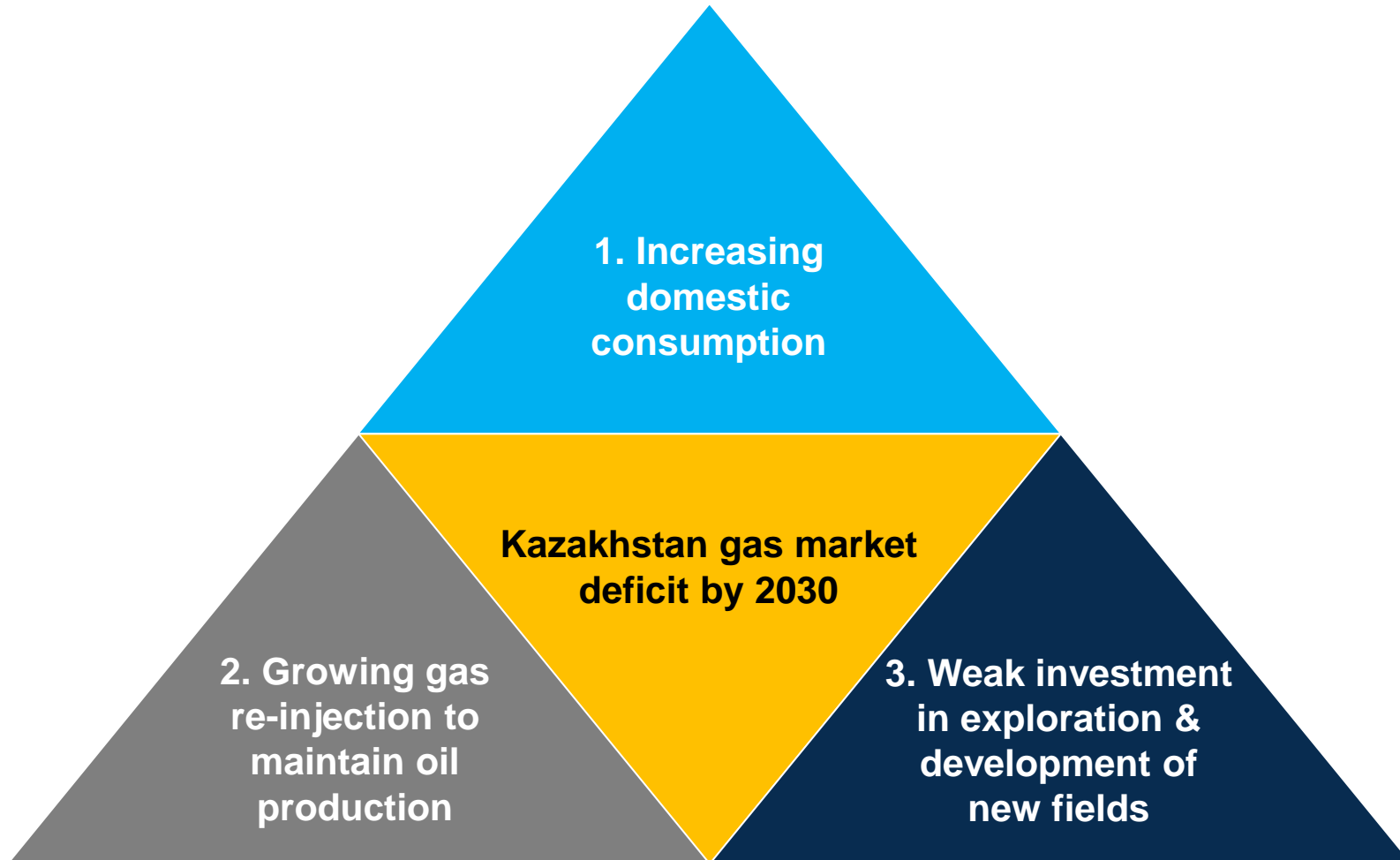




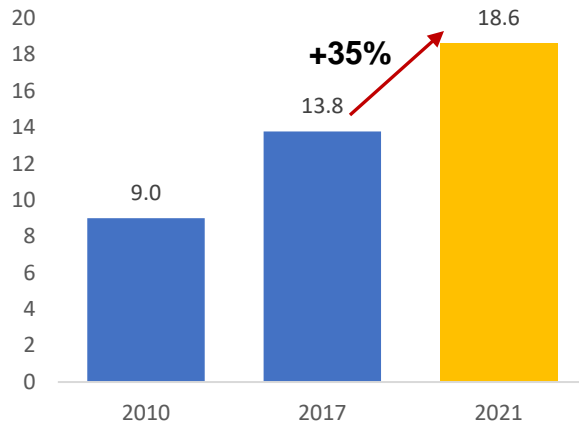
## Kazakhstan's Gas Market Outlook: "Potential Supply Deficit Looms"

# Kazakhstan expects to experience gas market deficit by 2030

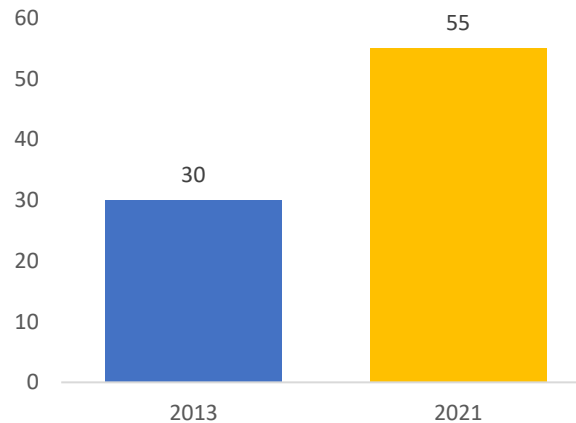


# Kazakhstan domestic gas market: charting growth

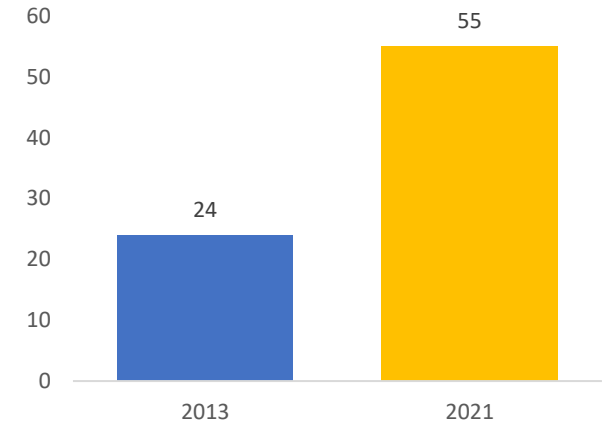
### Domestic Gas Consumption, bcm



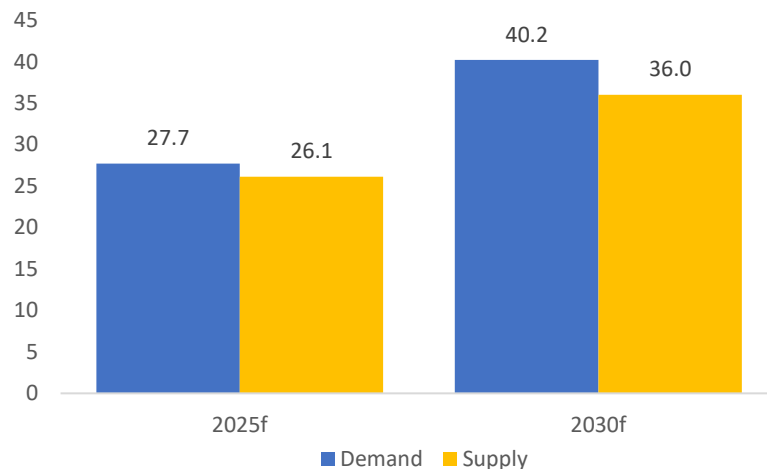
### Gasification of Settlements, %



### Gasification of Enterprises, '000



### Kazakhstan's Gas Demand & Supply Forecasts, bcm



✓ Kazakhstan's commercial gas production is expected to peak at 30bcm in 2030. **By 2030, Kazakhstan will produce less gas than the domestic market needs.**

✓ Against the backdrop of dynamic growth of gas consumption in the domestic market, **Kazakhstan could potentially face a marginal gas shortage of 1.6bcm as early as 2025.**

# What leads to Kazakhstan's gas market potential supply deficit?

## Key areas

## Challenges faced

Recoverable gas reserves  
of 3.9tcm

- Kazakhstan ranks 22<sup>nd</sup> in the world and 3<sup>rd</sup> in the CIS (after Russia and Turkmenistan).
- But **two-thirds** of the recoverable reserves are associated gas from oil & gas and oil & gas condensate fields, **characterized by a multicomponent composition, high content of hydrogen sulfide compounds and requires costly preliminary processing.**

80% of gas production by  
foreign investors under  
PSA

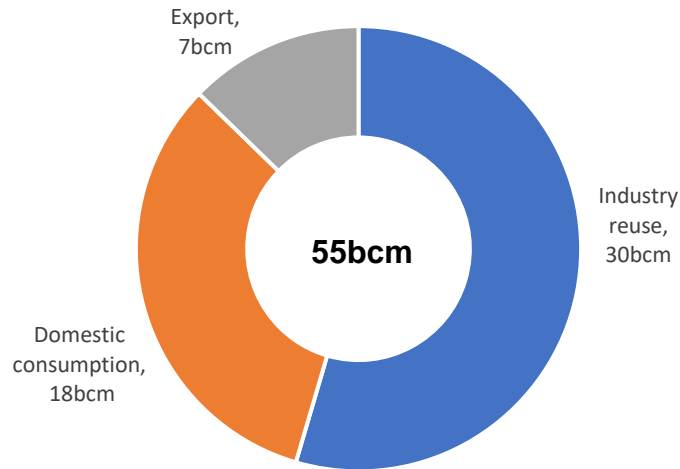
- According to the terms of the PSAs, these **foreign companies are not obliged to supply the gas produced to the domestic market.**
- The gas produced is mainly used for reinjection into the reservoir to increase oil recovery and for their own technological needs.

Wear and tear of gas  
pipelines & technical  
equipment

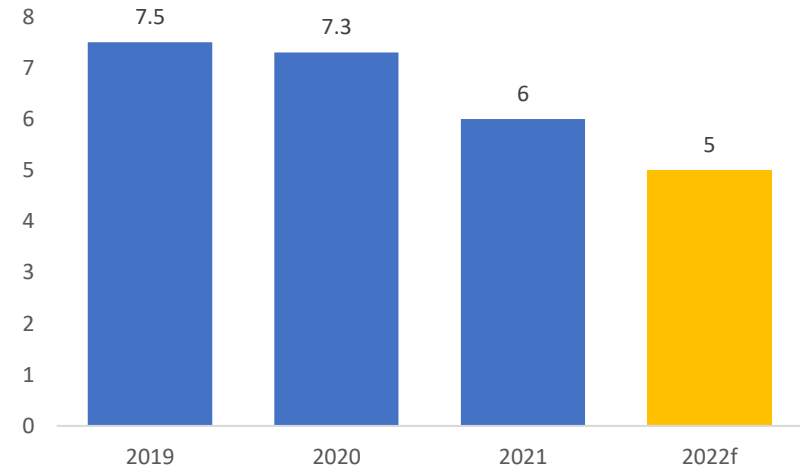
- The **average level of depreciation of backbone networks has reached 75%.**
- The greatest wear is noted in Atyrau 84%, Mangistau regions 86% (Beyneu-Zhanozen and Zhanozen-Aktau gas pipelines are in critical condition).
- **More than 80% of gas wells and gas storages are beyond the safety level.**
- The **life of every sixth compressor station is more than 50 years.**

# Potential implications of Kazakhstan's gas market supply deficit

Kazakhstan's Gas Produced by Use Purpose, bcm



Kazakhstan's Gas Export to China, bcm



- ✓ Out of approx. **55bcm** of production per year, up to **30bcm** is for the oil industry's own needs, **18bcm** is for domestic consumption and **7bcm** is exported.
- ✓ Kazakhstan's **gas export earnings** serve to subsidize domestic gas prices.
- ✓ **As domestic consumption grows at a time when the production of marketable gas is not increasing, Kazakhstan has to reduce the volume of gas exports.** Kazakhstan's gas export to China fell from 7.5bcm in 2019 to 6bcm in 2021, and is expected to decline further to 5bcm in 2022.
- ✓ **At some point in the future, Kazakhstan's gas export may cease altogether and there will be no revenue source to maintain low domestic gas prices.** The authorities will be forced to change the gas pricing model in the country where an increase in gas tariffs is inevitable.

# Investments into Kazakhstan's gas industry is much needed

- ✓ **New investments are needed in Kazakhstan's gas industry: (i) the exploration of new fields and their development, (ii) the modernization of the gas transmission system, and (ii) the construction of gas processing facilities – all of which will require large capital and time.**
- ✓ **By 2030, raw gas production is projected to reach 87.1bcm, of which only 42bcm will be processed into commercial gas.** The remaining of the gas will be pumped back into the reservoirs (47%) and used for own needs (15%) of the subsoil users.
- ✓ The Ministry of Energy has prepared a Comprehensive Plan for the Development of the Gas Industry until 2030:
  - **Kazakhstan's gas production is to increase from 30.5bcm in 2020 to 42.6bcm in 2030.**
  - **Processing capacity at Kashagan to increase to 9bcm, this is expected to raise the commercial gas production at the field to 8cm.**
- ✓ Post independence, there is no discovery of new gas field with high potential of gas production. It is only the development of already discovered deposits which requires 7 to 10 years.
- ✓ **The State plans to develop gas production and processing projects using borrowed funds and third-party investments.** The guarantee of repayment of borrowed funds will be the inclusion of costs in tariffs. Therefore, the Ministry of Energy intends not only to provide subsoil users with a large package of fiscal incentives, but also to raise prices for commercial gas in the domestic market.
- ✓ In order to reduce costs and save time, **additional volumes of gas for further gasification of Kazakhstan can be imported from Russia and Turkmenistan.**
- ✓ **A breakthrough solution could be a connection with Russian gas transmission system.** This will enable commercial gas supply to the central and eastern regions of Kazakhstan, and to also develop subsequent transit to neighboring countries in particular China. With Russia under economic sanctions, both countries will have the opportunity to build a reliable gas network that ensures competitive energy sales.



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