

# Evaluate Energy

## Global LNG Market Overview



27 September, 2018

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# Who we serve



Government  
of Canada



Independent Statistics & Analysis  
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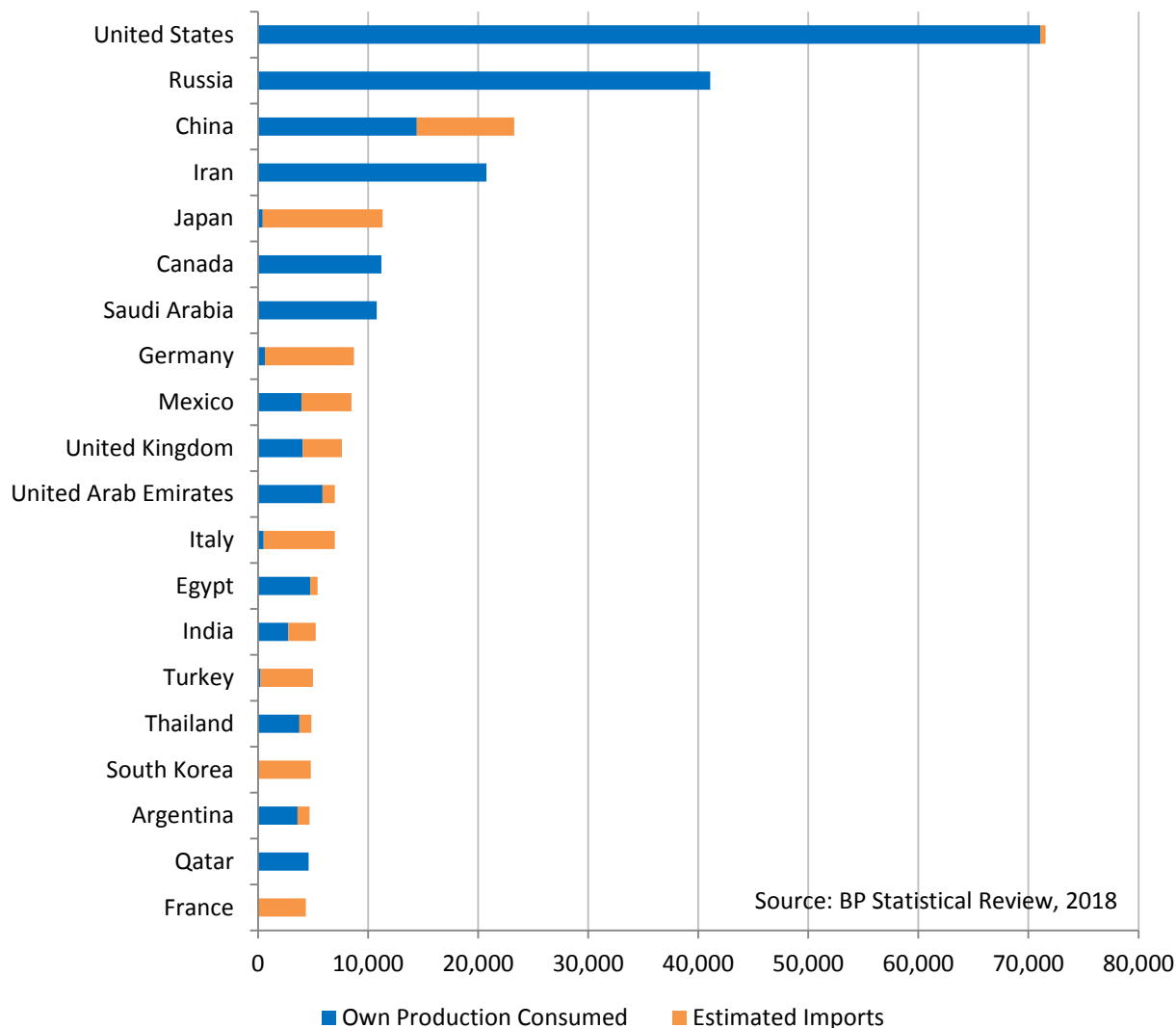


McKinsey & Company



# Global natural gas supply and demand overview

## Natural Gas Consumption 2017 (mmcf/d)



Total world natural gas consumption in 2017:  
**354.2 bcf/d**

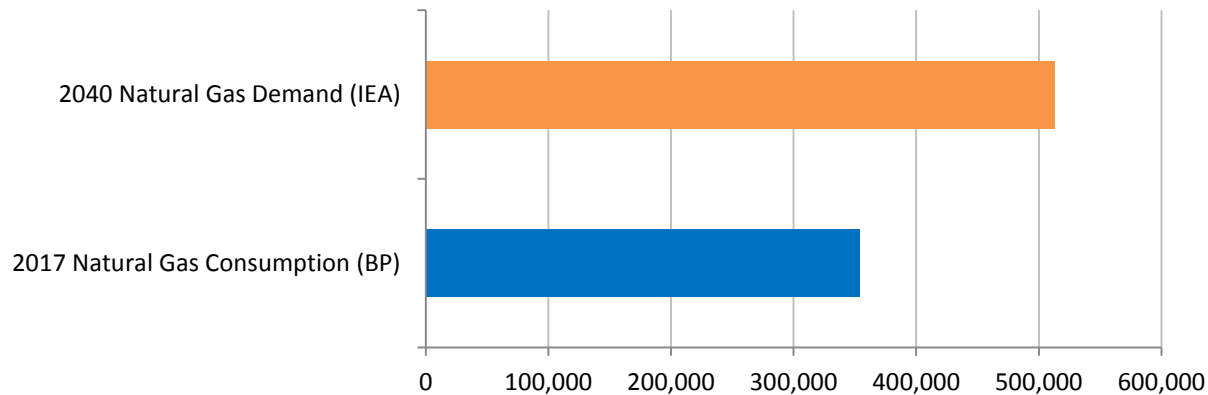
**Biggest net importers based on volume, in descending order (Source: BP):**

- Japan\*
- China
- Germany\*
- Italy\*
- Turkey\*
- South Korea\*
- Mexico
- France\*
- UK
- Spain\*

\* Estimated to have imported over 90% of 2017 consumption

# Global natural gas supply and demand overview

## Future Global Natural Gas Demand (mmcf/d)



Based on current policies in place and those officially announced, the **International Energy Agency (IEA)** sees natural gas demand rising to **over 510 bcf/d** by 2040.

**This is a 45% increase worldwide** compared to 2017.

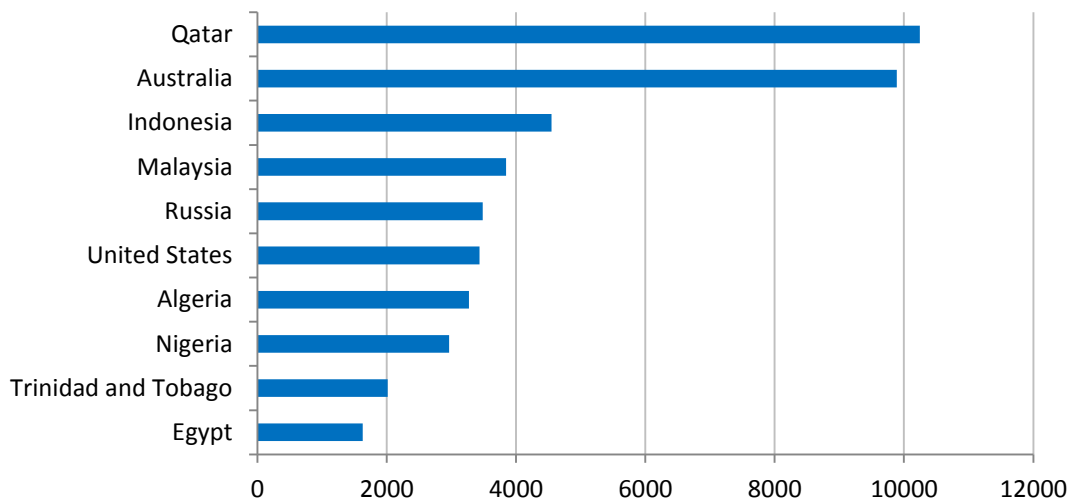
### Key regions where imports needed most in 2040 (IEA):

- **China** will only be producing 50% of demand, which is around three times larger than 2017 consumption levels.
- **India** will only be producing 46% of demand, which is around four times larger than 2017 consumption levels.
- **Japan** will still lack any domestic production, even though consumption is expected to drop.
- **Europe** will only be producing 37% of demand, even though demand remains relatively flat between 2017 and 2040 – less than a 10% increase.

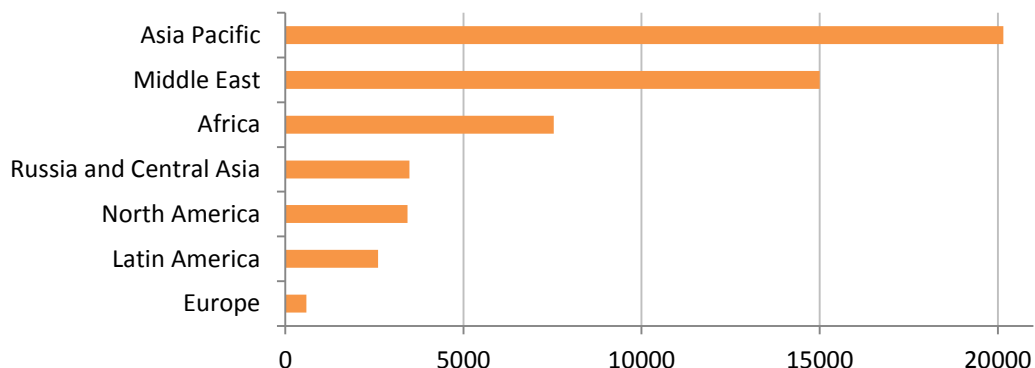
**Gas demand increase driven in part by moves away from coal and oil, related to clean energy or environmental policies.**

# Current LNG producing countries

## Countries with largest LNG export capacity in 2018 (mmcf/d)



## Export capacity onstream in 2018 (mmcf/d)



**21 countries** currently export LNG.

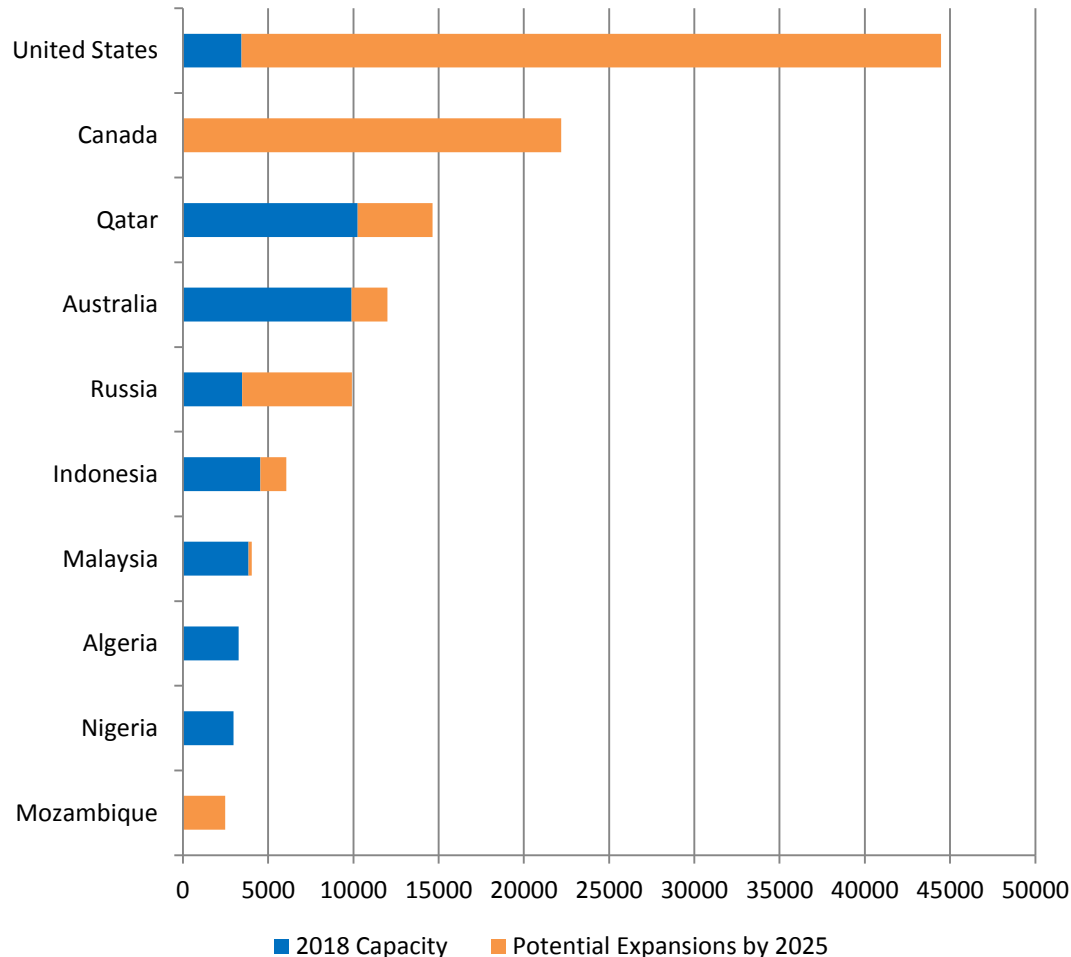
Current global production capacity is just under **53 bcf/d**. This figure represents around 15% of global natural gas consumption in 2017.

The world's largest individual producing country is currently **Qatar**, while various recent developments have seen major capacity increases in **Russia** and the **United States** this year.

**Asia Pacific**, which includes large facilities in Australia, Indonesia and Malaysia, is the region of the world with the largest production capacity right now.

# Future LNG production in 2025

**Countries with largest potential LNG export capacity in 2025 (mmcf/d)**



Based on current plans and proposed expansions, global production capacity will exceed **134 bcf/d**, with **North America** producing by far the most LNG worldwide. There is however **no guarantee** that many North American projects will reach completion. Many are at the extremely early stages of development or gaining initial licenses.

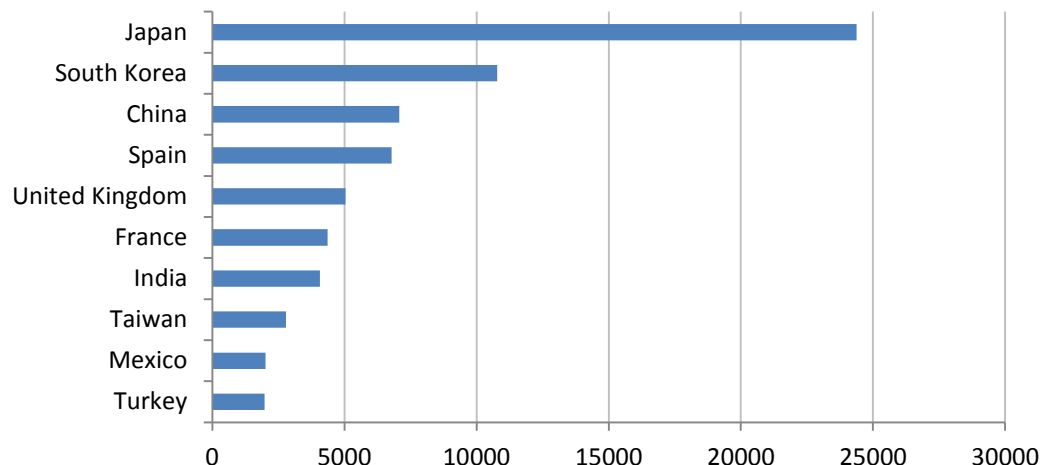
Other countries with significant expansion plans include:

- **Qatar**
- **Russia**
- **Australia**
- **Mozambique**

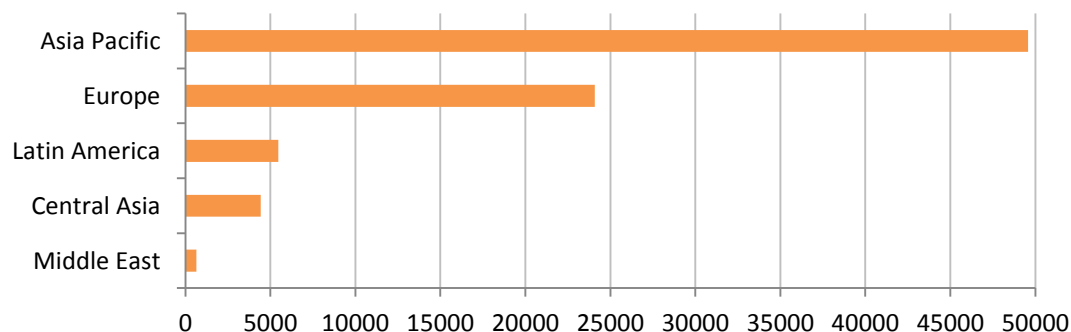
It is important to note that while these figures represent *current plans*, LNG projects are extremely liable to hit delays due to **long regulatory approval processes, protests, rising costs or skilled labour shortages**. Cancellations are also rife in the industry and can be quite abrupt.

# Countries with operational LNG import facilities

## Countries with largest LNG import capacity in 2018 (mmcf/d) – excluding U.S.



## Import Capacity Onstream in 2018 excluding U.S. (mmcf/d)



Unsurprisingly, it is the Asia Pacific region that dominates global regasification capacity figures, along with certain major European nations.

The U.S. – excluded here – still has vast capability to import LNG. This is a hangover from the days of the U.S. being a net importer.

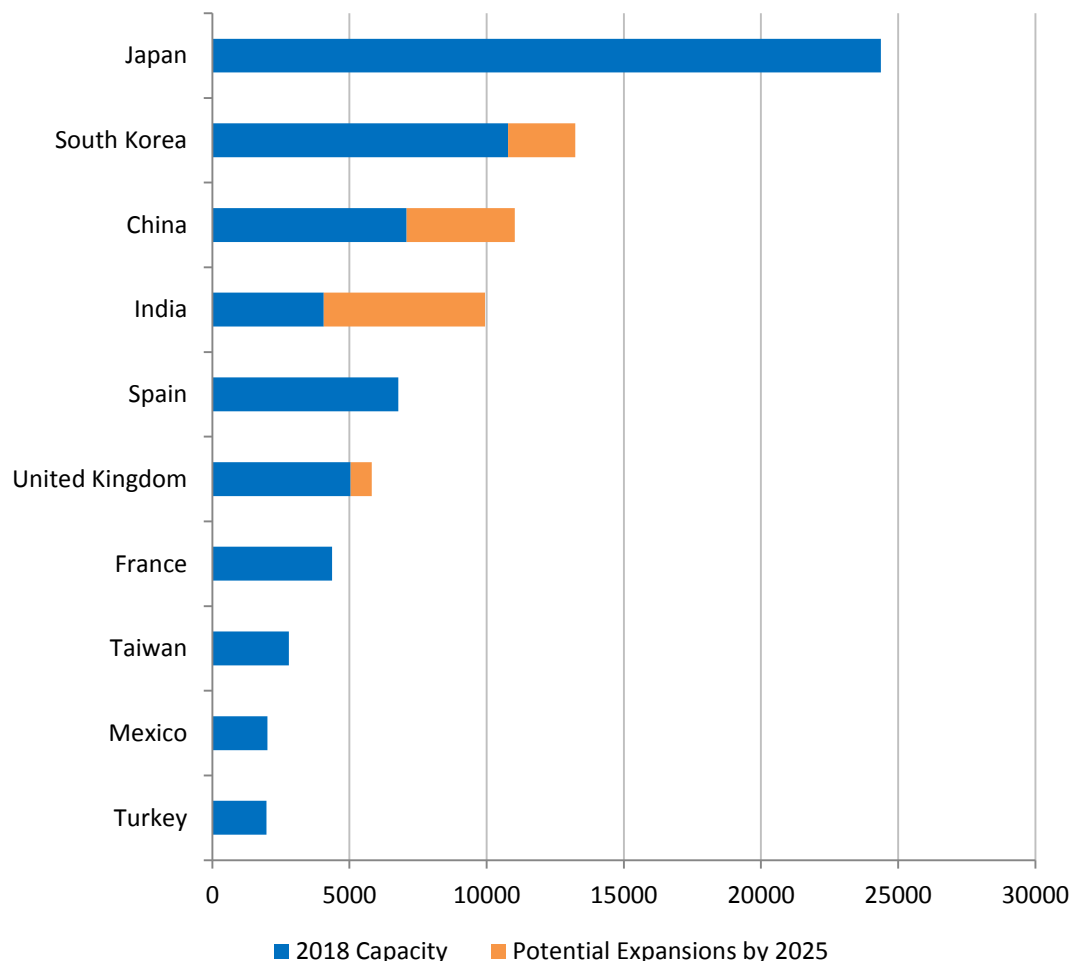
Excluding the U.S., global import capacity is **84 bcf/d** over 33 different countries – **far outstripping current global exporting capabilities**.

Interesting side note here is that many Asian companies that own import facilities at home also hold stakes in *export* facilities abroad. Companies from **China, India, Japan, Taiwan** and **South Korea** can be seen all over the globe funding and constructing LNG export facilities. This helps with import prices and ensures supply volumes.



# LNG import facility plans for 2025

**Countries with largest potential LNG import capacity in 2025 (mmcf/d)**



It will take time for export capacity to catch up with current import capacity levels. Import capacity is not scheduled to increase significantly by 2025, but some countries do have expansion plans in place.

Of 2018's largest importers, **India** stands out as it plans to more than double capacity over the next few years. **China** and **South Korea** see significant expansion also, while a small Floating LNG terminal is also scheduled to come online in the **UK**.

Outside of these top importers, there are many other countries with small-mid scale plans in place, such as **Croatia** and **Finland** in Europe, and **Bangladesh** and **Pakistan** in Asia.

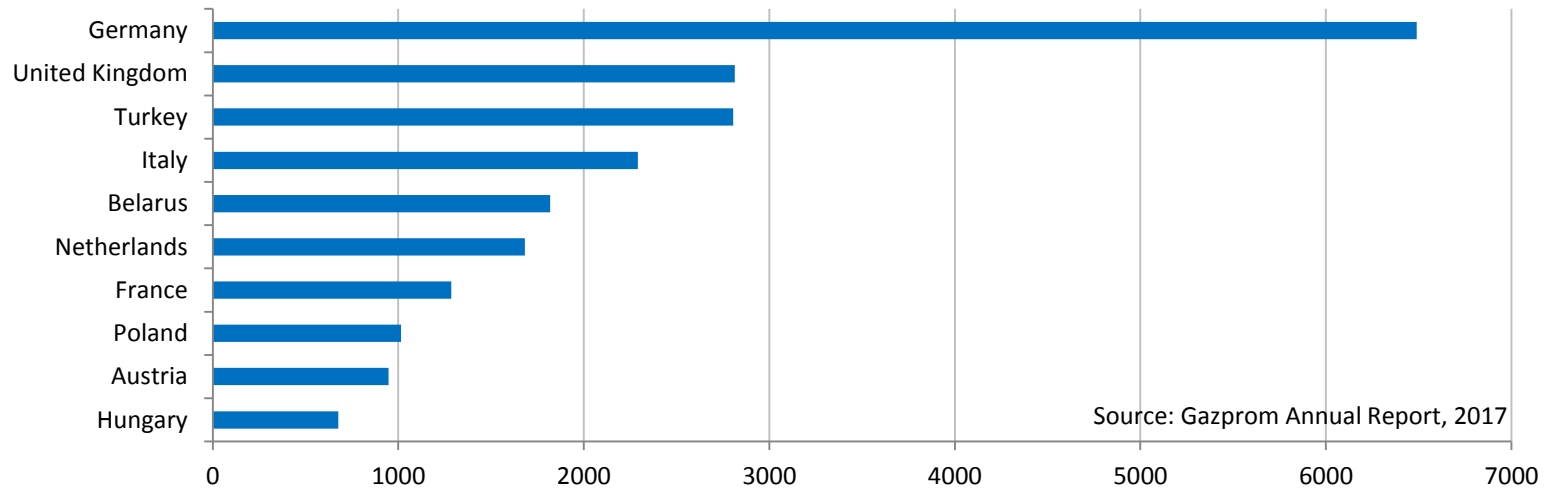
## Recent Developments: LNG exports from North America

- The **United States** currently has two export facilities online, with combined current export capacity of 3.4 bcf/d.
  - Sabine Pass (Louisiana)
  - Cove Point (Maryland)
- Four other large-scale terminals along the country's southern coastline are expected to be completed over the next two years. There are many other small-to-mid-scale projects.
- As for **Canada**, there are many projects that could possibly reach completion by 2025, but very few of them have made any major strides as yet.
- Pieridae Energy's 1.3 bcf/d **Goldboro LNG** project in Nova Scotia is currently expected to come onstream in 2023. It has all the signs of a project on the path to completion:
  - Pieridae recently acquired an Alberta-based gas producer to further ensure feedstock.
  - The terminal is to be fed by the existing Maritimes & Northeast pipeline system
  - Pieridae also plans to procure capacity on the **TransCanada mainline**.
  - Has an agreement in place with a European buyer (German utility, Uniper, 5 million tonnes a year)
- Royal Dutch Shell leads one of the larger projects in the country – **LNG Canada**.
  - This is just one of many proposals in British Columbia, where the LNG industry has failed to take off thus far. This is one project that industry observers are more optimistic over, and Shell is expected to make a decision on the project's future soon. (**UPDATE OCT 2, 2018** – Final investment decision made by the project partners, construction to commence immediately with first LNG expected before “the middle of the next decade” according to Shell.)
  - Project CEO has said that LNG Canada is unaffected by pipeline issues in Canada right now.

## Recent Developments: LNG, Europe and Russia

- Historically, Europe has been very much tied to Russia in terms of its natural gas supplies. This remains true to this day.
- Gazprom figures show that 30 European countries were supplied with natural gas during 2017 and that around 26 bcf/d was exported to them. This was a slight increase over 2016.

### Top 10 - Imports of Natural Gas in 2017 from Gazprom (mmcf/d)



- Some countries are 100% dependent on Russian gas imports, while Germany – the EU’s largest economy – imports a significant portion of its natural gas needs from Gazprom, based on BP consumption figures.

## Recent Developments: LNG, Europe and Russia

- **Energy security** has been a hot topic in recent years as tensions between some European nations and Russia have increased. **Pricing** is among the main concerns and leverage in negotiations.
- LNG is one option that European nations are looking at in order to improve energy security and diversity. The U.K. has large long-term supply contracts with Qatar, for example.
  - Important to note here that some European LNG is imported from Russia.
- Unlikely to be a day anytime soon where Europe is not at least in part reliant on Russian gas but LNG facilities along with pipeline network and underground storage improvements have aided European nations in terms of increased options and flexibility.
- **Lithuania** is a great example of how LNG has brought this flexibility.
  - Lithuania was formerly wholly-dependent on Russia and was charged some of the most expensive rates in Europe for natural gas by Gazprom.
  - The construction of its own LNG terminal was completed in 2014.
  - This has allowed Lithuania to bring the price of its ongoing (albeit reduced) levels of Russian natural gas imports to EU averages.
  - LNG satisfies the remainder of demand, imports have come from **U.S., Qatar, Norway** and **Australia**.
  - It also has enough capacity at the terminal to help procure supplies for its Baltic neighbours.
- **Russia has diversified too**, as revenue growth options in Europe are scarce.
  - LNG exports from Yamal and Sakhalin head to the **Far East** as well as Europe, more terminals are planned.
  - Back in 2014, it also signed a 30-year mega supply deal with **China**.
  - As part of this deal, Russia will invest **\$55 billion** to build a 2,500 mile pipeline.

## Overview - Evaluate Energy

Evaluate  
Energy



Daily Oil Bulletin



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# Evaluate Energy

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