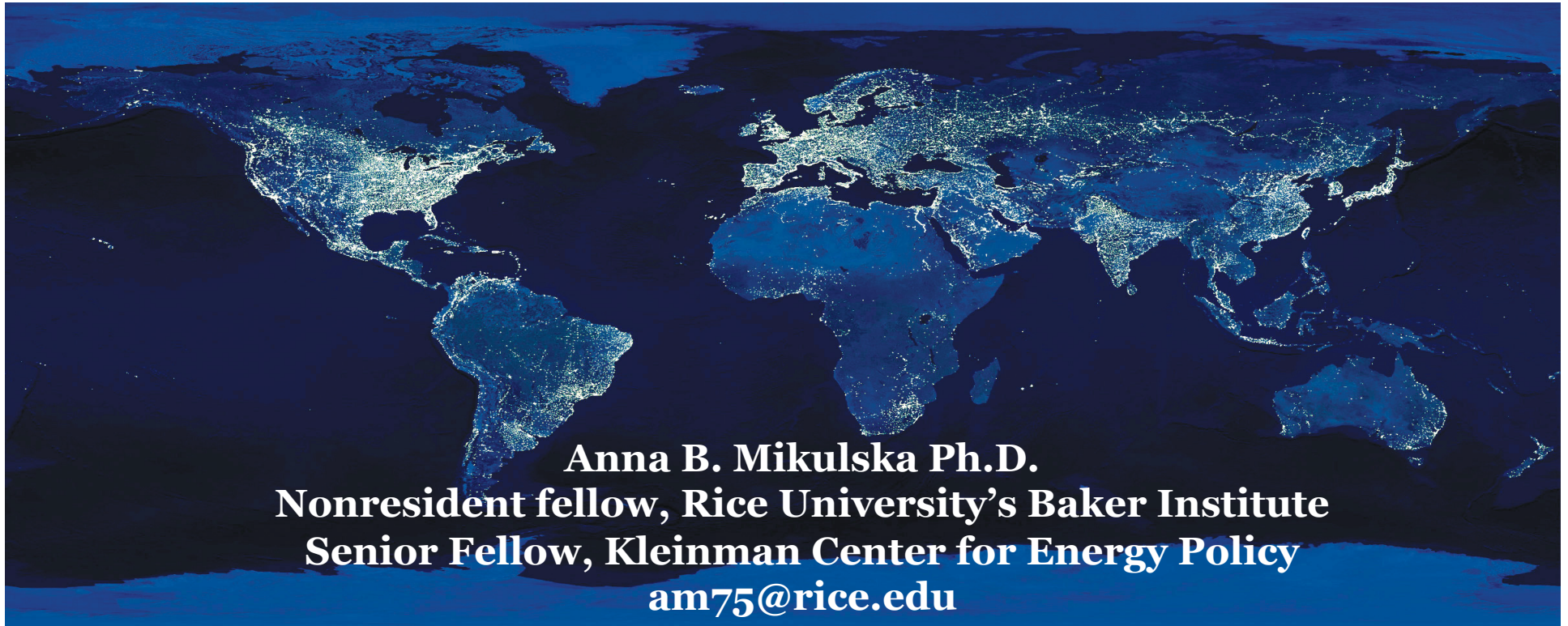


Geopolitical Dimensions of U.S. Energy Exports



Geopolitics of Energy

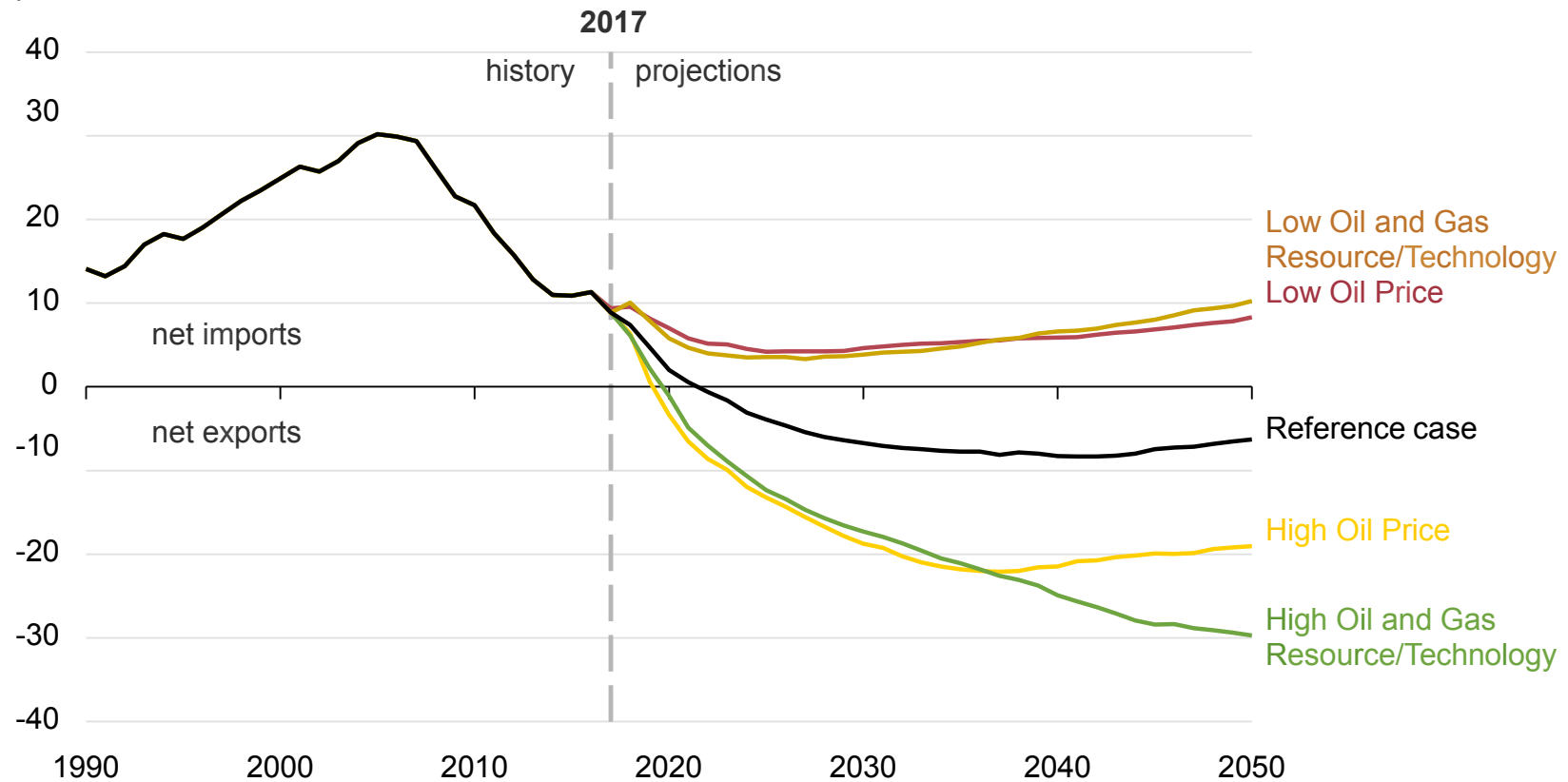
Energy can provide the “ways” or tools that countries can use to advance non-energy goals

- The “oil weapon” 1973 embargo
- The “gas weapon” 2009 Russia shutoff
- When prices are high and markets tight, producer countries gain increased leverage in international politics
 - Nowadays it is difficult to extract major concessions by withholding production (as in 1973)
 - Producer countries can also use energy to build alliances
- Importing countries also use energy *demand* as a weapon: embargoes on Iran, Libya, Iraq, Sudan

The United States becomes a net energy exporter in most cases

Net energy trade

quadrillion British thermal units



Energy security



- Sufficient supply at a reasonable price
 - Includes **geopolitics**: “having access to affordable energy *without having to unduly contort one’s political, security, diplomatic, or military arrangements*” (O’Sullivan,2017)

Also:

- Protection of the poor against commodity price volatility
 - Blackouts and shortages preferable to high prices
- Protection of the economy against service disruptions
 - Prices rise during shortages, energy may not be affordable for all
- What about **security of demand**?

U.S. Energy Leadership & National Security

U.S. Bureau of Energy Resources (ENR)

U.S. national security is threatened when:

- Our allies lack reliable access to affordable energy or a diversity of choices;
- Foreign energy markets shut out U.S. companies;
- Poor governance prevents market-based energy solutions;
- Competition for energy leads to conflict; or
- Terrorists and rogue regimes seek to exploit energy resources to fund violence and destabilizing activities.

US crude & energy and national security

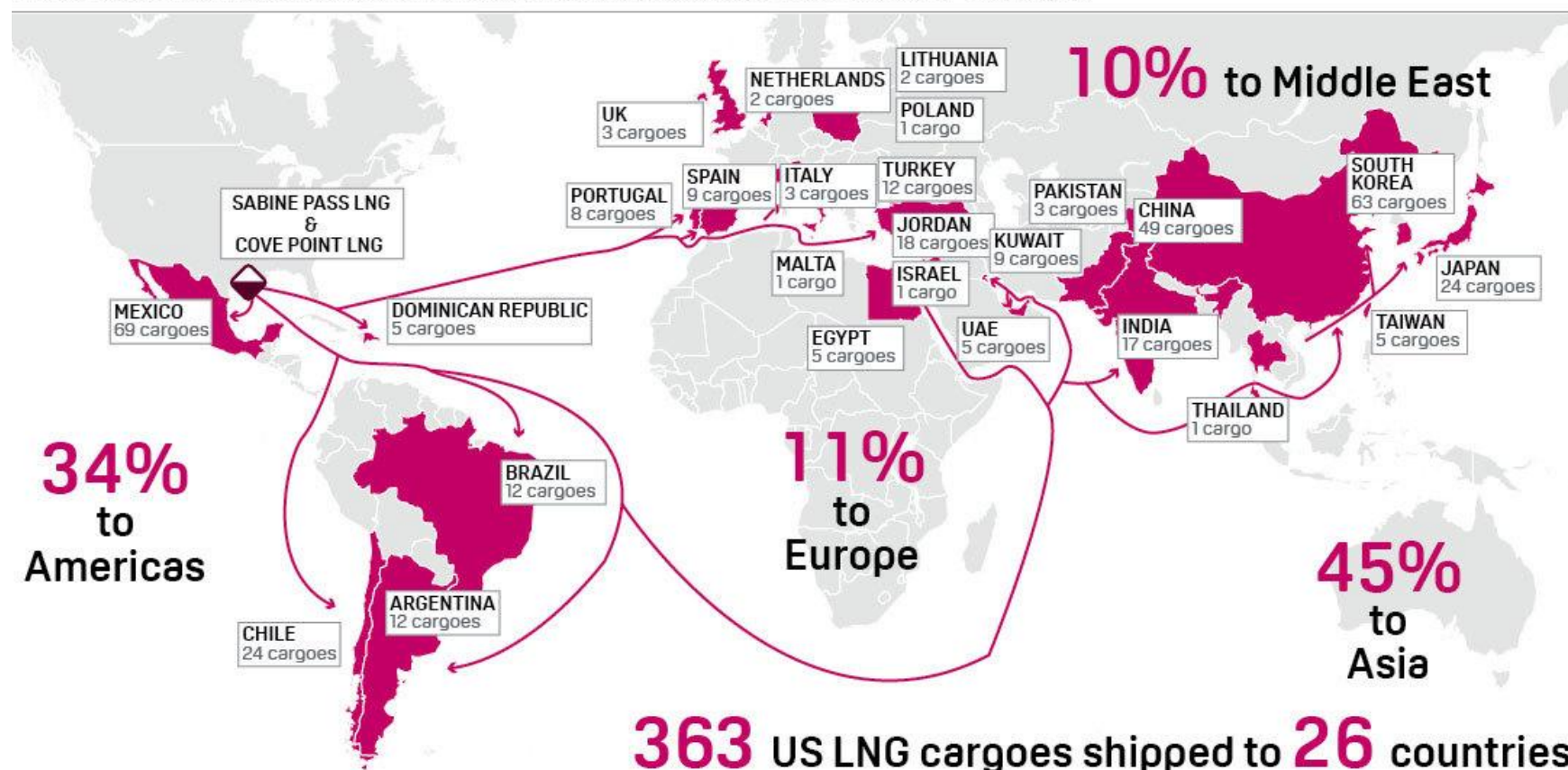
- **Oil:** commodity traded openly in a globally fungible market
- Prices formed globally based on interactions between supply and demand
- Deep **interconnectedness** between consumers and producers = **no independence from international oil market**
- Diversification of global oil market = more energy security (and stability) globally & for the US
 - Particularly if US crude drives diversification
 - US more stable politically than i.e. Middle East
 - US crude traded by private companies, less exposed to direct geopolitical state interventions
 - Shale (anywhere) less prone to political interference and expropriation
 - **U.S. less exposed to geopolitical risk in the oil market**

US Natural Gas Exports

- Natural gas trade traditionally **regional** not **global**
- Increase in liquidity and globalization of that market as LNG becomes important part of the trade and global market becomes physically connected with the most liquid natural gas market in the world – US
- Changes geopolitical implications natural gas trade has traditionally had. This relates particularly strong to Central and Eastern Europe

U.S. LNG Exports

TIN AMERICA AND ASIA MAIN DESTINATIONS FOR FLEXIBLE US LNG: FEB 2016 - MAY 2018



Russian Natural Gas and Oil Pipeline Delivery

Into Europe

To the East

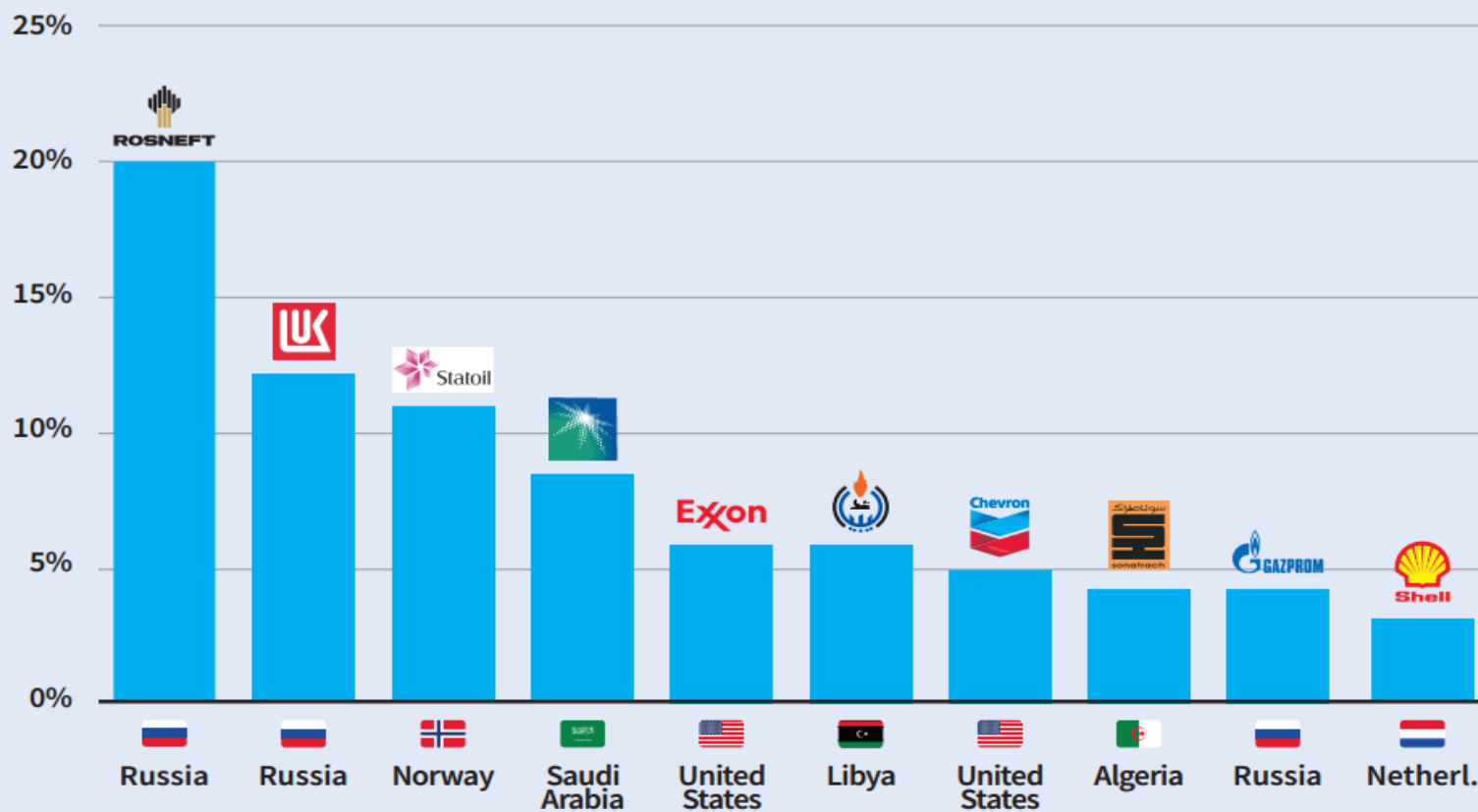


Russian Energy Policy

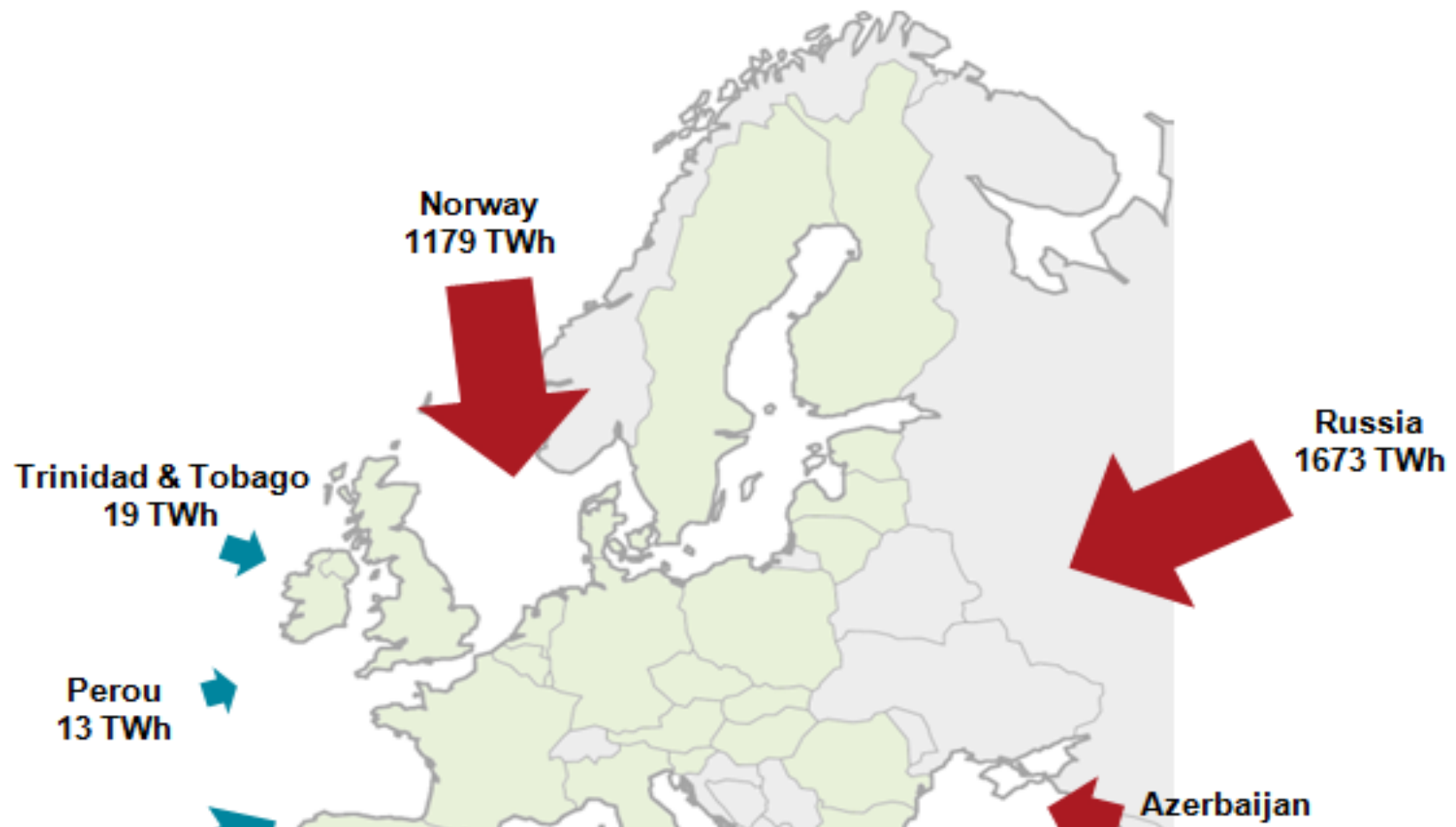
- Exploiting asymmetric interdependence or complete dependence of countries that depend on Russia for energy supplies or energy network (especially pipeline connections and transit)
 - **Petro carrots**: cheap gas/oil, transit fees, allowing accumulation of debt, price differentials between friends and foes, support for Russian enclaves
 - **Petro sticks**: price hikes, oil and gas embargos, “technical difficulties,” demands for immediate debt payments
- Enter LNG
 - Diversifying transit routes to Europe: Nord Stream 1 & 2, Turkish Stream
 - Looking toward the East: the uneasy relationship with China
 - Looking toward the Middle East: recent engagement with Saudi Arabia and OPEC

Who Supplies Europe's ...oil

8 of the top 10 oil suppliers are non-European companies



Who Supplies Europe's ... natural gas.



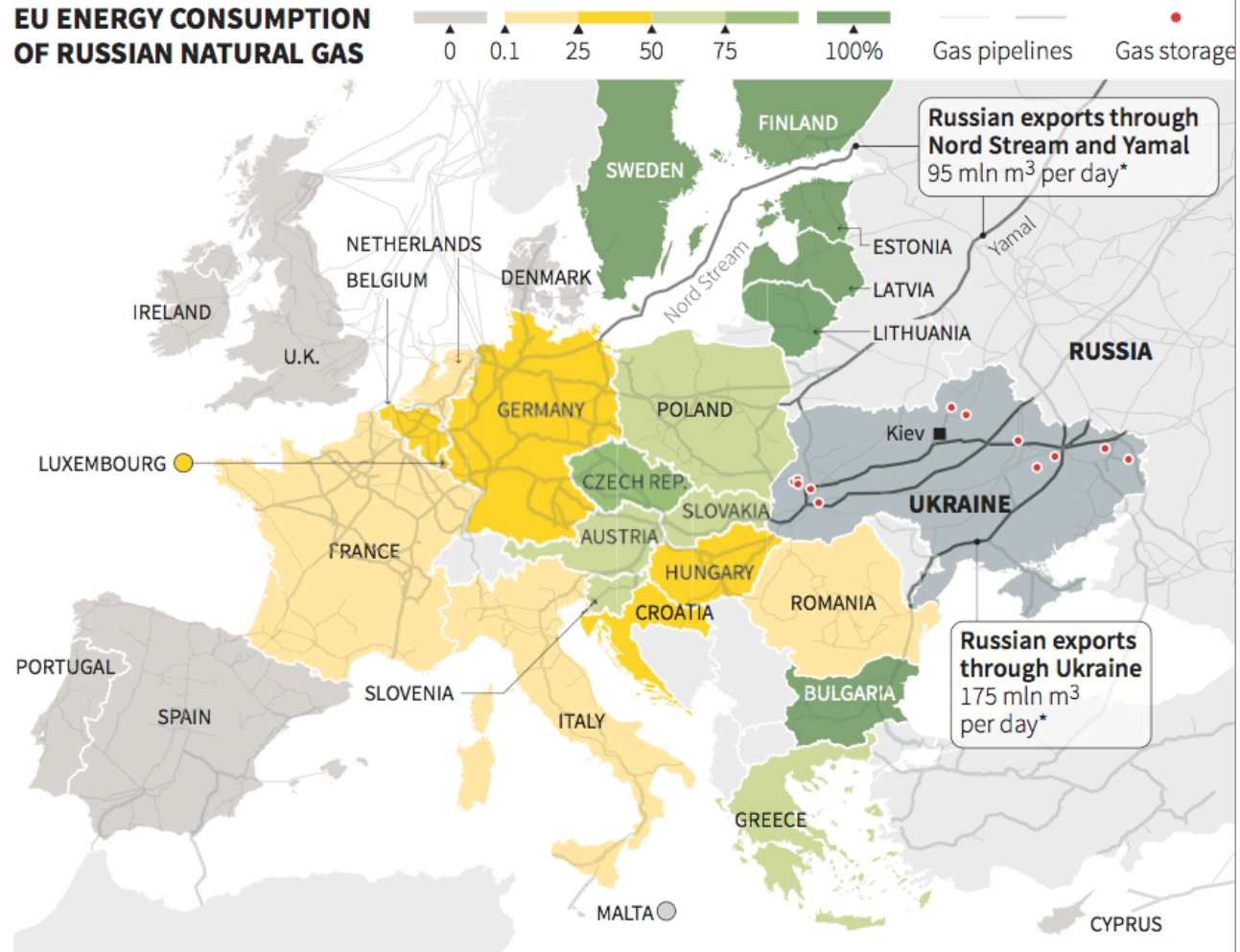
EU Energy Policy

- Network Integration, Diversification, & Expansion
 - Pipelines, interconnectors, LNG terminals, storage, return flows
 - Engage with Caspian, Middle East, i.e. TANAP
 - Support Ukraine's energy reform
 - Nord Stream 1 & 2
- Market integration with neighboring states, especially Turkey
- External dimension
 - Bilateral agreements in full compliance with EU legislation
 - Information exchange on agreements between member states and third parties to be created
 - EU legal support to member states negotiating agreements
- West vs. Central & Eastern Europe

EU imports of Russian gas

Russia is Europe's biggest gas supplier, providing about a quarter of continental demand. A third of gas is exported through Ukraine.

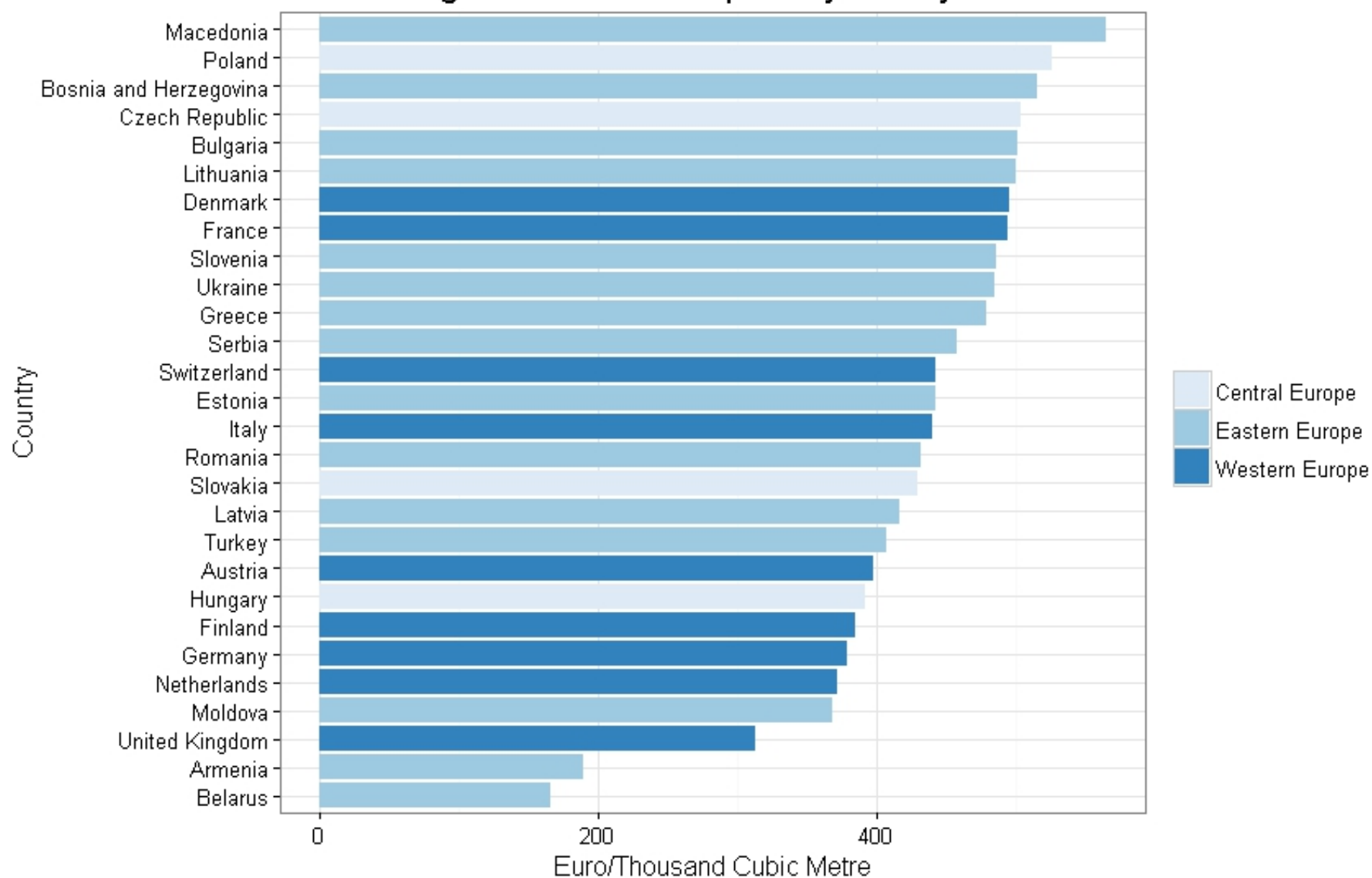
EU ENERGY CONSUMPTION OF RUSSIAN NATURAL GAS



Sources: Gas Infrastructure Europe; Reuters; industry data

* Current estimates.

Average Price Paid to Gazprom by Country in 2013



Gazprom export prices for Europe and Ukraine

USD per 1,000 cubic meters



Source: Gazprom, RIA Novosti

US LNG

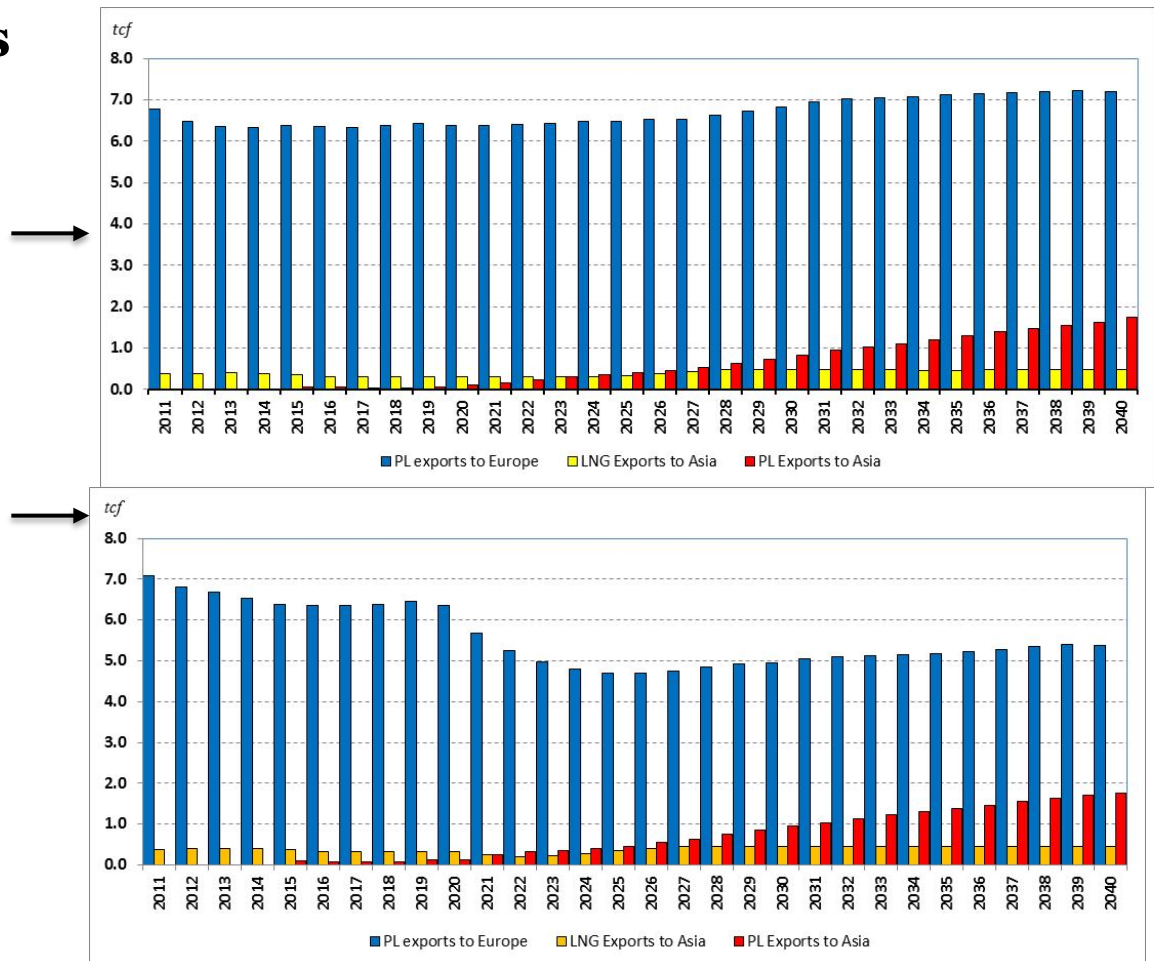
- **Credible threat** to Russia's long-term dominance in Europe
 - Threat, i.e. does not actually need to flow to Europe to perform its role
- US LNG plants situated to best serve markets in Atlantic Basin - Europe within 2 weeks sailing time
 - Flexible, can respond quickly to price driving events (in half time required to reach East Asia)
 - Perform best in terms of seasonal arbitrage
- Threat to Gazprom's dominance taken seriously:
 - NS1 +NS2
 - Turkish Stream
 - LNG: Yamal, prospectively Baltic LNG etc.

Does Credible Threat Work?

- Prices decrease due to new infrastructure projects aimed at increased competition (Hinchey, 2017)
 - More than 130 million Euros (USD 144 million) of Lithuania's savings on gas purchases in 2016 are directly attributable to its decreased reliance on Gazprom as its natural gas supplier.
- US but also **other LNG suppliers**: Qatar, Norway, or even Novatek (possibly)
- The role of displacement

The Effects of Global Natural Gas “Liberalization”

- **Rice World Natural Gas Trade Model**
- **Status Quo**, Russia’s position in Europe is unchallenged;
- “**Liberalized**” markets: Russia’s position in Europe is affected **dramatically**.
 - This occurs because shale is more aggressively developed and LNG deliveries pick up due to positive supply responses outside of Europe as well.
- Hints at what the **US and EU’s policy** should be...



Source: **Kenneth Medlock, Benposium, Baker Institute**

February 2014

***Gas Geoeconomics in Europe:
Using Strategic Investments to Promote Market
Liberalization, Counterbalance Russian Revanchism, and
Enhance European Energy Security***

By Gabriel Collins and Anna Mikulska



Geoeconomic Approach: Definition and Goals

- Geoeconomics: using “**economic instruments to produce beneficial geopolitical results**” (Blackwill and Harris, 2016)
- **U.S.-funded investment** in natural gas infrastructure to **bolster gas supply** and national **security** across Europe.
- Addresses two core problems:
 - Why would a private commercial entity pay for gas infrastructure intended to deal with broader national—and Continental-level—security concerns?
 - How can policymakers potentially incentivize national level decision makers and monopoly gas distribution service providers in Europe to facilitate more rapid gas market liberalization?

Current U.S. Engagement

- Military presence
- Sanctions
- Promotion of liberalization and diversification:
 - State Dept. Bureau of Energy Resources – promoting “market-based” solutions
 - Funding feasibility studies of new supply routes (i.e. nearly \$1 million to Romania for construction of the Romanian portion of the Bulgaria-Romania-Hungary-Austria Connector and the Black Sea-Shore- Podisor Connector)

Priority Zone 1

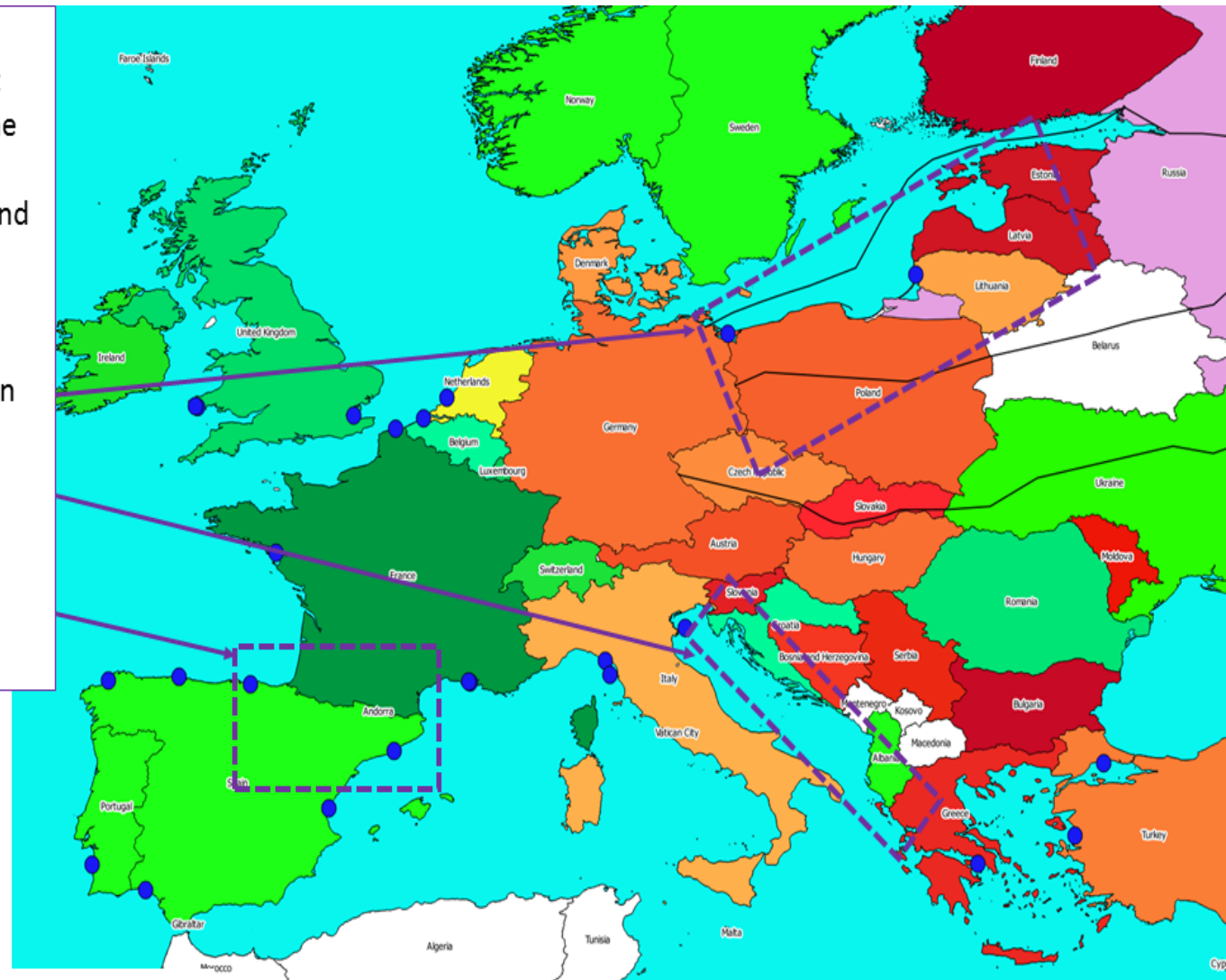
Boosting Baltic Sea LNG import capacity and enhancing pipeline connectivity, including north/south between Poland and neighbors

Priority Zone 2

Improving connectivity between Spain and rest of Europe

Priority Zone 3

Boosting Adriatic Sea LNG capacity and local connectivity into the Balkans and Greece



Dependence on Russian gas



Blue dots represent existing LNG terminals

Geoeconomic Approach: Objectives

- Diversify supply sources
- Foster liberalization of gas markets in Europe
- Make Russia a **“normal” commodity supplier** that is less able to selectively employ gas supplies as a **coercive instrument** against EU and NATO partners and affiliates

US-funded Investment: Preconditions

- Capital flow tied to liberalization of natural gas market
- Investments “molecule indifferent”
- Projects must seek to be connected with pipeline networks capable of enabling transnational movement of gas.

Strategic Investment: Implementation

- Investment types: “forgivable loan,” direct financing, “assured payback,” or preferential finance loans.
- Implementation metrics:
 - lifting price controls
 - physical unbundling of gas production, storage, and transmission infrastructure;
 - the emergence of verified, market-based trading of pipeline capacity;
 - verified, non-discriminatory third-party access by non-Russian controlled entities to gas pipelines in the country;
 - trading turnover rates at virtual transfer points or gas hubs associated with the host country’s gas pipeline network

Expected Effects

Unorthodox proposal

- Short-term engagement with long-term benefits
- Bolsters European resilience
- A new way to deal with increasingly aggrieved and revanchist Russia
- Economic consequences to Russia without collateral damage to EU economy that can result from economic sanctions

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