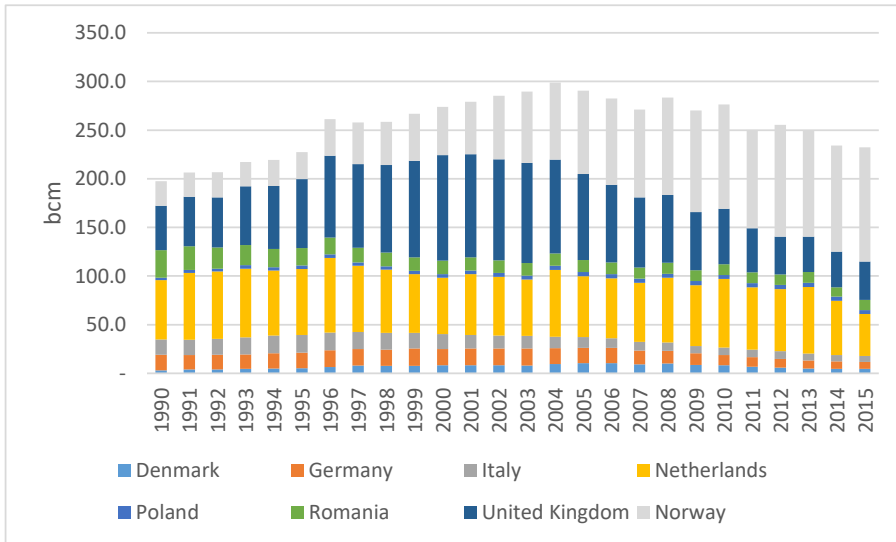
The main buyers of Russian gas



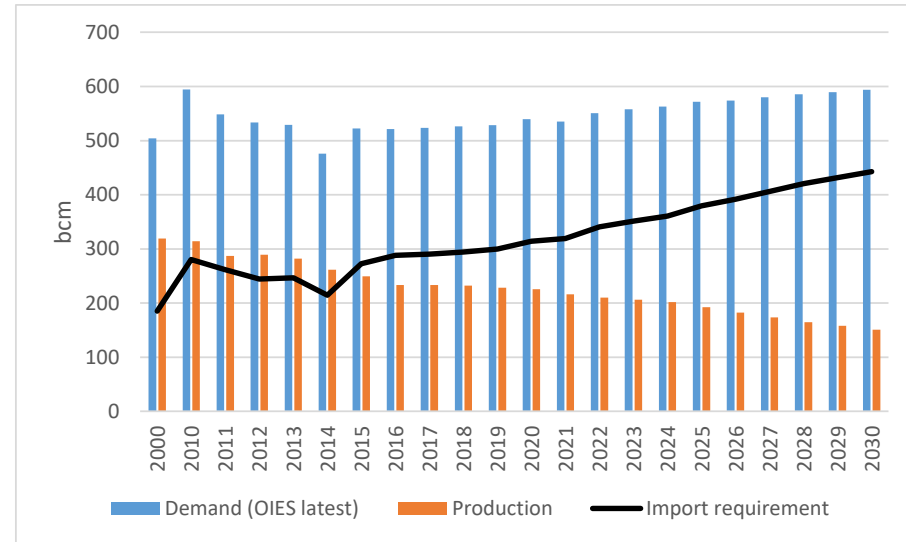
- Almost one quarter of Russian gas exports go to Eastern Europe, where dependency is high due to the Cold War legacy
- Of the West European countries, Germany clearly has the most significant concerns over Russian gas supply

European Gas Production Outlook

European gas production



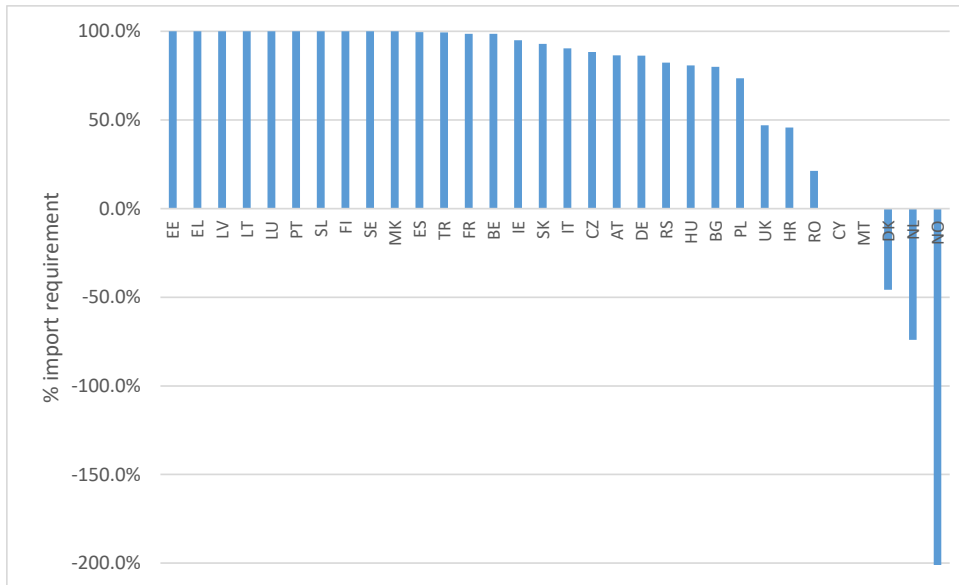
European gas supply/demand outlook



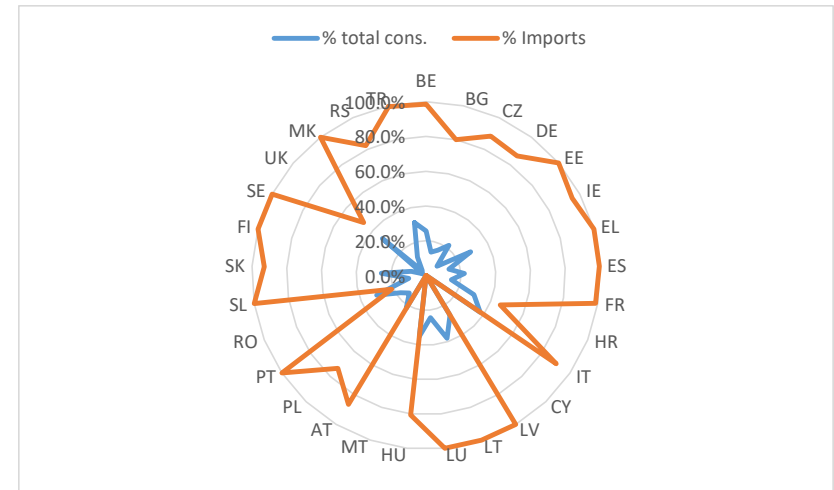
- European gas supply has been in decline for a decade
- UK gas production in particular has fallen sharply, and Netherlands production outlook is now in decline because of issues at Groningen
- Norway is at capacity and has indicated that it has very little room for increasing production in an emergency
- The outlook is therefore inevitably one of increased dependence on imports

European gas import dependency

European gas dependency by country



European gas consumption versus imports



- Gas dependency is the most extreme of all the fuels in the European energy balance – Europe imports 324bcm out of total demand of 485bcm (ex-Norway)
- The majority of countries rely on imports for more than 50% of demand
- Reliance on imports is high in countries that rely on gas to meet a very significant part of their energy requirement
- The majority of imported gas is delivered by pipe, reducing diversification opportunities

Falling Production + Increasing Demand = Increasing Import Dependence

- European gas reserves are “running out” and production will decline in future
- Constant/increasing demand (but not since 2007) means that..
- An increasing proportion of Europe’s gas will need to be imported

EU/OECD projections are that European import dependence will increase from around 33-50% today to 66-80% in 2020-30; Is this a major security problem?



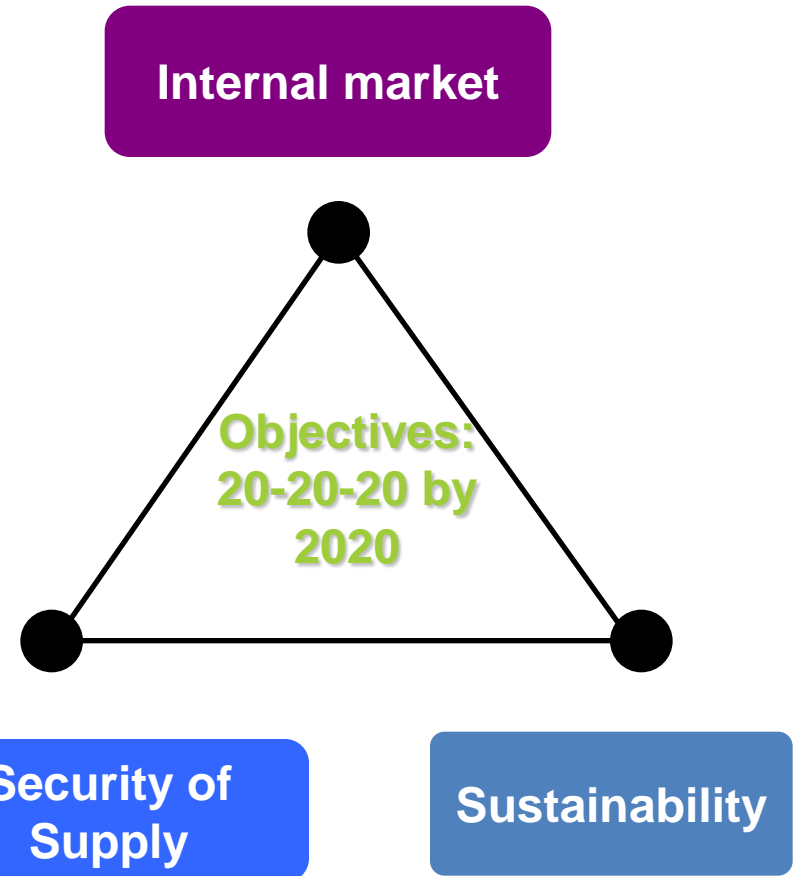
EU Energy policy – the three objectives

Treaty on the Functioning of the European Union

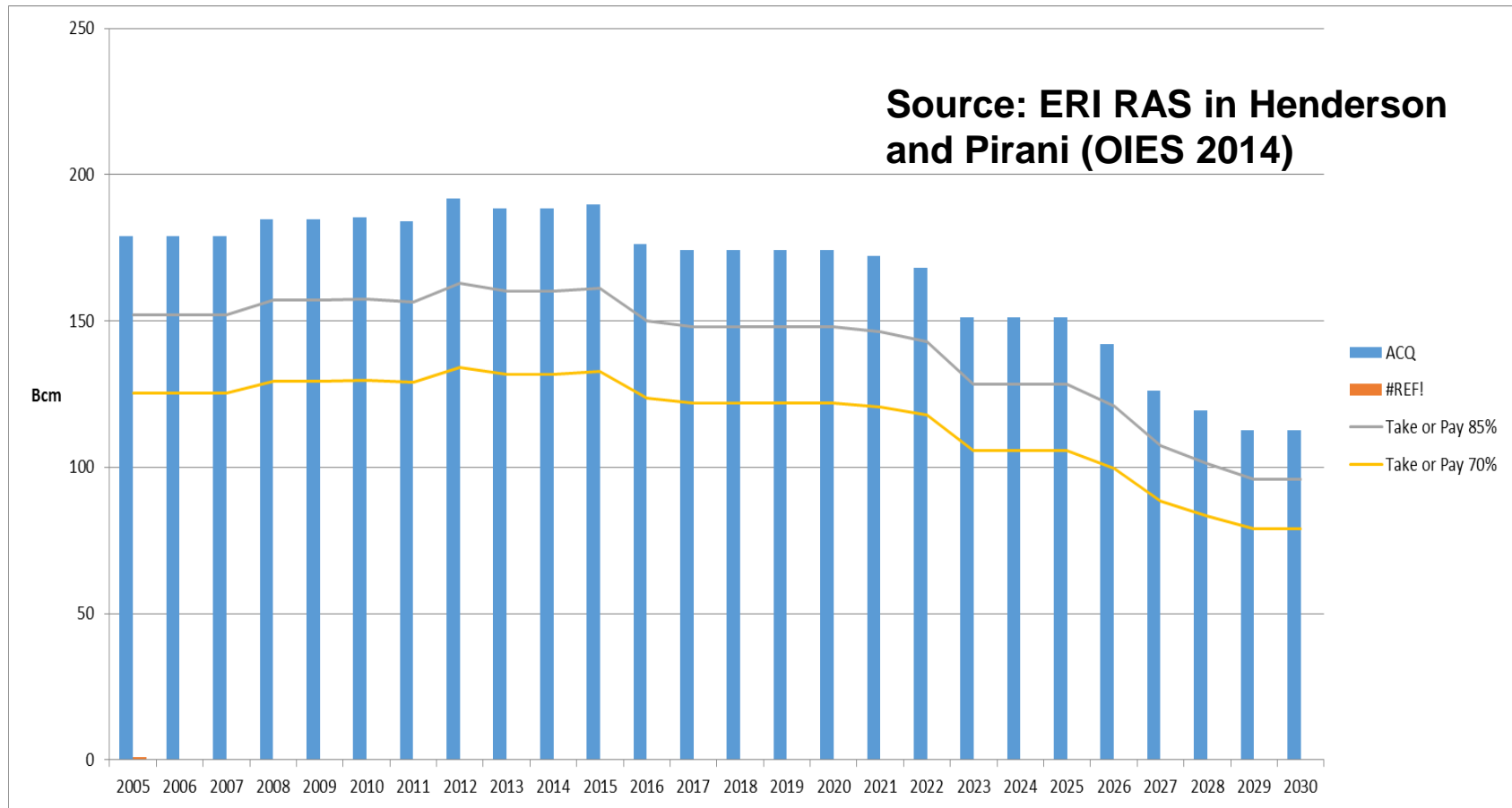
New Art. 194 on energy:

Union policy on energy shall aim, *in a spirit of solidarity*, to:

- Ensure the functioning of the internal market;
- Ensure security of supply;
- Promote energy efficiency and the development of renewable forms of energy;
- Promote the interconnection of energy networks



Gazprom's long term take or pay contracts with European customers to 2030

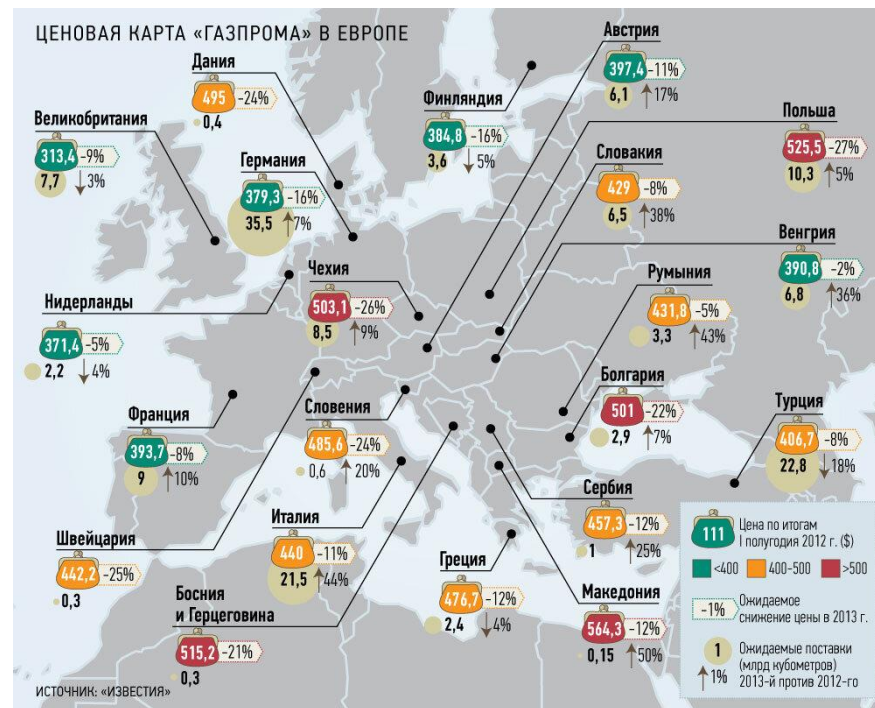
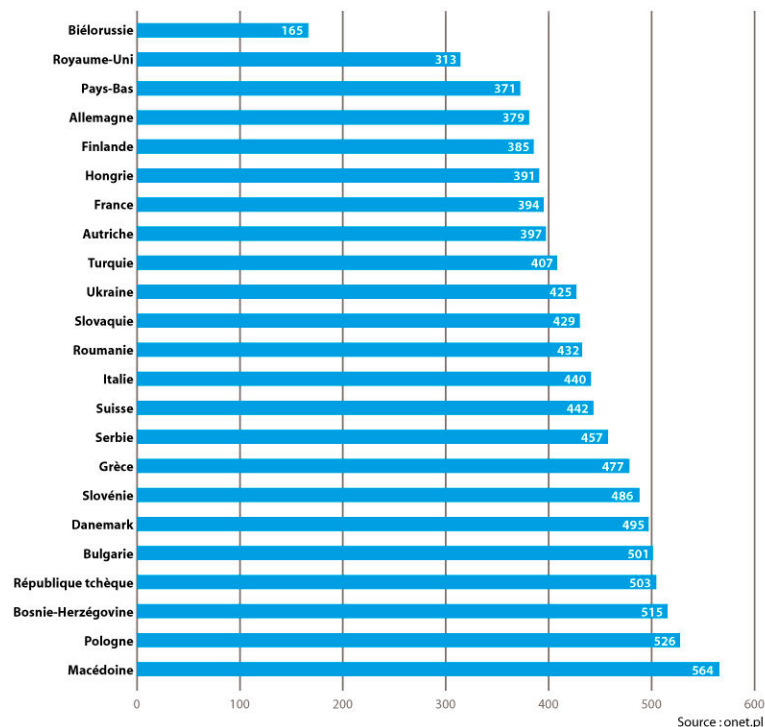


Even at 70% ToP, Gazprom's average annual sales exceed 100 Bcm/year until the mid-2020s



The price of Russian gas varies dramatically across Europe

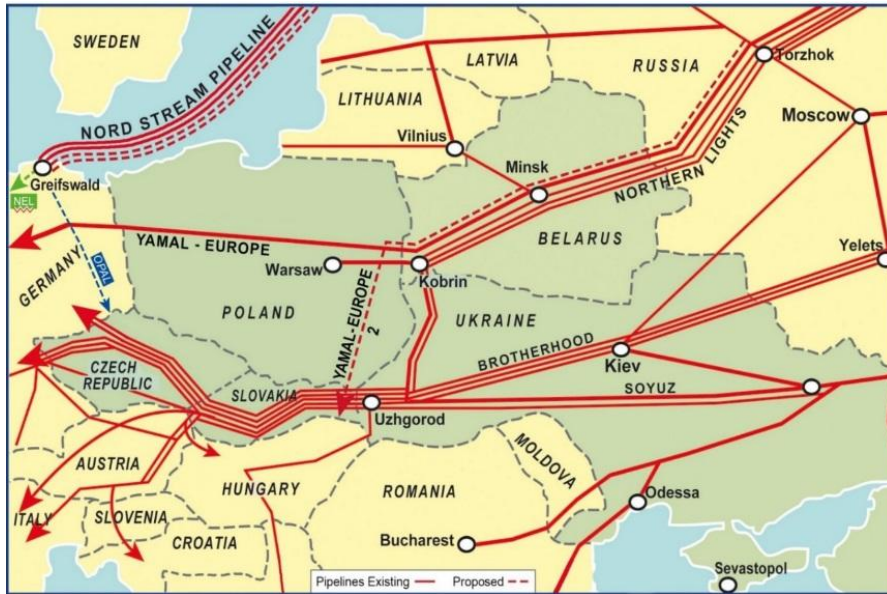
Prix du millier de m3 de gaz russe (en dollars)



- Gazprom prices its gas very differently across Europe and the CIS
- The EU commission has begun an investigation into this pricing policy
- In reality it would appear that Gazprom is acting as a “discriminating monopolist”, pricing its product relative to the alternatives in each country
- This points to the fact that diversity of energy supply is the only way to counteract a powerful market player such as Gazprom

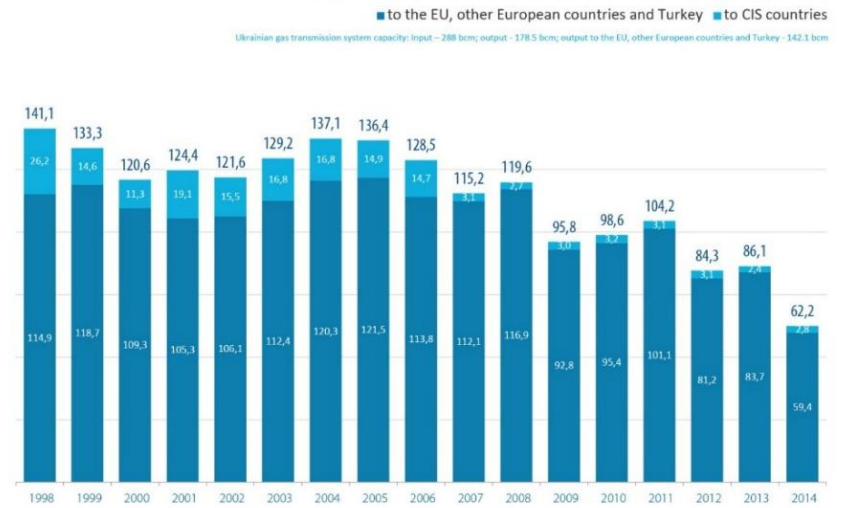


Pipelines carrying Russian gas exports to Europe



Source: OIES

Natural gas transit via Ukraine (bcm per year)



Source: Naftogaz

Ukraine still carries around half of Russian gas exports to Europe. Security of transit across Ukraine remains at risk as no sustainable solution has been achieved to both Ukraine's security of supply and security of transit problems

The Russian 'southern route' pipelines: Turkish Stream, South Stream lite, anything else?



Source: OIES



Source: Platts

- **Ukraine by-pass routes with clear political connotations**
- **However, commercial reality and EU regulation has intervened**
- **Gazprom has been forced to flip flop its plans as it tries to find a way to make its Black Sea plans work**
- **Turkey hardly appears a more reliable partner than Ukraine**

What are the real possibilities to reduce Russian gas deliveries to Europe

- Long term contractual consequences – 00s of billions of € at stake
- European production: Dutch cap in place since January 2014; Norwegian plateau then decline; all other conventional gas in decline
- European unconventional gas?????????
- North Africa: crisis and decline
- Southern Corridor: 10 Bcm maximum by 2020
- LNG from a variety of sources (including North America): will depend on global demand and price

Russian volumes look secure for at least 10 years

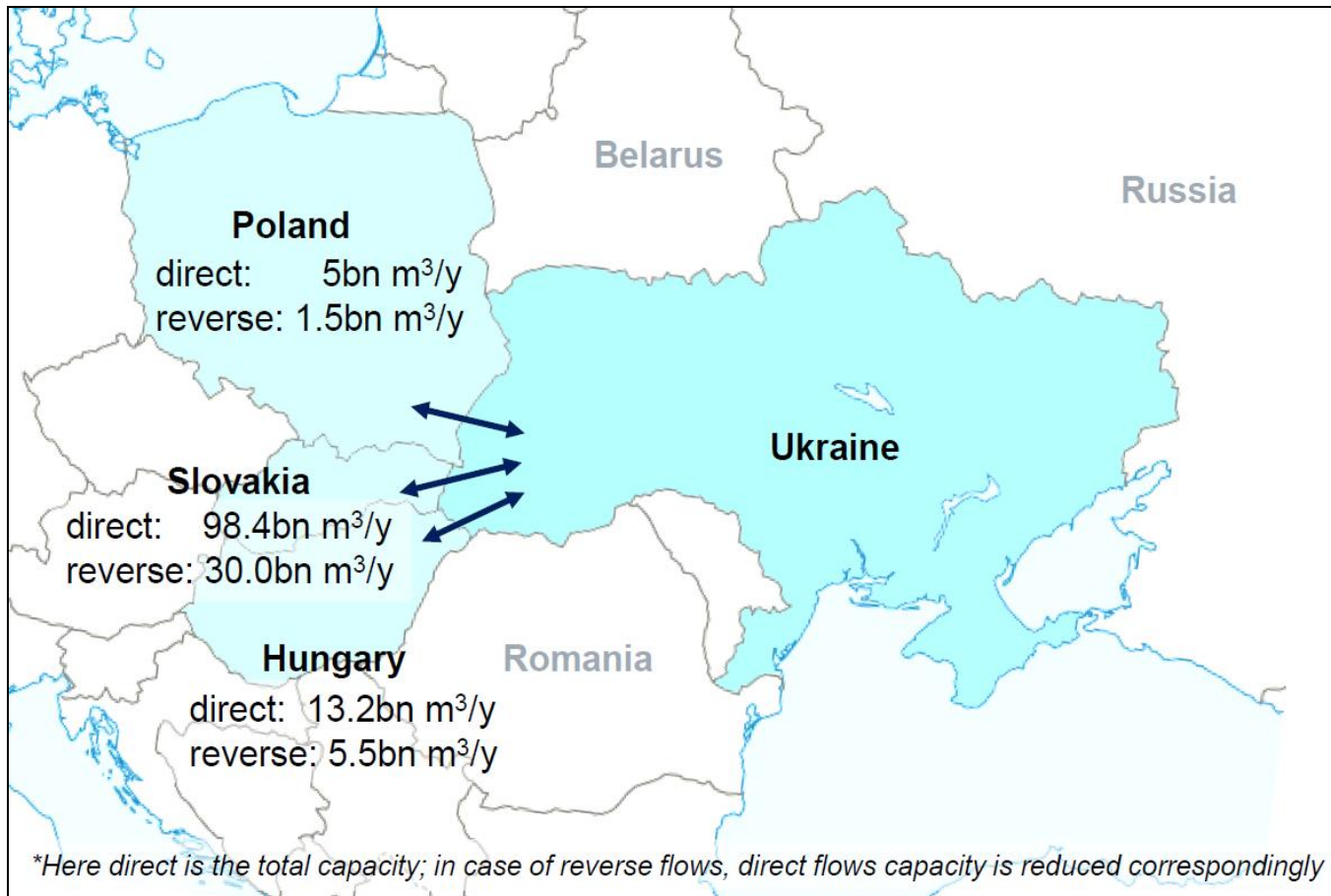


The Energy Union Strategy and the Security of Supply Package: provisions relevant for Gazprom (1)

- More urgent implementation of the TEP and the Network Codes (NCs), with more powers for the EC (and possibly ACER)
 - including in respect of legacy capacity contracts but with transitional measures e.g. CAM NC and (draft) Tariffs NC
- Infrastructure and supply standards:
 - simultaneous considerations of capacity & flows for more optimal use of existing infrastructure which suggests more consistent and persistent application of Congestion Management Procedures in respect of existing (including transit) contracts
- More restrictive approach towards 3rd country suppliers including via information exchange:
 - mandatory ex-ante assessment by the EC of all IGAs – likely to succeed – but of no significant relevance as the IGAs are becoming obsolete
 - mandatory ex-post notification and assessment by MS and EC of gas supply contracts – unlikely to succeed

A concerted strategy attempt to increase EU resilience in the emergency (possible) & reduce dependence on Russian gas (unlikely)

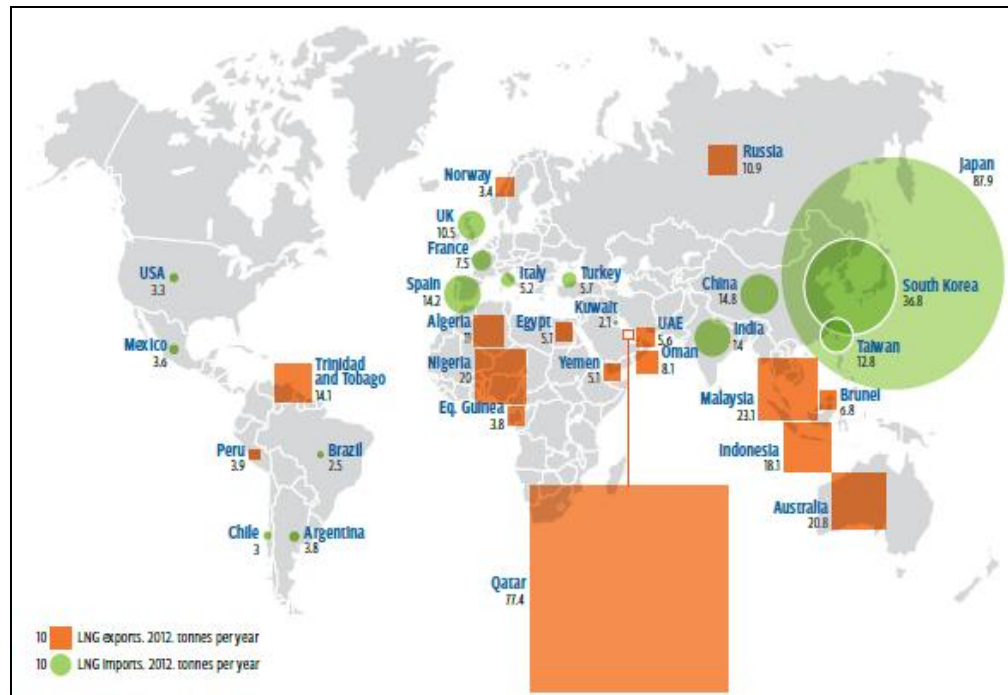
Ukraine crisis – reverse flow potential to catalyse interaction with Europe



- Reverse flow opportunities from Slovakia, Poland and Hungary can provide a grounds for dispute with Russia in the Stockholm Court of Arbitration
- Longer-term they also provide a basis for price renegotiation with Russia

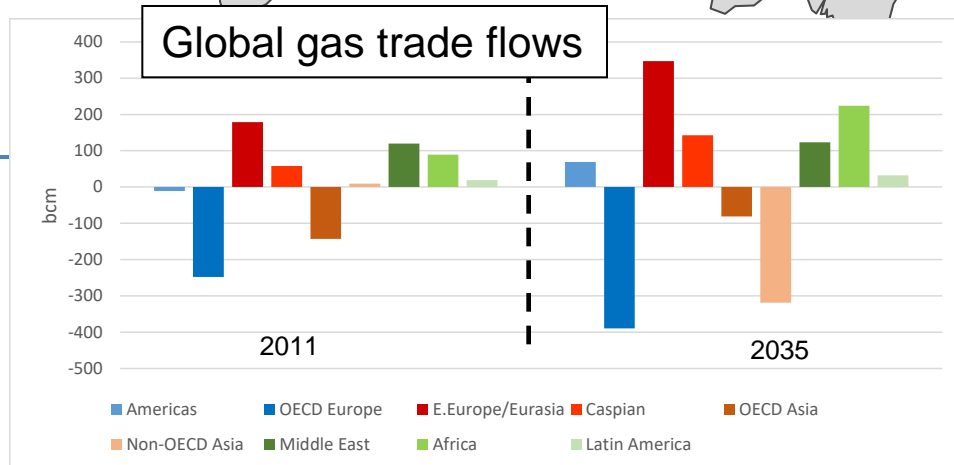
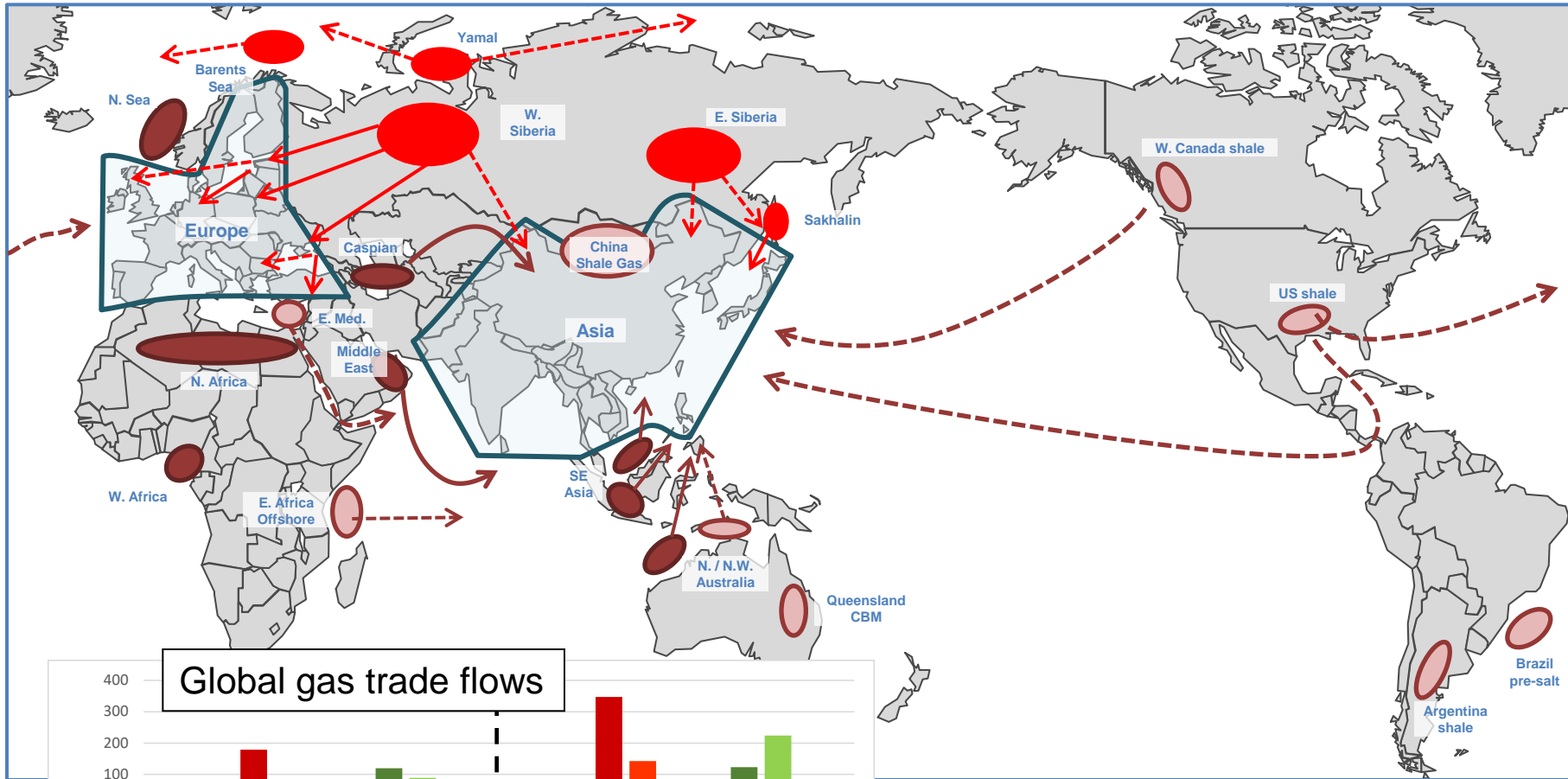


LNG is globalising the gas market



- LNG is starting to create a global market for gas
- It is still driven by long-term contracts, but differing pricing mechanisms and contractual terms are starting to evolve
- Ultimately this can provide diversity of supply, although it may also mean higher prices in Europe as Asian demand grows
- Ultimately security of supply will be found through a globally competitive gas market environment

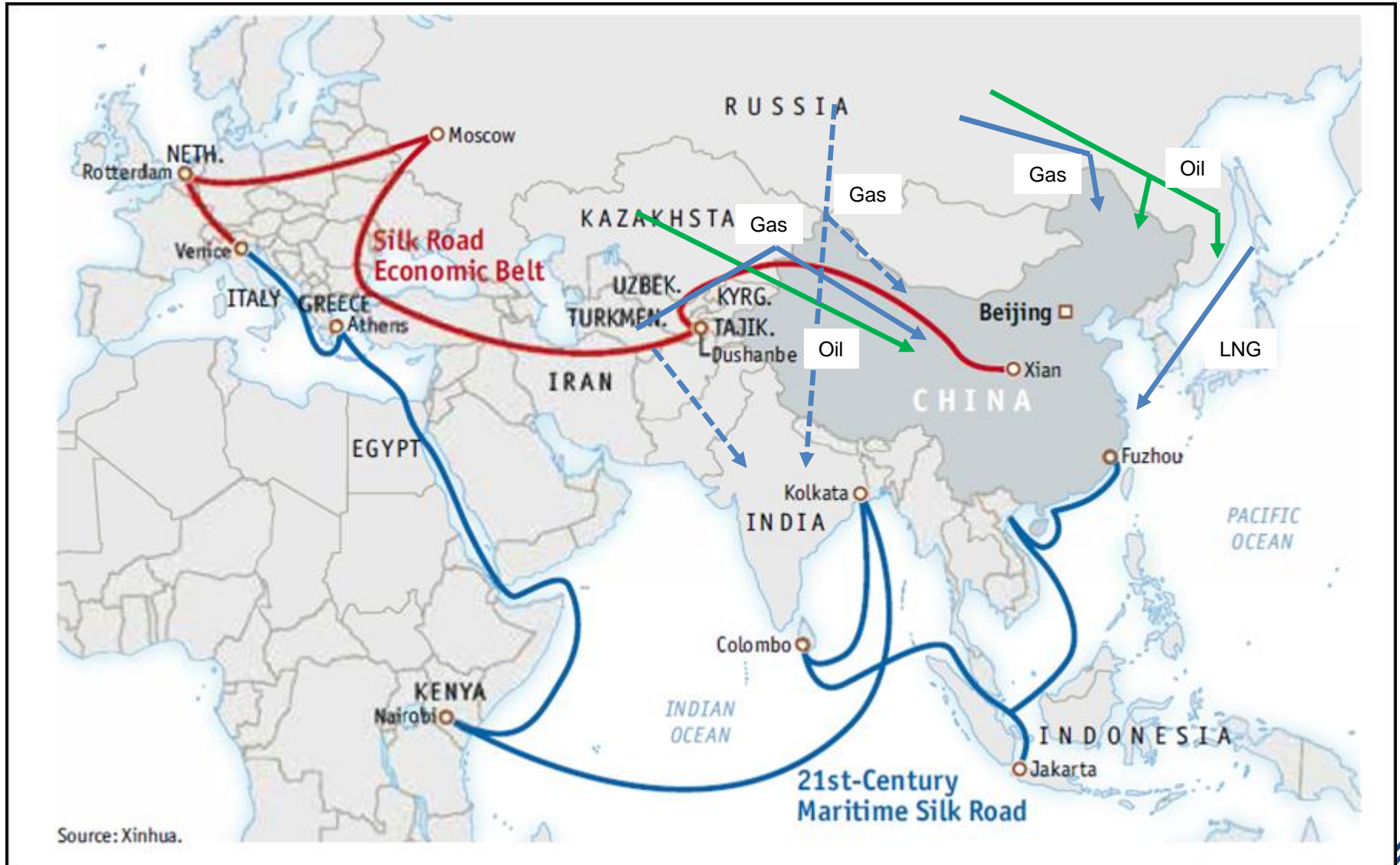
Russia faces many competitive threats, including LNG from the US, Africa and the Middle East as well as possible new pipelines from the Caspian and Iran



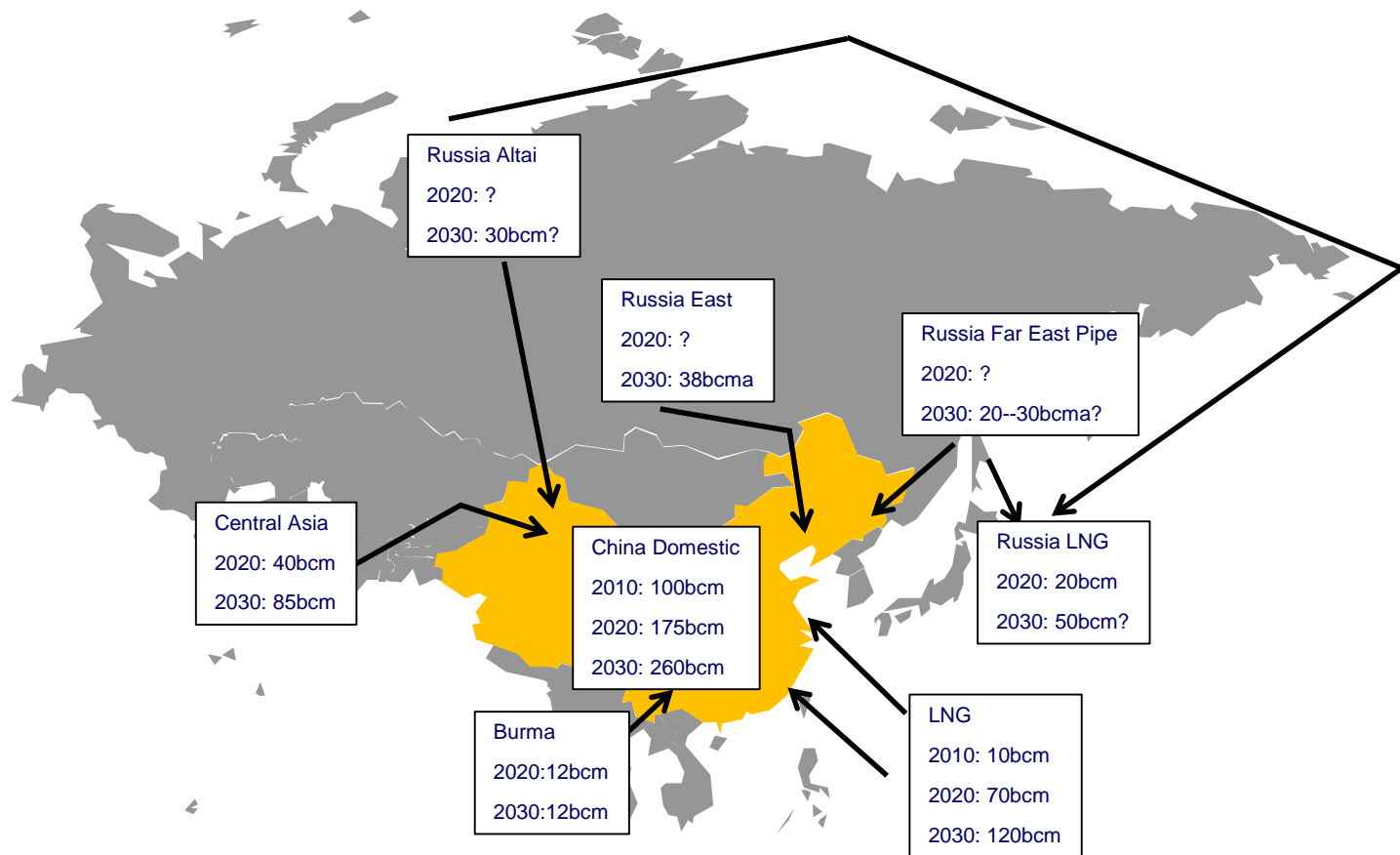
Source: WEO 2013



China's Silk Road strategy provides potential for co-operation and competition with Russia



Where does Russia fit into the Chinese gas market?

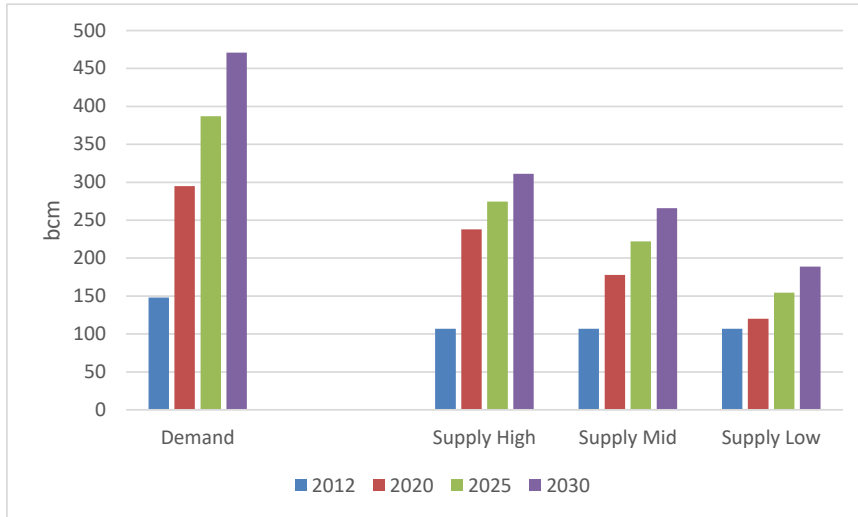


- Questions over Chinese demand and production remain
- How reliant will Chinese authorities want to be on imported gas?
- Can Russian gas compete commercially?
- Will China want to limit its political exposure to Russian sources of energy?



Outlook for Chinese gas market remains unclear

China demand and supply estimates



- Gas demand growth slowing due to economy and prices
- Pricing strategy needs to encourage supply as well as demand
- Environmental pressure remains catalyst for coal replacement
- Supply outlook unclear because of shale gas uncertainty
- China also pursuing renewable options as a domestic source of energy

- Low gas prices are raising questions about economics of exports
- Is Power of Siberia deal still viable?
- Can Altai pipeline compete?
- How much LNG?
- China currently oversupplied

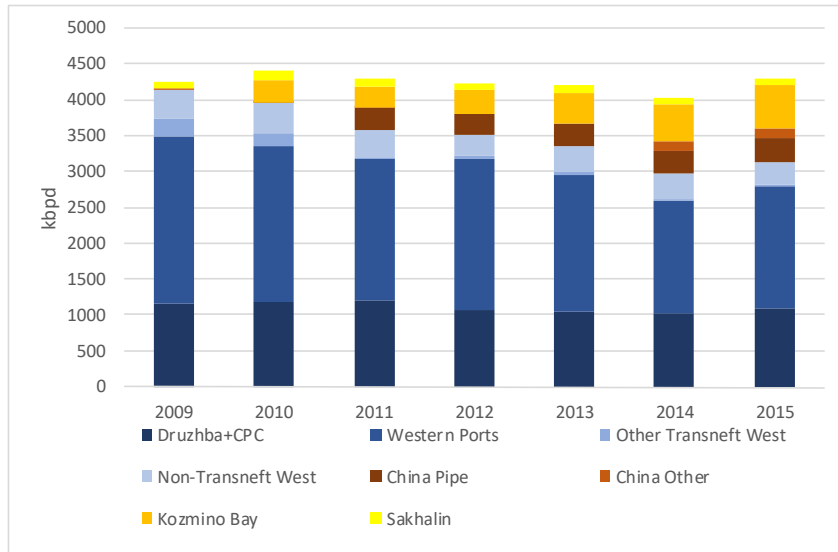
	Price at entry to China US\$/mmbtu	Transport to Shanghai US\$/mmbtu	Price in Shanghai at City Gate US\$/mmbtu	Transport back to Xinjiang US\$/mmbtu	Net back price at Altai pipeline entry point US\$/mmbtu
Turkmen price in West China	5.42	4.48	9.90	4.48	5.42
Russia East Siberia Gas	5.60	2.50	8.10	4.48	3.62
Asia Spot LNG (Sept 2016)	5.65	0.00	5.65	4.48	1.17
Average LNG imports (July 2016)	6.01	0.00	6.01	4.48	1.53
Qatar LNG (July 2016)	6.42	0.00	6.42	4.48	1.94
US LNG (SRMC HH \$3/mmbtu)	5.95	0.00	5.95	4.48	1.47
Myanmar imports	6.41	1.85	8.26	4.48	3.77
Benchmark Import Price			7.18		2.70
China domestic price (Shanghai) (Nov 2015)	10.72	0.00		4.48	6.24
Average Overall Benchmark Price					3.14

Estimated price of Power of Siberia gas at current oil price

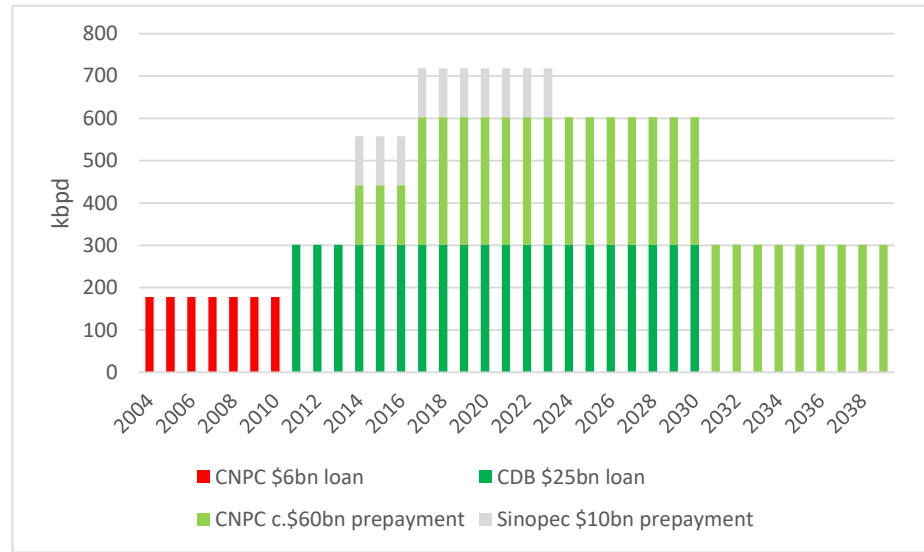
Estimated price for Altai gas to compete at current oil price

Eastward shift is bringing dependence as well as diversification

Crude oil exports by destination



Rosneft production committed to pre-payment deals

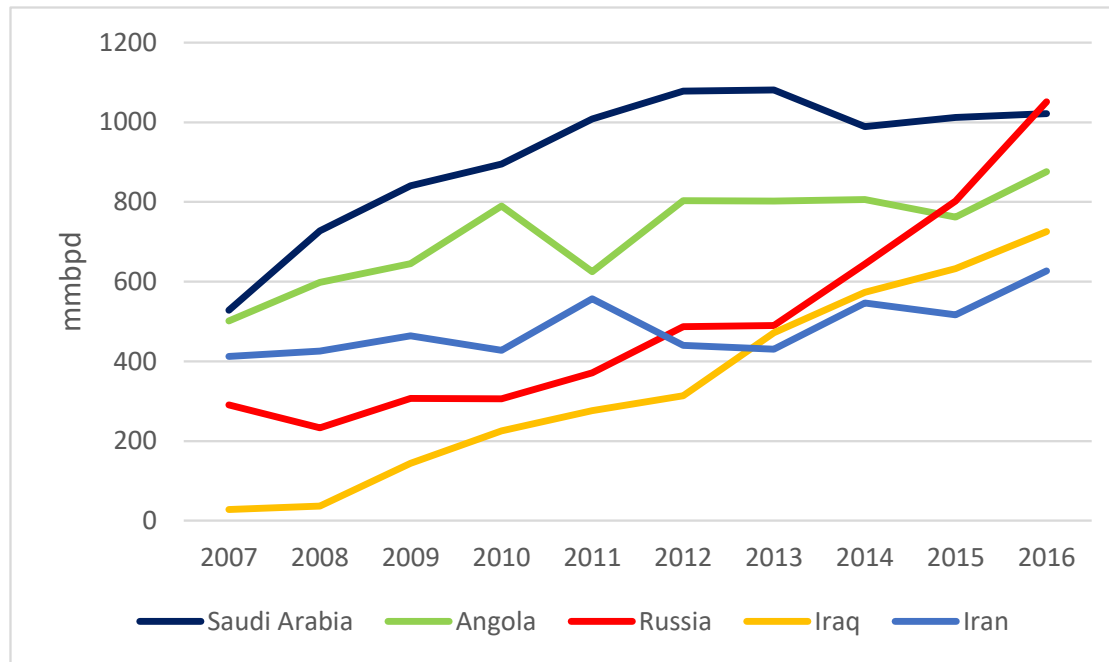


- The opening of the ESPO in 2009 has catalysed a shift in the direction of Russia's oil exports
- A further dynamic has been Rosneft's need for financial support, which has been provided by pre-payment deals with CNPC and Sinopec
- Russia has become the largest crude exporter to China and ESPO crude has become very competitive in the Asian market
- Russian producers are attracted by the premia which ESPO crude has consistently commanded over Urals Blend
- Russia has some concern over the strength of China's bargaining position, highlighted by pricing disputes and a reluctance to complete infrastructure in NE China



Russia in competition with Saudi Arabia

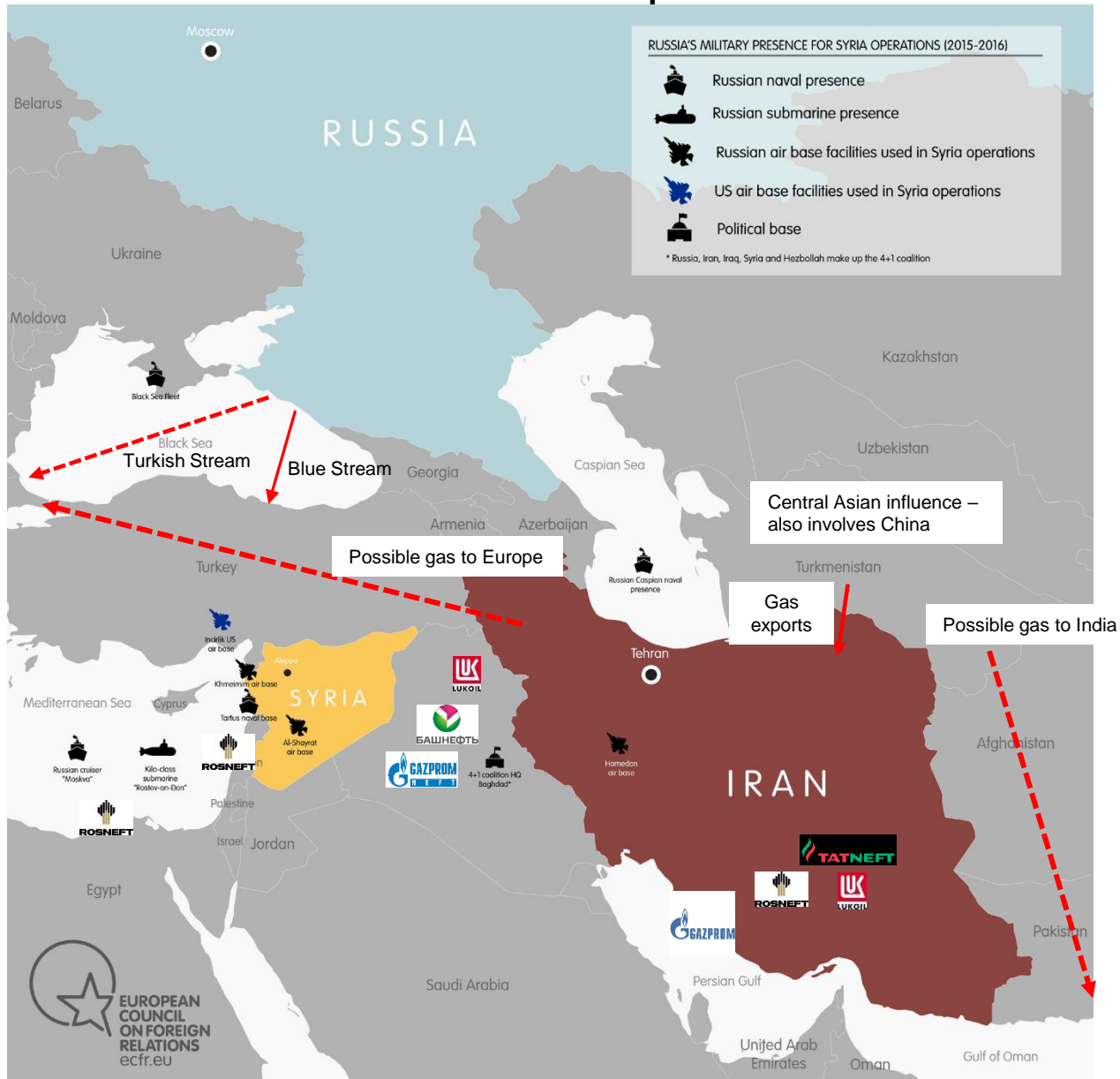
China oil imports by country



- Russia has overtaken Saudi Arabia as the largest exporter to China, the world's largest net oil importer
- Saudi market share has fallen consistently and the Kingdom has been forced to respond by competing harder in other regions
- Russian concern has been aroused by an increase of Middle Eastern crude in Europe, especially Saudi contracts with East European buyers
- Discounts have been offered to secure new buyers – essentially a quasi-price war



Russia's evolving interest in the Middle East – a tangled web of relationships

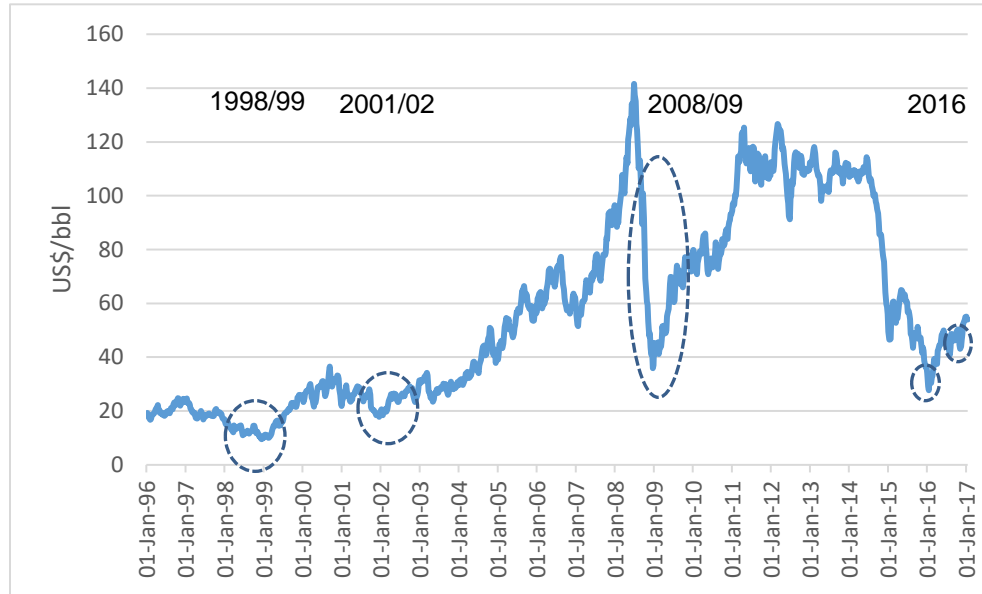


ROSNEFT
Qatar owns half of 19.5% stake in Rosneft



Until Dec 2016 Russia and OPEC had never fully implemented an agreement on output restraint

Four “attempts” at co-ordination, one success

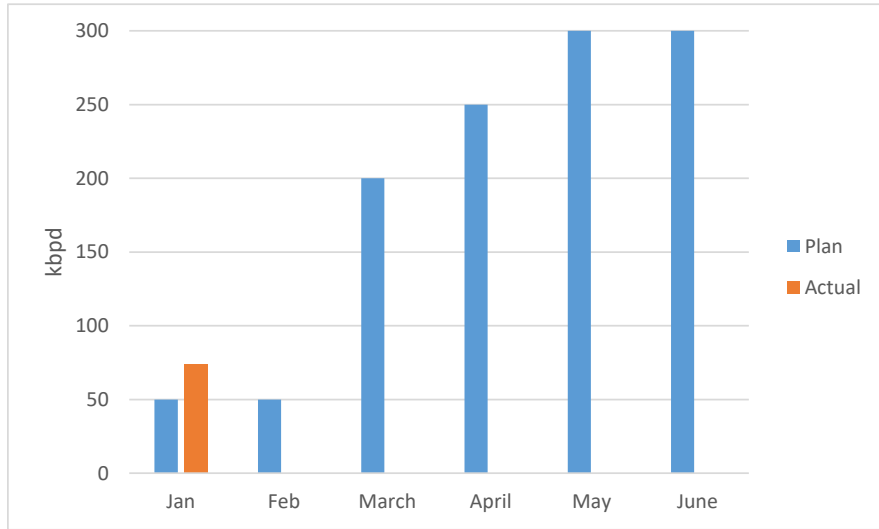


- Russia has agreed to comply with the OPEC production cut announced in December 2016
- However, the history of Russian co-operation with OPEC is not particularly successful
- The failure of the Doha meeting in April 2016 left a sour taste, but necessity has brought Russia back to the table
- Trust on both sides is low, although everyone understands the need to maintain an image of solidarity and compliance
- Economic and commercial necessity has created an alliance that is likely to be tested if and when oil prices rise above \$60-70 per barrel
- Ironically, US shale reaction could keep alliance of traditional producers together for longer



Russia's agreement with OPEC

Russian production cuts



Russian oil production in Jan 17

	Oct-16	Dec-16	Jan-17	Jan -Oct	Change (%)
Rosneft	3871	3814	3796	-74	-1.9%
Lukoil	1676	1685	1668	-7	-0.4%
SurgutNG	1239	1254	1239	0	0.0%
GazpromNeft	815	800	783	-32	-4.0%
Tatneft	595	615	592	-3	-0.5%
Bashneft	430	435	441	11	2.4%
Slavneft	297	298	293	-4	-1.4%
Russneft	144	148	142	-2	-1.1%
NNK	45	44	44	-1	-2.5%
Novatek	159	156	158	-1	-0.7%
PSAs	349	339	344	-5	-1.4%
Others	1585	1620	1612	26	1.7%
Total	11204	11208	11111	-93	-0.8%

- Russia has agreed to cut up to 300,000bpd from production in H1 2017
- The cut will be gradually ramped up, reaching a peak only at the end of April
- A portion of the cut would have happened anyway – the first half of the year is impacted by the weather and by maintenance
- Production does not mean exports, which have remained flat or even increased
- The company response has been “voluntary” and could lead to dissatisfaction and cheating



The Arctic provides a potential area of bargaining power for Russia

The Northern Sea Route set to become the “Cold Silk Road” to Asia



- The Kremlin has clear geo-political ambition in the region, which goes beyond commercial logic – control of the northern sea route is a core strategy and Soviet military bases are being re-opened
- China has expressed interest in investing in the Northern Sea Route – will Russia use this as a means to extract extra value from energy deals?
- Militarisation provides a geo-political tool with other littoral states, and can be based on our oil industry infrastructure



Russian military presence in Arctic expanding

- Russia has established six new military bases north of the Arctic Circle
 - 16 deep-water ports planned
 - 13 airfields to be built in total
 - 10 air defence radar stations
- Long-range surface-to-air missiles and supersonic anti-ship missiles have been deployed as part of national defence force
- Northern Fleet to be increasingly based in the Siberian island chain in the Arctic Seas
- Arctic motorized rifle brigade formed in 2015, based in Murmansk and Arkhangelsk
 - A second brigade planned for Yamal-Nenetsk region in 2016/17 as part of Arctic Military Command
- NATO and US have responded by conducting military exercises in the region
 - Arctic Challenge (with Sweden and Finland) - 2015
 - ICEX - 2016

Prirazlomnoye field in Pechora Sea



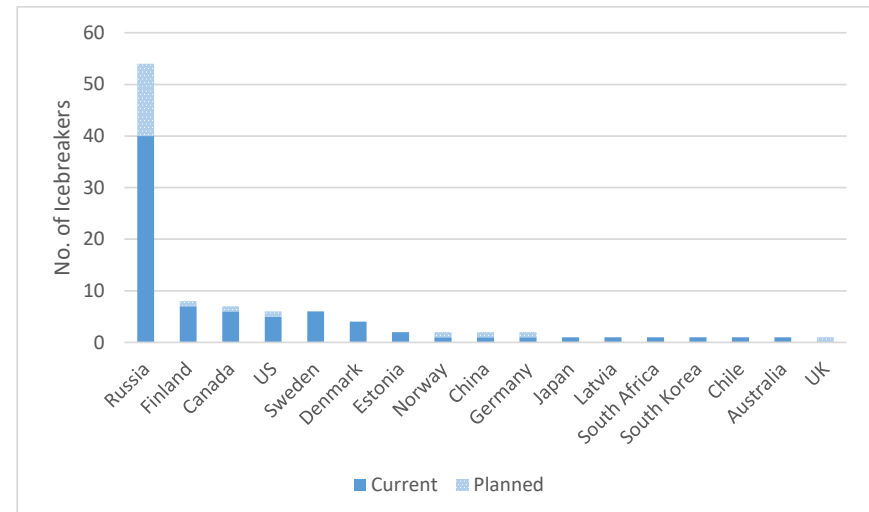
Russia dramatically expanding ice-breaker fleet

- Russia currently constructing 14 new icebreaking vessels
- The LK60 will be the most powerful icebreaker in the world
 - Can break through 3 meter ice
 - Will be based in Murmansk with Rosatomflot
- LK25 will be the most powerful diesel icebreaker, for use in 2 meter ice
- Ministry of Defence is building 4 new vessels, with the first to be launched in 2017
- GazpromNeft has ordered a vessel for the Ob Bay, while five other icebreakers are also under construction for use in oil industry
- Russian fleet currently 40, and will exceed 50, while US has 6 icebreakers

The nuclear powered LK60 ice-breaker



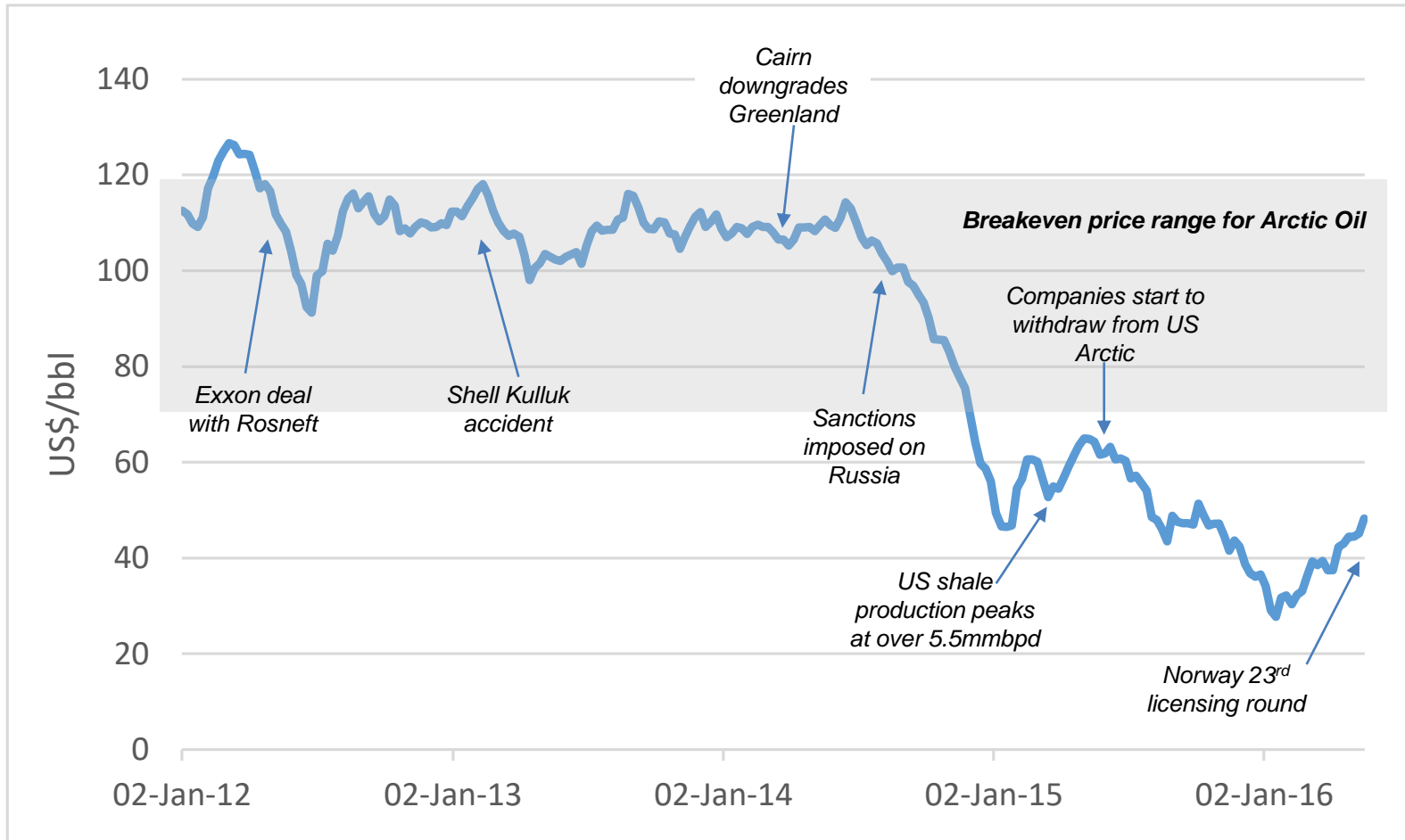
Russia leads global icebreaker fleet



Source: USGC Office of Waterways and Ocean Policy, 2014



Arctic Development – A Perfect Storm



Shell's problems a bell-weather for the North American Arctic

Shell's Kulluk rig having run aground in January 2013



- Shell has been the most important participant in the US Arctic offshore
- Significant operational problems have caused major delay and protest
 - Noble Discoverer rig nearly ran aground in 2012
 - Kulluk rig broke moorings and ran aground in late 2012/early 2013
 - Drilling programme halted in 2013, and delay extended into 2014/15
 - ConocoPhillips and Statoil subsequently delayed their own drilling programmes until accidents reviewed and environmental regulatory processes confirmed



Yamal LNG is a key foundation for Arctic development

- Yamal LNG is a 16.5mmt LNG complex based in northern Siberia
- It will be Russia's largest LNG plant by 2020
- First gas will be produced and exported in late 2017
- The infrastructure includes a major port and an international airport, financed by the Russian government
- A key goal is to develop domestic LNG capability to enhance Russia's Arctic presence

Yamal LNG development is progressing



Yamal LNG export routes



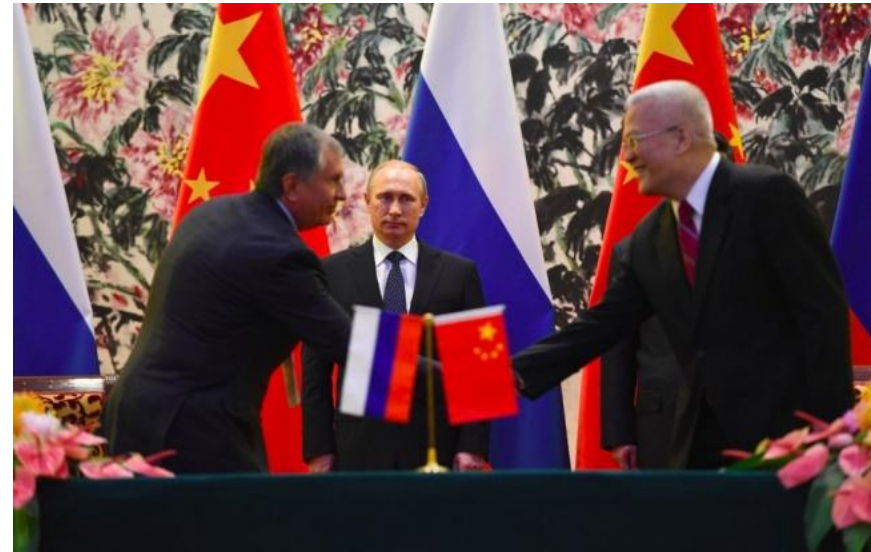
The Sabetta port provides key Arctic infrastructure



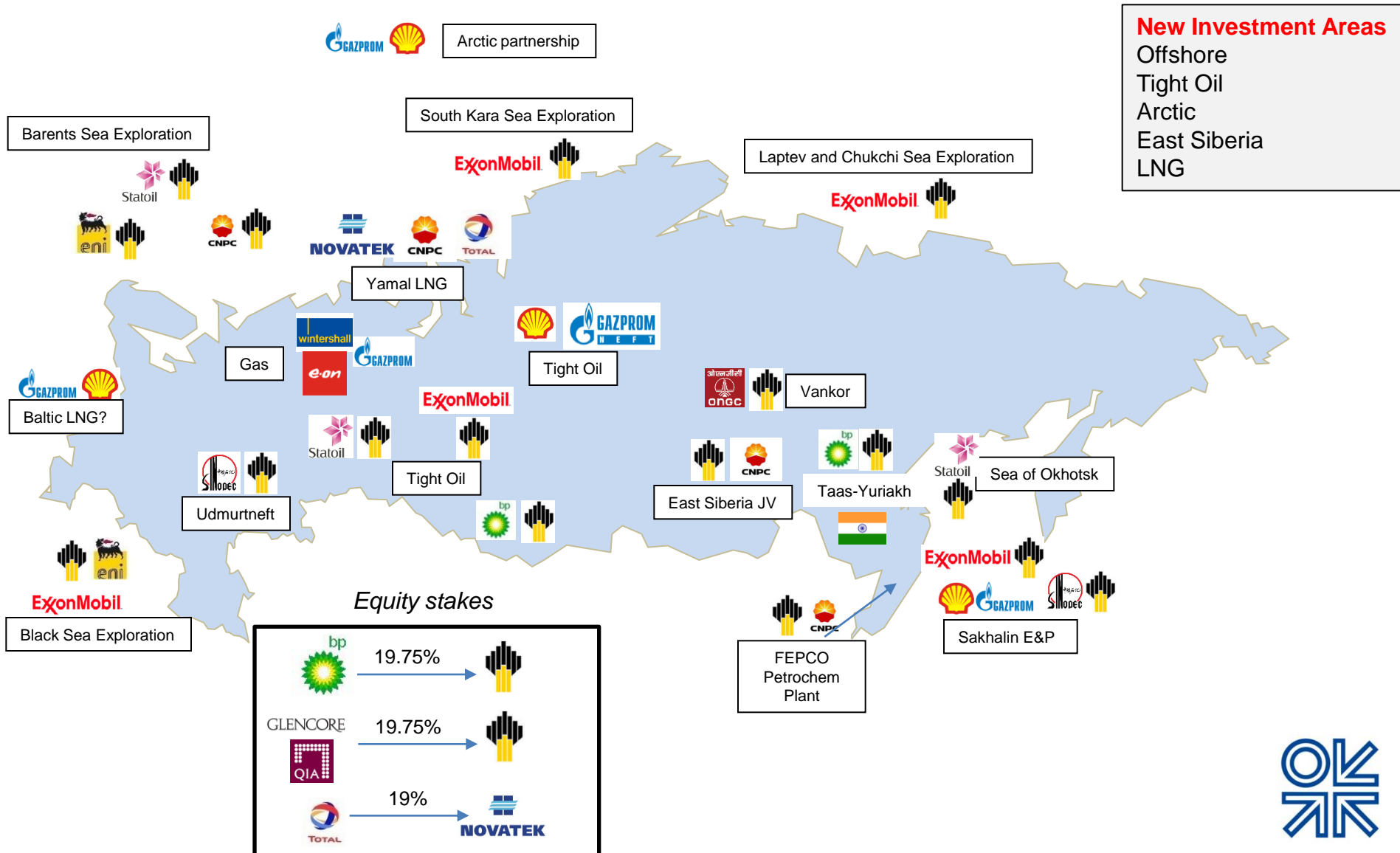
China has significant Arctic aspirations, with Russia as a partner

- China became a formal observer in the Arctic Council in 2013
- Shanghai based China-Nordic Arctic Research Centre formed in the same year
- Clear aspiration to be a significant player in strategic trade route to Asia
- Investment in Yamal LNG project cemented closer ties with Russia
- Potential exploration joint venture with Rosneft in Barents and Pechora Seas
- China Oilfield Services Limited to work with Rosneft and Statoil in Sea of Okhotsk
- Gazprom and GazpromNeft may be set to co-operate with CNOOC at two oilfields in Pechora Sea

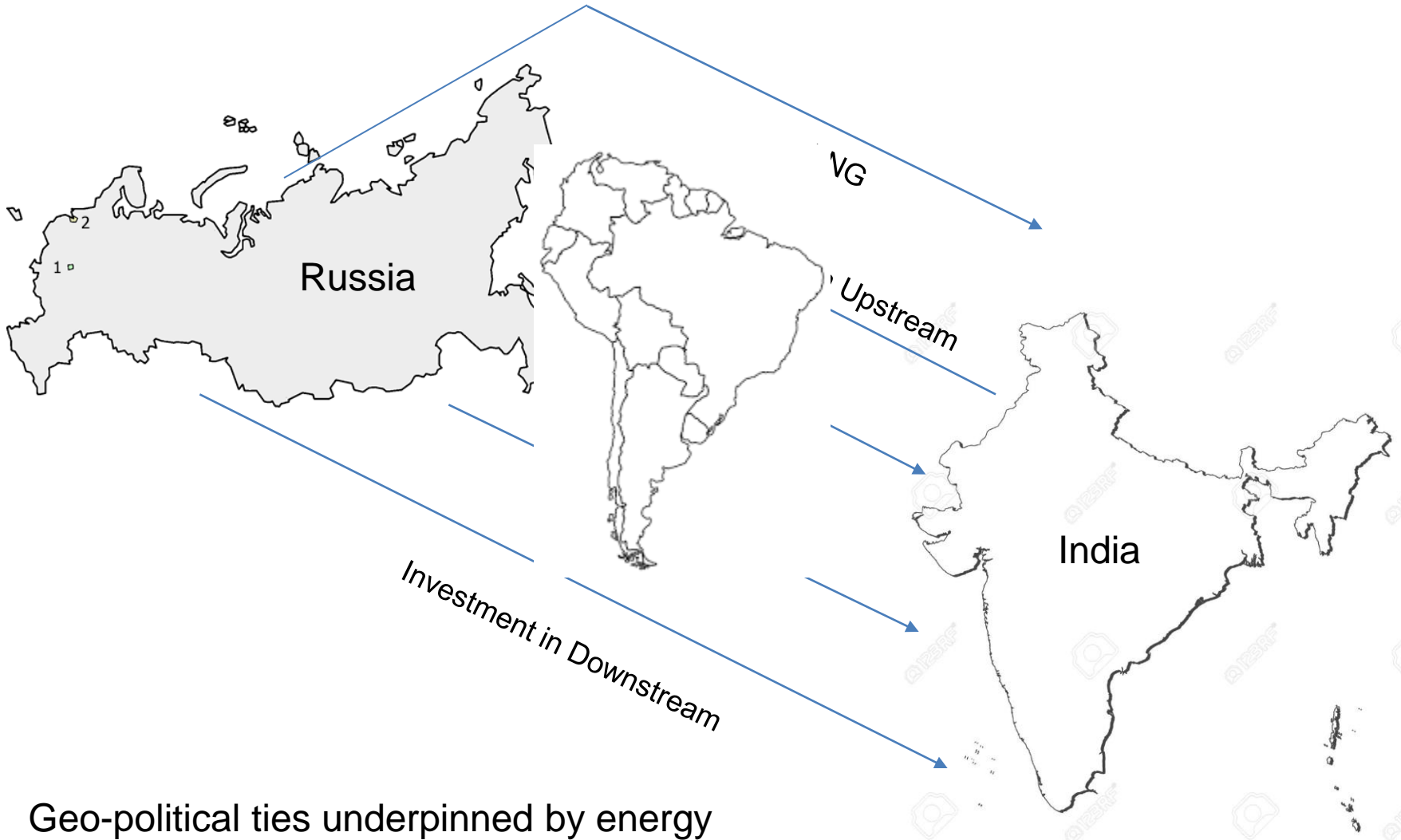
Rosneft CEO Igor Sechin shakes hands on partnership with CNPC which includes Arctic licences



International oil company activity in Russia increasingly involves Asian companies



Russia's expanding relations with India



- Geo-political ties underpinned by energy and investment

Russian diplomacy in South America

Russian Diplomacy

Venezuela
Colombia
Argentina
Brazil
Cuba
Costa Rica
Nicaragua
Chile



South America

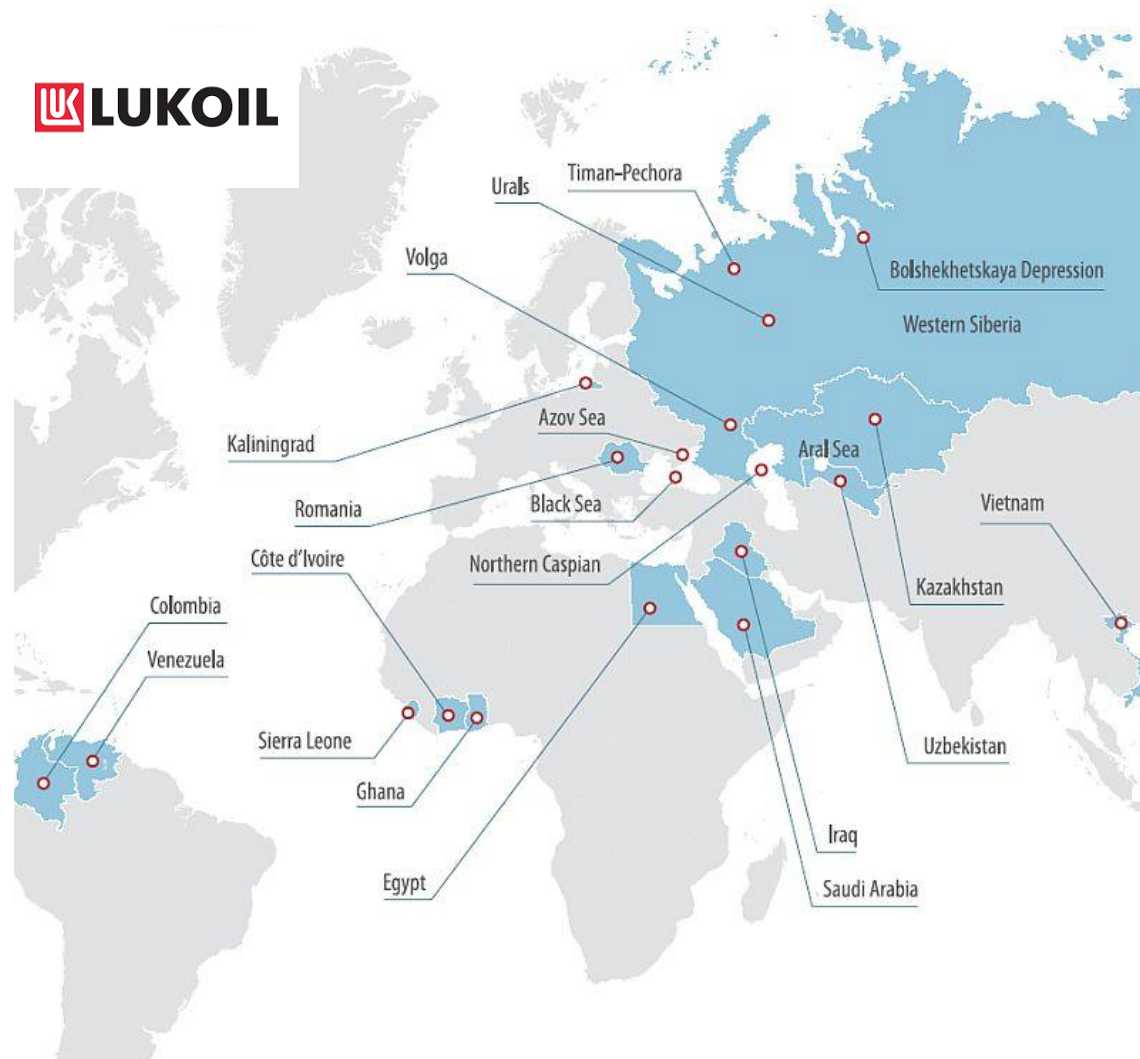


Russia Offers

Investment in Upstream
Purchase of crude oil
Energy loans
Gas market expertise
LNG exports
Downstream investment
Military equipment



Lukoil was Russia's major overseas representative



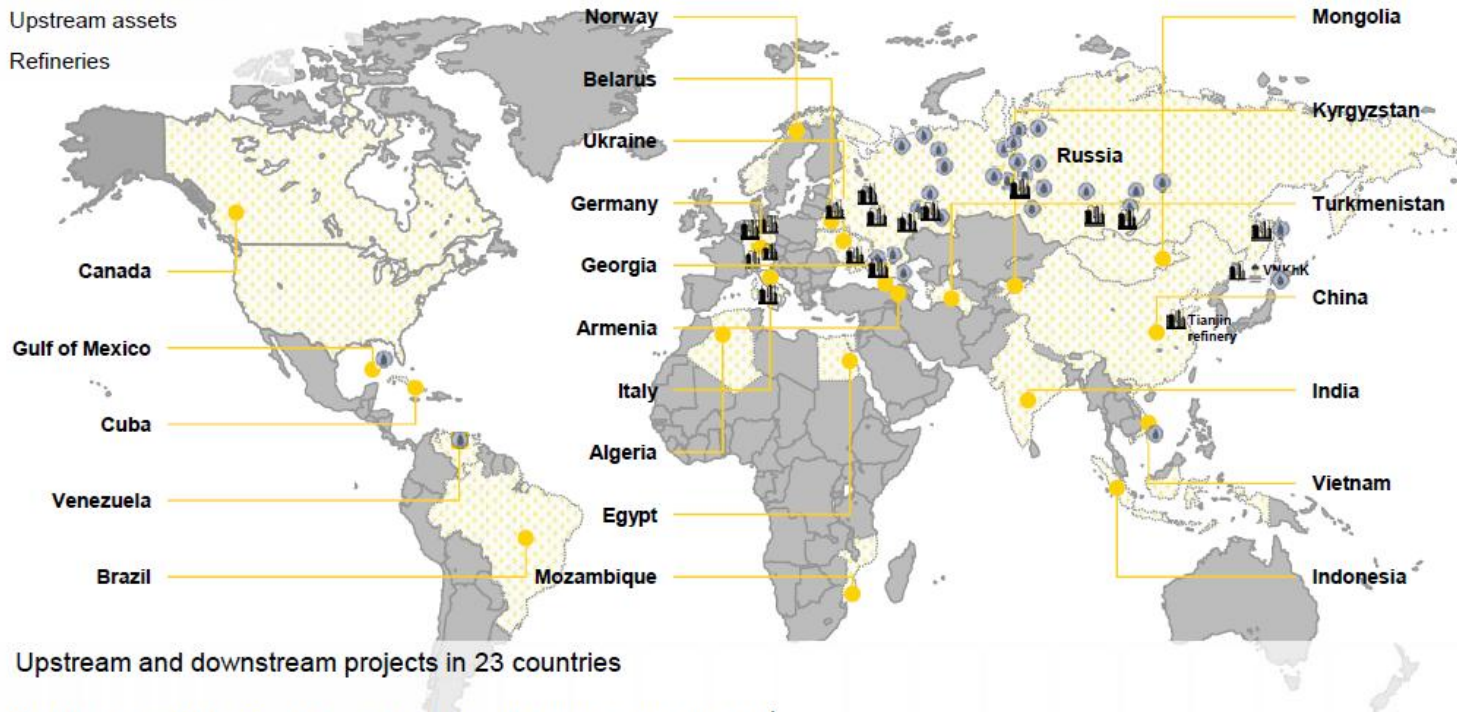
- Lukoil had broad upstream and downstream expansion in 1990s and early 2000s.

Rosneft's expanding international portfolio underlines Russian ambition



Geography of Operations

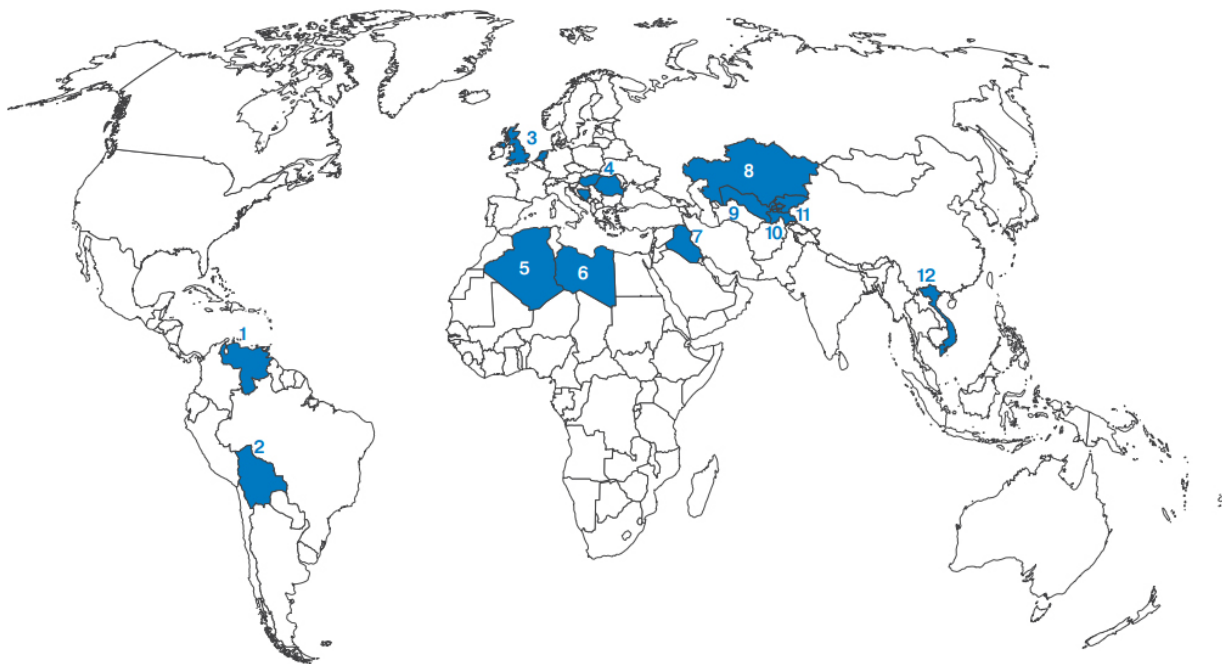
- Countries of operation
- Upstream assets
- Refineries



- Upstream and downstream projects in 23 countries
- 821 licenses for hydrocarbons production in Russia and abroad¹
- Largest subsoil user in Russia: oil and condensate resources of 23 bln t, gas resources of 22.8 tcm²
- 11 refineries in Russia and stakes in 7 refineries abroad
- A wide network of retail sites: 2,557 retail sites³




Gazprom – more limited overseas activity





1 Venezuela

 Junin-6 project



2 Bolivia

 Ipati, Aquilo and Azero license blocks


3 The United Kingdom, the Netherlands

 Wingate, Sillimanite fields and Winchelsea prospect in the North Sea



4 Romania, Hungary, Bosnia and Herzegovina

 NIS projects



5 Algeria

 El-Assel license block


6 Libya

 License blocks 19 and 64



7 Iraq

 Badraah field, Garmian block (Kurdistan)
 Shakal and Halabja license blocks (Kurdistan)


8 Kazakhstan

 Tsentralnoye offshore field in the Caspian Sea


9 Uzbekistan

 Exploration in Ustjurt region
 Shakhpakhty field



10 Tajikistan


 Sarikamysh and Western Shohambary license blocks


11 Kyrgyzstan


 Kugart and Vostochniy Mailisu-IV license blocks

12 Vietnam

 Offshore Blocks 112 (including extension)
 129–132, 05–2 and 05–3

 Hydrocarbons prospecting and exploration

 Oil production

 Gas and gas condensate production

Rosatom as a vehicle for expanding Russian influence

RUSSIAN NUCLEAR POWER PLANT EXPORTS



Source: World Nuclear Association

Copyright Stratfor 2015 www.stratfor.com



Conclusions

- Energy is clearly an important tool of Russian diplomacy
- However, commercial reality means that geo-politics is also having to respond to economics
- The oil market is global and liquid, and Russia must compete with powerful actors such as Saudi Arabia
- Cooperation rather than outright competition is becoming
- Investment by foreigners in Russia, but also by Russia overseas, is becoming as important as trade
- Arguably the thought of a Russian energy weapon is now out-of-date
 - The future of hydrocarbons is becoming less secure
 - The oil, gas and coal markets are now global in nature
 - Russia is as dependent on revenues as customers are on energy
 - Russia needs foreign investment to develop more remote and difficult regions

