



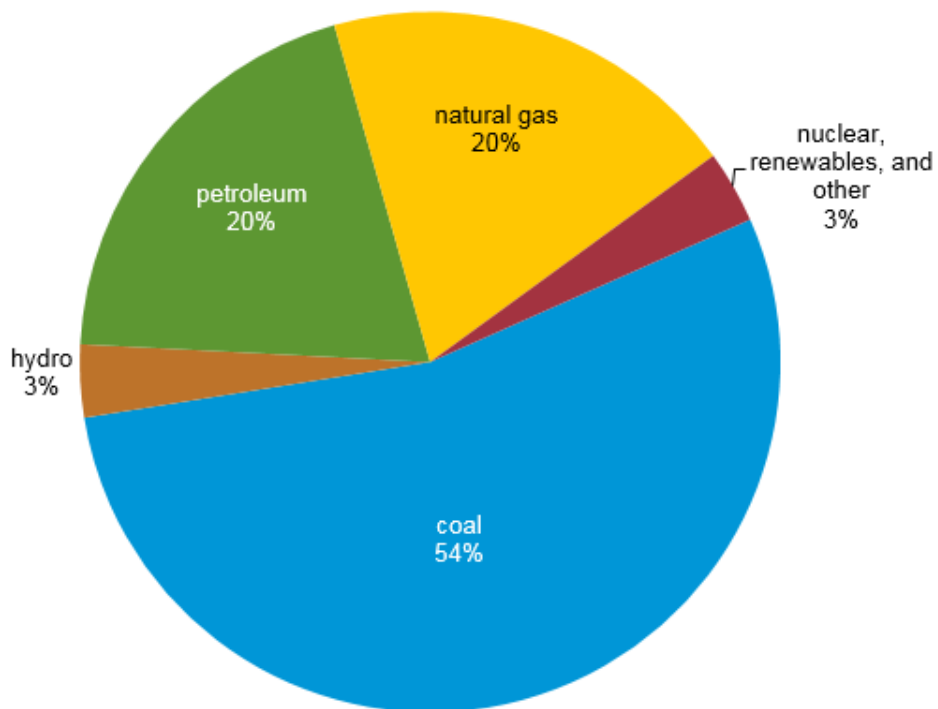
## Country Analysis Executive Summary: Kazakhstan


Last Updated: January 7, 2019

### Overview

- Kazakhstan's estimated total petroleum and other liquids production was 1.77 million barrels per day (b/d) in 2017.
- Kazakhstan consumed 2.59 quadrillion British thermal units (Btu) of energy in 2015, and coal accounted for the largest share of energy consumed (54%), followed by petroleum and natural gas (20% and 19%, respectively) (Figure 1).

Figure 1. Kazakhstan energy consumption by fuel, 2015



 Source: U.S. Energy Information Administration

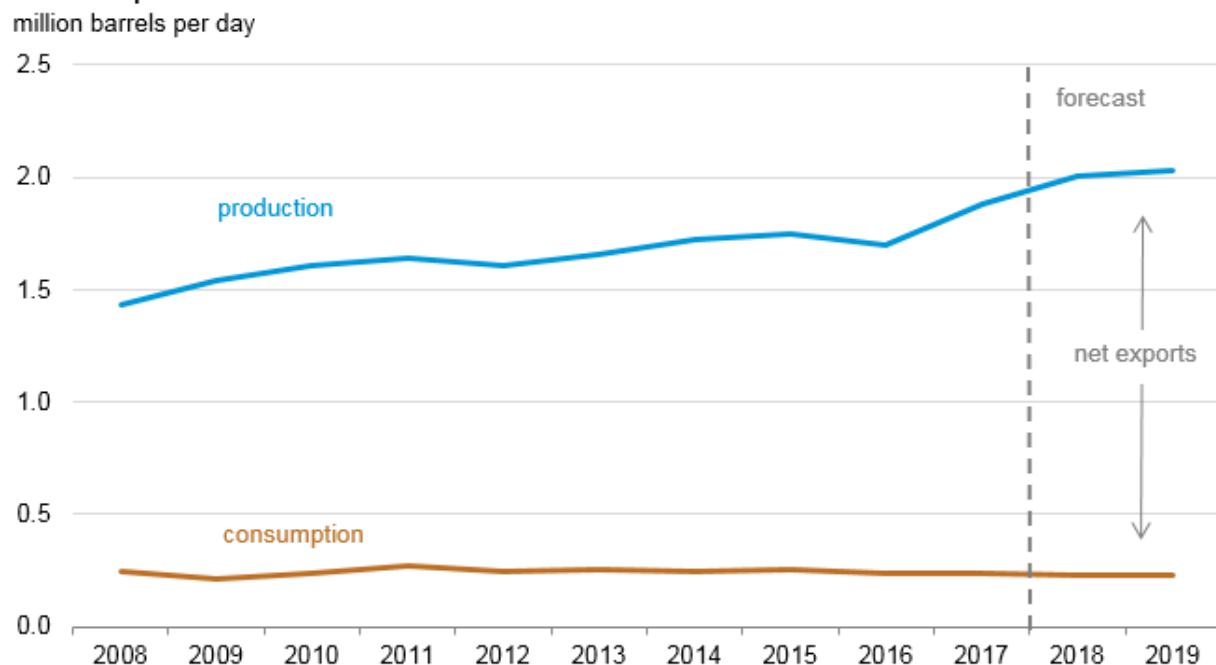
## Petroleum and other liquids

- According to the *Oil & Gas Journal* (OGJ), Kazakhstan had proved crude oil reserves of 30 billion barrels as of January 2018—the 2nd-largest endowment in Eurasia after Russia, and the 12-largest in the world, just behind the United States.<sup>1</sup>

### Exploration and production

- Kazakhstan's current oil production is dominated by two giant onshore fields in the northwest of the country and one offshore field in the Caspian Sea. The onshore Tengiz and Karachaganak fields together produced about half of Kazakhstan's total petroleum liquids output in 2017 (Figure 2). The offshore Kashagan field started ramping up production in 2017, producing about 225,000 b/d in December.<sup>2</sup>

**Figure 2. Kazakhstan's petroleum and other liquids production and consumption**



Sources: U.S. Energy Information Administration, *Short-Term Energy Outlook*, August 2018  
Note: 2017 data are preliminary

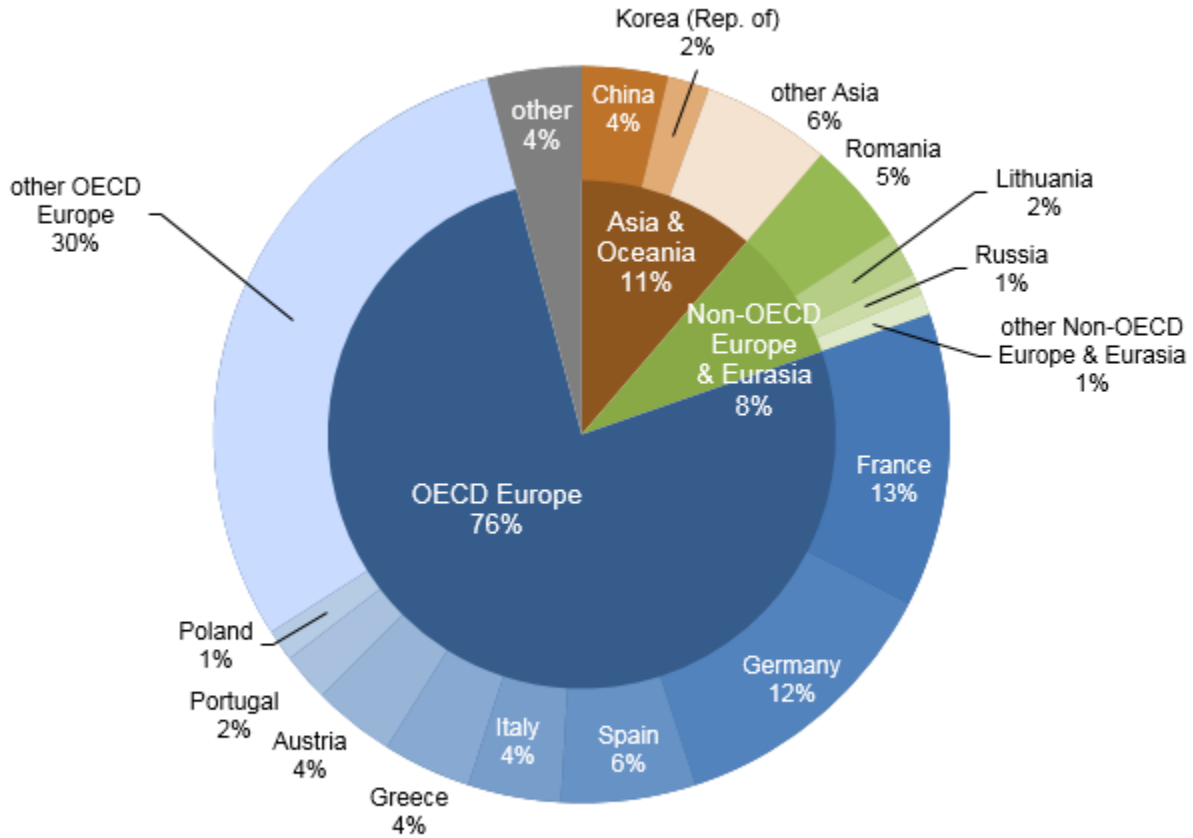
### Refining

- Kazakhstan had three major crude oil refineries—Pavlodar, Atyrau, and Shymkent—with crude oil distillation capacity of 340,000 b/d as of January 1, 2018, according to OGJ.<sup>3</sup>
- Upgrading projects at all three main refineries are expected to be completed by the end of the third quarter of 2018. The upgrades will allow the three plants to produce fewer heavy products and more high-quality transportation fuels. With these upgrades, Kazakhstan aims to meet all domestic demand for gasoline and diesel production by 2019 and may start exporting gasoline by the end of 2018.<sup>4</sup>

## Trade

- In 2017, Kazakhstan exported about 1.3 million b/d of crude oil and condensate, according to EIA estimates based on data from Global Trade Tracker and ClipperData (Figure 3).<sup>5</sup> Most of Kazakhstan's crude oil exports travel around or across the Caspian Sea to European markets.

Figure 3. Kazakhstan's crude oil exports by destination, 2017



Source: U.S. Energy Information Administration based on Kazakh export statistics and partner country import statistics, Global Trade Tracker

## Natural gas

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- OGJ estimated Kazakhstan's proven natural gas reserves at 85 trillion cubic feet (Tcf) as of January 1, 2018.<sup>6</sup>

## Exploration and production

- Annual gross natural gas production almost doubled from 2006 to 2016, from 0.9 Tcf in 2006 to 1.6 Tcf in 2016.
- In 2017, the Kashagan field became a significant producer of Kazakh natural gas. That year, the Karachaganak, Kashagan, and Tengiz fields combined accounted for about 65% of Kazakhstan's commercial natural gas production.

## Trade

- In 2017, Kazakhstan exported more than 350 billion cubic feet (Bcf) of natural gas, mainly to Russia and China.

## Coal

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- With 28,225 million short tons (MMst) of total recoverable coal reserves as of 2015, Kazakhstan is in the top ten countries in the world in terms of coal reserves and coal production. It is also in the top fifteen countries in the world in terms of coal consumption.
- However, Kazakhstan only accounted for between 1% and 2% of global production in 2017.

## Electricity

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- Kazakhstan's total installed generating capacity was about 21.6 gigawatts (GW) as of 2018.<sup>7</sup>

## Consumption

- Kazakhstan's total generation in 2017 was 102.4 billion kilowatthours of electricity—of which more than 88% came from fossil fuel-fired plants, 11% came from hydropower plants, and less than 1% came from solar and wind installations.<sup>8</sup>

## Notes

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- In response to stakeholder feedback, the U.S. Energy Information Administration has revised the format of the *Country Analysis Briefs*. As of December 2018, updated briefs are available in two complementary formats: the Country Analysis Executive Summary provides an overview of recent developments in a country's energy sector and the Background Reference provides historical context. Archived versions will remain available in the original format.
- Data presented in the text are the most recent available as of December 2018.
- Data are EIA estimates unless otherwise noted.

## Endnotes

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<sup>1</sup> *Oil & Gas Journal*, "Worldwide look at reserves and production," p. 20 (December 4, 2017).

<sup>2</sup> Energy Intelligence, *Nefte Compass*, "Kazakh Crude Oil and Gas Condensate Production, 2017," (January 25, 2018).

<sup>3</sup> *Oil & Gas Journal*, "Worldwide Refining," (December 5, 2016).

<sup>4</sup> Energy Intelligence, *Nefte Compass*, "Kazakh Refinery to Launch Cat-Cracker," (July 12, 2018), p. 8.

<sup>5</sup> EIA estimates based on crude export data reported by Kazakhstan and import data reported by trade partners from [Global Trade Tracker](#), accessed August 28, 2018 (subscription) and crude tanker data from Clipper Data (subscription) accessed September 3, 2018. Note that *other OECD Europe* includes the difference in volumes reported by Kazakhstan versus those reported by OECD Europe countries that transit crude oil or have crude oil pipeline connections to countries that transit crude oil (Italy, Netherlands, Austria, Belgium, Czech Republic, and Germany).

<sup>6</sup> *Oil & Gas Journal*, "Worldwide look at reserves and production," p. 20 (December 4, 2017).

<sup>7</sup> Kazakhstan Electricity Grid Operating Company KEGOC, [Kazakhstan Electric Power Industry Key Factors](#), (accessed September 24, 2018).

<sup>8</sup> Kazakhstan Electricity Grid Operating Company KEGOC, [National Power System](#), (accessed September 24, 2018)