

GECF
Annual
Statistical
Bulletin
2019



GECF

GAS EXPORTING COUNTRIES FORUM

GECF Annual Statistical Bulletin 2019

3rd edition

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Foreword



HE Dr. Yury P. Sentyurin | Secretary General, Gas Exporting Countries Forum (GECF)

Back in 2017 the GECF Annual Statistical Bulletin (ASB) first edition settled to be the basis for obligatory reference for our stakeholders and partners in the Gas Industry, this year we are pleased to present its third edition.

The GECF ASB is the Data and Statistics Flagship publication of the Secretariat, delivering primary data from our twelve Member Countries and a selected set of indicators about Observer Countries.

This edition continues to follow the path of data transparency, aligned with our participation in the Joint Organization Data Initiative (JODI) for Gas, for the sake of supply and demand stability and security in the global natural gas markets, increasing its data sets and including new features.

The GECF ASB 2019 expanded its coverage to the last 10 years, reflecting the GECF Secretariat historical inception. Additionally, Member Countries LNG fleet information is included, as well as supplementary figures in the Macroeconomics section. However, the key innovation in this edition is the introduction of last year's (2018) monthly data, enabling by this way not only the historical analysis year-by-year of 10 years, but also the 2018's short-term analysis for most of our Member Countries.

For this edition, the Special Envoys for Data and Statistics successfully accomplished the GECF ASB 2019 data set's expansion challenge through the GECF Data Exchange Mechanism, allowing the Secretariat to effectively produce this edition. To them, the representatives of GECF Member Countries, the colleagues of GECF and the invisible but valuable contributors that supported the elaboration of this book we would like to extend our sincere gratitude and acknowledgments.

The GECF ASB 2019 information is available using multi-format distribution channels including printed booklet edition, GECF website digital downloadable format, and for Member Countries, the GECF Mobile App and the GECF Data Exchange Centre System are available.

Convinced that the GECF ASB 2019 is a key element to support GECF Member Countries sovereign rights over their natural gas resources, it is an honor to be able to present this valuable publication.

Gas Defines GECF, Data leads the way.

Yury P. Sentyurin, PhD
Secretary General

Acknowledgements

To the Honourable Ministers of GECF Member Countries for their support and Guidance.

To the Special Envoys for Data and Statistics (SEDAS) of GECF Member Countries for their treasured efforts, hard work and valuable support (namely in alphabetic order):

Mr. Aliyu Alhaji Dikko, Special Envoy of the Federal Republic of Nigeria.

Mr. Ali Aliabadi, Special Envoy of the Islamic Republic of Iran.

Mr. Antimo Asumu Obama Asangono, Special Envoy of the Equatorial Guinea.

Ms. Ana Fabiola Velez Paz, Special Envoy of the Plurinational State of Bolivia.

Ms. Haleimah Rashed Aldanhani and Ms. Hayat Omar Amboul, Special Envoy and Representatives of the United Arab Emirates.

Mr. Hisham Selim, Mr. Karim El-Botaty and Mr. Hassan Sabry, Special Envoy and Representatives of the Arab Republic of Egypt.

Ms. Iryna Ananich, Ms. Anastasia Lebedeva and Ms. Irina Grechukhina, Special Envoy and Representatives of the Russian Federation.

Mr. Jose Agustin Ruiz, Special Envoy of the Bolivarian Republic of Venezuela.

Mr. Miloud Medjelled, Special Envoy of the People's Democratic Republic of Algeria.

Ms. Nandita Maharaj, Special Envoy of the Republic of Trinidad and Tobago.

Ms. Naima Suwani, Special Envoy of the State of Libya.

Ms. Sarah Hamad Khames Marqab Al-Kaabi, Special Envoy of the State of Qatar.

To the Executive Board of GECF and Technical Economic Council Members for their appreciated orientations.

To the Gas Market Analysis Department (GMAD) and the Energy and Economic Forecasting Department (EEFD) of GECF for their esteemed feedback and comments.

To the Administration and Finance Department and Secretary General Office (SGO) of GECF for their valuable support.

About Gas Exporting Countries Forum



20th Ministerial Meeting of the Gas Exporting Countries Forum (GECF) | 14th November 2018
Port of Spain, Trinidad and Tobago

The Gas Exporting Countries Forum (GECF) is an international, governmental organisation which provides the framework for exchanging experience and information among its Member Countries.

In accordance with Our Statute, the GECF aims to support the sovereign rights of its Member Countries over their natural gas resources and their abilities to develop, preserve and use such resources for the benefit of their peoples, through the exchange of experience, views, information and co-ordination in gas-related matters.

Following the GECF Long Term Strategy, our Vision is “to become a globally recognized credible Forum that will develop and reflect common views and unified positions, positively influencing direction of the global gas market by promoting natural gas as the fuel of choice in the global energy mix based on its availability, reliability, versatility, affordability and its inherent nature as an environmentally-friendly source of energy”. Our Mission is “to enhance the role of GECF in the global energy scene in order to support the sovereign rights of Member Countries over their natural gas resources, to maximize their value for the benefit of their people, and to promote their coordination on global energy developments with a view to contributing to global sustainable development and energy security”.

The GECF was established in 2001 in Tehran, Iran and later evolved into an international organisation with the signing of an agreement for the functioning of the Secretariat and its Statute at the 7th Ministerial Meeting in Moscow, Russia in December 2008, with its permanent secretariat based in Doha, Qatar.

The GECF Member Countries are: Algeria, Bolivia, Egypt, Equatorial Guinea, Iran, Libya, Nigeria, Qatar, Russia, Trinidad and Tobago, United Arab Emirates and Venezuela. Angola, Azerbaijan, Iraq, Kazakhstan, Norway, Oman and Peru have the status of Observer Members.

The first Secretary General of GECF, HE Leonid Bokhanovskiy, was appointed at the 9th Ministerial Meeting which was held in Doha, Qatar on the 9th December 2009.

HE S.M. Hossein Adeli was appointed as second Secretary General of GECF at the 15th Ministerial Meeting convened in Tehran, the Islamic Republic of Iran, on the 3rd November 2013.

The third and incumbent Secretary General of GECF, HE Dr. Yury P. Sentyurin, was appointed at the 19th Ministerial Meeting held in Moscow, Russian Federation on 4th October 2017.

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Definitions

| Name | Definition | Source |
|---|---|---|
| Domestic Consumption | Volume of gas consumed domestically; excluding gas exports. | GECF. |
| Energy Intensity Level of Primary Energy | The ratio between energy supply and gross domestic product measured at purchasing power parity. Energy intensity is an indication of how much energy is used to produce one unit of economic output. Lower ratio indicates that less energy is used to produce one unit of output. | World Bank, Sustainable Energy for All (SE4ALL). |
| Energy Use (kg of Oil Equivalent per Capita) | Use of primary energy before transformation to other end-use fuels, which is equal to indigenous production plus imports and stock changes, minus exports and fuels supplied to ships and aircraft engaged in international transport. | World Bank, IEA Statistics © OECD/IEA 2014. |
| Exports of Goods and Services (% of GDP) | The Share of Exports of goods and services in the total GDP. | World Bank and OECD National Accounts data files. |
| Exports of Goods and Services (current US\$) | The value of all goods and other market services provided to the rest of the world. Data are in current U.S. dollars. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. | World Bank and OECD National Accounts data files. |
| Flaring | Volume of gas flared or vented. | GECF. |
| GDP (Current US\$) | The sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. Data are in current U.S. dollars. Dollar figures for GDP are converted from domestic currencies using single year official exchange rates. | World Bank and OECD National Accounts data files. |
| GDP Growth (Annual %) | Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. | World Bank and OECD National Accounts data files. |
| GDP per capita (Current US\$) | GDP per capita is gross domestic product divided by midyear population. | World Bank and OECD National Accounts data files. |
| Gross Production | Production of associated and Non-Associated Natural Gas wet or dry within the boundaries including off and on-shore fields. Associated Natural Gas is the Natural Gas produced in association with crude oil. Non-Associated Natural Gas is Natural Gas originating from fields producing hydrocarbons only in gaseous form. | GECF. |
| Inflation, Consumer Prices (Annual %) | The annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. | International Monetary Fund, International Financial Statistics and data files. |
| Labor Force | Comprises people ages 15 and older who supply labor for the production of goods and services during a specified period. It includes people who are currently employed and people who are unemployed but seeking work as well as first-time job-seekers. Not everyone who works is included, however. Unpaid workers, family workers, and students are often omitted, and some countries do not count members of the armed forces. | World Bank |
| Liquefaction | The process of converting Natural Gas into LNG. | GECF. |
| Liquefied Natural Gas | Also LNG, natural gas in liquid form; condensed into liquid by cooling it at -161°C / -260°F, at atmospheric pressure after pre-treatment to condense into liquid. | GECF. |
| Marketed Production | Gross Production minus Reinjection, Flaring and shrinkage. This production is available to be marketed either on the local market or to be exported. | GECF. |
| Natural Gas | Mixture of hydrocarbons compounds and small quantities of various non-hydrocarbons existing in the gaseous phase or in solution with oil in natural underground reservoirs at reservoirs conditions. | GECF. |
| Natural Gas Use (Scm per Capita) | Use of natural gas before transformation to other end-use fuels, which is equal to gas consumed domestically, excluding gas exports. | GECF. |
| Petrochemicals (Feedstock) | Volume of gas consumed as feedstock for petrochemical industry. | GECF. |
| Population | Counts all residents regardless of legal status or citizenship. The values shown are midyear estimates. | World Bank and OECD National Accounts data files. |
| Power Generation | Related to Domestic Consumption and Trade tables, it represents the volume of gas consumed to generate electricity. | GECF. |
| Proven Natural Gas Reserves | Estimated quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing conditions. | BP. |
| Refineries | Volume of gas consumed as fuel in oil refineries. | GECF. |
| Regasification | The process of conversion of LNG into gas, its initial and gaseous state. It is a process by which LNG is warmed, usually through a heat exchanger, in order to become once more gaseous before emission into the Gas Grid. | GECF. |
| Reinjection | Volume of gas processed through non-associated gas processing plants and fields activities, returned to sub-surface formation to enhance recovery rate. | GECF. |
| Shrinkage | Volume reduction of wet Natural Gas due to the extraction of some of its constituents such as liquid hydrocarbon products and others. | GECF. |
| Status | Refers to last update of pipeline or plant status (Operational, Under construction or Planned). | GECF. |
| Train | An independent unit for gas liquefaction. An LNG plant may comprise one or more trains. | GECF. |

Abbreviation, Symbols and Units

| Abbreviation | Explanation |
|--------------|--|
| % | Percentage. |
| - | No data applicable. |
| 1000MT | One Thousand Metric Tones |
| Bcm | Billion Standard Cubic Metres. |
| FLNG | Floating Liquefied Natural Gas Facility. |
| FSRU | Floating Storage Regasification Unit. |
| GDP | Gross Domestic Products. |
| Kg | Kilogram. |
| Km | Kilometres. |
| LNG | Liquefied Natural Gas. |
| MC | Member Countries. |
| MJ | Mega Joules. |
| MMcm | Million Standard Cubic Metres |
| MMT | Million Metric Tons. |
| MTPA | Million Tons per Annum. |
| NA | No data available. |
| OC | Observer Countries. |
| PPP | Purchasing Power Parity. |
| Scm | Standard Cubic Metres. |
| US\$ | United States Dollar. |

Conversion Factors

Conversion equivalents among LNG & Natural Gas units

| From \ To | Metric Tons of LNG | Cubic Metres of LNG | Scm |
|---------------------|-----------------------|------------------------|------|
| Metric Tons of LNG | 1 | 2.2 | 1360 |
| Cubic Metres of LNG | 0.45 | 1 | 615 |
| Scm | 7.35×10^{-4} | 1.626×10^{-3} | 1 |

Conversion equivalents among units of volumes

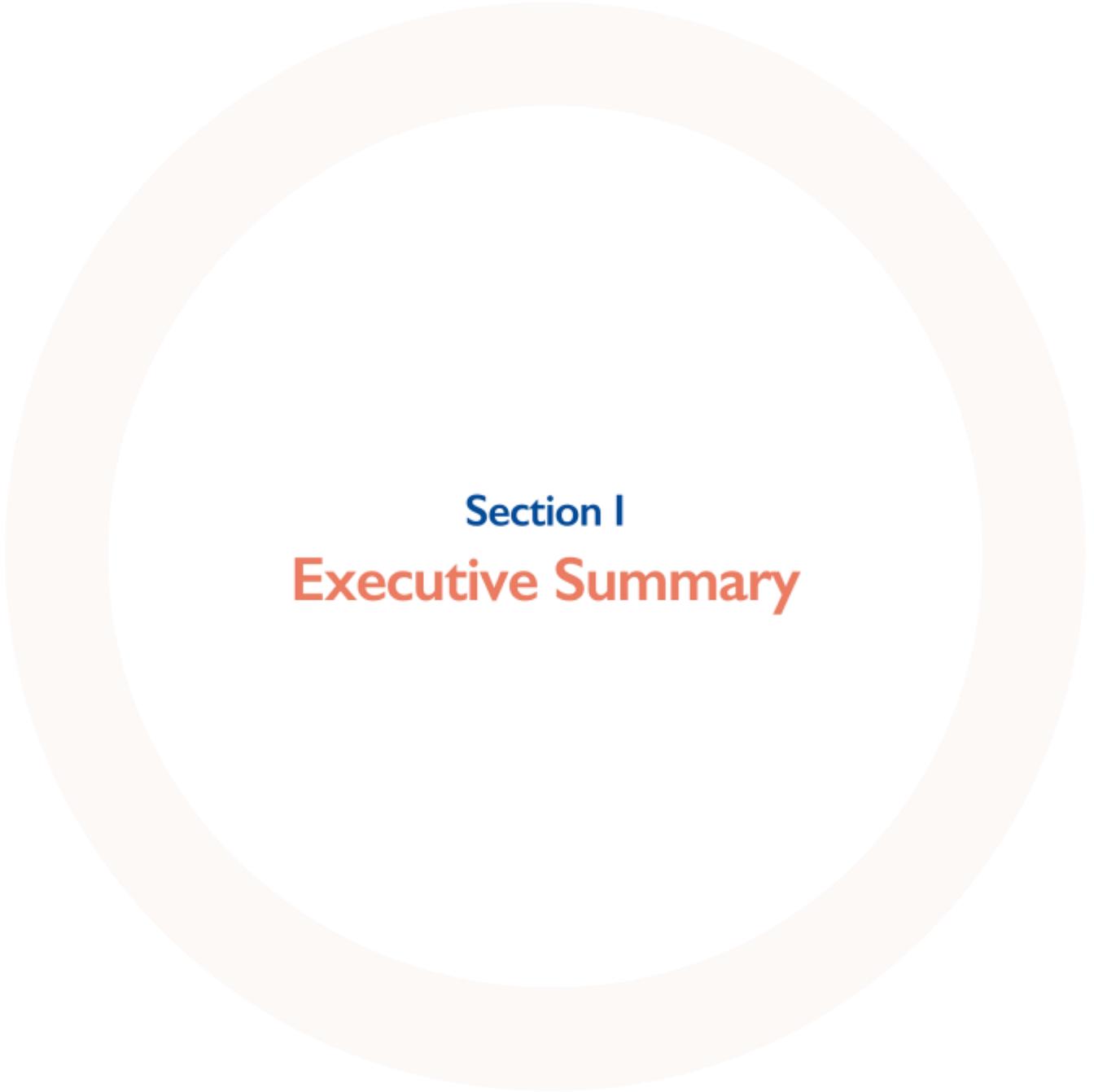
| From \ To | Cubic Feet | Litres | Cubic Metres |
|--------------|------------|--------|--------------|
| Cubic Feet | 1 | 28.3 | 0.0283 |
| Litres | 0.0353 | 1 | 0.001 |
| Cubic Metres | 35.3147 | 1000 | 1 |

Data Sources

| Section | Sources |
|---|--|
| Macroeconomics | <ul style="list-style-type: none"> From Primary Sources whenever available. Otherwise, complemented with the World Bank data, available until September 23 2018. |
| Gas Chain figures (Proven Natural Gas Reserves, Gas Production, others) | <ul style="list-style-type: none"> From Primary Sources whenever available. Otherwise, complemented with GECF Secretariat estimations, or using data from the following Secondary Sources (namely alphabetically): Cedigaz, OPEC, the World Bank (EIA, EUROSTAT, OECD/IEA, United Nations Statistics). |
| Conversion Factors | <ul style="list-style-type: none"> Joint Organization Data Initiative (JODI) Gas Manual. |

General Notes

- Current **GECF Member Countries**: Algeria, Bolivia, Egypt, Equatorial Guinea, Iran, Libya, Nigeria, Qatar, Russia, Trinidad and Tobago, United Arab Emirates and Venezuela.
- Current **GECF Observer Countries**: Angola, Azerbaijan, Iraq, Kazakhstan, Norway, Oman and Peru.
- Totals**, in tables, may not add up due to independent rounding.
- When referring to **Standard Cubic Metres (Scm)** International Standard ISO 13443:1996 (Natural Gas – Standard reference conditions) is assumed (15°C, 760mm hg).
- Section 1 (Executive Summary) and Section 3 (GECF in the World), Tables 1.1.1, 3.1.1, 3.2.1, 3.2.3, 3.3.1, 3.3.3, 3.4.1:** (1) Figures calculated with the available data by the time of this publication. (2) Algeria, Bolivia, Egypt, Equatorial Guinea, Iran, Libya, Nigeria, Qatar, Russia, Trinidad and Venezuela have been GECF members since 2009, Oman was GECF member during 2011-2014 and observer from 2015. UAE joined to GECF as a member in 2013. Kazakhstan and Norway joined GECF as Observers from 2009, Iraq joined GECF as an observer in 2012, Netherlands was a GECF observer during 2012-2017, Peru joined GECF as an observer in 2014, Azerbaijan joined GECF as an observer in 2015 and Angola joined GECF as an observer in 2018.



Section I
Executive Summary

I.1 GECF Main Figures

Table I.1.1. GECF Gas Value Chain Figures

| | | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | |
|---------------|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--------|
| GECF Figures | Proven Natural Gas Reserves (Bcm) | 128,520 | 129,095 | 132,298 | 136,194 | 142,485 | 143,273 | 144,738 | 145,916 | 145,061 | 144,790 | |
| | Natural Gas Gross Production (Bcm) | 1,569.68 | 1,708.77 | 1,764.14 | 1,891.13 | 1,986.84 | 1,992.80 | 2,028.65 | 2,036.17 | 2,123.58 | 2,139.96 | |
| | Natural Gas Marketed Production (Bcm) | 1,197.13 | 1,335.86 | 1,390.73 | 1,504.47 | 1,574.61 | 1,563.56 | 1,593.07 | 1,602.70 | 1,675.88 | 1,693.69 | |
| | Natural Gas Domestic Consumption (Bcm) | 816.49 | 882.35 | 920.44 | 980.77 | 1,049.64 | 1,073.12 | 1,097.44 | 1,118.68 | 1,143.05 | 1,064.88 | |
| | Natural Gas Exports (Bcm) | Pipeline | 337.26 | 352.91 | 347.12 | 437.82 | 452.79 | 414.72 | 436.15 | 462.63 | 490.72 | 453.99 |
| | | LNG | 137.98 | 176.46 | 210.26 | 207.86 | 211.53 | 212.77 | 212.49 | 212.60 | 222.38 | 235.85 |
| Totals | | 475.25 | 529.37 | 557.38 | 645.68 | 664.32 | 627.49 | 648.64 | 675.23 | 713.11 | 689.85 | |

Graph I.1.1. GECF Natural Gas Gross and Marketed Production, Domestic Consumption and Exports (Total) 2009 - 2018 | Bcm

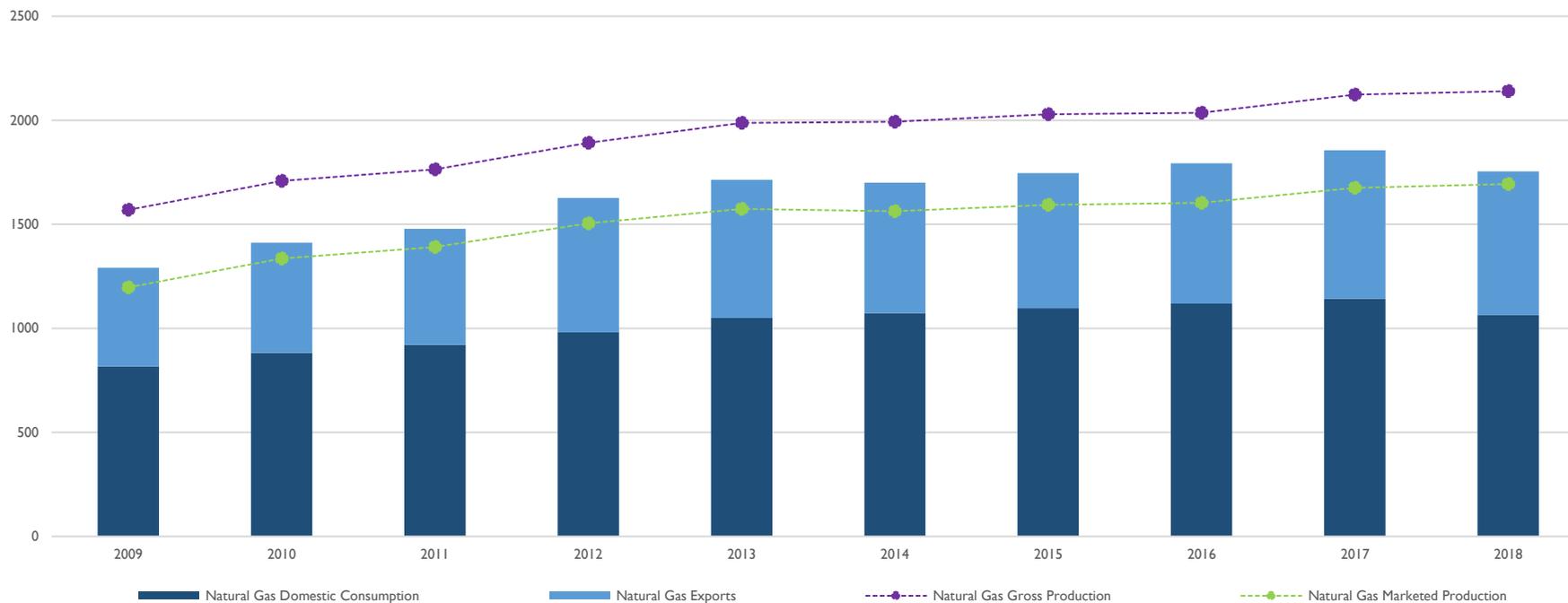
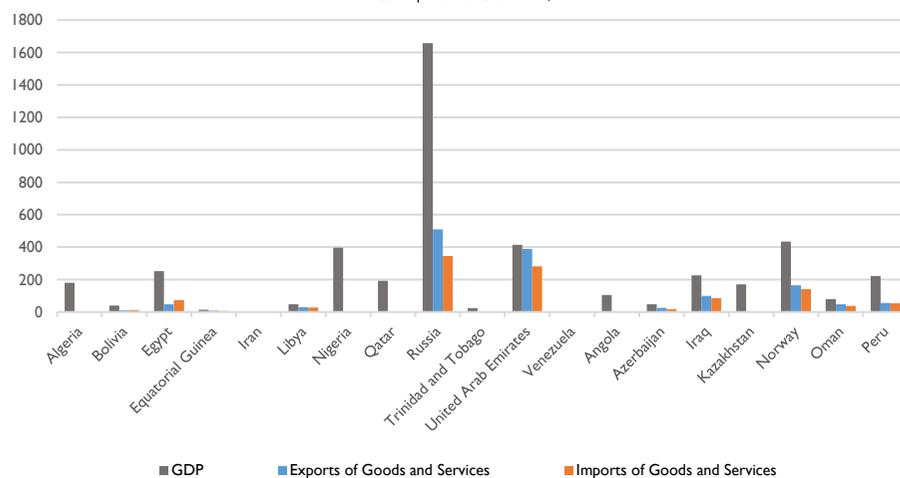


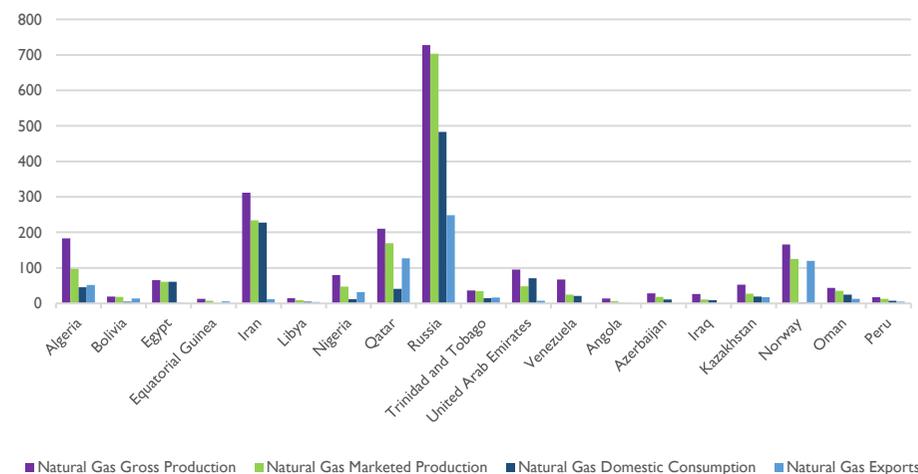
Table 1.1.2. GECF Countries Main Figures in 2018

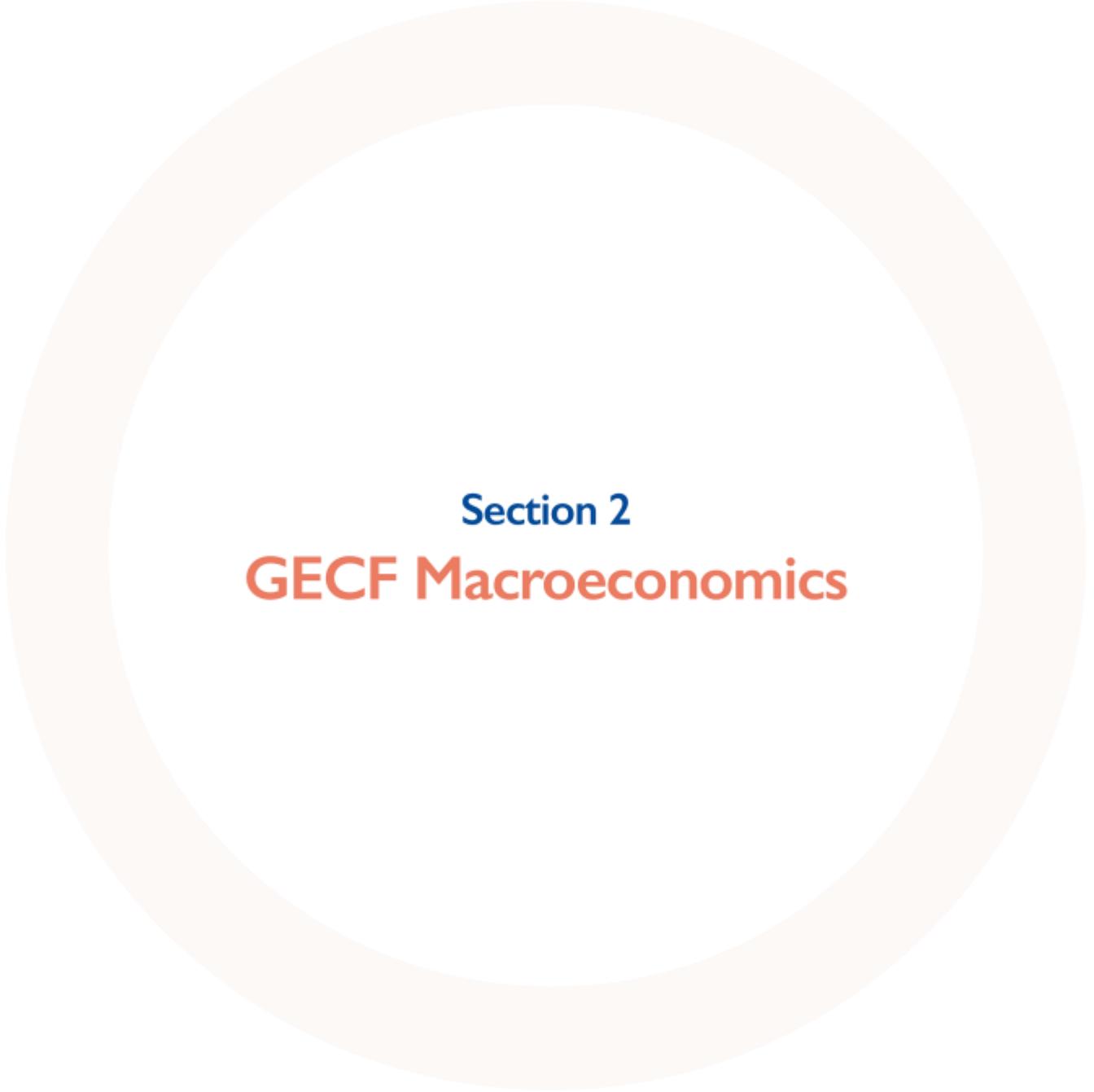
| | Population (Million Inhabitants) | GDP (Current Billion US\$) | GDP Growth (Annual %) | Exports of Goods and Services (Current Billion US\$) | Imports of Goods and Services (Current Billion US\$) | Proven Natural Gas Reserves (Bcm) | Natural Gas Gross Production (Bcm) | Natural Gas Marketed Production (Bcm) | Natural Gas Exports (Pipeline, Bcm) | Natural Gas Exports (LNG, Bcm) | Natural Gas Domestic Consumption (Bcm) | |
|----------------------|----------------------------------|----------------------------|-----------------------|--|--|-----------------------------------|------------------------------------|---------------------------------------|-------------------------------------|--------------------------------|--|--|
| Members | | | | | | | | | | | | |
| Algeria | 42.23 | 174.00 | 1.40 | 44.52 | 46.96 | 4,504 | 183.55 | 97.47 | 37.95 | 13.47 | 45.14 | |
| Bolivia | 11.31 | 40.58 | 4.20 | 10.34 | 12.61 | 303 | 19.35 | 18.70 | 13.84 | - | 4.86 | |
| Egypt | 98.42 | 250.90 | 5.31 | 47.45 | 73.68 | 2,221 | 65.83 | 60.84 | 0.00 | 2.45 | 61.29 | |
| Equatorial Guinea | 1.31 | 13.32 | -2.95 | 7.55 | 5.43 | 36 | 12.96 | 7.75 | - | 5.24 | 1.52 | |
| Iran | 81.80 | NA | NA | NA | NA | 33,899 | 311.49 | 233.97 | 12.24 | - | 227.82 | |
| Libya | 6.68 | 48.32 | 7.84 | 29.18 | 28.02 | 1,505 | 14.60 | 9.04 | 4.27 | 0.00 | 4.77 | |
| Nigeria | 195.87 | 397.27 | 1.94 | NA | NA | 5,685 | 80.27 | 46.97 | 0.72 | 31.11 | 12.17 | |
| Qatar | 2.78 | 192.01 | 1.43 | NA | NA | 23,846 | 175.42 | 170.04 | 22.36 | 104.41 | 40.95 | |
| Russia | 144.48 | 1,657.55 | 2.25 | 509.55 | 344.26 | 50,279 | 727.60 | 704.51 | 222.62 | 25.48 | 483.20 | |
| Trinidad and Tobago | 1.39 | 23.41 | 0.70 | NA | NA | NA | 36.46 | 34.93 | - | 16.67 | 15.09 | |
| United Arab Emirates | 9.63 | 414.18 | 1.42 | 388.75 | 281.55 | 6,091 | 95.43 | 47.96 | - | 7.08 | 71.24 | |
| Venezuela | 28.87 | NA | NA | NA | NA | 5,674 | 67.44 | 24.50 | - | - | 21.22 | |
| Observers | | | | | | | | | | | | |
| Angola | 30.81 | 105.75 | -2.13 | NA | NA | 384 | 13.94 | 6.14 | - | 5.25 | 0.71 | |
| Azerbaijan | 9.94 | 46.94 | 1.41 | 25.48 | 17.71 | 1,435 | 28.41 | 18.62 | 9.19 | - | 10.79 | |
| Iraq | 38.43 | 225.91 | 0.63 | 98.53 | 84.95 | 3,729 | 26.95 | 10.79 | - | - | 9.68 | |
| Kazakhstan | 18.28 | 170.54 | 4.10 | NA | NA | 1,830 | 52.73 | 27.50 | 17.48 | - | 19.26 | |
| Norway | 5.31 | 434.75 | 1.45 | 165.43 | 141.50 | 2,226 | 165.95 | 125.50 | 113.33 | 6.73 | 3.27 | |
| Oman | 4.83 | 79.29 | 2.13 | 47.70 | 38.01 | 677 | 43.98 | 35.71 | - | 13.28 | 24.40 | |
| Peru | 31.99 | 222.24 | 3.98 | 56.00 | 52.81 | 466 | 17.60 | 12.74 | - | 4.70 | 7.49 | |

Graph 1.1.2. GECF Member, Observer Countries: GDP, Exports and Imports of Good and Services 2018 | Current Billion US\$



Graph 1.1.3. GECF Member, Observer Countries: Natural Gas Gross and Marketed Production, Domestic Consumption and Exports 2018 | Bcm





Section 2

GECF Macroeconomics

2.1 Population and Labor Force

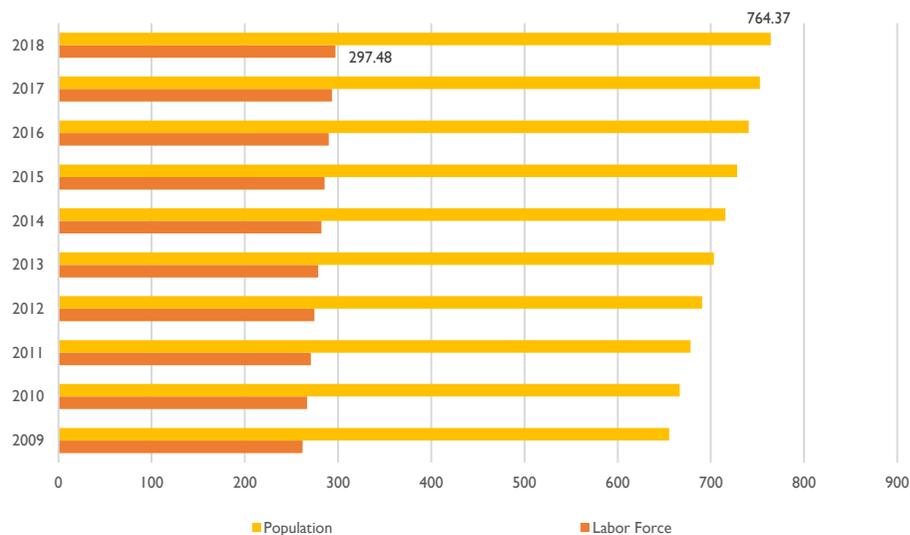
Table 2.1.1. GECF Countries Population (Million Inhabitants)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Members | | | | | | | | | | |
| Algeria | 35.33 | 35.98 | 36.66 | 37.38 | 38.14 | 38.92 | 39.73 | 40.55 | 41.39 | 42.23 |
| Bolivia | 9.87 | 10.03 | 10.19 | 10.35 | 10.51 | 10.67 | 10.83 | 10.99 | 11.15 | 11.31 |
| Egypt | 81.13 | 82.76 | 84.53 | 86.42 | 88.40 | 90.42 | 92.44 | 94.45 | 96.44 | 98.42 |
| Equatorial Guinea | 0.90 | 0.94 | 0.99 | 1.03 | 1.08 | 1.12 | 1.17 | 1.22 | 1.26 | 1.31 |
| Iran | 72.92 | 73.76 | 74.63 | 75.54 | 76.48 | 77.47 | 78.49 | 79.56 | 80.67 | 81.80 |
| Libya | 6.13 | 6.20 | 6.25 | 6.29 | 6.32 | 6.36 | 6.42 | 6.49 | 6.58 | 6.68 |
| Nigeria | 154.32 | 158.50 | 162.81 | 167.23 | 171.77 | 176.40 | 181.14 | 185.96 | 190.87 | 195.87 |
| Qatar | 1.65 | 1.86 | 2.04 | 2.20 | 2.34 | 2.46 | 2.57 | 2.65 | 2.72 | 2.78 |
| Russia | 142.79 | 142.85 | 142.96 | 143.20 | 143.51 | 143.82 | 144.10 | 144.34 | 144.50 | 144.48 |
| Trinidad and Tobago | 1.32 | 1.33 | 1.34 | 1.34 | 1.35 | 1.36 | 1.37 | 1.38 | 1.38 | 1.39 |
| United Arab Emirates | 7.92 | 8.55 | 8.95 | 9.14 | 9.20 | 9.21 | 9.26 | 9.36 | 9.49 | 9.63 |
| Venezuela | 28.03 | 28.44 | 28.89 | 29.36 | 29.78 | 30.05 | 30.08 | 29.85 | 29.39 | 28.87 |
| Observers | | | | | | | | | | |
| Angola | 22.51 | 23.36 | 24.22 | 25.11 | 26.02 | 26.94 | 27.88 | 28.84 | 29.82 | 30.81 |
| Azerbaijan | 8.95 | 9.05 | 9.17 | 9.30 | 9.42 | 9.54 | 9.65 | 9.76 | 9.85 | 9.94 |
| Iraq | 28.97 | 29.74 | 30.73 | 31.89 | 33.16 | 34.41 | 35.57 | 36.61 | 37.55 | 38.43 |
| Kazakhstan | 16.09 | 16.32 | 16.56 | 16.79 | 17.04 | 17.29 | 17.54 | 17.79 | 18.04 | 18.28 |
| Norway | 4.83 | 4.89 | 4.95 | 5.02 | 5.08 | 5.14 | 5.19 | 5.23 | 5.28 | 5.31 |
| Oman | 2.88 | 3.04 | 3.25 | 3.50 | 3.76 | 4.03 | 4.27 | 4.48 | 4.67 | 4.83 |
| Peru | 28.79 | 29.03 | 29.26 | 29.51 | 29.77 | 30.09 | 30.47 | 30.93 | 31.44 | 31.99 |

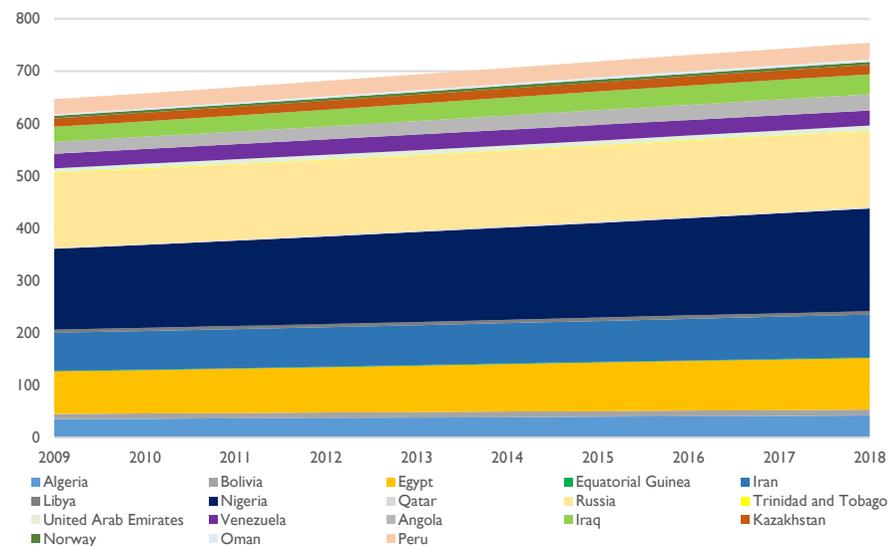
Table 2.1.2. GECF Countries Labor Force (Million Inhabitants)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Members | | | | | | | | | | |
| Algeria | 10.82 | 11.09 | 11.31 | 11.54 | 12.00 | 11.59 | 11.75 | 11.92 | 12.11 | 12.30 |
| Bolivia | 4.62 | 4.72 | 4.82 | 5.07 | 5.17 | 5.27 | 5.37 | 5.47 | 5.58 | 5.68 |
| Egypt | 26.80 | 27.64 | 28.12 | 28.90 | 29.74 | 30.30 | 29.88 | 30.25 | 30.80 | 31.55 |
| Equatorial Guinea | 0.34 | 0.36 | 0.38 | 0.39 | 0.41 | 0.44 | 0.46 | 0.47 | 0.49 | 0.51 |
| Iran | 24.38 | 24.37 | 24.45 | 24.52 | 24.59 | 24.66 | 25.65 | 26.92 | 27.24 | 27.51 |
| Libya | 2.20 | 2.23 | 2.33 | 2.29 | 2.33 | 2.39 | 2.41 | 2.45 | 2.47 | 2.52 |
| Nigeria | 47.46 | 48.76 | 50.05 | 51.40 | 52.80 | 54.25 | 55.81 | 57.39 | 59.04 | 60.72 |
| Qatar | 1.22 | 1.40 | 1.52 | 1.63 | 1.74 | 1.84 | 1.94 | 1.99 | 2.04 | 2.08 |
| Russia | 76.12 | 75.97 | 76.12 | 75.91 | 75.52 | 75.33 | 75.14 | 75.04 | 74.31 | 73.61 |
| Trinidad and Tobago | 0.66 | 0.66 | 0.65 | 0.66 | 0.67 | 0.68 | 0.67 | 0.67 | 0.67 | 0.67 |
| United Arab Emirates | 5.61 | 6.18 | 6.46 | 6.60 | 6.65 | 6.67 | 6.72 | 6.74 | 6.81 | 6.89 |
| Venezuela | 12.75 | 12.95 | 13.21 | 13.37 | 13.64 | 13.78 | 13.79 | 13.56 | 13.25 | 13.06 |
| Observers | | | | | | | | | | |
| Angola | 9.22 | 9.58 | 9.93 | 10.30 | 10.68 | 11.08 | 11.49 | 11.90 | 12.33 | 12.77 |
| Azerbaijan | 4.36 | 4.45 | 4.54 | 4.63 | 4.70 | 4.79 | 4.87 | 4.97 | 5.03 | 5.06 |
| Iraq | 7.13 | 7.33 | 7.60 | 7.92 | 8.25 | 8.65 | 8.98 | 9.18 | 9.51 | 9.77 |
| Kazakhstan | 8.57 | 8.72 | 8.81 | 8.89 | 8.96 | 9.05 | 9.11 | 9.17 | 9.22 | 9.27 |
| Norway | 2.60 | 2.61 | 2.63 | 2.67 | 2.70 | 2.72 | 2.76 | 2.77 | 2.76 | 2.77 |
| Oman | 1.27 | 1.40 | 1.56 | 1.74 | 1.94 | 2.14 | 2.33 | 2.46 | 2.59 | 2.71 |
| Peru | 15.84 | 16.21 | 16.33 | 16.51 | 16.61 | 16.68 | 16.71 | 16.89 | 17.59 | 18.01 |

Graph 2.1.1. GECF Member and Observer Countries Population and Labor Force Totals | 2009 - 2018 | Million Inhabitants



Graph 2.1.2. GECF Member and Observer Countries Population Per Country | 2009 - 2018 | Million Inhabitants



2.2 GDP

Table 2.2.1. GEFC Countries GDP (Current Billion US\$)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Members | | | | | | | | | | |
| Algeria | 137.21 | 161.21 | 200.02 | 209.06 | 209.76 | 214.00 | 166.00 | 159.00 | 167.00 | 174.00 |
| Bolivia | 17.46 | 19.79 | 24.14 | 27.28 | 30.88 | 33.24 | 33.24 | 34.19 | 37.78 | 40.58 |
| Egypt | 188.98 | 218.89 | 236.00 | 279.37 | 288.59 | 305.53 | 332.70 | 332.93 | 235.37 | 250.90 |
| Equatorial Guinea | 15.03 | 16.30 | 21.33 | 22.39 | 21.94 | 21.74 | 13.18 | 11.23 | 12.29 | 13.32 |
| Iran | 414.06 | 487.07 | 583.50 | 598.85 | 467.41 | 434.47 | 385.87 | 418.98 | 454.01 | NA |
| Libya | 63.03 | 74.77 | 34.70 | 81.87 | 65.50 | 41.14 | 27.84 | 26.22 | 38.12 | 48.32 |
| Nigeria | 291.88 | 363.36 | 410.33 | 459.38 | 514.97 | 568.50 | 494.58 | 404.65 | 375.75 | 397.27 |
| Qatar | 97.80 | 125.12 | 167.78 | 186.83 | 198.73 | 206.22 | 161.74 | 151.73 | 166.93 | 192.01 |
| Russia | 1,222.64 | 1,524.92 | 2,051.66 | 2,210.26 | 2,297.13 | 2,059.98 | 1,363.59 | 1,282.72 | 1,578.62 | 1,657.55 |
| Trinidad and Tobago | 19.17 | 22.16 | 25.43 | 25.77 | 27.11 | 27.48 | 25.12 | 21.75 | 22.25 | 23.41 |
| United Arab Emirates | 253.55 | 289.79 | 350.67 | 374.59 | 390.11 | 403.14 | 358.14 | 357.05 | 382.58 | 414.18 |
| Venezuela | 329.79 | 393.19 | 316.48 | 381.29 | 371.01 | 482.36 | NA | NA | NA | NA |
| Observers | | | | | | | | | | |
| Angola | 70.31 | 83.80 | 111.79 | 128.05 | 136.71 | 145.71 | 116.19 | 101.12 | 122.12 | 105.75 |
| Azerbaijan | 44.29 | 52.90 | 65.95 | 69.68 | 74.16 | 75.24 | 53.07 | 37.87 | 40.87 | 46.94 |
| Iraq | 111.66 | 138.52 | 185.75 | 218.00 | 234.65 | 234.65 | 177.50 | 170.22 | 193.16 | 225.91 |
| Kazakhstan | 115.31 | 148.05 | 192.63 | 208.00 | 236.63 | 221.42 | 184.39 | 137.28 | 162.89 | 170.54 |
| Norway | 386.62 | 429.13 | 498.83 | 510.23 | 523.50 | 499.34 | 386.66 | 371.34 | 399.49 | 434.75 |
| Oman | 48.39 | 58.64 | 67.94 | 76.69 | 78.78 | 81.08 | 68.92 | 65.94 | 70.78 | 79.29 |
| Peru | 120.82 | 147.53 | 171.76 | 192.65 | 201.18 | 200.98 | 189.76 | 191.91 | 210.70 | 222.24 |

Graph 2.2.1. GEFC Member and Observer Countries GDP Per Country | 2009 - 2018 | Current Billion US\$

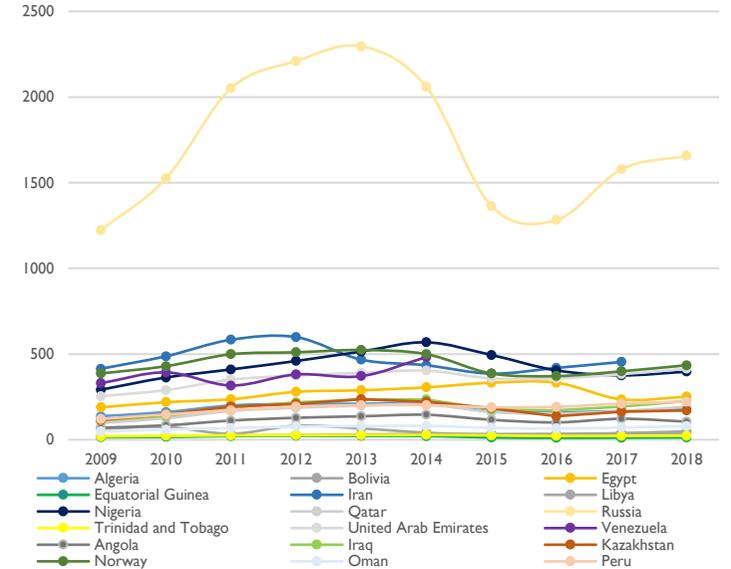
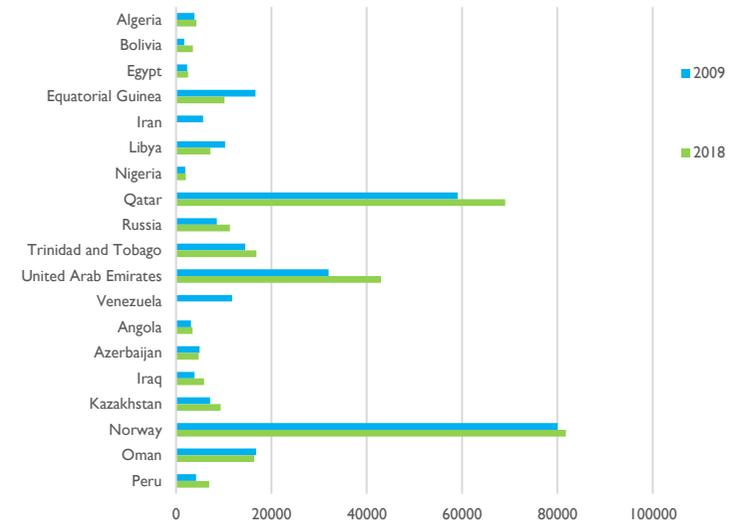


Table 2.2.2 GEFC Countries GDP per Capita (Current US\$)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------|-----------|-----------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|
| Members | | | | | | | | | | |
| Algeria | 3,883.27 | 4,480.79 | 5,455.84 | 5,592.22 | 5,499.59 | 5,471.00 | 4,154.00 | 3,894.00 | 4,003.00 | 4,087.00 |
| Bolivia | 1,769.40 | 1,972.70 | 2,368.50 | 2,635.60 | 2,939.00 | 3,116.20 | 3,070.70 | 3,112.30 | 3,389.80 | 3,588.90 |
| Egypt | 2,329.24 | 2,644.82 | 2,791.95 | 3,232.65 | 3,264.38 | 3,378.83 | 3,598.97 | 3,525.02 | 2,440.51 | 2,549.14 |
| Equatorial Guinea | 16,667.94 | 17,272.01 | 21,613.55 | 21,712.40 | 20,384.92 | 19,368.23 | 11,278.93 | 9,244.05 | 9,738.43 | 10,173.96 |
| Iran | 5,677.89 | 6,603.21 | 7,818.06 | 7,927.65 | 6,111.44 | 5,608.60 | 4,916.09 | 5,265.91 | 5,627.75 | NA |
| Libya | 10,275.27 | 12,064.78 | 5,554.18 | 13,025.28 | 10,363.79 | 6,466.91 | 4,337.92 | 4,038.97 | 5,792.07 | 7,235.03 |
| Nigeria | 1,891.34 | 2,292.45 | 2,520.40 | 2,746.99 | 2,998.07 | 3,222.69 | 2,730.43 | 2,176.00 | 1,968.56 | 2,028.18 |
| Qatar | 59,094.44 | 67,403.16 | 82,409.58 | 85,076.15 | 85,050.91 | 83,858.53 | 63,039.02 | 57,163.06 | 61,264.40 | 69,026.47 |
| Russia | 8,562.81 | 10,675.00 | 14,351.21 | 15,434.57 | 16,007.09 | 14,100.73 | 9,313.79 | 8,745.38 | 10,750.59 | 11,288.87 |
| Trinidad and Tobago | 14,514.14 | 16,683.36 | 19,034.15 | 19,161.96 | 20,026.79 | 20,169.65 | 18,332.49 | 15,786.12 | 16,076.08 | 16,843.70 |
| United Arab Emirates | 32,024.18 | 33,893.30 | 39,194.68 | 40,976.50 | 42,412.63 | 43,751.84 | 38,663.38 | 38,141.85 | 40,325.38 | 43,004.95 |
| Venezuela | 11,765.10 | 13,825.36 | 10,955.35 | 12,985.51 | 12,456.71 | 16,054.49 | NA | NA | NA | NA |
| Observers | | | | | | | | | | |
| Angola | 3,122.78 | 3,587.88 | 4,615.47 | 5,100.10 | 5,254.88 | 5,408.41 | 4,166.98 | 3,506.07 | 4,095.81 | 3,432.39 |
| Azerbaijan | 4,950.29 | 5,842.81 | 7,189.69 | 7,496.29 | 7,875.76 | 7,891.31 | 5,500.32 | 3,880.74 | 4,147.09 | 4,721.18 |
| Iraq | 3,853.94 | 4,657.28 | 6,045.50 | 6,836.03 | 7,076.88 | 6,818.80 | 4,989.80 | 4,649.47 | 5,143.66 | 5,878.04 |
| Kazakhstan | 7,165.22 | 9,070.49 | 11,634.00 | 12,386.70 | 13,890.63 | 12,807.26 | 10,510.77 | 7,714.84 | 9,030.32 | 9,331.05 |
| Norway | 80,067.18 | 87,770.27 | 100,711.22 | 101,668.17 | 103,059.25 | 97,199.92 | 74,521.57 | 70,941.53 | 75,704.25 | 81,807.20 |
| Oman | 16,823.77 | 19,281.17 | 20,896.75 | 21,923.55 | 20,926.55 | 20,131.98 | 16,150.89 | 14,721.65 | 15,170.35 | 16,418.93 |
| Peru | 4,196.31 | 5,082.35 | 5,869.32 | 6,528.97 | 6,756.75 | 6,679.34 | 6,227.59 | 6,205.37 | 6,700.81 | 6,947.26 |

Graph 2.2.2. GEFC Member and Observer Countries GDP per capita 2009 vs 2018 | MJ/\$2011 PPP GDP



2.3 Exports & Imports of Goods and Services

Table 2.3.1. Exports of Goods & Services

| | (Current Billion US\$) | | | | | | | | | | (% of GDP) | | | | | | | | | |
|----------------------|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------|-------|-------|--------|--------|-------|--------|--------|--------|-------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| Members | | | | | | | | | | | | | | | | | | | | |
| Algeria | 48.53 | 61.98 | 77.58 | 77.12 | 69.66 | 64.66 | 38.58 | 33.40 | 37.93 | 44.52 | 35.37 | 38.44 | 38.79 | 36.89 | 33.21 | 30.24 | 23.24 | 21.01 | 22.28 | 24.96 |
| Bolivia | 5.36 | 8.09 | 9.24 | 12.24 | 12.54 | 14.00 | 9.93 | 8.24 | 9.11 | 10.34 | 30.70 | 40.88 | 38.28 | 44.87 | 40.61 | 42.12 | 29.87 | 24.10 | 24.11 | 25.48 |
| Egypt | 47.16 | 46.73 | 48.54 | 45.81 | 49.11 | 43.52 | 43.86 | 34.44 | 37.23 | 47.45 | 24.96 | 21.35 | 20.57 | 16.40 | 17.02 | 14.24 | 13.18 | 10.35 | 15.82 | 18.91 |
| Equatorial Guinea | 11.17 | 13.98 | 16.02 | 16.10 | 14.84 | 14.34 | 7.47 | 5.78 | 7.07 | 7.55 | 74.34 | 85.76 | 75.10 | 71.90 | 67.65 | 65.96 | 56.66 | 51.41 | 57.50 | 56.67 |
| Iran | 94.04 | 118.84 | 149.57 | 144.50 | 125.65 | 100.54 | 76.18 | 93.87 | 113.24 | NA | 22.71 | 24.40 | 25.63 | 24.13 | 26.88 | 23.14 | 19.74 | 22.40 | 24.94 | NA |
| Libya | 37.34 | 49.06 | 19.03 | 61.10 | 46.14 | 19.34 | 11.13 | 6.85 | 14.46 | 29.18 | 59.24 | 65.60 | 54.83 | 74.62 | 70.43 | 47.01 | 39.97 | 26.14 | 37.94 | 60.39 |
| Nigeria | 54.38 | 93.24 | 129.74 | 144.92 | 92.95 | 104.80 | 52.71 | 37.30 | 49.49 | NA | 18.63 | 25.66 | 31.62 | 31.55 | 18.05 | 18.44 | 10.66 | 9.22 | 13.17 | NA |
| Qatar | 50.01 | 77.98 | 121.84 | 142.88 | 144.51 | 140.23 | 92.29 | 72.40 | 85.20 | NA | 51.13 | 62.32 | 72.62 | 76.47 | 72.72 | 68.00 | 57.06 | 47.71 | 51.04 | NA |
| Russia | 341.58 | 445.51 | 573.99 | 594.19 | 592.50 | 558.28 | 391.45 | 330.14 | 411.26 | 509.55 | 27.94 | 29.22 | 27.98 | 26.88 | 25.79 | 27.10 | 28.71 | 25.74 | 26.05 | 30.74 |
| Trinidad and Tobago | 9.99 | 12.11 | 15.88 | 13.88 | 19.74 | 15.59 | 11.85 | 10.11 | NA | NA | 0.52 | 54.67 | 62.46 | 54.01 | 74.66 | 59.54 | 50.31 | 48.14 | NA | NA |
| United Arab Emirates | 201.96 | 225.27 | 314.83 | 375.80 | 392.57 | 399.57 | 361.25 | 360.63 | 384.04 | 388.75 | 79.65 | 77.74 | 89.78 | 100.32 | 100.63 | 99.12 | 100.87 | 101.00 | 100.38 | 93.86 |
| Venezuela | 59.60 | 112.18 | 94.76 | 99.79 | 91.88 | 80.52 | NA | NA | NA | NA | 18.07 | 28.53 | 29.94 | 26.17 | 24.76 | 16.69 | NA | NA | NA | NA |
| Observers | | | | | | | | | | | | | | | | | | | | |
| Angola | 41.31 | 51.57 | 67.82 | 71.63 | 69.38 | 65.13 | 34.57 | 28.44 | 35.42 | NA | 58.76 | 61.54 | 60.67 | 55.94 | 50.75 | 44.70 | 29.75 | 28.12 | 29.00 | NA |
| Azerbaijan | 22.87 | 28.73 | 37.21 | 36.91 | 35.91 | 32.56 | 20.06 | 17.58 | 19.84 | 25.48 | 51.64 | 54.30 | 56.43 | 52.97 | 48.42 | 43.27 | 37.79 | 46.43 | 48.55 | 54.29 |
| Iraq | 43.99 | 54.60 | 82.51 | 96.90 | 93.10 | 97.00 | 62.73 | 55.87 | 74.18 | 98.53 | 39.40 | 39.42 | 44.42 | 44.45 | 39.68 | 41.34 | 35.34 | 32.82 | 38.40 | 43.61 |
| Kazakhstan | 48.24 | 65.50 | 89.50 | 91.75 | 91.38 | 87.11 | 52.58 | 43.71 | 55.96 | NA | 41.84 | 44.24 | 46.46 | 44.11 | 38.62 | 39.34 | 28.52 | 31.84 | 34.36 | NA |
| Norway | 151.52 | 170.47 | 205.66 | 207.02 | 204.89 | 193.66 | 145.84 | 130.79 | 144.70 | 165.43 | 39.19 | 39.73 | 41.23 | 40.57 | 39.14 | 38.78 | 37.72 | 35.22 | 36.22 | 38.05 |
| Oman | 24.50 | 38.50 | 49.53 | 54.82 | 59.38 | 56.95 | 39.08 | 31.04 | 36.89 | 47.70 | 50.64 | 65.65 | 72.91 | 71.49 | 75.37 | 70.25 | 56.71 | 47.08 | 52.12 | 60.15 |
| Peru | 31.95 | 41.05 | 52.39 | 52.88 | 49.91 | 45.39 | 40.40 | 43.37 | 51.77 | 56.00 | 26.44 | 27.83 | 30.50 | 27.45 | 24.81 | 22.59 | 21.29 | 22.60 | 24.57 | 25.20 |

Table 2.3.2 Imports of Goods & Services

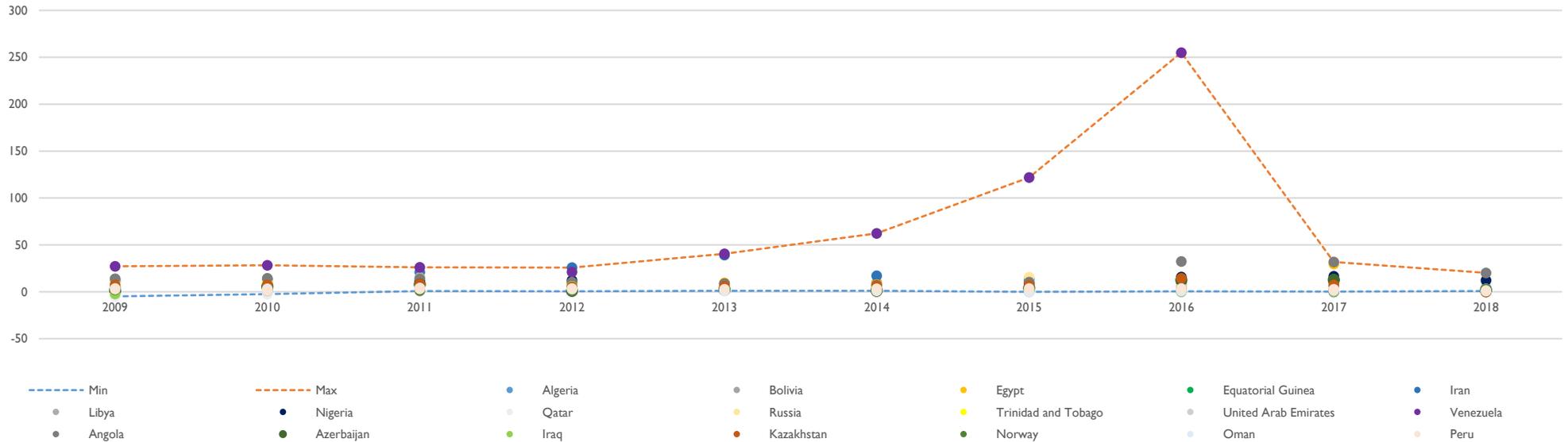
| | (Current Billion US\$) | | | | | | | | | | (% of GDP) | | | | | | | | | |
|----------------------|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| Members | | | | | | | | | | | | | | | | | | | | |
| Algeria | 49.33 | 50.65 | 57.38 | 59.61 | 63.77 | 68.31 | 60.81 | 56.09 | 55.60 | 46.96 | 35.95 | 31.42 | 28.69 | 28.51 | 30.40 | 31.95 | 36.64 | 35.28 | 32.67 | 26.33 |
| Bolivia | 5.10 | 5.60 | 9.18 | 9.62 | 10.89 | 12.92 | 11.91 | 10.75 | 11.63 | 12.61 | 29.21 | 28.30 | 38.03 | 35.26 | 35.27 | 38.87 | 35.83 | 31.44 | 30.78 | 31.07 |
| Egypt | 59.71 | 58.20 | 58.26 | 67.93 | 67.40 | 69.28 | 72.07 | 66.26 | 68.98 | 73.68 | 31.60 | 26.59 | 24.69 | 24.31 | 23.36 | 22.68 | 21.66 | 19.90 | 29.31 | 29.37 |
| Equatorial Guinea | 7.19 | 9.60 | 8.38 | 10.02 | 8.61 | 8.35 | 5.56 | 4.63 | 4.94 | 5.43 | 47.87 | 58.91 | 39.28 | 44.77 | 39.24 | 38.42 | 42.22 | 41.19 | 40.19 | 40.81 |
| Iran | 86.90 | 94.35 | 102.45 | 139.20 | 109.61 | 93.25 | 74.37 | 87.19 | 108.23 | NA | 20.99 | 19.37 | 17.56 | 23.24 | 23.45 | 21.46 | 19.27 | 20.81 | 23.84 | NA |
| Libya | 26.99 | 31.48 | 15.54 | 32.54 | 42.46 | 37.80 | 20.68 | 11.56 | 13.21 | 28.02 | 42.82 | 42.10 | 44.79 | 39.75 | 64.83 | 91.88 | 74.28 | 44.08 | 34.67 | 57.99 |
| Nigeria | 50.87 | 64.17 | 88.88 | 59.65 | 66.94 | 70.78 | 53.37 | 46.55 | 49.51 | NA | 17.43 | 17.66 | 21.66 | 12.99 | 13.00 | 12.45 | 10.79 | 11.50 | 13.18 | NA |
| Qatar | 28.37 | 29.72 | 43.79 | 54.69 | 58.95 | 64.00 | 59.27 | 63.48 | 62.19 | NA | 29.01 | 23.75 | 26.10 | 29.27 | 29.67 | 31.04 | 36.65 | 41.83 | 37.26 | NA |
| Russia | 250.60 | 322.37 | 408.78 | 447.05 | 468.62 | 426.06 | 281.49 | 263.79 | 326.91 | 344.26 | 20.50 | 21.14 | 19.92 | 20.23 | 20.40 | 20.68 | 20.64 | 20.57 | 20.71 | 20.77 |
| Trinidad and Tobago | 7.36 | 6.89 | 11.06 | 13.26 | 14.07 | 12.77 | 11.27 | 10.64 | NA | NA | 0.38 | 31.10 | 43.48 | 51.61 | 53.21 | 48.77 | 47.85 | 50.67 | NA | NA |
| United Arab Emirates | 187.14 | 184.22 | 217.47 | 242.81 | 253.22 | 277.90 | 266.28 | 270.44 | 277.09 | 281.55 | 73.81 | 63.57 | 62.02 | 64.82 | 64.91 | 68.94 | 74.35 | 75.74 | 72.43 | 67.98 |
| Venezuela | 67.44 | 69.23 | 62.33 | 92.40 | 109.49 | 151.45 | NA | NA | NA | NA | 20.45 | 17.61 | 19.70 | 24.23 | 29.51 | 31.40 | NA | NA | NA | NA |
| Observers | | | | | | | | | | | | | | | | | | | | |
| Angola | 44.78 | 35.68 | 43.95 | 45.92 | 49.30 | 50.47 | 38.50 | 25.53 | 28.40 | NA | 63.69 | 42.58 | 39.31 | 35.86 | 36.06 | 34.64 | 33.13 | 25.25 | 23.25 | NA |
| Azerbaijan | 10.24 | 10.94 | 15.88 | 17.62 | 19.48 | 19.72 | 18.47 | 16.53 | 17.10 | 17.71 | 23.11 | 20.68 | 24.08 | 25.29 | 26.26 | 26.21 | 34.81 | 43.65 | 41.85 | 37.72 |
| Iraq | 43.87 | 47.21 | 51.55 | 63.44 | 84.50 | 86.70 | 73.52 | 68.54 | 68.99 | 84.95 | 39.29 | 34.08 | 27.75 | 29.10 | 36.01 | 36.95 | 41.42 | 40.27 | 35.72 | 37.60 |
| Kazakhstan | 39.12 | 44.26 | 51.34 | 61.60 | 63.40 | 56.75 | 45.24 | 39.08 | 42.78 | NA | 33.93 | 29.89 | 26.65 | 29.61 | 26.79 | 25.63 | 24.53 | 28.47 | 26.26 | NA |
| Norway | 107.43 | 122.15 | 141.51 | 140.53 | 148.44 | 148.72 | 124.09 | 124.69 | 132.10 | 141.50 | 27.79 | 28.46 | 28.37 | 27.54 | 28.35 | 29.78 | 32.09 | 33.58 | 33.07 | 32.55 |
| Oman | 16.76 | 24.17 | 29.24 | 34.41 | 41.84 | 38.16 | 36.78 | 31.27 | 34.89 | 38.01 | 34.65 | 41.21 | 43.03 | 44.87 | 53.11 | 47.06 | 53.37 | 47.42 | 49.30 | 47.93 |
| Peru | 26.18 | 35.18 | 43.77 | 48.49 | 50.25 | 48.68 | 45.32 | 43.73 | 48.21 | 52.81 | 21.67 | 23.85 | 25.49 | 25.17 | 24.98 | 24.22 | 23.88 | 22.79 | 22.88 | 23.76 |

2.4 Inflation

Table 2.4.1. Inflation Consumer Prices (Annual %)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------|-------|-------|-------|-------|-------|-------|--------|--------|-------|-------|
| Members | | | | | | | | | | |
| Algeria | 5.74 | 3.91 | 4.52 | 8.89 | 3.25 | 2.90 | 4.80 | 6.40 | 5.60 | 4.30 |
| Bolivia | 0.26 | 7.18 | 6.90 | 4.54 | 6.48 | 5.19 | 2.95 | 4.00 | 2.71 | 1.51 |
| Egypt | 11.76 | 11.27 | 10.05 | 7.12 | 9.42 | 10.14 | 10.36 | 13.81 | 29.50 | NA |
| Equatorial Guinea | 4.69 | 7.79 | 4.81 | 3.66 | 2.95 | 4.31 | 1.68 | 1.41 | 0.74 | 1.06 |
| Iran | 13.55 | 10.09 | 20.87 | 25.74 | 39.27 | 17.22 | 13.70 | 8.65 | 9.99 | NA |
| Libya | 2.46 | 2.80 | 15.52 | 6.06 | 2.61 | NA | NA | NA | NA | NA |
| Nigeria | 11.54 | 13.72 | 10.84 | 12.22 | 8.48 | 8.06 | 9.01 | 15.68 | 16.52 | 12.09 |
| Qatar | -4.86 | -2.43 | 1.14 | 2.32 | 3.21 | 3.35 | 1.61 | 2.87 | 0.41 | NA |
| Russia | 11.65 | 6.85 | 8.44 | 5.07 | 6.75 | 7.82 | 15.53 | 7.04 | 3.68 | 2.88 |
| Trinidad and Tobago | 6.98 | 10.55 | 5.11 | 9.26 | 5.20 | 5.68 | 4.66 | 3.07 | 1.88 | NA |
| United Arab Emirates | 1.56 | 0.88 | 0.88 | 0.66 | 1.10 | 2.35 | 4.07 | 1.62 | 1.97 | 3.07 |
| Venezuela | 27.08 | 28.19 | 26.09 | 21.07 | 40.64 | 62.17 | 121.74 | 254.95 | NA | NA |
| Observers | | | | | | | | | | |
| Angola | 13.73 | 14.47 | 13.48 | 10.28 | 8.78 | 7.28 | 10.28 | 32.38 | 31.69 | 20.19 |
| Azerbaijan | 1.46 | 5.73 | 7.85 | 1.07 | 2.42 | 1.39 | 4.01 | 12.45 | 12.90 | 1.92 |
| Iraq | -2.19 | 2.44 | 5.60 | 6.09 | 1.88 | 2.24 | 1.39 | 0.53 | 0.18 | NA |
| Kazakhstan | 7.32 | 7.40 | 8.45 | 5.20 | 5.94 | 6.85 | 6.68 | 14.36 | 7.44 | NA |
| Norway | 2.20 | 2.42 | 1.28 | 0.70 | 2.12 | 2.04 | 2.17 | 3.55 | 1.88 | 2.76 |
| Oman | 3.47 | 3.26 | 4.04 | 2.95 | 1.05 | 1.02 | 0.07 | 1.11 | 1.60 | 0.88 |
| Peru | 2.94 | 1.53 | 3.37 | 3.66 | 2.81 | 3.24 | 3.55 | 3.59 | 2.80 | 1.32 |

Graph 2.4.1. GECF Member and Observer Countries Inflation
2009 - 2018 | Annual %



2.5 Energy Indicators

Table 2.5.1. Energy Intensity Level of Primary Energy (MJ/\$2011 PPP GDP)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|----------------------|-------|-------|-------|-------|-------|-------|-------|
| Members | | | | | | | |
| Algeria | 3.80 | 3.61 | 3.66 | 3.89 | 3.92 | 4.10 | 4.13 |
| Bolivia | 4.77 | 4.99 | 5.01 | 5.48 | 5.16 | 5.17 | 4.95 |
| Egypt | 3.93 | 3.66 | 3.78 | 3.80 | 3.57 | 3.71 | 3.51 |
| Equatorial Guinea | 2.40 | 2.53 | 2.61 | 2.61 | 2.52 | 2.63 | 2.21 |
| Iran | 7.01 | 6.58 | 6.46 | 7.20 | 7.48 | 7.70 | 7.79 |
| Libya | 4.64 | 4.76 | 8.27 | 5.09 | 6.63 | 4.44 | 4.21 |
| Nigeria | 6.16 | 6.15 | 6.20 | 6.26 | 5.96 | 5.63 | 5.68 |
| Qatar | 5.38 | 5.13 | 5.13 | 5.95 | 6.03 | 6.48 | 6.40 |
| Russia | 8.58 | 8.73 | 8.78 | 8.70 | 8.46 | 8.35 | 8.41 |
| Trinidad and Tobago | 19.76 | 21.15 | 20.81 | 20.01 | 20.03 | 19.14 | 19.09 |
| United Arab Emirates | 5.34 | 5.40 | 5.35 | 5.32 | 5.22 | 5.27 | 5.08 |
| Venezuela | 5.58 | 6.31 | 5.62 | 5.79 | 5.38 | 5.47 | 4.72 |
| Observers | | | | | | | |
| Angola | 3.65 | 3.70 | 3.70 | 3.86 | 3.62 | 3.65 | 3.61 |
| Azerbaijan | 3.63 | 3.36 | 3.64 | 3.88 | 3.72 | 3.76 | 3.73 |
| Iraq | 3.75 | 4.01 | 4.08 | 4.01 | 4.04 | 4.03 | 3.72 |
| Kazakhstan | 8.34 | 8.47 | 8.84 | 8.07 | 8.42 | 7.87 | 7.92 |
| Norway | 4.29 | 4.61 | 3.77 | 3.89 | 4.23 | 3.58 | 3.75 |
| Oman | 5.03 | 5.68 | 6.76 | 6.79 | 6.74 | 6.38 | 6.30 |
| Peru | 2.47 | 2.69 | 2.58 | 2.62 | 2.46 | 2.78 | 2.79 |

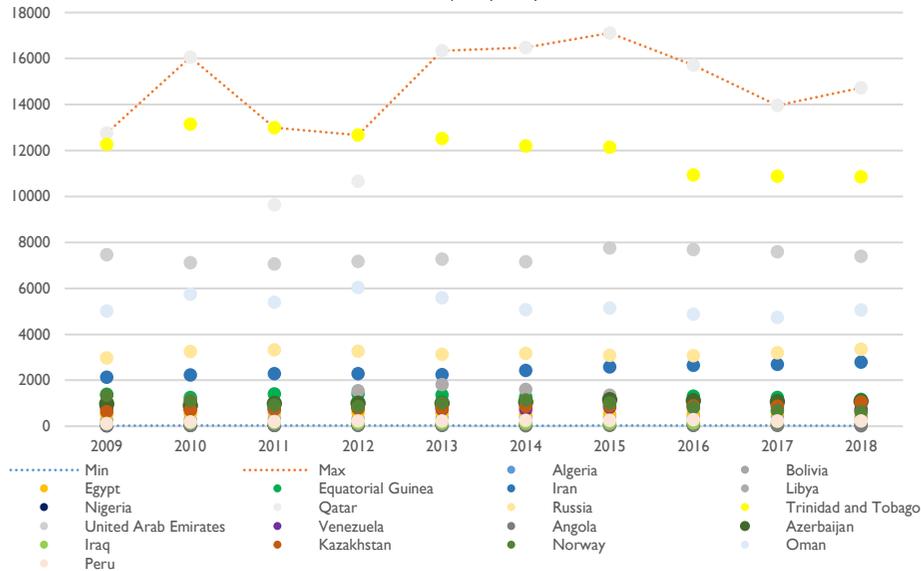
Table 2.5.2 Energy Use (kg of Oil Equivalent per Capita)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Members | | | | | | |
| Algeria | 1,153.66 | 1,114.22 | 1,140.64 | 1,229.55 | 1,247.50 | 1,333.90 |
| Bolivia | 593.64 | 636.14 | 660.99 | 747.87 | 740.17 | 778.17 |
| Egypt | 911.49 | 876.54 | 900.66 | 905.59 | 848.63 | 827.50 |
| Equatorial Guinea | NA | NA | NA | NA | NA | NA |
| Iran | 2,800.52 | 2,769.46 | 2,791.11 | 2,869.33 | 2,889.11 | 3,060.39 |
| Libya | 3,146.18 | 3,353.53 | 2,190.81 | 2,744.01 | 3,071.82 | 2,808.65 |
| Nigeria | 721.81 | 756.35 | 778.84 | 798.63 | 780.14 | 763.63 |
| Qatar | 14,643.23 | 14,890.44 | 15,370.63 | 17,344.38 | 17,266.13 | 17,922.73 |
| Russia | 4,531.29 | 4,819.04 | 5,049.43 | 5,167.01 | 5,078.63 | 4,942.88 |
| Trinidad and Tobago | 14,210.55 | 15,108.65 | 14,775.98 | 14,312.39 | 14,478.93 | 14,363.52 |
| United Arab Emirates | 7,572.35 | 7,215.22 | 7,190.97 | 7,481.19 | 7,604.84 | 7,648.40 |
| Venezuela | 2,319.65 | 2,545.03 | 2,326.12 | 2,488.27 | 2,308.74 | NA |
| Observers | | | | | | |
| Angola | 515.22 | 520.96 | 521.78 | 552.36 | 533.76 | 544.61 |
| Azerbaijan | 1,334.17 | 1,279.55 | 1,369.35 | 1,472.90 | 1,474.00 | 1,502.08 |
| Iraq | 1,137.03 | 1,261.22 | 1,335.74 | 1,438.18 | 1,488.56 | 1,437.90 |
| Kazakhstan | 3,944.29 | 4,234.85 | 4,670.82 | 4,398.94 | 4,786.59 | 4,434.64 |
| Norway | 6,484.12 | 6,934.59 | 5,649.70 | 5,906.14 | 6,415.99 | 5,595.65 |
| Oman | 5,499.20 | 6,154.48 | 6,771.19 | 6,767.62 | 6,490.22 | 6,040.61 |
| Peru | 547.43 | 643.07 | 649.26 | 692.95 | 684.15 | 790.22 |

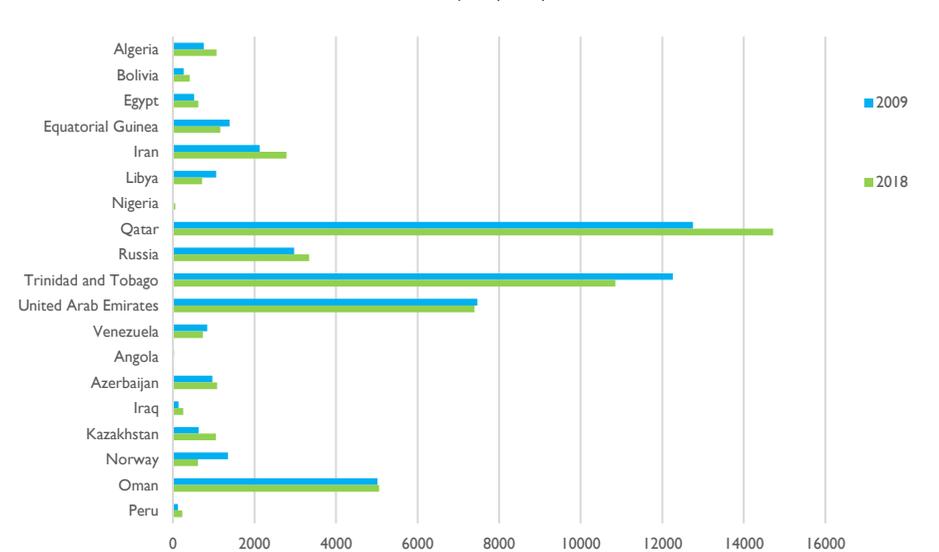
Table 2.5.3. Natural Gas Use (Scm per Capita)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Members | | | | | | | | | | |
| Algeria | 757.91 | 756.33 | 785.48 | 861.57 | 852.80 | 955.90 | 1,014.35 | 997.50 | 1,010.29 | 1,068.95 |
| Bolivia | 259.37 | 291.11 | 320.88 | 326.53 | 342.60 | 388.16 | 390.76 | 430.58 | 430.66 | 429.81 |
| Egypt | 524.27 | 545.55 | 587.02 | 608.52 | 581.64 | 531.05 | 517.08 | 543.06 | 603.02 | 622.73 |
| Equatorial Guinea | 1,387.87 | 1,248.14 | 1,411.11 | 1,415.84 | 1,365.94 | 1,281.84 | 1,101.15 | 1,310.50 | 1,249.44 | 1,162.30 |
| Iran | 2,128.22 | 2,237.04 | 2,288.34 | 2,281.31 | 2,243.27 | 2,427.14 | 2,585.86 | 2,653.84 | 2,699.26 | 2,785.14 |
| Libya | 1,059.40 | 1,127.79 | 688.54 | 1,545.09 | 1,809.18 | 1,598.16 | 1,353.82 | 780.00 | 730.94 | 714.43 |
| Nigeria | 23.05 | 31.52 | 37.84 | 43.81 | 44.83 | 43.82 | 61.32 | 47.74 | 58.00 | 62.13 |
| Qatar | 12,755.67 | 16,053.21 | 9,627.33 | 10,655.38 | 16,342.80 | 16,476.92 | 17,110.27 | 15,709.92 | 13,954.44 | 14,722.20 |
| Russia | 3,505.96 | 3,806.10 | 3,935.34 | 3,872.86 | 3,762.88 | 3,770.00 | 3,621.18 | 3,712.21 | 3,761.33 | 3,344.42 |
| Trinidad and Tobago | 12,262.43 | 13,143.76 | 12,995.53 | 12,667.23 | 12,522.72 | 12,196.73 | 12,143.64 | 10,930.64 | 10,873.71 | 10,855.07 |
| United Arab Emirates | 7,464.60 | 7,111.12 | 7,064.00 | 7,175.99 | 7,273.39 | 7,152.02 | 7,754.59 | 7,686.16 | 7,587.06 | 7,396.98 |
| Venezuela | 839.32 | 734.64 | 757.12 | 793.12 | 753.37 | 732.63 | 829.67 | 872.81 | 870.01 | 735.11 |
| Observers | | | | | | | | | | |
| Angola | 30.65 | 31.43 | 31.05 | 30.27 | 31.60 | 23.72 | 27.61 | 26.90 | 26.46 | 23.17 |
| Azerbaijan | 964.48 | 896.92 | 980.43 | 1,004.32 | 1,001.22 | 1,053.67 | 1,152.19 | 1,112.17 | 1,065.06 | 1,084.82 |
| Iraq | 138.24 | 143.73 | 147.79 | 136.09 | 134.90 | 131.01 | 128.97 | 151.40 | 202.33 | 251.87 |
| Kazakhstan | 630.09 | 706.82 | 758.97 | 771.20 | 793.05 | 867.89 | 886.29 | 888.50 | 879.82 | 1,054.01 |
| Norway | 1,353.48 | 1,125.53 | 920.64 | 864.79 | 1,013.86 | 1,142.64 | 1,007.98 | 819.56 | 678.42 | 615.32 |
| Oman | 5,013.58 | 5,737.43 | 5,395.08 | 6,034.83 | 5,591.26 | 5,067.96 | 5,136.68 | 4,869.15 | 4,730.03 | 5,052.30 |
| Peru | 120.97 | 189.13 | 195.12 | 224.02 | 235.78 | 254.57 | 251.72 | 288.99 | 233.30 | 234.14 |

Graph 2.5.1. GECF Member and Observer Countries Natural Gas Use 2009 - 2018 | Scm per Capita



Graph 2.5.2. GECF Member and Observer Countries Natural Gas Use 2009 vs 2018 | Scm per Capita





Section 3
GECF in the World

3.1 Proven Natural Gas Reserves

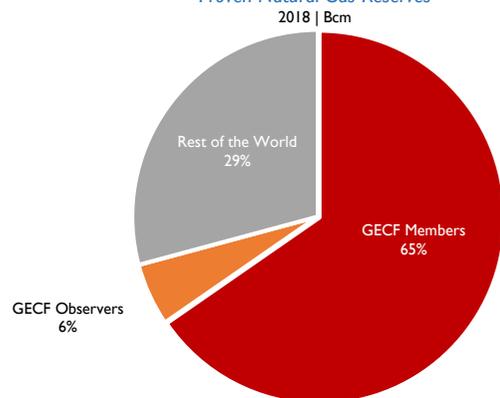
Table 3.1.1. Historical Proven Natural Gas Reserves of GECF Countries (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| World | 191,206 | 195,066 | 198,516 | 197,975 | 198,445 | 198,468 | 197,158 | 198,640 | 201,073 | 202,531 |
| GECF Totals | 128,520 | 129,095 | 132,298 | 136,194 | 142,485 | 143,273 | 144,738 | 145,916 | 145,061 | 144,790 |
| Members | 123,751 | 124,383 | 127,663 | 127,455 | 133,847 | 134,437 | 133,998 | 134,638 | 133,998 | 134,043 |
| Observers | 4,769 | 4,712 | 4,635 | 8,739 | 8,638 | 8,836 | 10,740 | 11,278 | 11,063 | 10,747 |
| GECF Share | 67% | 66% | 67% | 69% | 72% | 72% | 73% | 73% | 72% | 71% |

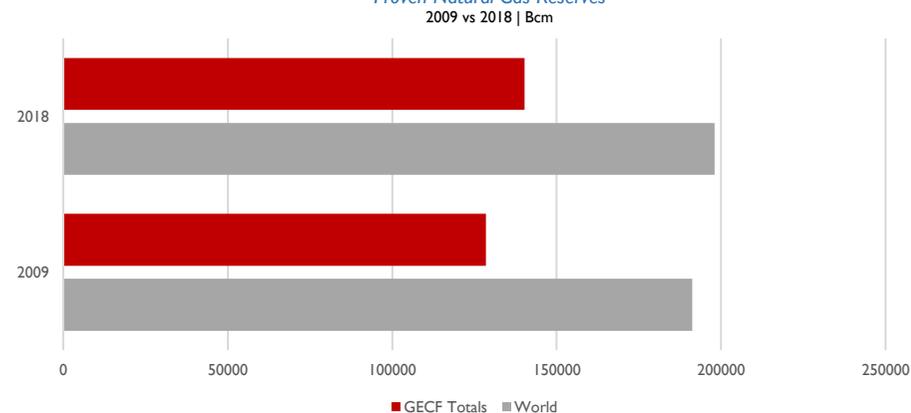
Table 3.1.2. Proven Natural Gas Reserves of Current GECF Countries (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Members | | | | | | | | | | |
| Algeria | 4,504 | 4,504 | 4,504 | 4,504 | 4,504 | 4,504 | 4,504 | 4,504 | 4,504 | 4,504 |
| Bolivia | 282 | 266 | 250 | 231 | 296 | 274 | 252 | 264 | 303 | 303 |
| Egypt | 2,199 | 2,202 | 2,119 | 1,957 | 1,777 | 2,186 | 2,086 | 2,221 | 2,221 | 2,221 |
| Equatorial Guinea | 84 | 82 | 78 | 71 | 66 | 60 | 54 | 47 | 42 | 36 |
| Iran | 33,090 | 33,620 | 33,790 | 33,710 | 33,850 | 33,440 | 33,720 | 33,820 | 33,330 | 33,899 |
| Libya | 1,549 | 1,495 | 1,547 | 1,549 | 1,506 | 1,505 | 1,505 | 1,505 | 1,505 | 1,505 |
| Nigeria | 5,204 | 5,106 | 5,171 | 5,115 | 5,108 | 5,303 | 5,280 | 5,475 | 5,627 | 5,685 |
| Qatar | 25,366 | 25,201 | 25,110 | 25,069 | 24,681 | 24,531 | 24,299 | 24,073 | 23,861 | 23,846 |
| Russia | 46,000 | 46,000 | 48,676 | 48,810 | 49,335 | 49,896 | 50,205 | 50,617 | 50,508 | 50,279 |
| Trinidad and Tobago | 408 | 381 | 375 | 371 | 347 | 326 | 300 | 281 | 298 | NA |
| United Arab Emirates | 6,091 | 6,091 | 6,091 | 6,091 | 6,091 | 6,091 | 6,091 | 6,091 | 6,091 | 6,091 |
| Venezuela | 5,065 | 5,525 | 5,528 | 5,563 | 5,581 | 5,617 | 5,702 | 5,740 | 5,708 | 5,674 |
| Observers | | | | | | | | | | |
| Angola | 275 | 275 | 275 | 275 | 275 | 308 | 308 | 440 | 422 | 384 |
| Azerbaijan | 1,310 | 1,317 | 1,317 | 1,308 | 1,300 | 1,292 | 1,284 | 1,277 | 1,270 | 1,435 |
| Iraq | 3,170 | 3,158 | 3,158 | 3,158 | 3,158 | 3,158 | 3,158 | 3,820 | 3,744 | 3,729 |
| Kazakhstan | 1,950 | 1,950 | 1,950 | 1,939 | 1,929 | 1,918 | 1,907 | 1,898 | 1,865 | 1,830 |
| Norway | 2,819 | 2,762 | 2,685 | 2,687 | 2,654 | 2,547 | 2,461 | 2,388 | 2,334 | 2,226 |
| Oman | 529 | 520 | 515 | 505 | 706 | 705 | 705 | 705 | 705 | 677 |
| Peru | 345 | 353 | 359 | 435 | 426 | 414 | 400 | 450 | 450 | 466 |

Graph 3.1.1. GECF Countries and Rest of the World Proven Natural Gas Reserves



Graph 3.1.2. GECF Countries vs Rest of the World Proven Natural Gas Reserves



3.2 Natural Gas Production

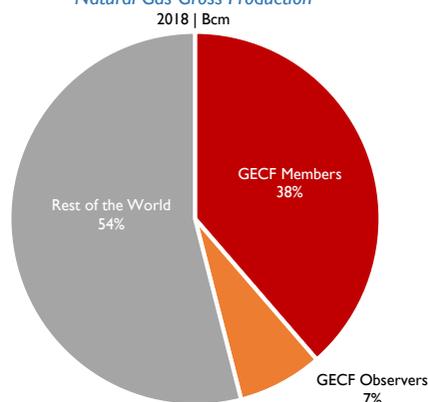
3.2.1. Historical Natural Gas Gross Production of GECF Countries (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| World | 3,834.30 | 4,069.24 | 4,144.70 | 4,214.29 | 4,265.46 | 4,332.58 | 4,397.15 | 4,410.32 | 4,553.56 | 4,729.16 |
| GECF Totals | 1,569.68 | 1,708.77 | 1,764.14 | 1,891.13 | 1,986.84 | 1,992.80 | 2,028.65 | 2,036.17 | 2,123.58 | 2,139.96 |
| Members | 1,388.38 | 1,521.46 | 1,576.87 | 1,590.46 | 1,687.63 | 1,682.85 | 1,654.87 | 1,661.26 | 1,744.78 | 1,790.41 |
| Observers | 181.30 | 187.31 | 187.27 | 300.66 | 299.21 | 309.96 | 373.78 | 374.91 | 378.80 | 349.55 |
| GECF Share | 41% | 42% | 43% | 45% | 47% | 46% | 46% | 46% | 47% | 45% |

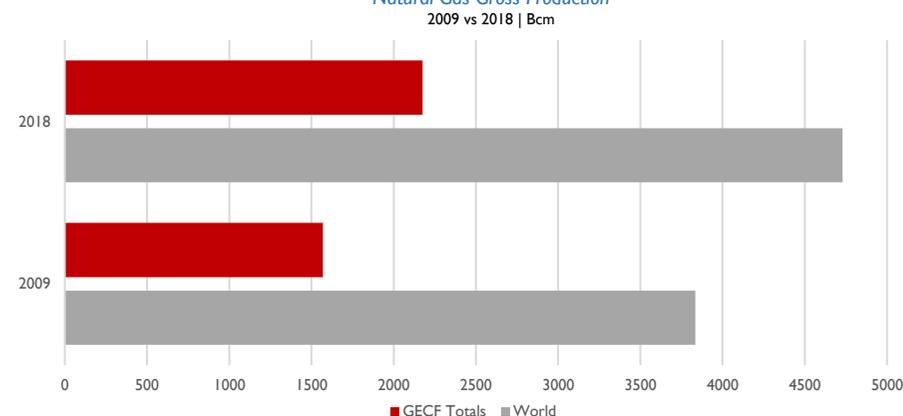
3.2.2. Natural Gas Gross Production of Current GECF Countries (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Members | | | | | | | | | | |
| Algeria | 196.94 | 192.21 | 190.13 | 182.60 | 179.49 | 186.75 | 183.83 | 189.14 | 188.74 | 183.55 |
| Bolivia | 13.25 | 15.06 | 16.26 | 18.41 | 21.07 | 22.19 | 21.99 | 21.16 | 20.53 | 19.35 |
| Egypt | 67.56 | 66.33 | 66.46 | 66.02 | 61.36 | 54.10 | 49.34 | 46.71 | 55.77 | 65.83 |
| Equatorial Guinea | 10.97 | 10.87 | 11.03 | 11.94 | 13.99 | 13.66 | 15.45 | 14.76 | 13.80 | 12.96 |
| Iran | 211.30 | 222.64 | 227.48 | 229.14 | 229.83 | 245.68 | 256.98 | 277.39 | 301.45 | 311.49 |
| Libya | 29.29 | 30.26 | 9.86 | 23.44 | 22.88 | 20.94 | 22.56 | 14.78 | 14.73 | 14.60 |
| Nigeria | 56.72 | 79.85 | 84.01 | 84.85 | 79.63 | 86.33 | 85.22 | 76.78 | 79.49 | 80.27 |
| Qatar | 102.81 | 136.25 | 150.02 | 163.03 | 171.06 | 173.40 | 175.92 | 172.17 | 171.40 | 175.42 |
| Russia | 584.00 | 651.30 | 670.80 | 654.68 | 667.59 | 642.81 | 633.54 | 640.81 | 692.00 | 727.60 |
| Trinidad and Tobago | 43.23 | 45.61 | 44.77 | 44.40 | 42.85 | 38.10 | 39.59 | 34.00 | 35.36 | 36.46 |
| United Arab Emirates | 75.09 | 79.27 | 82.43 | 83.21 | 84.32 | 84.31 | 90.27 | 91.40 | 94.63 | 95.43 |
| Venezuela | 72.31 | 71.08 | 73.27 | 75.97 | 76.44 | 76.72 | 80.20 | 82.16 | 76.89 | 67.44 |
| Observers | | | | | | | | | | |
| Angola | 10.10 | 10.32 | 10.73 | 10.85 | 10.76 | 10.44 | 10.54 | 11.71 | 14.98 | 13.94 |
| Azerbaijan | 22.63 | 25.07 | 24.58 | 26.40 | 27.85 | 28.22 | 27.83 | 27.91 | 27.07 | 28.41 |
| Iraq | 16.56 | 16.88 | 18.70 | 20.49 | 21.40 | 21.85 | 23.46 | 25.06 | 25.86 | 26.95 |
| Kazakhstan | 35.17 | 36.60 | 38.05 | 38.43 | 39.78 | 41.70 | 44.37 | 44.52 | 47.89 | 52.73 |
| Norway | 146.13 | 150.71 | 149.23 | 161.40 | 151.70 | 156.62 | 168.40 | 168.68 | 176.21 | 165.95 |
| Oman | 31.07 | 33.19 | 32.78 | 35.99 | 37.13 | 37.86 | 37.90 | 38.85 | 38.92 | 43.98 |
| Peru | 10.85 | 13.90 | 14.66 | 15.96 | 16.43 | 18.65 | 17.19 | 19.68 | 18.44 | 17.60 |

Graph 3.2.1. GECF Countries and Rest of the World Natural Gas Gross Production



Graph 3.2.2. GECF Countries vs Rest of the World Natural Gas Gross Production



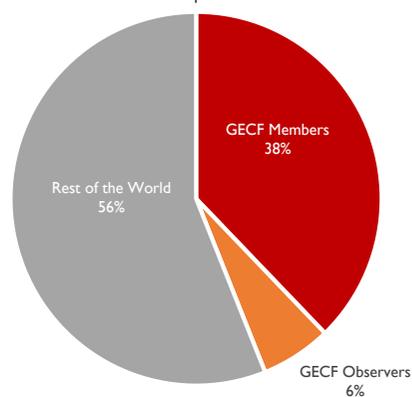
3.2.3. Historical Natural Gas Marketed Production of GECF Countries (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| World | 3,018.35 | 3,250.92 | 3,330.15 | 3,404.90 | 3,447.07 | 3,500.53 | 3,568.09 | 3,579.64 | 3,715.97 | 3,853.46 |
| GECF Totals | 1,197.13 | 1,335.86 | 1,390.73 | 1,504.47 | 1,574.61 | 1,563.56 | 1,593.07 | 1,602.70 | 1,675.88 | 1,693.69 |
| Members | 1,073.93 | 1,209.10 | 1,267.75 | 1,284.17 | 1,353.06 | 1,341.34 | 1,327.82 | 1,337.21 | 1,409.90 | 1,456.68 |
| Observers | 123.20 | 126.76 | 122.98 | 220.30 | 221.55 | 222.22 | 265.25 | 265.49 | 265.98 | 237.01 |
| GECF Share | 40% | 41% | 42% | 44% | 46% | 45% | 45% | 45% | 45% | 44% |

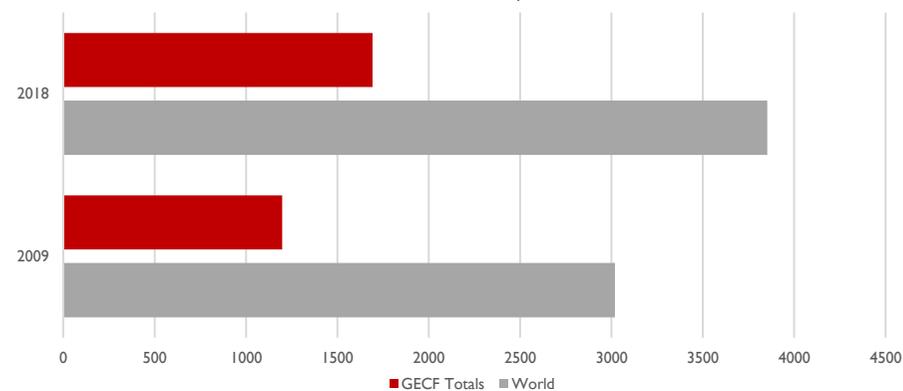
3.2.4. Natural Gas Marketed Production of Current GECF Countries (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Members | | | | | | | | | | |
| Algeria | 84.43 | 85.46 | 83.37 | 86.06 | 82.43 | 83.30 | 84.58 | 94.95 | 96.60 | 97.47 |
| Bolivia | 12.34 | 14.47 | 15.71 | 17.85 | 20.48 | 21.66 | 21.50 | 20.61 | 20.03 | 18.70 |
| Egypt | 62.69 | 61.32 | 61.26 | 60.80 | 56.13 | 48.79 | 44.26 | 41.93 | 50.71 | 60.84 |
| Equatorial Guinea | 8.11 | 7.76 | 8.48 | 8.22 | 8.41 | 8.23 | 7.44 | 7.88 | 8.24 | 7.75 |
| Iran | 155.19 | 165.01 | 170.78 | 172.31 | 171.57 | 188.02 | 202.97 | 211.14 | 217.80 | 233.97 |
| Libya | 16.59 | 16.81 | 6.96 | 16.07 | 16.99 | 16.59 | 15.15 | 9.86 | 9.12 | 9.04 |
| Nigeria | 23.21 | 36.19 | 41.32 | 42.57 | 38.41 | 43.84 | 45.15 | 41.99 | 45.79 | 46.97 |
| Qatar | 89.30 | 131.17 | 145.27 | 157.05 | 164.96 | 167.43 | 170.05 | 166.10 | 165.37 | 170.04 |
| Russia | 561.15 | 628.93 | 647.60 | 631.15 | 645.91 | 619.75 | 612.74 | 619.81 | 668.94 | 704.51 |
| Trinidad and Tobago | 40.40 | 42.25 | 39.69 | 39.34 | 39.84 | 35.51 | 36.94 | 31.81 | 33.48 | 34.93 |
| United Arab Emirates | 48.77 | 51.37 | 52.98 | 55.61 | 55.73 | 55.45 | 61.04 | 62.23 | 65.52 | 47.96 |
| Venezuela | 20.52 | 19.73 | 20.77 | 22.73 | 21.82 | 21.88 | 26.00 | 28.90 | 28.29 | 24.50 |
| Observers | | | | | | | | | | |
| Angola | 0.69 | 0.74 | 0.75 | 0.76 | 0.93 | 0.73 | 0.77 | 1.71 | 5.83 | 6.14 |
| Azerbaijan | 15.83 | 16.17 | 15.87 | 16.75 | 17.38 | 18.29 | 18.67 | 18.17 | 17.73 | 18.62 |
| Iraq | 6.33 | 6.61 | 5.96 | 5.95 | 6.64 | 7.00 | 6.82 | 9.13 | 9.39 | 10.79 |
| Kazakhstan | 19.22 | 19.40 | 20.36 | 20.32 | 20.70 | 21.68 | 22.64 | 22.95 | 24.56 | 27.50 |
| Norway | 103.98 | 107.36 | 102.63 | 114.83 | 108.77 | 109.25 | 120.52 | 120.60 | 127.77 | 125.50 |
| Oman | 24.77 | 26.99 | 26.53 | 30.02 | 30.38 | 30.90 | 29.98 | 30.48 | 31.26 | 35.71 |
| Peru | 3.47 | 7.23 | 11.54 | 11.99 | 12.43 | 13.16 | 12.69 | 14.07 | 12.99 | 12.74 |

Graph 3.2.3. GECF Countries and Rest of the World Natural Gas Marketed Production 2018 | Bcm



Graph 3.2.4. GECF Countries vs Rest of the World Natural Gas Marketed Production 2009 vs 2018 | Bcm



3.3 Natural Gas Exports

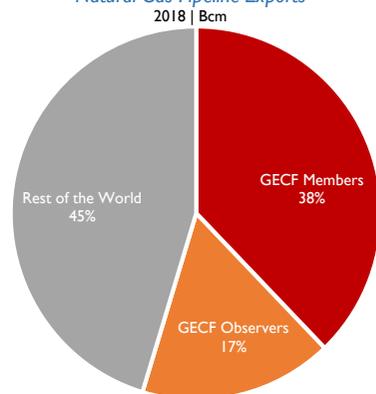
3.3.1. Historical Natural Gas Pipeline Exports of GECF Countries (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| World | 646.04 | 686.12 | 690.76 | 698.26 | 711.98 | 679.52 | 709.62 | 754.55 | 817.98 | 830.21 |
| GECF Totals | 337.26 | 352.91 | 347.12 | 437.82 | 452.79 | 414.72 | 436.15 | 462.63 | 490.72 | 453.99 |
| Members | 233.33 | 244.84 | 243.41 | 266.46 | 282.04 | 254.40 | 266.09 | 286.63 | 305.20 | 314.00 |
| Observers | 103.93 | 108.07 | 103.72 | 171.36 | 170.75 | 160.32 | 170.06 | 176.00 | 185.52 | 139.99 |
| GECF Share | 52% | 51% | 50% | 63% | 64% | 61% | 61% | 61% | 60% | 55% |

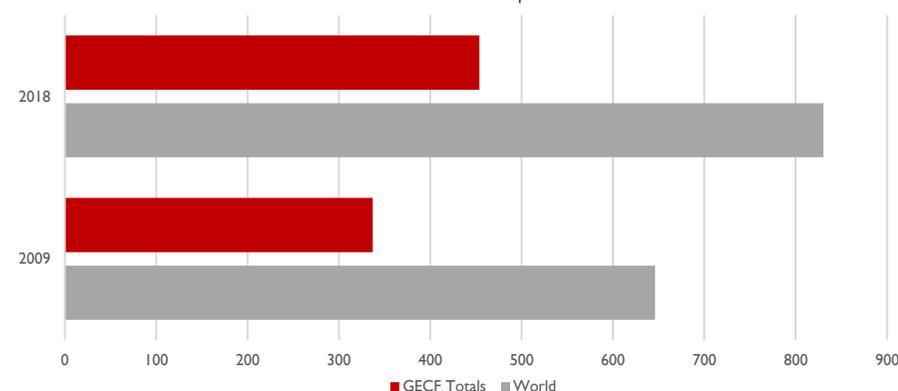
3.3.2. Natural Gas Pipeline Exports of Current GECF Countries (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Members | | | | | | | | | | |
| Algeria | 33.55 | 37.85 | 35.72 | 37.33 | 32.23 | 27.08 | 27.04 | 38.44 | 37.59 | 37.95 |
| Bolivia | 9.75 | 11.54 | 12.48 | 14.61 | 16.94 | 17.62 | 17.34 | 15.92 | 15.25 | 13.84 |
| Egypt | 5.45 | 5.46 | 1.79 | 0.68 | 0.88 | 0.23 | 0.24 | 0.00 | 0.00 | 0.00 |
| Equatorial Guinea | - | - | - | - | - | - | - | - | - | - |
| Iran | 5.77 | 8.49 | 9.12 | 9.18 | 9.54 | 9.76 | 8.60 | 8.65 | 12.89 | 12.24 |
| Libya | 9.37 | 9.53 | 2.57 | 6.35 | 5.55 | 6.42 | 7.03 | 4.80 | 4.32 | 4.27 |
| Nigeria | 0.00 | 0.12 | 0.83 | 0.40 | 0.60 | 0.60 | 0.60 | 0.12 | 0.39 | 0.72 |
| Qatar | 18.75 | 19.15 | 19.20 | 19.22 | 19.90 | 20.09 | 19.75 | 20.00 | 21.96 | 22.36 |
| Russia | 150.70 | 152.70 | 161.70 | 178.70 | 196.40 | 172.60 | 185.50 | 198.70 | 212.80 | 222.62 |
| Trinidad and Tobago | - | - | - | - | - | - | - | - | - | - |
| United Arab Emirates | - | - | - | - | - | - | - | - | - | - |
| Venezuela | - | - | - | - | - | - | - | - | - | - |
| Observers | | | | | | | | | | |
| Angola | - | - | - | - | - | - | - | - | - | - |
| Azerbaijan | 5.81 | 5.45 | 6.29 | 6.09 | 7.68 | 7.77 | 7.32 | 7.62 | 8.86 | 9.19 |
| Iraq | - | - | - | - | - | - | - | - | - | - |
| Kazakhstan | 9.89 | 11.79 | 11.37 | 11.17 | 11.62 | 10.65 | 12.25 | 12.76 | 14.18 | 17.48 |
| Norway | 94.04 | 96.28 | 92.35 | 105.68 | 99.59 | 98.64 | 107.13 | 107.07 | 116.80 | 113.33 |
| Oman | - | - | - | - | - | - | - | - | - | - |
| Peru | - | - | - | - | - | - | - | - | - | - |

Graph 3.3.1. GECF Countries and Rest of the World Natural Gas Pipeline Exports 2018 | Bcm



Graph 3.3.2. GECF Countries vs Rest of the World Natural Gas Pipeline Exports 2009 vs 2018 | Bcm



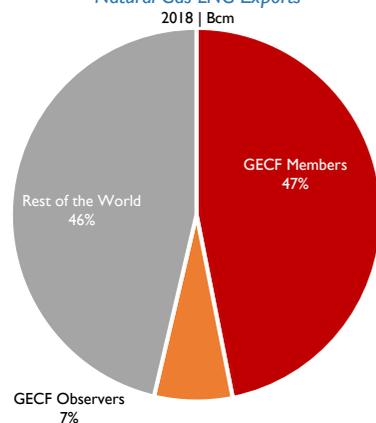
3.3.3. Historical LNG Exports of GECF Countries (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| World | 258.04 | 317.72 | 347.06 | 338.53 | 344.38 | 345.43 | 348.31 | 371.95 | 411.48 | 439.33 |
| GECF Totals | 137.98 | 176.46 | 210.26 | 207.86 | 211.53 | 212.77 | 212.49 | 212.60 | 222.38 | 235.85 |
| Members | 134.81 | 171.84 | 205.86 | 203.06 | 207.43 | 202.26 | 191.06 | 189.29 | 199.60 | 205.90 |
| Observers | 3.18 | 4.62 | 4.40 | 4.80 | 4.10 | 10.51 | 21.43 | 23.31 | 22.78 | 29.95 |
| GECF Share | 53% | 56% | 61% | 61% | 61% | 62% | 61% | 57% | 54% | 54% |

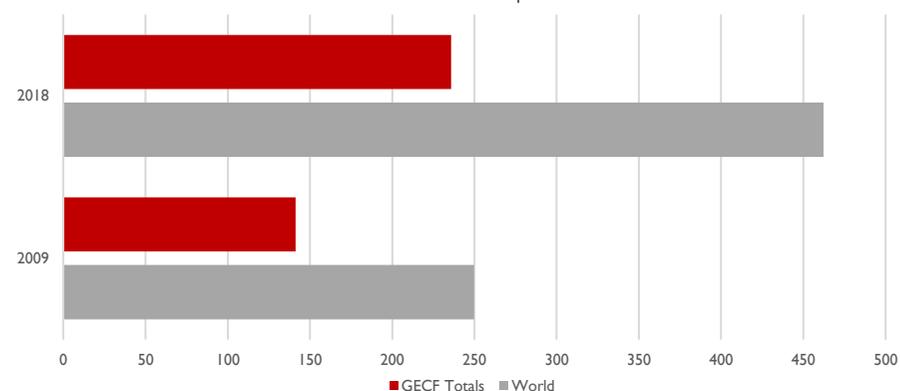
3.3.4. LNG Exports of Current GECF Countries (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| Members | | | | | | | | | | |
| Algeria | 21.56 | 19.51 | 17.13 | 15.00 | 15.16 | 17.11 | 16.47 | 15.53 | 16.41 | 13.47 |
| Bolivia | - | - | - | - | - | - | - | - | - | - |
| Egypt | 16.59 | 11.94 | 11.19 | 8.26 | 4.87 | 0.44 | 0.00 | 0.99 | 1.33 | 2.45 |
| Equatorial Guinea | 5.70 | 5.87 | 5.61 | 5.55 | 5.77 | 5.87 | 5.30 | 5.31 | 5.88 | 5.24 |
| Iran | - | - | - | - | - | - | - | - | - | - |
| Libya | 0.72 | 0.29 | 0.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nigeria | 15.75 | 23.66 | 25.94 | 28.27 | 24.54 | 26.78 | 26.70 | 25.02 | 34.33 | 31.11 |
| Qatar | 49.44 | 75.75 | 102.60 | 102.98 | 103.41 | 102.32 | 104.53 | 105.20 | 104.23 | 104.41 |
| Russia | 5.18 | 14.79 | 14.05 | 13.18 | 16.20 | 12.63 | 13.18 | 14.91 | 15.03 | 25.48 |
| Trinidad and Tobago | 19.88 | 20.03 | 18.32 | 18.96 | 19.00 | 18.94 | 16.90 | 14.27 | 14.61 | 16.67 |
| United Arab Emirates | 6.92 | 7.82 | 7.57 | 7.37 | 7.19 | 7.91 | 7.98 | 8.06 | 7.78 | 7.08 |
| Venezuela | - | - | - | - | - | - | - | - | - | - |
| Observers | | | | | | | | | | |
| Angola | 0.00 | 0.00 | 0.00 | 0.00 | 0.47 | 0.44 | 0.00 | 0.93 | 4.98 | 5.25 |
| Azerbaijan | - | - | - | - | - | - | - | - | - | - |
| Iraq | - | - | - | - | - | - | - | - | - | - |
| Kazakhstan | - | - | - | - | - | - | - | - | - | - |
| Norway | 3.18 | 4.62 | 4.40 | 4.80 | 3.89 | 4.74 | 5.65 | 6.08 | 5.30 | 6.73 |
| Oman | 11.55 | 11.43 | 10.93 | 10.86 | 11.28 | 10.27 | 10.00 | 10.64 | 11.15 | 13.28 |
| Peru | 0.00 | 1.74 | 5.64 | 5.32 | 5.18 | 5.24 | 4.83 | 5.72 | 5.50 | 4.70 |

Graph 3.3.3. GECF Countries and Rest of the World
Natural Gas LNG Exports



Graph 3.3.4. GECF Countries vs Rest of the World
Natural Gas LNG Exports
2009 vs 2018 | Bcm



3.4 Natural Gas Domestic Consumption

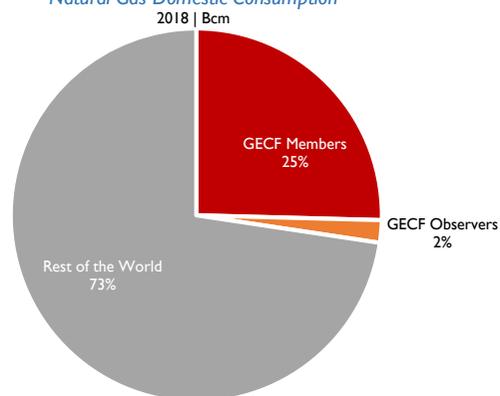
3.4.1. Historical Natural Gas Domestic Consumption of GECF Countries (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| World | 3,096.10 | 3,311.04 | 3,410.72 | 3,466.07 | 3,503.90 | 3,558.89 | 3,631.22 | 3,666.04 | 3,778.58 | 3,892.21 |
| GECF Totals | 816.49 | 882.35 | 920.44 | 980.77 | 1,049.64 | 1,073.12 | 1,097.44 | 1,118.68 | 1,143.05 | 1,064.88 |
| Members | 799.82 | 865.31 | 903.31 | 918.44 | 985.25 | 1,004.38 | 995.51 | 1,013.74 | 1,034.11 | 989.28 |
| Observers | 16.68 | 17.04 | 17.13 | 62.33 | 64.39 | 68.74 | 101.93 | 104.94 | 108.94 | 75.60 |
| GECF Share | 26% | 27% | 27% | 28% | 30% | 30% | 30% | 31% | 30% | 27% |

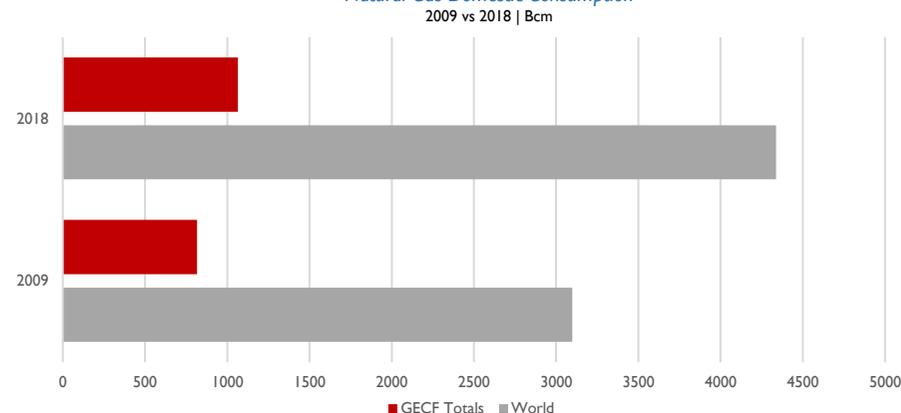
3.4.2. Natural Gas Domestic Consumption of Current GECF Countries (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Members | | | | | | | | | | |
| Algeria | 26.78 | 27.21 | 28.80 | 32.21 | 32.53 | 37.21 | 40.30 | 40.45 | 41.82 | 45.14 |
| Bolivia | 2.56 | 2.92 | 3.27 | 3.38 | 3.60 | 4.14 | 4.23 | 4.73 | 4.80 | 4.86 |
| Egypt | 42.54 | 45.15 | 49.62 | 52.59 | 51.42 | 48.02 | 47.80 | 51.29 | 58.16 | 61.29 |
| Equatorial Guinea | 1.25 | 1.18 | 1.39 | 1.46 | 1.47 | 1.44 | 1.29 | 1.59 | 1.58 | 1.52 |
| Iran | 155.20 | 165.01 | 170.79 | 172.33 | 171.57 | 188.02 | 202.97 | 211.15 | 217.76 | 227.82 |
| Libya | 6.50 | 6.99 | 4.30 | 9.71 | 11.43 | 10.17 | 8.69 | 5.06 | 4.81 | 4.77 |
| Nigeria | 3.56 | 5.00 | 6.16 | 7.33 | 7.70 | 7.73 | 11.11 | 8.88 | 11.07 | 12.17 |
| Qatar | 21.11 | 29.80 | 19.60 | 23.40 | 38.19 | 40.52 | 43.90 | 41.70 | 38.02 | 40.95 |
| Russia | 500.60 | 543.70 | 562.60 | 554.60 | 540.00 | 542.20 | 521.80 | 535.83 | 543.50 | 483.20 |
| Trinidad and Tobago | 16.20 | 17.46 | 17.36 | 17.04 | 16.95 | 16.62 | 16.64 | 15.06 | 15.05 | 15.09 |
| United Arab Emirates | 59.10 | 60.80 | 63.20 | 65.60 | 66.90 | 65.90 | 71.83 | 71.95 | 71.98 | 71.24 |
| Venezuela | 23.53 | 20.89 | 21.87 | 23.29 | 22.44 | 22.01 | 24.96 | 26.05 | 25.57 | 21.22 |
| Observers | | | | | | | | | | |
| Angola | 0.69 | 0.73 | 0.75 | 0.76 | 0.82 | 0.64 | 0.77 | 0.78 | 0.79 | 0.71 |
| Azerbaijan | 8.63 | 8.12 | 8.99 | 9.34 | 9.43 | 10.05 | 11.12 | 10.85 | 10.50 | 10.79 |
| Iraq | 4.01 | 4.27 | 4.54 | 4.34 | 4.47 | 4.51 | 4.59 | 5.54 | 7.60 | 9.68 |
| Kazakhstan | 10.14 | 11.54 | 12.57 | 12.95 | 13.51 | 15.00 | 15.55 | 15.81 | 15.87 | 19.26 |
| Norway | 6.54 | 5.50 | 4.56 | 4.34 | 5.15 | 5.87 | 5.23 | 4.29 | 3.58 | 3.27 |
| Oman | 14.42 | 17.45 | 17.54 | 21.11 | 21.05 | 20.41 | 21.92 | 21.81 | 22.07 | 24.40 |
| Peru | 3.48 | 5.49 | 5.71 | 6.61 | 7.02 | 7.66 | 7.67 | 8.94 | 7.34 | 7.49 |

Graph 3.4.1. GECF Countries and Rest of the World Natural Gas Domestic Consumption



Graph 3.4.2. GECF Countries vs Rest of the World Natural Gas Domestic Consumption



3.5 Liquefaction Plants

3.5.1. Liquefaction Plants of GECF Countries

| Country | Plant | Liquefaction (No. of Trains) | Total Capacity (MPTA) | Status | Start Year | Owner(s) | Operator(s) |
|----------------------|----------------------------|---------------------------------|--------------------------|--------------------|---------------------|--|------------------------|
| Members | | | | | | | |
| Algeria | GL1Z | 6 | 7.8 | Operational | 1978 | Sonatrach | Sonatrach |
| | GL2Z | 6 | 8.0 | Operational | 1981 | Sonatrach | Sonatrach |
| | GL1K | 1 Mega | 4.5 | Operational | 2013 | Sonatrach | Sonatrach |
| | GL3Z | 1 Mega | 4.7 | Operational | 2014 | Sonatrach | Sonatrach |
| Bolivia | Rio Grande LNG | 1 | 0.08 | Operational | 2016 | YPFB | YPFB |
| Egypt | IDKU Egyptian LNG | 2 | 7.2 | Operational | 2005 | Shell, EGAS, EGBC, Petronas, ENGIE | OPCO |
| | Damietta | 1 | 4.8 | Offline | 2005 | EGAS, EGBC, Union Fenosa Gas | SEGAS |
| Equatorial Guinea | Equatorial Guinea (EG) LNG | 1 | 3.7 | Operational | 2007 | Marathon, Sonagas, Mitsui, Marubeni | Marathon Oil |
| | Fortuna FLNG | 1 | 2.2 | Planned | 2022 | Ophir, OneLNG | Golar |
| Iran | Iran LNG | 2 | 6.7 | Under Construction | 2018 | NIOC | Iran LNG |
| | Iran FLNG | 1 | 0.7 | Planned | 2018 | NIOC | - |
| Libya | Marsa al Brega | 1 | 3.2 | Offline | 1960 | Libya NOC | Sirte Oil Company |
| Nigeria | NLNG 1 & 2 | 2 | 7.0 | Operational | 1999 | Nigeria LNG | Nigeria LNG |
| | NLNG 3 | 1 | 3.3 | Operational | 2002 | Nigeria LNG | Nigeria LNG |
| | NLNG 4 | 1 | 4.1 | Operational | 2005 | Nigeria LNG | Nigeria LNG |
| | NLNG 5 | 1 | 4.1 | Operational | 2006 | Nigeria LNG | Nigeria LNG |
| | NLNG 6 | 1 | 4.1 | Operational | 2007 | Nigeria LNG | Nigeria LNG |
| | NLNG 7 | 1 | - | Planned | - | Nigeria LNG | Nigeria LNG |
| | NLNG 8 | 1 | - | Planned | - | Nigeria LNG | Nigeria LNG |
| | Qatargas 1 | 3 | 9.9 | Operational | 1996/1997/1998 | Qatar Petroleum, Exxon Mobil, Total, Mitsui, Marubeni | Qatargas |
| Qatar | Qatargas 2 | 2 | 15.6 | Operational | 2009 | Qatar Petroleum, Exxon Mobil, Total | Qatargas |
| | Qatargas 3 | 1 | 7.8 | Operational | 2010 | Qatar Petroleum, ConocoPhillips, Mitsui | Qatargas |
| | Qatargas 4 | 1 | 7.8 | Operational | 2011 | Qatar Petroleum, Shell | Qatargas |
| | Raslaffan 1 | 2 | 6.6 | Operational | 1999 | Qatar Petroleum, ExxonMobil, Korea LNG Ltd, Itochu, LNG Japan Corp | Qatargas |
| | Raslaffan 2 | 3 | 14.1 | Operational | 2004 | Qatar Petroleum, ExxonMobil | Qatargas |
| | Raslaffan 3 | 2 | 15.6 | Operational | 2010 | Qatar Petroleum, ExxonMobil | Qatargas |
| | North Field Expansion | 4 | 33.0 | Project | 2024/2025 | Qatar Petroleum | Project Phase |
| Russia | Sakhalin II | 2 | 9.6 | Operational | 2009 | Sakhalin Energy | Sakhalin Energy |
| | Yamal LNG | 2 | 11.0 | Operational | 2017/2018 | Novatek | Novatek |
| | Yamal LNG | 1 | 5.5 | Under Construction | 2018/2019 | Novatek | Novatek |
| | Gorskaya LNG | 1 | 1.3 | Under Construction | 2019/2021 | Gazprom | Gazprom |
| | Portovaya LNG | 1 | 1.5 | Planned | 2020 | Gazprom | Gazprom |
| | Kamchatka LNG | 4 | 20.0 | Planned | 2022/2023 | Novatek | Novatek |
| | Baltic LNG | 2 | 10.0 | Planned | 2023 | Gazprom | Gazprom |
| | Sakhalin II | 2 | 10.0 | Planned | 2023/2024 | Sakhalin Energy (Gazprom) | Sakhalin Energy |
| | Arctic LNG | 3 | 19.8 | Planned | 2023 | Novatek | Novatek |
| | Far East LNG | 1 | 5.0 | Planned | 2023 | Rosneft | Rosneft |
| Trinidad and Tobago | Atlantic LNG | 4 | 14.8 | Operational | 1999/2002/2003/2005 | Atlantic LNG | Atlantic LNG |
| United Arab Emirates | Das Island | 3 | 5.6 | Operational | 1977/1977/1994 | ADNOC, Mitsui, BP, Total | ADGAS |
| Observers | | | | | | | |
| Angola | Angola LNG | 1 | 5.2 | Operational | 2013 | Angola LNG | Angola LNG |
| Norway | Snohvit LNG | 1 | 4.3 | Operational | 2007 | Snohvit LNG Consortium | Snohvit LNG Consortium |
| Oman | Qalhat | 3 | 10.8 | Operational | 2000 | Oman LNG | Oman LNG |
| Peru | Peru LNG Plant | 1 | 4.5 | Operational | 2010 | Peru LNG Consortium | Hunt Oil Company |

3.6 Natural Gas Pipelines

3.6.1. Natural Gas (Import/Export) Pipelines of GECF Member Countries (in Bold Text)

| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/Year) | Type | Start Year | Length (km) | Diameter (Inches) |
|------------------------------------|----------------|-----------------------------------|------------|--|---|--------------------|---------------------|---------------|------------|-------------|-------------------|
| | From | To | Via | | | | | | | | |
| Enrico Mattei (TransMediterranean) | Algeria | Italy | Tunisia | Sonatrach, Sotugat, ENI | Sonatrach, Sergas, TMPC | Operational | 32.0 | Export | 1983 | 2,475 | 47/20/42/48 |
| Pedro Duran Farell | Algeria | Spain-Portugal | Morocco | Sonatrach, Enagas, Transgas | Sonatrach, Metragaz, Enagás Transgas | Operational | 12.0 | Export | 1996 | 1,620 | 47/28/32/22 |
| Medgaz | Algeria | Spain | Med Sea | Sonatrach, CEPSA Iberdrola, Endesa, GDF Suez | Sociedad para el Estudio y Promocion del Gasoducto Argelia-Europa | Operational | 8.0 | Export | 2011 | 210 | 48/24 |
| Trans-Saharan Gas | Algeria | Nigeria | Niger | Sonatrach, NNPC | NA | Planned | 20.0 – 30.0 | Export | NA | 4,128 | 48/56 |
| GASBOL | Bolivia | Brazil | - | Gas TransBoliviano | Gas TransBoliviano | Operational | 11.5 | Export | 1999 | 557 | 32 |
| GIJA (Juana Azurduy) | Bolivia | Argentina | - | YPFB Transporte | YPFB Transporte | Operational | 10.2 | Export | 2011 | 13 | 32 |
| GOB | Bolivia | Brazil | - | GasOriente Boliviano | GasOriente Boliviano | Operational | 1.5 | Export | 2002 | 362 | 18 |
| Arab Gas Pipeline | Egypt | Jordan, Syria, Lebanon | - | EGAS, ENPPI, GASCOPETROJET SPC | Egyptian FAJR | Offline | 10.0 | Export | 2003 | 1,200 | 36 |
| Tabriz-Ankara | Iran | Turkey | - | NIOC, Botas | NIOC, Botas | Operational | 14.0 | Export | 2002 | 3,250 | 40 |
| Jolfa-Nakhchivan | Iran | Azerbaijan | - | NIGC, SOCAR | NIGC, SOCAR | Operational | 10.0 | Swap | 2005 | 627 | 40 |
| Tabriz-Sardanian | Iran | Armenia | - | NIOC, Armenia Gazprom | NIOC, Armenia Gazprom | Operational | 2.3 | Export | 2006 | 140 | 30 |
| Asaluye-Baghdad | Iran | Iraq | - | NIOC, INOC | NIOC, INOC | Operational | 12.8 | Export | 2017 | 230 | - |
| Dauletabad-Khangiran | Turkmenistan | Iran | - | Turkmengaz | Turkmengaz | Operational | 12.0 | Import | 2007 | 182 | 48 |
| Asaluye-Basrah | Iran | Iraq | - | NIOC, INOC | NIOC, INOC | Under Construction | NA | Export | NA | NA | NA |
| Asaluye-Nawabshah | Iran | Pakistan | - | NIOC, SNGPL, SSGC, Gazprom JSC | NIOC, SNGPL, SSGC, Gazprom JSC | Under Construction | 40.0 | Export | NA | 2,775 | 56 |
| Asaluye-Sohar | Iran | Oman | - | NIOC, OGC | NIOC, OGC | Planned | 9.9 | Export | 2020 | - | - |
| Green Stream | Libya | Sicily | - | Green Stream | Green Stream | Operational | 11.0 | Export | 2004 | 520 | 32 |
| West African Gas Pipeline | Nigeria | Ghana | Benin-Togo | WAGP | Chevron | Operational | 8.3 | Export | 2006 | 678 | 20 |
| Dolphin | Qatar | United Arab Emirates, Oman | - | Dolphin Energy | Dolphin Energy | Operational | 33.1 | Export | 2007 | 364 | 48 |
| Urengoy-Pomary-Uzhgorod | Russia | Europe | Ukraine | Gazprom | Gazprom | Operational | 100.0 | Export | 1967 | 2,000 | 54 |
| Blue Stream | Russia | Turkey | - | Gazprom, Blue Stream Pipeline Company BV | Gazprom, Blue Stream Pipeline Company BV | Operational | 16.0 | Export | 2003 | 1,213 | 55/47 |
| Yamal Europe | Russia | Europe (Poland Germany) | Belarus | Gazprom | Gazprom | Operational | 32.9 | Export | 2006 | 2,000 | 56 |
| Nord Stream | Russia | Germany | NA | Nord Stream AG JV | Nord Stream AG JV | Operational | 55.0 | Export | 2011 | 1,224 | 56 |
| Minsk-Vilnius-Kaunas-Kaliningrad | Russia | Belarus, Lithuania | - | Gazprom | Gazprom | Operational | 2.5 | Export | 2011 | 155 | 20 |
| Nord Stream 2 | Russia | Germany | - | NA | NA | Under Construction | 55.0 | Export | 2019 | 1,200 | 48 |
| TurkStream | Russia | Turkey | - | Gazprom | Gazprom | Under Construction | 31.5 | Export | 2019 | 930 | 32 |
| Power of Siberia | Russia | China | NA | Gazprom | NA | Under Construction | 38.0 | Export | 2019 | 3,000 | 56 |
| Antonio Ricaurte (Trans Caribbean) | Colombia | Venezuela | - | PDVSA Gas | PDVSA Gas | Operational | 2.7 | Import Export | 2007 | 225 | 26 |

3.6.2. Natural Gas (Import/Export) Pipelines of GECF Observer Countries (in Bold Text)

| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/year) | Type | Start Year | Length (km) | Diameter (Inches) |
|--|-------------------|-------------------|-----|---|---------------------------------------|-------------|---------------------|--------|---------------|-------------|-------------------|
| | From | To | Via | | | | | | | | |
| South Caucasus (Baku-Tbilissi-Erzurum) | Azerbaijan | Georgia, Turkey | - | BP, TPAO, SOCAR, Petronas, Lukoil, Naftiran, Intertrade | BP | Operational | 25.0 | Export | 2006 | 692 | 42 |
| Mozdok-Makhachkala-Kazi Magomed | Russia | Azerbaijan | - | SOCAR, GAZPROM | SOCAR, GAZPROM | Operational | 13.0 | - | 2010 | 680 | 48 |
| Trans-Anatolian | Azerbaijan | Turkey | - | TANAP Consortium | SOCAR | Operational | 31.0 | Export | 2018 | 1,850 | 56/42 |
| Trans-Caspian | Azerbaijan | Turkmenistan | - | - | - | Planned | 30.0 | Export | - | 300 | - |
| Bukhara-Tashkent-Bishkek-Almaty | Uzbekistan | Kazakhstan | - | Uzbekneftegas, KyrKazGas, KazTransGas | Uzbekneftegas, KyrKazGas, KazTransGas | Operational | 22.0 | Import | 1971 | 684 | 40 |
| Central Asia Center (CAC) | Turkmenistan | Kazakhstan | - | Gazprom | Gazprom | Operational | 44.0 | Import | 1969/ 1988 | 2,000 | 30/50 |
| Norpipe | Norway | Germany | - | Gassco AS | Gassco AS | Operational | 11.7 | Export | 1977 | 440 | 36 |
| Vesterled | Norway | UK | - | Gassco AS | Gassco AS | Operational | 14.2 | Export | 1978 | 360 | 32 |
| Zeepipe I | Norway | Belgium | - | Gassco AS | Gassco AS | Operational | 15.3 | Export | 1993 | 808 | 40 |
| Europipe I | Norway | Germany | - | Gassco AS | Gassco AS | Operational | 16.8 | Export | 1995 | 620 | 40 |
| Franpipe | Norway | France | - | Gassco AS | Gassco AS | Operational | 20.1 | Export | 1998 | 840 | 42 |
| Europipe II | Norway | Germany | - | Gassco AS | Gassco AS | Operational | 26.0 | Export | 1999 | 660 | 42 |
| Langeled | Norway | UK | - | Gassco AS | Gassco AS | Operational | 26.3 | Export | 2006 | 536 | 44 |

3.7 LNG Carrier Fleet

3.7.1. LNG Carrier Fleet of Member GECF Countries

| Country | Ship Name | Owner(s) | Delivered Year | Size (1000 Scm) |
|---------------------|----------------------|---------------------------------|---------------------|-----------------|
| Algeria | Larbi Ben M'hidi | Sonatrach Group | 1977 | 126.13 |
| | Bachir Chihani | Sonatrach Group | 1979 | 129.70 |
| | Didouche Mourad | Sonatrach Group | 1980 | 126.13 |
| | Abane Ramdane | Sonatrach Group | 1981 | 126.13 |
| | Berge Arzew | Sonatrach/Bergessen | 2004 | 138.00 |
| | Lalla Ftama N'soumer | Sonatrach/Mol Itochu | 2004 | 145.00 |
| | Cheikh El-Mokrani | Sonatrach/Mol Itochu | 2007 | 75.50 |
| | Cheikh Bouamama | Sonatrach/Mol Itochu | 2008 | 75.00 |
| Nigeria | LNG Edo | Bonny Gas Transport | 1980 | 126.50 |
| | LNG Rivers | Bonny Gas Transport | 2002 | 137.20 |
| | LNG Sokoto | Bonny Gas Transport | 2002 | 137.20 |
| | LNG Bayelsa | Bonny Gas Transport | 2003 | 137.50 |
| | LNG Akwa Ibom | Bonny Gas Transport | 2004 | 141.00 |
| | LNG River Orashi | BW Gas | 2004 | 145.91 |
| | LNG Adamawa | Bonny Gas Transport | 2005 | 141.00 |
| | LNG Cross River | Bonny Gas Transport | 2005 | 141.00 |
| | LNG Enugu | BW Gas | 2005 | 145.00 |
| | LNG Oyo | BW Gas | 2005 | 140.50 |
| | LNG River Niger | Bonny Gas Transport | 2006 | 141.00 |
| | LNG Benue | BW Gas | 2006 | 145.70 |
| | LNG Lokoja | BW Gas | 2006 | 148.30 |
| | LNG Borno | NYK Line | 2007 | 149.60 |
| | LNG Ogun | NYK Line | 2007 | 149.60 |
| | LNG Kano | BW Gas | 2007 | 148.30 |
| | LNG Ondo | BW Gas | 2007 | 148.30 |
| | LNG Imo | BW Gas | 2008 | 148.30 |
| | LNG Bonny II | Bonny Gas Transport | 2015 | 133.00 |
| | LNG Finima II | Bonny Gas Transport | 2015 | 133.00 |
| | LNG Lagos II | Bonny Gas Transport | 2015 | 122.00 |
| | LNG Port-Harcourt II | Bonny Gas Transport | 2015 | 122.00 |
| | LNG Abuja II | Bonny Gas Transport | 2016 | 126.50 |
| | Qatar | Umm Bab | Nakilat / Maran Gas | 2005 |
| Simaisma | | Nakilat / Maran Gas | 2006 | 210.20 |
| Al Marrouna | | Nakilat / Teekay | 2006 | 216.31 |
| Al Khuwair | | Nakilat / Teekay | 2006 | 210.15 |
| Al Jassasiya | | Nakilat / Maran Gas | 2007 | 266.37 |
| Ejnan | | Nakilat / NYK | 2007 | 263.30 |
| Al Gattara | | Nakilat / International Seaways | 2007 | 266.37 |
| Tembek | | Nakilat / International Seaways | 2007 | 266.48 |
| Al Ruwais | | Nakilat / Pronav | 2007 | 266.25 |
| Al Safliya | | Nakilat / Pronav | 2007 | 265.98 |
| Al Areesh | | Nakilat / Teekay | 2007 | 210.10 |
| Al Ghuwairiya | | Nakilat | 2008 | 210.10 |
| Mozah | | Nakilat | 2008 | 216.30 |
| Umm Slal | | Nakilat | 2008 | 210.15 |
| Bu Samra | | Nakilat | 2008 | 210.10 |
| Al Oraiq | | Nakilat / "K" Line | 2008 | 216.29 |
| Umm Al Amad | | Nakilat / "K" Line | 2008 | 210.20 |
| Maran Gas Asclepius | | Nakilat / Maran Gas | 2008 | 266.00 |
| Al Aamriya | | Nakilat / MOL | 2008 | 266.00 |
| Fraiha | | Nakilat / MOL | 2008 | 263.30 |
| Murwab | | Nakilat / MOL | 2008 | 266.00 |
| Al Sahla | | Nakilat / NYK | 2008 | 263.30 |
| Al Thumama | | Nakilat / NYK | 2008 | 266.28 |
| Al Utouriya | | Nakilat / NYK | 2008 | 266.00 |

3.7.1. LNG Carrier Fleet of GEFC Member Countries (Continuation)

| Country | Ship Name | Owner(s) | Delivered Year | Size (1000 Scm) |
|----------------------|-----------------------------------|-----------------------------------|----------------|-----------------|
| Qatar | Al Gharrafa | Nakilat / International Seaways | 2008 | 266.00 |
| | Al Hamla | Nakilat / International Seaways | 2008 | 210.10 |
| | Al Ghariya | Nakilat / Pronav | 2008 | 210.10 |
| | Duhail | Nakilat / Pronav | 2008 | 145.70 |
| | Al Daayen | Nakilat / Teekay | 2008 | 174.00 |
| | Al Huwaila | Nakilat / Teekay | 2008 | 161.87 |
| | Al Kharsaah | Nakilat / Teekay | 2008 | 161.87 |
| | Al Shamal | Nakilat / Teekay | 2008 | 145.82 |
| | Al Ghashamiya | Nakilat | 2009 | 145.70 |
| | Sheehaniya | Nakilat | 2009 | 159.80 |
| | Mesaimmer | Nakilat | 2009 | 159.80 |
| | Onaiza | Nakilat | 2009 | 161.87 |
| | Al Dafna | Nakilat | 2009 | 161.87 |
| | Al Mafyar | Nakilat | 2009 | 159.80 |
| | Mekaines | Nakilat | 2009 | 145.89 |
| | Al Bahiya | Nakilat | 2009 | 145.00 |
| | Al Karaana | Nakilat | 2009 | 159.80 |
| | Al Kharaitiyat | Nakilat | 2009 | 159.80 |
| | Al Khattiya | Nakilat | 2009 | 210.17 |
| | Al Nuaman | Nakilat | 2009 | 210.10 |
| | Al Rekayyat | Nakilat | 2009 | 210.10 |
| | Al Sadd | Nakilat | 2009 | 216.20 |
| | Al Mayeda | Nakilat | 2009 | 216.20 |
| | Al Samriya | Nakilat | 2009 | 215.00 |
| | Lijmiliya | Nakilat | 2009 | 145.00 |
| | Shagra | Nakilat | 2009 | 216.20 |
| | Aseem | Nakilat / SCI | 2009 | 216.20 |
| | Aamira | Nakilat | 2010 | 216.20 |
| | Rasheeda | Nakilat | 2010 | 216.20 |
| | Zarga | Nakilat | 2010 | 210.15 |
| | Maran Gas Coronis | Nakilat / Maran Gas | 2012 | 210.15 |
| | Woodside Goode | Nakilat / Maran Gas | 2013 | 210.15 |
| | Woodside Rogers | Nakilat / Maran Gas | 2013 | 210.15 |
| | Maran Gas Apollonia | Nakilat / Maran Gas | 2014 | 155.00 |
| Maran Gas Delphi | Nakilat / Maran Gas | 2014 | 149.54 | |
| Maran Gas Efessos | Nakilat / Maran Gas | 2014 | 148.79 | |
| Maran Gas Posidonia | Nakilat / Maran Gas | 2014 | 148.85 | |
| Maran Gas Alexandria | Nakilat / Maran Gas | 2015 | 217.00 | |
| Maran Gas Lindos | Nakilat / Maran Gas | 2015 | 217.00 | |
| Maran Gas Sparta | Nakilat / Maran Gas | 2015 | 217.00 | |
| Maran Gas Achilles | Nakilat / Maran Gas | 2016 | 217.00 | |
| Russia | Lena River | Gazprom | 2013 | 154.88 |
| | Yenisei River | Gazprom | 2013 | 154.88 |
| | Velikiy Novgorod | Gazprom | 2014 | 170.20 |
| | Pskov | Gazprom | 2014 | 170.20 |
| | SCF Mitre | Sovcomflot | 2015 | 170.00 |
| | SCF Melampus | Sovcomflot | 2015 | 170.20 |
| | Christophe de Margerie | Sovcomflot | 2016 | 172.60 |
| United Arab Emirates | Marshal Vasilevskiy | Gazpromflot | 2017 | 174.10 |
| | AL Khaznah | National Gas Shipping Co. (ADNOC) | 1994 | 137.54 |
| | Shahamah | National Gas Shipping Co. (ADNOC) | 1994 | 137.56 |
| | Ghasha | National Gas Shipping Co. (ADNOC) | 1995 | 137.51 |
| | Ish | National Gas Shipping Co. (ADNOC) | 1995 | 137.57 |
| | Mubaraz | National Gas Shipping Co. (ADNOC) | 1996 | 136.98 |
| | Mraweh | National Gas Shipping Co. (ADNOC) | 1996 | 137.04 |
| | AL Hamra | National Gas Shipping Co. (ADNOC) | 1997 | 137.08 |
| Umm AL Ashtan | National Gas Shipping Co. (ADNOC) | 1997 | 137.11 | |

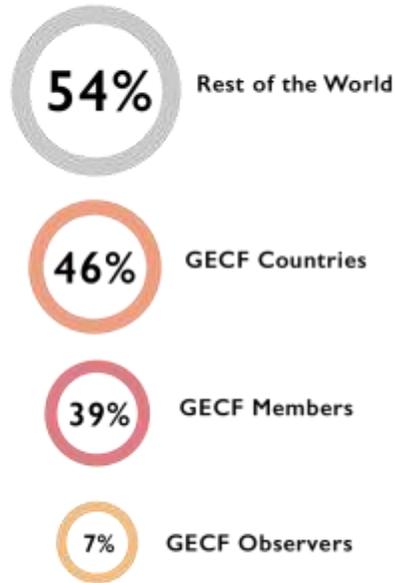
3.7.2. LNG Carrier Fleet of GECF Observer Countries

| Country | Ship Name | Owner(s) | Delivered Year | Size (1000 Scm) |
|---------|---------------------|--|----------------|-----------------|
| Angola | Cubal | NYK Line/Mitsui & Co/Teekay LNG Partners | 2012 | 160.28 |
| | Lobito | Mitsui & Co/NYK Line/Teekay LNG Partners | 2011 | 160.28 |
| | Malanje | Mitsui & Co/NYK Line/Teekay LNG Partners | 2011 | 160.28 |
| | Sonangol Benguela | Sonangol | 2007 | 160.50 |
| | Sonangol Etosha | Sonangol | 2007 | 160.50 |
| | Sonangol Sambizanga | Sonangol | 2007 | 160.50 |
| | Soyo | Mitsui & Co/NYK Line/Teekay LNG Partners | 2011 | 160.28 |

Proven Natural Gas Reserves



Natural Gas Gross Production



Natural Gas Marketed Production



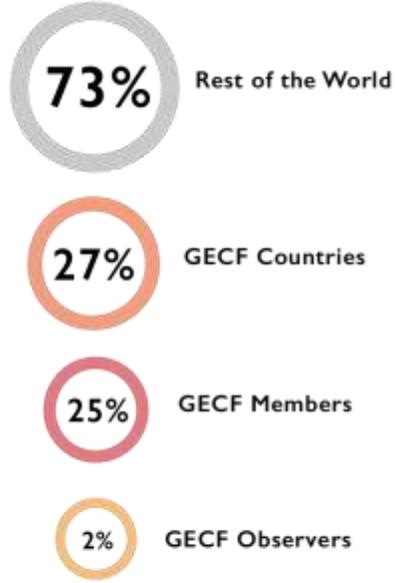
Natural Gas Pipeline Exports



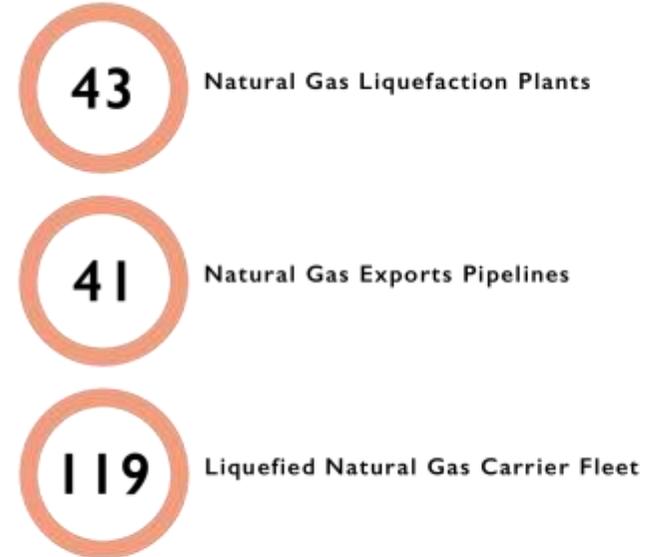
Natural Gas LNG Exports

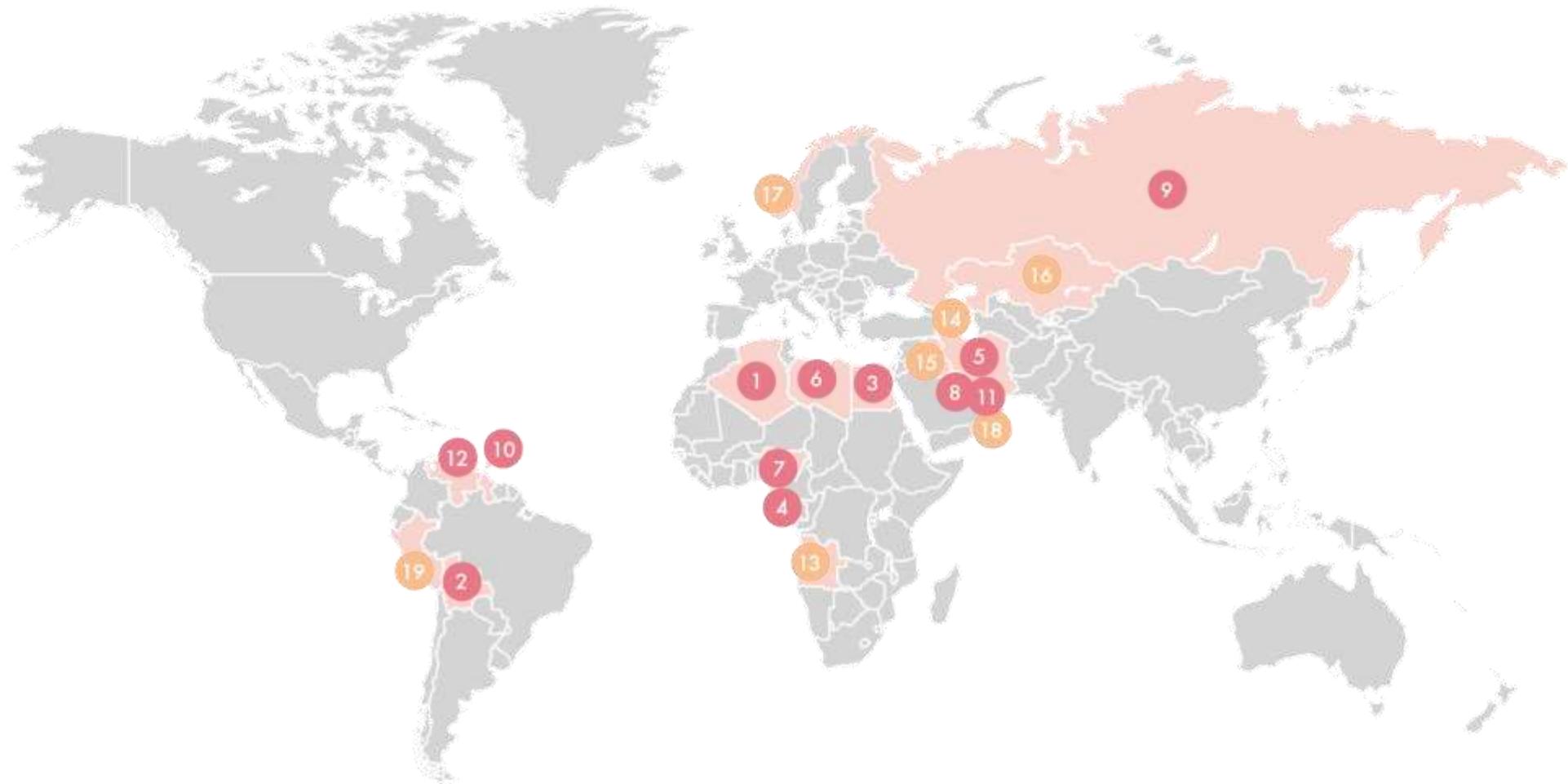


Natural Gas Domestic Consumption



GECF Countries





GECF Members

- 1. People's Democratic Republic of Algeria
- 2. Plurinational State of Bolivia
- 3. Arab Republic of Egypt
- 4. Republic of Equatorial Guinea
- 5. Islamic Republic of Iran
- 6. State of Libya

- 7. Federal Republic of Nigeria
- 8. State of Qatar
- 9. Russian Federation
- 10. Republic of Trinidad and Tobago
- 11. United Arab Emirates
- 12. Bolivarian Republic of Venezuela

GECF Observers

- 13. Republic of Angola
- 14. Republic of Azerbaijan
- 15. Republic of Iraq
- 16. Republic of Kazakhstan
- 17. Kingdom of Norway
- 18. Sultanate of Oman
- 19. Republic of Peru



Section 4

GECF Member Countries



People's Democratic Republic of

ALGERIA



Population:
42 228 429



Capital:
Algiers



Continent:
Africa



Currency:
Algerian Dinar



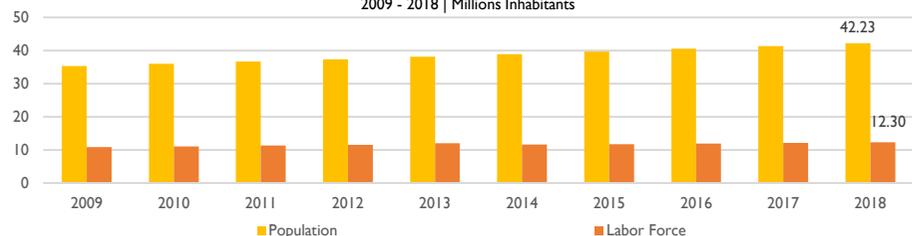
Time Zone:
Central European
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4.1.1 Macroeconomics

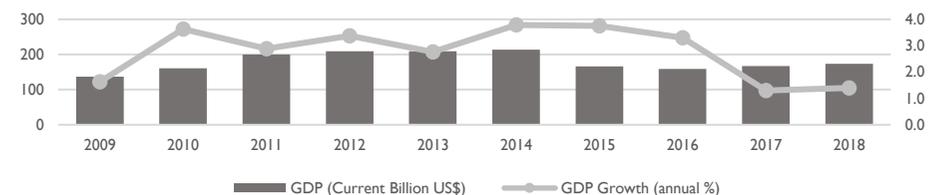
4.1.1.1 Algeria Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Population (Inhabitants) | 35,333,881 | 35,977,455 | 36,661,444 | 37,383,887 | 38,140,132 | 38,923,687 | 39,728,025 | 40,551,404 | 41,389,198 | 42,228,429 |
| Labor Force (Inhabitants) | 10,820,989 | 11,093,688 | 11,310,068 | 11,541,577 | 12,002,108 | 11,586,092 | 11,752,300 | 11,921,392 | 12,108,635 | 12,302,396 |
| GDP (Current Billion US\$) | 137.21 | 161.21 | 200.02 | 209.06 | 209.76 | 214.00 | 166.00 | 159.00 | 167.00 | 174.00 |
| GDP Growth (Annual %) | 1.63 | 3.63 | 2.89 | 3.37 | 2.77 | 3.79 | 3.76 | 3.30 | 1.30 | 1.40 |
| GDP per Capita (Current US\$) | 3,883.27 | 4,480.79 | 5,455.84 | 5,592.22 | 5,499.59 | 5,471.00 | 4,154.00 | 3,894.00 | 4,003.00 | 4,087.00 |
| Exports of Goods and Services (Current Billion US\$) | 48.53 | 61.98 | 77.58 | 77.12 | 69.66 | 64.66 | 38.58 | 33.40 | 37.93 | 44.52 |
| Exports of Goods and Services (% of GDP) | 35.37 | 38.44 | 38.79 | 36.89 | 33.21 | 30.24 | 23.24 | 21.01 | 22.28 | 24.96 |
| Imports of Goods and Services (Current Billion US\$) | 49.33 | 50.65 | 57.38 | 59.61 | 63.77 | 68.31 | 60.81 | 56.09 | 55.60 | 46.96 |
| Imports of Goods and Services (% of GDP) | 35.95 | 31.42 | 28.69 | 28.51 | 30.40 | 31.95 | 36.64 | 35.28 | 32.67 | 26.33 |
| Inflation Consumer Prices (Annual %) | 5.74 | 3.91 | 4.52 | 8.89 | 3.25 | 2.90 | 4.80 | 6.40 | 5.60 | 4.30 |
| Energy Use (kg of Oil Equivalent per Capita) | 1,153.66 | 1,114.22 | 1,140.64 | 1,229.55 | 1,247.50 | 1,333.90 | 1,368.70 | 1,347.70 | 1,339.90 | 1,430.90 |
| Natural Gas Use (Scm per Capita) | 757.91 | 756.33 | 785.48 | 861.57 | 852.80 | 955.90 | 1,014.35 | 997.50 | 1,010.29 | 1,068.95 |

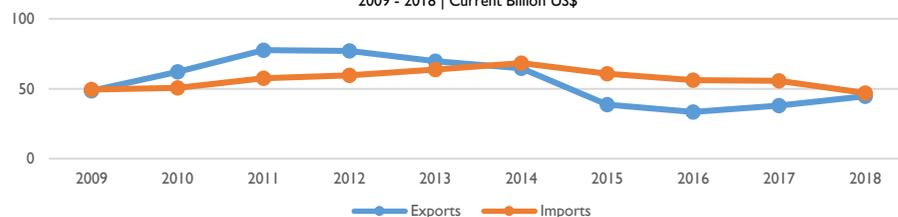
Graph 4.1.1.1. Algeria: Population and Labor Force
2009 - 2018 | Millions Inhabitants



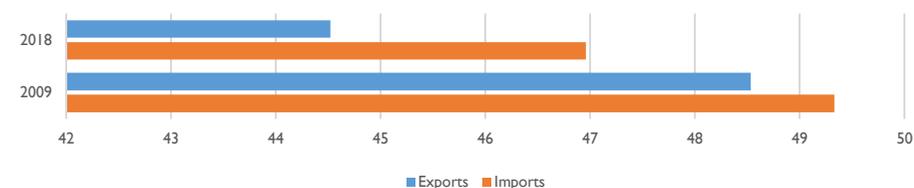
Graph 4.1.1.2. Algeria: GDP and GDP Growth
2009 - 2018 | Current Billion US\$ and Annual %



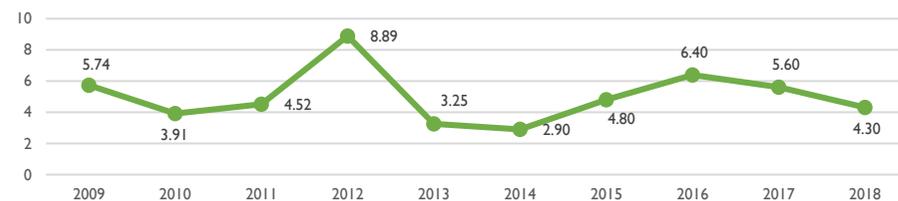
Graph 4.1.1.3. Algeria: Exports and Imports (Goods and Services)
2009 - 2018 | Current Billion US\$



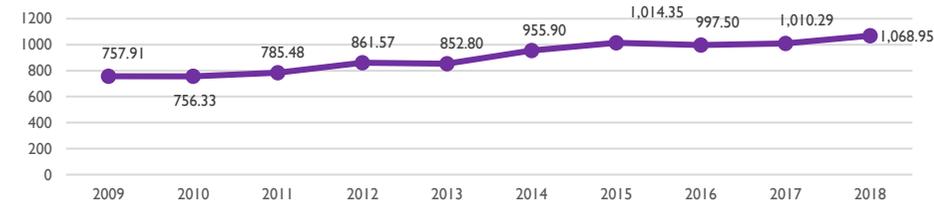
Graph 4.1.1.4. Algeria: Exports and Imports (Goods and Services)
2009 vs 2018 | Current Billion US\$



Graph 4.1.1.5. Algeria: Inflation (Consumer Prices)
2009 - 2018 | Annual %



Graph 4.1.1.6. Algeria: Natural Gas Use
2009 - 2018 | Scm per Capita



4.1.2 Reserves and Production

Table 4.1.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Proven Natural Gas Reserves | 4,504 | 4,504 | 4,504 | 4,504 | 4,504 | 4,504 | 4,504 | 4,504 | 4,504 | 4,504 |

Table 4.1.2.2 Historical Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Gross Production | 196.94 | 192.21 | 190.13 | 182.60 | 179.49 | 186.75 | 183.83 | 189.14 | 188.74 | 183.55 |
| Marketed Production | 84.43 | 85.46 | 83.37 | 86.06 | 82.43 | 83.30 | 84.58 | 94.95 | 96.60 | 97.47 |
| Reinjection | 95.01 | 89.10 | 88.75 | 77.40 | 76.20 | 81.21 | 77.05 | 70.12 | 66.94 | 61.10 |
| Flaring | 4.61 | 5.80 | 3.60 | 3.50 | 3.70 | 3.95 | 3.51 | 3.26 | 3.00 | 2.91 |
| Shrinkage | 13.06 | 11.85 | 14.41 | 15.65 | 17.16 | 18.30 | 18.68 | 20.81 | 22.21 | 22.07 |

Table 4.1.2.3 Detailed 2018 Natural Gas Production (MMcm)

| | 2018 | | | | | | | | | | | |
|---------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Gross Production | 16043.03 | 14357.49 | 15590.33 | 14879.40 | 15703.10 | 15033.25 | 14784.34 | 15463.60 | 14687.70 | 15756.17 | 15392.46 | 15858.20 |
| Marketed Production | 10073.32 | 8765.00 | 9043.00 | 6712.60 | 6759.99 | 6720.48 | 6944.67 | 6624.52 | 6283.24 | 7442.00 | 8083.56 | 8878.08 |

4.1.3 Domestic Consumption and Trade

Table 4.1.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Residential | 4.45 | 4.35 | 5.02 | 5.96 | 6.62 | 7.07 | 7.90 | 8.13 | 8.68 | 10.62 |
| Industrial | 3.28 | 3.54 | 3.55 | 3.52 | 3.68 | 3.83 | 4.04 | 4.21 | 4.63 | 5.10 |
| Power Generation | 12.06 | 12.07 | 13.04 | 14.11 | 14.45 | 15.75 | 17.72 | 17.45 | 18.53 | 18.99 |
| Transportation | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Petrochemical (feedstock) | 1.48 | 1.50 | 1.48 | 2.06 | 1.82 | 2.83 | 3.66 | 4.00 | 3.18 | 4.75 |
| Refineries | 0.54 | 0.55 | 0.49 | 0.61 | 0.73 | 0.70 | 0.72 | 0.77 | 0.68 | 0.64 |
| Others | 4.96 | 5.20 | 5.22 | 5.94 | 5.22 | 7.02 | 6.25 | 5.88 | 6.10 | 5.03 |
| Totals | 26.78 | 27.21 | 28.80 | 32.21 | 32.53 | 37.21 | 40.30 | 40.45 | 41.82 | 45.14 |

Table 4.1.3.2 Historical Trade: Natural Gas Exports

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Pipeline (Bcm) | 33.55 | 37.85 | 35.72 | 37.33 | 32.23 | 27.08 | 27.04 | 38.44 | 37.59 | 37.95 |
| LNG | | | | | | | | | | |
| Bcm* | 21.56 | 19.51 | 17.13 | 15.00 | 15.16 | 17.11 | 16.47 | 15.53 | 16.41 | 13.47 |
| MMT | 15.85 | 14.35 | 12.60 | 11.03 | 11.15 | 12.58 | 12.11 | 11.42 | 12.07 | 9.90 |
| Totals (Bcm) | 55.11 | 57.36 | 52.85 | 52.33 | 47.39 | 44.19 | 43.51 | 53.97 | 54.00 | 51.42 |

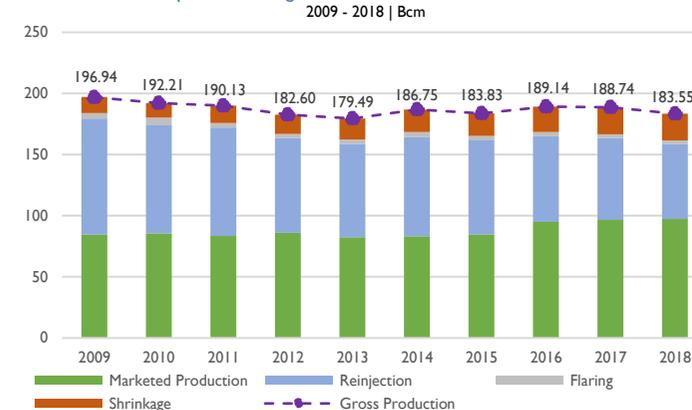
* Gas equivalent

Table 4.1.3.3 Detailed 2018 Trade: Natural Gas Exports

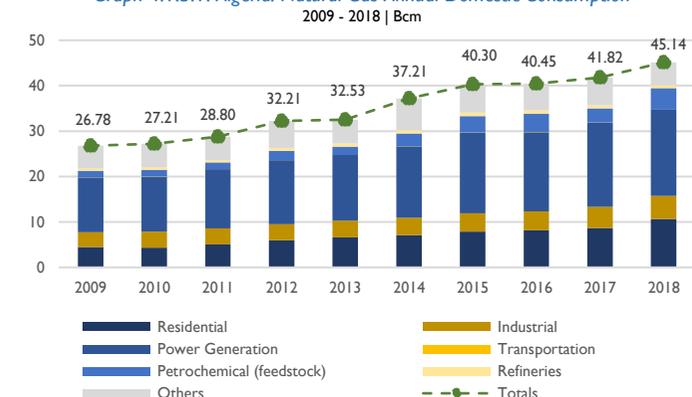
| | 2018 | | | | | | | | | | | |
|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Pipeline (MMcm) | 4041.77 | 3721.00 | 3994.00 | 2960.00 | 2734.98 | 2847.50 | 2858.52 | 2520.40 | 2656.02 | 3133.70 | 3185.05 | 3300.53 |
| LNG | | | | | | | | | | | | |
| MMcm* | 1338.30 | 1054.40 | 1186.70 | 909.50 | 1303.70 | 1306.10 | 662.60 | 818.70 | 969.40 | 1171.90 | 1207.80 | 1539.60 |
| 1000MT | 984.04 | 775.29 | 872.57 | 668.75 | 958.60 | 960.37 | 487.21 | 601.99 | 712.79 | 861.69 | 888.09 | 1132.06 |
| Totals (MMcm) | 5380.07 | 4775.40 | 5180.70 | 3869.50 | 4038.68 | 4153.60 | 3521.12 | 3339.10 | 3625.42 | 4305.60 | 4392.85 | 4840.13 |

* Gas equivalent

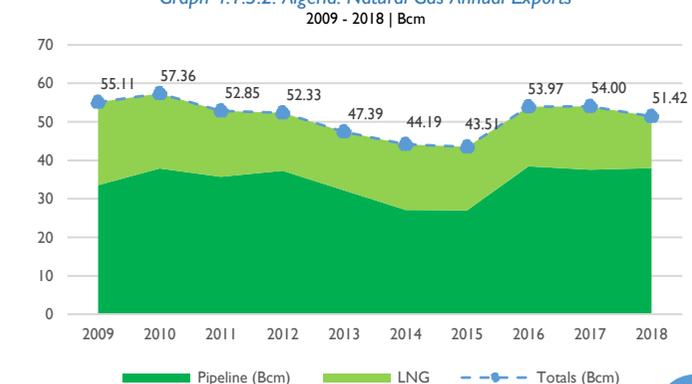
Graph 4.1.2.1. Algeria: Natural Gas Annual Production



Graph 4.1.3.1. Algeria: Natural Gas Annual Domestic Consumption



Graph 4.1.3.2. Algeria: Natural Gas Annual Exports



4.1.4 Transport and Plants

4.1.4.1 Natural Gas Export Pipelines

| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/Year) | Type | Start Year | Length (km) | Diameter (Inches) |
|---------------------------------------|------------|----------------|---------|---|--|-------------|------------------------|--------|---------------|----------------|----------------------|
| | From | To | Via | | | | | | | | |
| Enrico Mattei (TransMediterranean) | Algeria | Italy | Tunisia | Sonatrach, Sotugat, ENI | Sonatrach, Sergas, TMPC | Operational | 32.0 | Export | 1983 | 2,475 | 47/20/42/48 |
| Pedro Duran Farell | Algeria | Spain-Portugal | Morocco | Sonatrach, Enagas, Transgas | Sonatrach, Metragaz, Enagás Transgas | Operational | 12.0 | Export | 1996 | 1,620 | 47/28/32/22 |
| Medgaz | Algeria | Spain | Med Sea | Sonatrach, CEPSA Iberdrola, Endesa, GDF Suez | Sociedad para el Estudio y Promocion del Gasoducto Argelia-Europa | Operational | 8.0 | Export | 2011 | 210 | 48/24 |
| Trans-Saharan Gas | Algeria | Nigeria | Niger | Sonatrach, NNPC | NA | Planned | 20.0 – 30.0 | Export | NA | 4,128 | 48/56 |

4.1.4.2 LNG Carrier Fleet

| Ship Name | Owner(s) | Delivered Year | Size (1000 Scm) |
|----------------------|----------------------|-------------------|--------------------|
| Larbi Ben M'hidi | Sonatrach Group | 1977 | 126.13 |
| Bachir Chihani | Sonatrach Group | 1979 | 129.70 |
| Didouche Mourad | Sonatrach Group | 1980 | 126.13 |
| Abane Ramdane | Sonatrach Group | 1981 | 126.13 |
| Berge Arzew | Sonatrach/Bergessen | 2004 | 138.00 |
| Lalla Ftama N'soumer | Sonatrach/Mol Itochu | 2004 | 145.00 |
| Cheikh El-Mokrani | Sonatrach/Mol Itochu | 2007 | 75.50 |
| Cheikh Bouamama | Sonatrach/Mol Itochu | 2008 | 75.00 |
| Total | | | 941.59 |

4.1.4.3 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|-------|---------------------------------|--------------------------|-------------|---------------|-----------|-------------|
| GLIZ | 6 | 7.8 | Operational | 1978 | Sonatrach | Sonatrach |
| GLZZ | 6 | 8.0 | Operational | 1981 | Sonatrach | Sonatrach |
| GLIK | 1 Mega | 4.5 | Operational | 2013 | Sonatrach | Sonatrach |
| GL3Z | 1 Mega | 4.7 | Operational | 2014 | Sonatrach | Sonatrach |



Plurinational State of
BOLIVIA



Population:
11 307 314



Capital:
Sucre



Continent:
South America



Currency:
Bolivian Boliviano



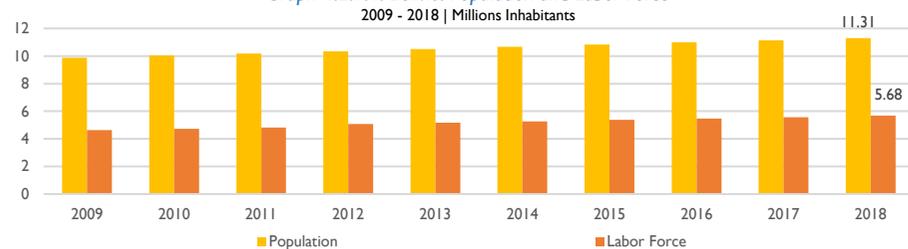
Time Zone:
Bolivia
GMT-4

4.2.1 Macroeconomics

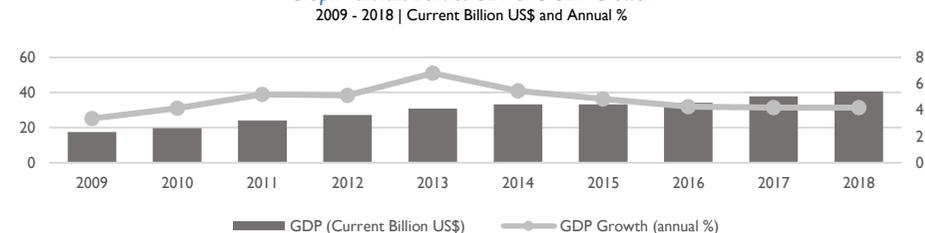
4.2.1.1 Bolivia Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Population (Inhabitants) | 9,870,229 | 10,030,501 | 10,190,775 | 10,351,118 | 10,507,789 | 10,665,841 | 10,825,013 | 10,985,059 | 11,145,770 | 11,307,314 |
| Labor Force (Inhabitants) | 4,621,930 | 4,723,888 | 4,821,396 | 5,065,534 | 5,167,859 | 5,270,113 | 5,371,593 | 5,473,280 | 5,576,320 | 5,680,545 |
| GDP (Current Billion US\$) | 17.46 | 19.79 | 24.14 | 27.28 | 30.88 | 33.24 | 33.24 | 34.19 | 37.78 | 40.58 |
| GDP Growth (Annual %) | 3.36 | 4.13 | 5.20 | 5.12 | 6.80 | 5.46 | 4.85 | 4.26 | 4.20 | 4.20 |
| GDP per Capita (Current US\$) | 1,769.40 | 1,972.70 | 2,368.50 | 2,635.60 | 2,939.00 | 3,116.20 | 3,070.70 | 3,112.30 | 3,389.80 | 3,588.90 |
| Exports of Goods and Services (Current Billion US\$) | 5.36 | 8.09 | 9.24 | 12.24 | 12.54 | 14.00 | 9.93 | 8.24 | 9.11 | 10.34 |
| Exports of Goods and Services (% of GDP) | 30.70 | 40.88 | 38.28 | 44.87 | 40.61 | 42.12 | 29.87 | 24.10 | 24.11 | 25.48 |
| Imports of Goods and Services (Current Billion US\$) | 5.10 | 5.60 | 9.18 | 9.62 | 10.89 | 12.92 | 11.91 | 10.75 | 11.63 | 12.61 |
| Imports of Goods and Services (% of GDP) | 29.21 | 28.30 | 38.03 | 35.26 | 35.27 | 38.87 | 35.83 | 31.44 | 30.78 | 31.07 |
| Inflation Consumer Prices (Annual %) | 0.26 | 7.18 | 6.90 | 4.54 | 6.48 | 5.19 | 2.95 | 4.00 | 2.71 | 1.51 |
| Energy Use (kg of Oil Equivalent per Capita) | 593.64 | 636.14 | 660.99 | 747.87 | 740.17 | 778.17 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 259.37 | 291.11 | 320.88 | 326.53 | 342.60 | 388.16 | 390.76 | 430.58 | 430.66 | 429.81 |

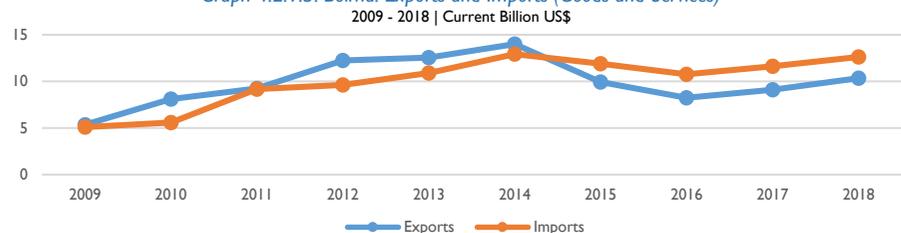
Graph 4.2.1.1. Bolivia: Population and Labor Force



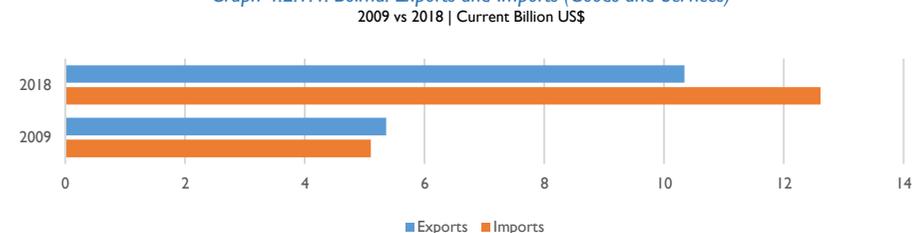
Graph 4.2.1.2. Bolivia: GDP and GDP Growth



Graph 4.2.1.3. Bolivia: Exports and Imports (Goods and Services)



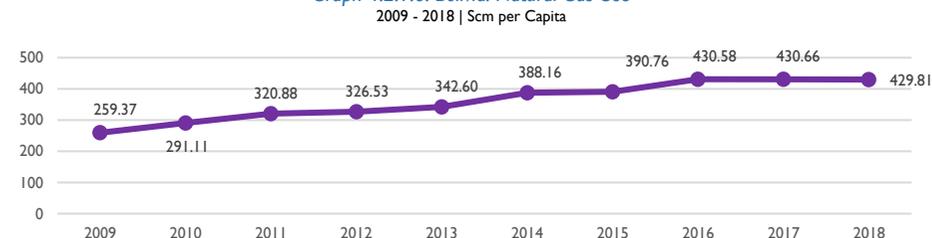
Graph 4.2.1.4. Bolivia: Exports and Imports (Goods and Services)



Graph 4.2.1.5. Bolivia: Inflation (Consumer Prices)



Graph 4.2.1.6. Bolivia: Natural Gas Use



4.2.2 Reserves and Production

Table 4.2.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Proven Natural Gas Reserves | 282 | 266 | 250 | 231 | 296 | 274 | 252 | 264 | 303 | 303 |

Table 4.2.2.2 Historical Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 13.25 | 15.06 | 16.26 | 18.41 | 21.07 | 22.19 | 21.99 | 21.16 | 20.53 | 19.35 |
| Marketed Production | 12.34 | 14.47 | 15.71 | 17.85 | 20.48 | 21.66 | 21.50 | 20.61 | 20.03 | 18.70 |
| Reinjection | 0.49 | 0.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Flaring | 0.07 | 0.09 | 0.12 | 0.07 | 0.10 | 0.07 | 0.07 | 0.09 | 0.07 | 0.08 |
| Other losses | 0.35 | 0.39 | 0.43 | 0.49 | 0.49 | 0.46 | 0.42 | 0.46 | 0.43 | 0.57 |

Table 4.2.2.3 Detailed 2018 Natural Gas Production (MMcm)

| | 2018 | | | | | | | | | | | |
|----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Gross Production | 1613.93 | 1570.16 | 1792.75 | 1614.28 | 1784.46 | 1710.24 | 1764.82 | 1770.31 | 1684.06 | 1652.48 | 1236.82 | 1147.07 |
| Marketed Production | 1558.74 | 1521.01 | 1740.27 | 1556.18 | 1727.59 | 1658.11 | 1711.38 | 1714.50 | 1634.19 | 1596.84 | 1190.85 | 1090.49 |

4.2.3 Domestic Consumption and Trade

Table 4.2.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-------------------------|------|------|------|------|------|------|------|------|------|------|
| Residential | 0.07 | 0.08 | 0.10 | 0.12 | 0.14 | 0.16 | 0.18 | 0.20 | 0.22 | 0.22 |
| Industrial | 0.65 | 0.67 | 0.75 | 0.81 | 0.89 | 0.96 | 0.96 | 0.97 | 1.00 | 1.01 |
| Power Generation | 1.17 | 1.39 | 1.54 | 1.53 | 1.50 | 1.74 | 1.75 | 2.14 | 2.02 | 1.85 |
| Transportation | 0.40 | 0.45 | 0.52 | 0.57 | 0.64 | 0.67 | 0.69 | 0.70 | 0.74 | 0.78 |
| Refineries | 0.10 | 0.10 | 0.10 | 0.09 | 0.09 | 0.10 | 0.13 | 0.12 | 0.12 | 0.11 |
| Others | 0.17 | 0.23 | 0.26 | 0.26 | 0.34 | 0.51 | 0.52 | 0.60 | 0.70 | 0.89 |
| Totals | 2.56 | 2.92 | 3.27 | 3.38 | 3.60 | 4.14 | 4.23 | 4.73 | 4.80 | 4.86 |

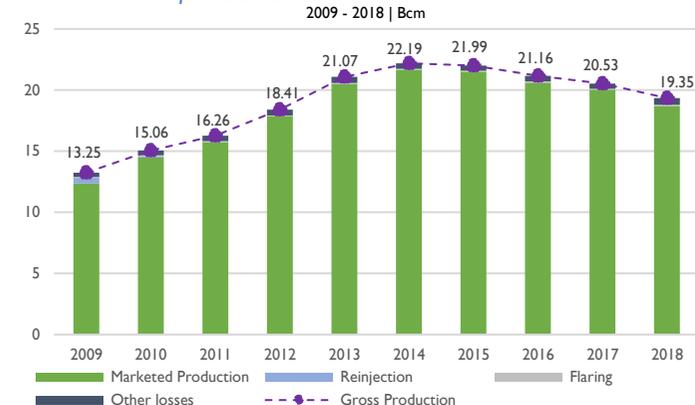
Table 4.2.3.2 Historical Trade: Natural Gas Exports

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Pipeline (Bcm) | 9.75 | 11.54 | 12.48 | 14.61 | 16.94 | 17.62 | 17.34 | 15.92 | 15.25 | 13.84 |
| Totals (Bcm) | 9.75 | 11.54 | 12.48 | 14.61 | 16.94 | 17.62 | 17.34 | 15.92 | 15.25 | 13.84 |

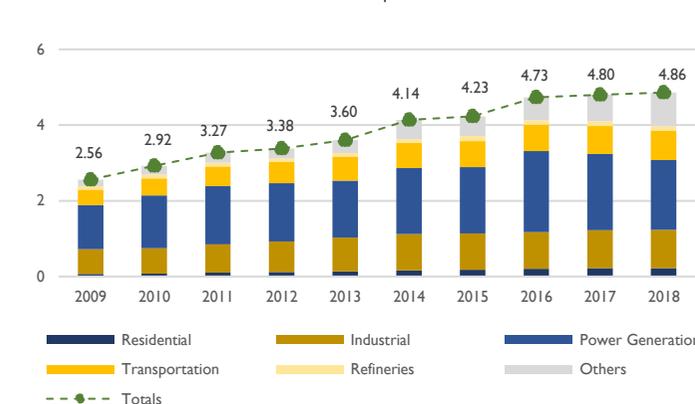
Table 4.2.3.3 Detailed 2018 Trade: Natural Gas Exports

| | 2018 | | | | | | | | | | | |
|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Pipeline (MMcm) | 1149.57 | 1157.30 | 1353.11 | 1153.82 | 1315.10 | 1277.40 | 1286.41 | 1285.76 | 1204.45 | 1173.32 | 797.42 | 689.80 |
| Totals (MMcm) | 1149.57 | 1157.30 | 1353.11 | 1153.82 | 1315.10 | 1277.40 | 1286.41 | 1285.76 | 1204.45 | 1173.32 | 797.42 | 689.80 |

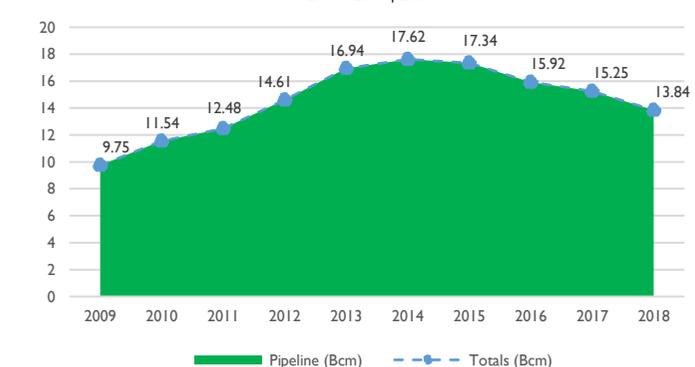
Graph 4.2.2.1. Bolivia: Natural Gas Annual Production 2009 - 2018 | Bcm



Graph 4.2.3.1. Bolivia: Natural Gas Annual Domestic Consumption 2009 - 2018 | Bcm



Graph 4.2.3.2. Bolivia: Natural Gas Annual Exports 2009 - 2018 | Bcm



4.2.4 Transport and Plants

4.2.4.1 Natural Gas Export Pipelines

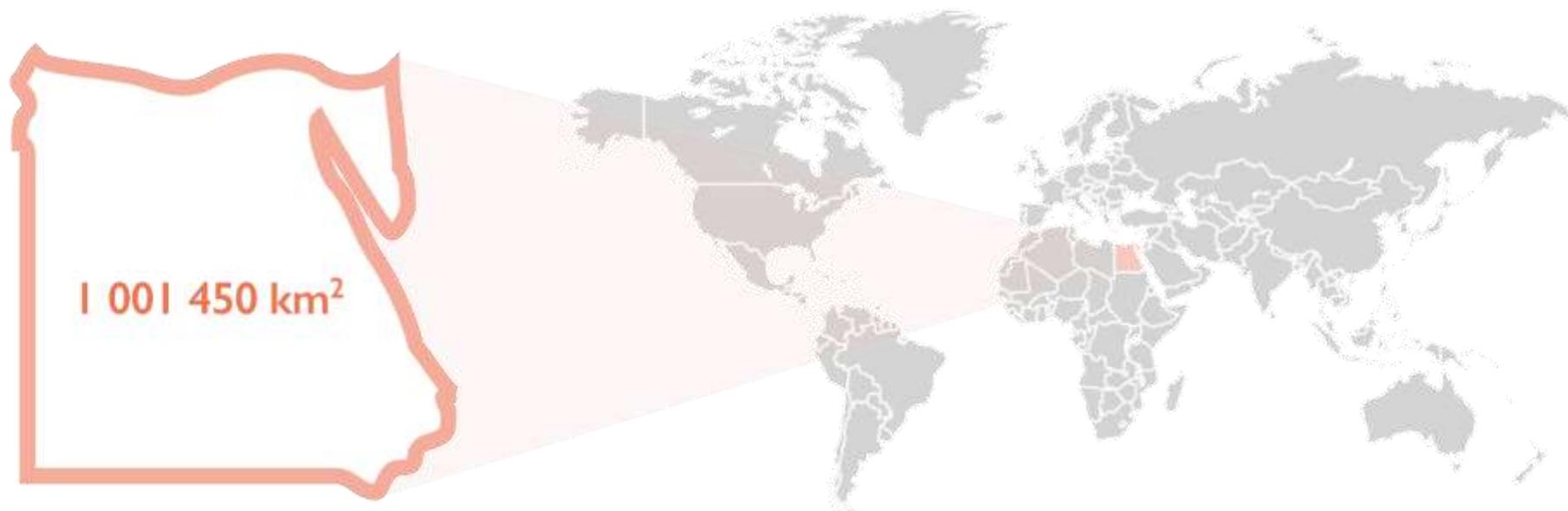
| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/Year) | Type | Start Year | Length (km) | Diameter (Inches) |
|----------------------|------------|-----------|-----|----------------------|----------------------|-------------|------------------------|--------|---------------|----------------|----------------------|
| | From | To | Via | | | | | | | | |
| GASBOL | Bolivia | Brazil | - | Gas TransBoliviano | Gas TransBoliviano | Operational | 11.5 | Export | 1999 | 557 | 32 |
| GIIA (Juana Azurduy) | Bolivia | Argentina | - | YPFB Transporte | YPFB Transporte | Operational | 10.2 | Export | 2011 | 13 | 32 |
| GOB | Bolivia | Brazil | - | GasOriente Boliviano | GasOriente Boliviano | Operational | 1.5 | Export | 2002 | 362 | 18 |

4.2.4.2 Domestic Gas Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|----------------|---------------------------------|--------------------------|-------------|---------------|----------|-------------|
| Rio Grande LNG | 1 | 0.08 | Operational | 2016 | YPFB | YPFB |



Arab Republic of
EGYPT



Population:
98 423 595



Capital:
Cairo



Continent:
Africa



Currency:
Egyptian Pound



Time Zone:
Eastern European
GMT+2

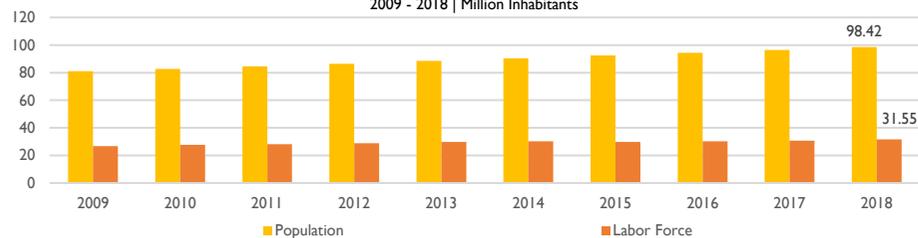
4.3.1 Macroeconomics

4.3.1.1 Egypt Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Population (Inhabitants) | 81,134,798 | 82,761,235 | 84,529,250 | 86,422,240 | 88,404,640 | 90,424,654 | 92,442,547 | 94,447,072 | 96,442,593 | 98,423,595 |
| Labor Force (Inhabitants) | 26,804,867 | 27,641,861 | 28,115,330 | 28,904,073 | 29,737,542 | 30,304,094 | 29,884,510 | 30,246,357 | 30,802,887 | 31,548,080 |
| GDP (Current Billion US\$) | 188.98 | 218.89 | 236.00 | 279.37 | 288.59 | 305.53 | 332.70 | 332.93 | 235.37 | 250.90 |
| GDP Growth (Annual %) | 4.67 | 5.15 | 1.76 | 2.23 | 2.19 | 2.92 | 4.37 | 4.35 | 4.18 | 5.31 |
| GDP per Capita (Current US\$) | 2,329.24 | 2,644.82 | 2,791.95 | 3,232.65 | 3,264.38 | 3,378.83 | 3,598.97 | 3,525.02 | 2,440.51 | 2,549.14 |
| Exports of Goods and Services (Current Billion US\$) | 47.16 | 46.73 | 48.54 | 45.81 | 49.11 | 43.52 | 43.86 | 34.44 | 37.23 | 47.45 |
| Exports of Goods and Services (% of GDP) | 24.96 | 21.35 | 20.57 | 16.40 | 17.02 | 14.24 | 13.18 | 10.35 | 15.82 | 18.91 |
| Imports of Goods and Services (Current Billion US\$) | 59.71 | 58.20 | 58.26 | 67.93 | 67.40 | 69.28 | 72.07 | 66.26 | 68.98 | 73.68 |
| Imports of Goods and Services (% of GDP) | 31.60 | 26.59 | 24.69 | 24.31 | 23.36 | 22.68 | 21.66 | 19.90 | 29.31 | 29.37 |
| Inflation Consumer Prices (Annual %) | 11.76 | 11.27 | 10.05 | 7.12 | 9.42 | 10.14 | 10.36 | 13.81 | 29.50 | NA |
| Energy Use (kg of Oil Equivalent per Capita) | 911.49 | 876.54 | 900.66 | 905.59 | 848.63 | 827.50 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 524.27 | 545.55 | 587.02 | 608.52 | 581.64 | 531.05 | 517.08 | 543.06 | 603.02 | 622.73 |

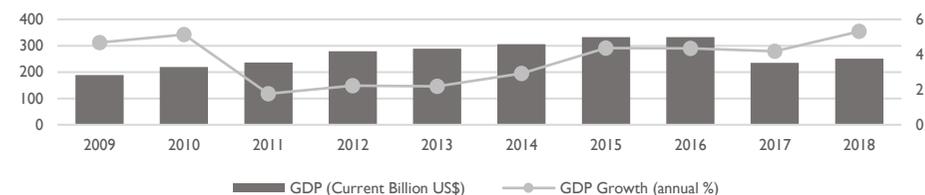
Graph 4.3.1.1. Egypt: Population and Labor Force

2009 - 2018 | Million Inhabitants



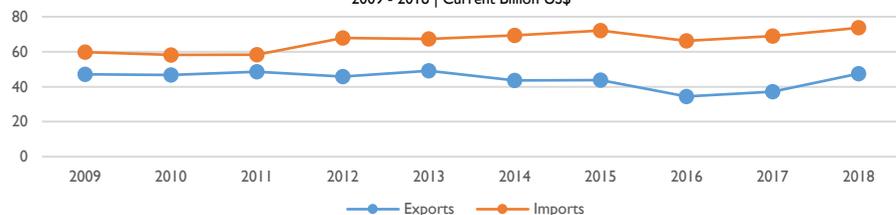
Graph 4.3.1.2. Egypt: GDP and GDP Growth

2009 - 2018 | Current Billion US\$ and Annual %



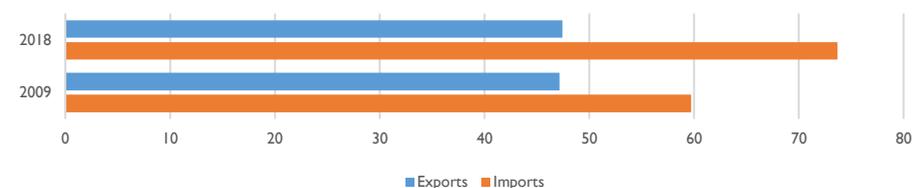
Graph 4.3.1.3. Egypt: Exports and Imports (Goods and Services)

2009 - 2018 | Current Billion US\$



Graph 4.3.1.4. Egypt: Exports and Imports (Goods and Services)

2009 vs 2018 | Current Billion US\$



Graph 4.3.1.5. Egypt: Inflation (Consumer Prices)

2009 - 2018 | Annual %



Graph 4.3.1.6. Egypt: Natural Gas Use

2009 - 2018 | Scm per Capita



4.3.2 Reserves and Production

Table 4.3.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Proven Natural Gas Reserves | 2,199 | 2,202 | 2,119 | 1,957 | 1,777 | 2,186 | 2,086 | 2,221 | 2,221 | 2,221 |

Table 4.3.2.2 Historical Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 67.56 | 66.33 | 66.46 | 66.02 | 61.36 | 54.10 | 49.34 | 46.71 | 55.77 | 65.83 |
| Marketed Production | 62.69 | 61.32 | 61.26 | 60.80 | 56.13 | 48.79 | 44.26 | 41.93 | 50.71 | 60.84 |
| Reinjection | 1.40 | 1.46 | 2.21 | 2.09 | 2.02 | 1.77 | 1.78 | 1.72 | 1.55 | 1.50 |
| Flaring | 0.60 | 0.49 | 0.50 | 0.68 | 0.77 | 0.82 | 0.70 | 0.65 | 0.67 | 0.66 |
| Shrinkage | 0.27 | 0.35 | 0.50 | 0.31 | 0.33 | 0.49 | 0.45 | 0.40 | 0.68 | 0.69 |
| Other losses | 2.60 | 2.71 | 1.99 | 2.14 | 2.11 | 2.23 | 2.15 | 2.01 | 2.15 | 2.13 |

Table 4.3.2.3 Detailed 2018 Natural Gas Production (MMcm)

| | 2018 | | | | | | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Gross Production | 5351.79 | 4590.21 | 4980.36 | 4949.96 | 5610.70 | 5440.16 | 5580.20 | 5748.86 | 5879.65 | 5956.72 | 5766.96 | 5975.49 |
| Marketed Production | 4780.61 | 4232.74 | 4596.11 | 4540.83 | 5161.57 | 5042.04 | 5151.40 | 5335.83 | 5514.08 | 5546.23 | 5381.12 | 5557.26 |

4.3.3 Domestic Consumption and Trade

Table 4.3.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Residential | 0.99 | 1.02 | 1.21 | 1.43 | 1.64 | 1.75 | 1.96 | 2.16 | 2.36 | 2.38 |
| Industrial | 12.56 | 13.75 | 14.10 | 14.73 | 14.40 | 12.12 | 10.49 | 12.21 | 13.23 | 13.52 |
| Power Generation | 23.70 | 25.14 | 27.83 | 30.08 | 29.04 | 28.63 | 30.64 | 31.25 | 36.06 | 38.64 |
| Transportation | 0.42 | 0.46 | 0.48 | 0.50 | 0.52 | 0.49 | 0.45 | 0.40 | 0.38 | 0.42 |
| Petrochemical (feedstock) | 0.33 | 0.48 | 1.48 | 1.46 | 1.60 | 1.41 | 0.83 | 1.35 | 1.70 | 1.92 |
| Refineries | 3.00 | 2.72 | 2.62 | 2.44 | 2.28 | 1.91 | 1.86 | 2.15 | 2.40 | 2.28 |
| Others | 1.54 | 1.59 | 1.90 | 1.95 | 1.94 | 1.71 | 1.57 | 1.77 | 2.04 | 2.13 |
| Totals | 42.54 | 45.15 | 49.62 | 52.59 | 51.42 | 48.02 | 47.80 | 51.29 | 58.16 | 61.29 |

Table 4.3.3.2 Historical Trade: Natural Gas Exports

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------|-------|-------|-------|------|------|------|------|------|------|------|
| Pipeline (Bcm) | 5.45 | 5.46 | 1.79 | 0.68 | 0.88 | 0.23 | 0.24 | 0.00 | 0.00 | 0.00 |
| LNG | | | | | | | | | | |
| Bcm* | 16.59 | 11.94 | 11.19 | 8.26 | 4.87 | 0.44 | 0.00 | 0.99 | 1.33 | 2.45 |
| MMT | 12.20 | 8.78 | 8.23 | 6.07 | 3.58 | 0.32 | 0.00 | 0.73 | 0.98 | 1.80 |
| Totals (Bcm) | 22.04 | 17.40 | 12.98 | 8.94 | 5.75 | 0.67 | 0.24 | 0.99 | 1.33 | 2.45 |

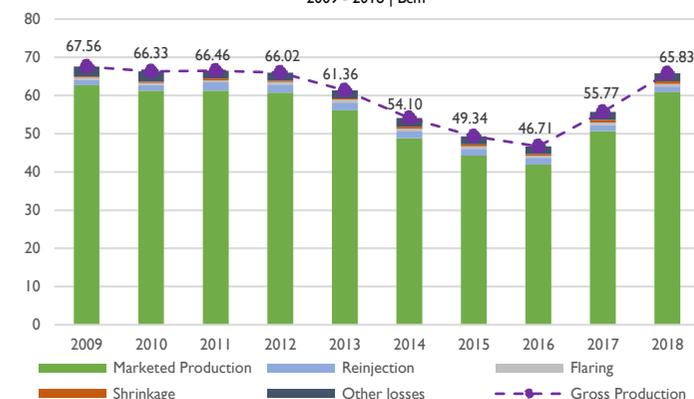
* Gas equivalent

Table 4.3.3.3 Detailed 2018 Trade: Natural Gas Exports

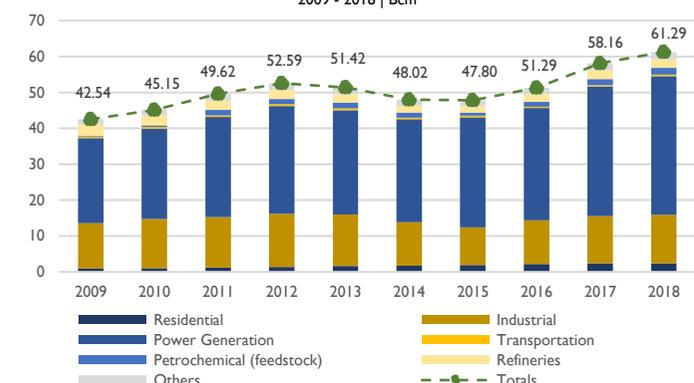
| | | 2018 | | | | | | | | | | | |
|---------------|--------|--------|--------|--------|------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| LNG | MMcm* | 121.55 | 121.80 | 118.97 | 0.00 | 104.85 | 106.17 | 107.59 | 229.00 | 106.30 | 456.58 | 411.00 | 565.62 |
| | 1000MT | 89.38 | 89.56 | 87.48 | 0.00 | 77.10 | 78.07 | 79.11 | 168.38 | 78.16 | 335.72 | 302.21 | 415.90 |
| Totals (MMcm) | | 121.55 | 121.80 | 118.97 | 0.00 | 104.85 | 106.17 | 107.59 | 229.00 | 106.30 | 456.58 | 411.00 | 565.62 |

* Gas equivalent

Graph 4.3.2.1. Egypt: Natural Gas Annual Production 2009 - 2018 | Bcm



Graph 4.3.3.1. Egypt: Natural Gas Annual Domestic Consumption 2009 - 2018 | Bcm



Graph 4.3.3.2. Egypt: Natural Gas Annual Exports 2009 - 2018 | Bcm

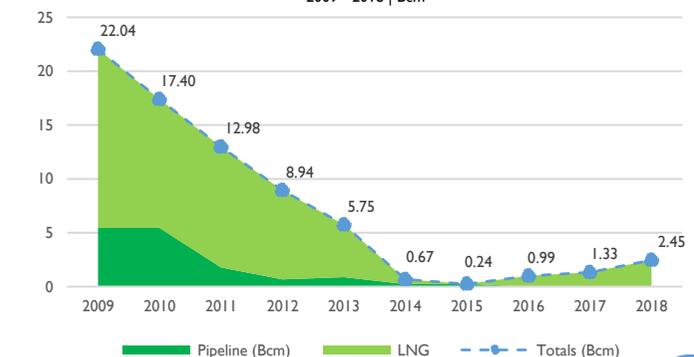


Table 4.3.3.4 Historical Trade: Natural Gas Imports

| | | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------|-------------|------|------|------|------|------|------|------|-------|------|------|
| LNG | Bcm* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.11 | 10.33 | 8.91 | 3.22 |
| | MMT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.02 | 7.60 | 6.55 | 2.37 |
| Totals (Bcm) | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.11 | 10.33 | 8.91 | 3.22 |

* Gas equivalent

Table 4.3.3.5 Detailed 2018 Trade: Natural Gas Imports

| | | 2018 | | | | | | | | | | | |
|----------------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|------|------|
| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| LNG | MMcm* | 306.00 | 340.00 | 369.00 | 184.00 | 227.00 | 332.00 | 698.00 | 547.00 | 197.00 | 19.00 | 0.00 | 0.00 |
| | 1000MT | 225.00 | 250.00 | 271.32 | 135.29 | 166.91 | 244.12 | 513.24 | 402.21 | 144.85 | 13.97 | 0.00 | 0.00 |
| Totals (MMcm) | | 306.00 | 340.00 | 369.00 | 184.00 | 227.00 | 332.00 | 698.00 | 547.00 | 197.00 | 19.00 | 0.00 | 0.00 |

* Gas equivalent

4.3.4 Transport and Plants

4.3.4.1 Natural Gas Export Pipelines

| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/Year) | Type | Start Year | Length (km) | Diameter (Inches) |
|-------------------|------------|------------------------|-----|--------------------------------|---------------|---------|---------------------|--------|------------|-------------|-------------------|
| | From | To | Via | | | | | | | | |
| Arab Gas Pipeline | Egypt | Jordan, Syria, Lebanon | - | EGAS, ENPPI, GASCOPETROJET SPC | Egyptian FAJR | Offline | 10.0 | Export | 2003 | 1,200 | 36 |

4.3.4.2 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|-------------------|------------------------------|-----------------------|-------------|------------|------------------------------------|-------------|
| IDKU Egyptian LNG | 2 | 7.2 | Operational | 2005 | Shell, EGAS, EGBC, Petronas, ENGIE | OPCO |
| Damietta | 1 | 4.8 | Offline | 2005 | EGAS, EGBC, Union Fenosa Gas | SEGAS |

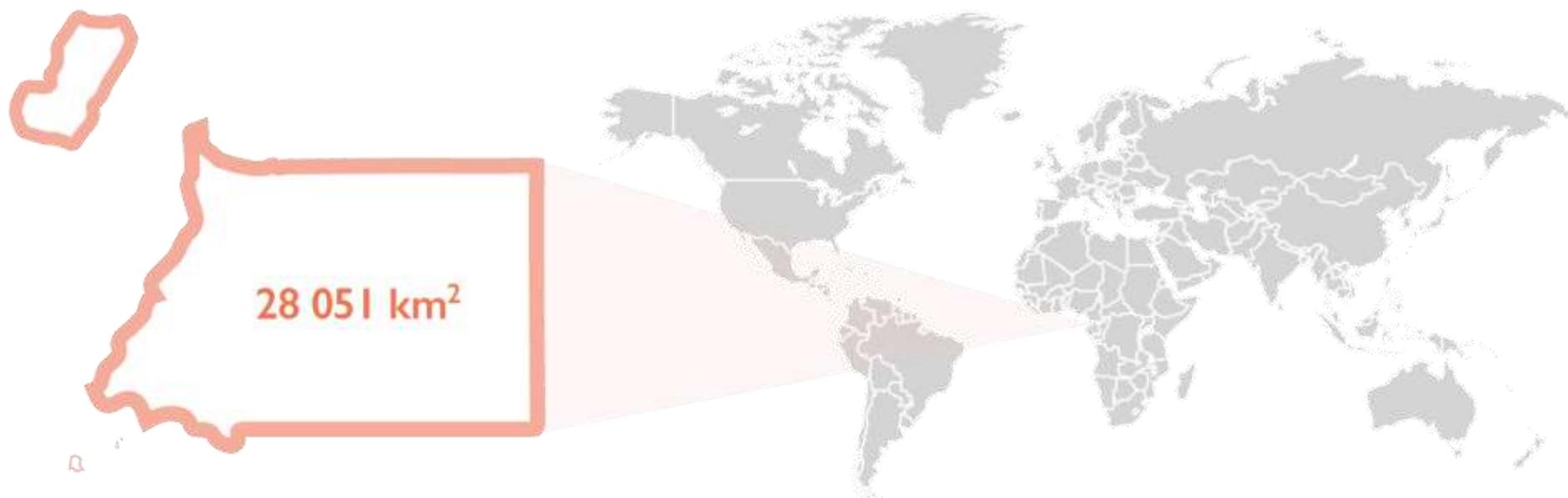
4.3.4.3 Regasification Plants

| Plant | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|-------------------|-----------------------|-------------|------------|------------------|------------------|
| Ain Sokhna FSRU 1 | 3.0 | Operational | 2015 | Norwegian Hoegh | Norwegian Hoegh |
| Ain Sokhna FSRU 2 | 4.5 | Offline | 2015 | Norwegian BW Gas | Norwegian BW Gas |



Republic of

EQUATORIAL GUINEA



Population:
1 308 974



Capital:
Malabo



Continent:
Africa



Currency:
Central African
CFA franc



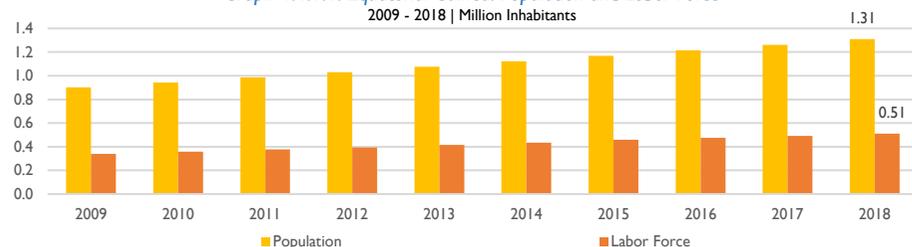
Time Zone:
West Africa
GMT+1

4.4.1 Macroeconomics

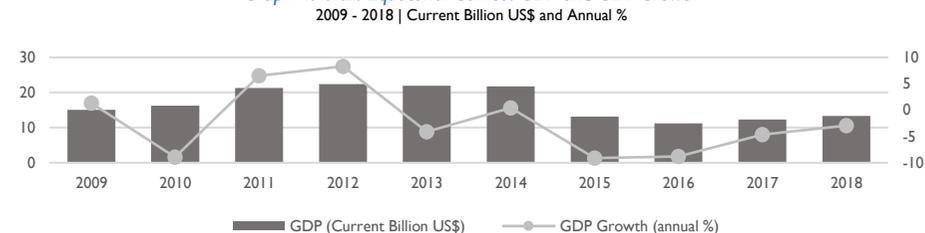
4.4.1.1 Equatorial Guinea Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Population (Inhabitants) | 901,599 | 943,639 | 986,853 | 1,031,191 | 1,076,413 | 1,122,276 | 1,168,568 | 1,215,179 | 1,262,001 | 1,308,974 |
| Labor Force (Inhabitants) | 339,398 | 359,483 | 376,207 | 394,517 | 414,423 | 435,740 | 458,140 | 474,310 | 492,171 | 511,968 |
| GDP (Current Billion US\$) | 15.03 | 16.30 | 21.33 | 22.39 | 21.94 | 21.74 | 13.18 | 11.23 | 12.29 | 13.32 |
| GDP Growth (Annual %) | 1.34 | -8.92 | 6.52 | 8.31 | -4.13 | 0.42 | -9.11 | -8.82 | -4.69 | -2.95 |
| GDP per Capita (Current US\$) | 16,667.94 | 17,272.01 | 21,613.55 | 21,712.40 | 20,384.92 | 19,368.23 | 11,278.93 | 9,244.05 | 9,738.43 | 10,173.96 |
| Exports of Goods and Services (Current Billion US\$) | 11.17 | 13.98 | 16.02 | 16.10 | 14.84 | 14.34 | 7.47 | 5.78 | 7.07 | 7.55 |
| Exports of Goods and Services (% of GDP) | 74.34 | 85.76 | 75.10 | 71.90 | 67.65 | 65.96 | 56.66 | 51.41 | 57.50 | 56.67 |
| Imports of Goods and Services (Current Billion US\$) | 7.19 | 9.60 | 8.38 | 10.02 | 8.61 | 8.35 | 5.56 | 4.63 | 4.94 | 5.43 |
| Imports of Goods and Services (% of GDP) | 47.87 | 58.91 | 39.28 | 44.77 | 39.24 | 38.42 | 42.22 | 41.19 | 40.19 | 40.81 |
| Inflation Consumer Prices (Annual %) | 4.69 | 7.79 | 4.81 | 3.66 | 2.95 | 4.31 | 1.68 | 1.41 | 0.74 | 1.06 |
| Energy Use (kg of Oil Equivalent per Capita) | NA |
| Natural Gas Use (Scm per Capita) | 1,387.87 | 1,248.14 | 1,411.11 | 1,415.84 | 1,365.94 | 1,281.84 | 1,101.15 | 1,310.50 | 1,249.44 | 1,162.30 |

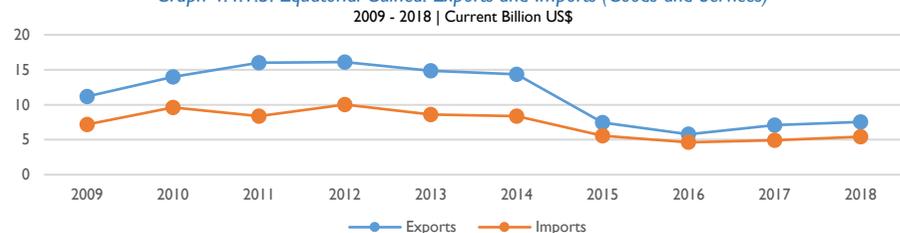
Graph 4.4.1.1. Equatorial Guinea: Population and Labor Force



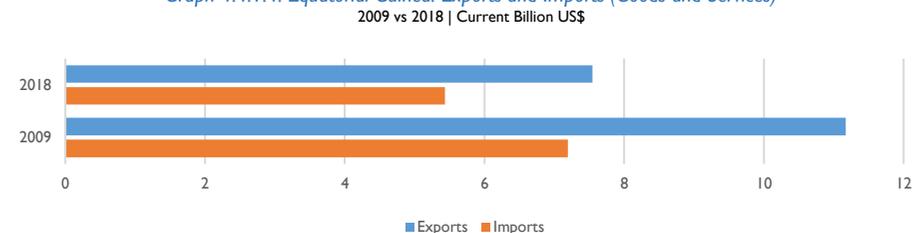
Graph 4.4.1.2. Equatorial Guinea: GDP and GDP Growth



Graph 4.4.1.3. Equatorial Guinea: Exports and Imports (Goods and Services)



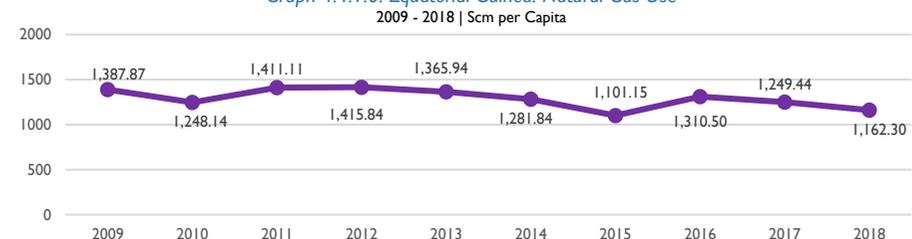
Graph 4.4.1.4. Equatorial Guinea: Exports and Imports (Goods and Services)



Graph 4.4.1.5. Equatorial Guinea: Inflation (Consumer Prices)



Graph 4.4.1.6. Equatorial Guinea: Natural Gas Use



4.4.2 Reserves and Production

Table 4.4.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|
| Proven Natural Gas Reserves | 84 | 82 | 78 | 71 | 66 | 60 | 54 | 47 | 42 | 36 |

Table 4.4.2.2 Historical Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 10.97 | 10.87 | 11.03 | 11.94 | 13.99 | 13.66 | 15.45 | 14.76 | 13.80 | 12.96 |
| Marketed Production | 8.11 | 7.76 | 8.48 | 8.22 | 8.41 | 8.23 | 7.44 | 7.88 | 8.24 | 7.75 |
| Reinjection | 0.60 | 0.56 | 0.26 | 1.33 | 3.04 | 3.03 | 5.62 | 4.62 | 3.53 | 3.43 |
| Flaring | 1.21 | 1.30 | 1.51 | 1.42 | 1.33 | 1.22 | 1.27 | 0.97 | 0.76 | 0.78 |
| Other losses | 1.05 | 1.25 | 0.78 | 0.98 | 1.20 | 1.17 | 1.11 | 1.29 | 1.27 | 1.00 |

Table 4.4.2.3 Detailed 2018 Natural Gas Production (MMcm)

| | 2018 | | | | | | | | | | | |
|---------------------|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Gross Production | 1103.58 | 969.49 | 1155.83 | 1123.32 | 1118.34 | 1015.02 | 1100.05 | 1060.46 | 1048.29 | 1091.12 | 1066.56 | 1103.09 |
| Marketed Production | 615.88 | 503.00 | 717.51 | 700.23 | 709.36 | 655.25 | 689.88 | 673.05 | 631.88 | 620.43 | 605.09 | 629.18 |

4.4.3 Domestic Consumption and Trade

Table 4.4.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------------|------|------|------|------|------|------|------|------|------|------|
| Power Generation | 0.07 | 0.08 | 0.13 | 0.23 | 0.22 | 0.22 | 0.26 | 0.29 | 0.28 | 0.28 |
| Petrochemical (feedstock) | 1.19 | 1.10 | 1.26 | 1.23 | 1.25 | 1.22 | 1.03 | 1.30 | 1.30 | 1.24 |
| Totals | 1.25 | 1.18 | 1.39 | 1.46 | 1.47 | 1.44 | 1.29 | 1.59 | 1.58 | 1.52 |

Table 4.4.3.2 Historical Trade: Natural Gas Exports

| LNG | Bcm* | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------------|------|------|------|------|------|------|------|------|------|------|------|
| | | MMT | 4.19 | 4.32 | 4.13 | 4.08 | 4.25 | 4.31 | 3.89 | 3.90 | 4.32 |
| Totals (Bcm) | | 5.70 | 5.87 | 5.61 | 5.55 | 5.77 | 5.87 | 5.30 | 5.31 | 5.88 | 5.24 |

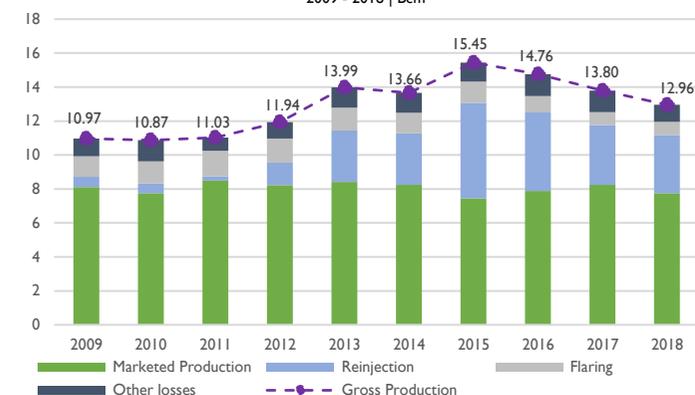
* Gas equivalent

Table 4.4.3.3 Detailed 2018 Trade: Natural Gas Exports

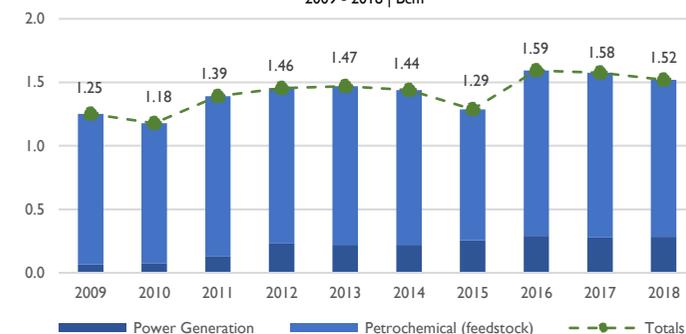
| LNG | MMcm* | 2018 | | | | | | | | | | | |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| | | 411.46 | 314.86 | 506.00 | 491.65 | 475.10 | 414.03 | 490.41 | 510.89 | 397.92 | 404.88 | 422.05 | 396.93 |
| | 1000MT | 302.55 | 231.52 | 372.06 | 361.51 | 349.34 | 304.43 | 360.60 | 375.65 | 292.59 | 297.70 | 310.33 | 291.86 |
| Totals (MMcm) | | 411.46 | 314.86 | 506.00 | 491.65 | 475.10 | 414.03 | 490.41 | 510.89 | 397.92 | 404.88 | 422.05 | 396.93 |

* Gas equivalent

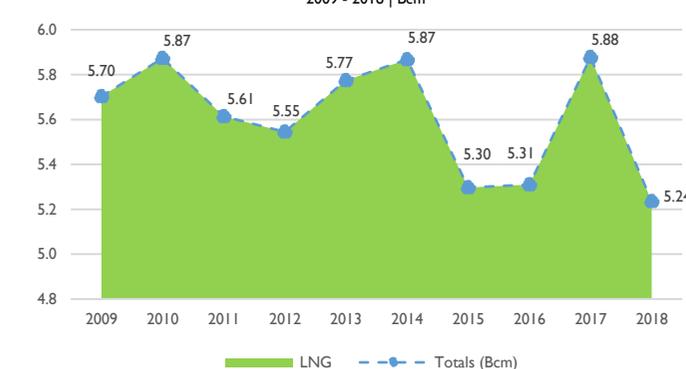
Graph 4.4.2.1. Equatorial Guinea: Natural Gas Annual Production 2009 - 2018 | Bcm



Graph 4.4.3.1. Equatorial Guinea: Natural Gas Annual Domestic Consumption 2009 - 2018 | Bcm



Graph 4.4.3.2. Equatorial Guinea: Natural Gas Annual Exports 2009 - 2018 | Bcm



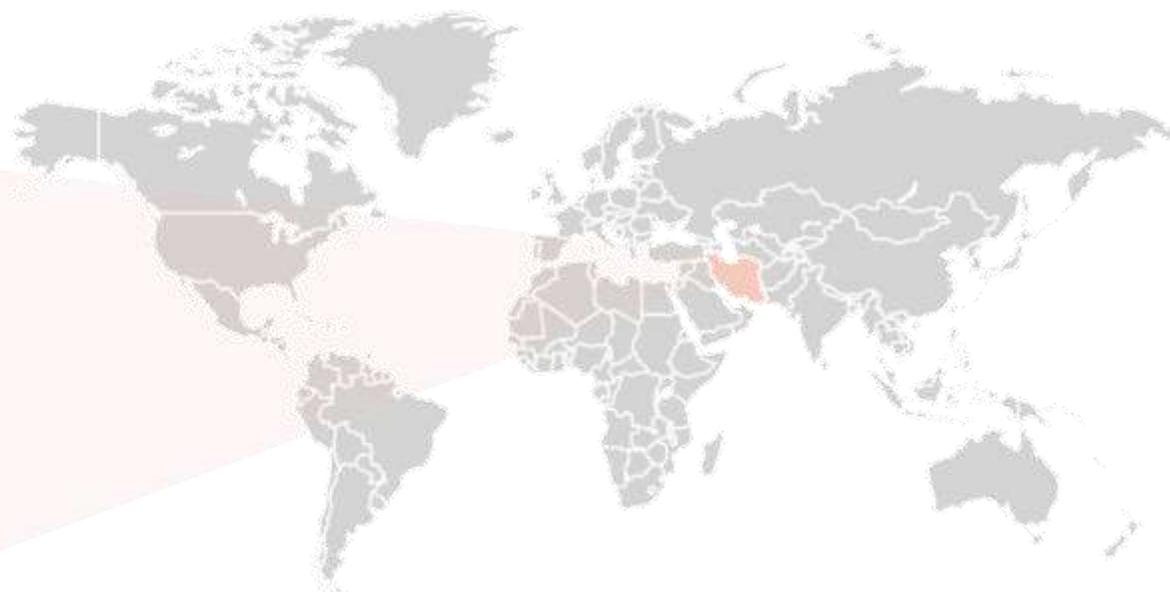
4.4.4 Transport and Plants

4.4.4.1 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|----------------------------|---------------------------------|--------------------------|-------------|---------------|-------------------------------------|--------------|
| Equatorial Guinea (EG) LNG | 1 | 3.7 | Operational | 2007 | Marathon, Sonagas, Mitsui, Marubeni | Marathon Oil |
| Fortuna FLNG | 1 | 2.2 | Planned | 2022 | Ophir, OneLNG | Golar |



Islamic Republic of
IRAN



Population:
81 800 269



Capital:
Tehran



Continent:
Middle East



Currency:
Iranian Rial



Time Zone:
Iran Standard
GMT+3.5

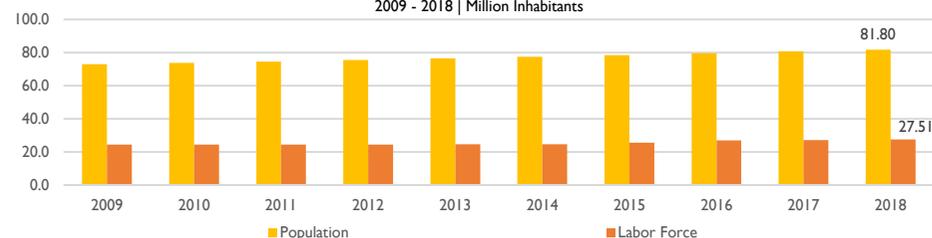
4.5.1 Macroeconomics

4.5.1.1 Iran Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Population (Inhabitants) | 72,924,837 | 73,762,519 | 74,634,956 | 75,539,862 | 76,481,943 | 77,465,753 | 78,492,215 | 79,564,016 | 80,673,951 | 81,800,269 |
| Labor Force (Inhabitants) | 24,384,452 | 24,367,004 | 24,445,178 | 24,522,043 | 24,594,649 | 24,659,641 | 25,653,144 | 26,923,843 | 27,235,013 | 27,509,211 |
| GDP (Current Billion US\$) | 414.06 | 487.07 | 583.50 | 598.85 | 467.41 | 434.47 | 385.87 | 418.98 | 454.01 | NA |
| GDP Growth (Annual %) | 1.01 | 5.80 | 2.65 | -7.44 | -0.19 | 4.60 | -1.32 | 13.40 | 3.76 | NA |
| GDP per Capita (Current US\$) | 5,677.89 | 6,603.21 | 7,818.06 | 7,927.65 | 6,111.44 | 5,608.60 | 4,916.09 | 5,265.91 | 5,627.75 | NA |
| Exports of Goods and Services (Current Billion US\$) | 94.04 | 118.84 | 149.57 | 144.50 | 125.65 | 100.54 | 76.18 | 93.87 | 113.24 | NA |
| Exports of Goods and Services (% of GDP) | 22.71 | 24.40 | 25.63 | 24.13 | 26.88 | 23.14 | 19.74 | 22.40 | 24.94 | NA |
| Imports of Goods and Services (Current Billion US\$) | 86.90 | 94.35 | 102.45 | 139.20 | 109.61 | 93.25 | 74.37 | 87.19 | 108.23 | NA |
| Imports of Goods and Services (% of GDP) | 20.99 | 19.37 | 17.56 | 23.24 | 23.45 | 21.46 | 19.27 | 20.81 | 23.84 | NA |
| Inflation Consumer Prices (Annual %) | 13.55 | 10.09 | 20.87 | 25.74 | 39.27 | 17.22 | 13.70 | 8.65 | 9.99 | NA |
| Energy Use (kg of Oil Equivalent per Capita) | 2,800.52 | 2,769.46 | 2,791.11 | 2,869.33 | 2,889.11 | 3,060.39 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 2,128.22 | 2,237.04 | 2,288.34 | 2,281.31 | 2,243.27 | 2,427.14 | 2,585.86 | 2,653.84 | 2,699.26 | 2,785.14 |

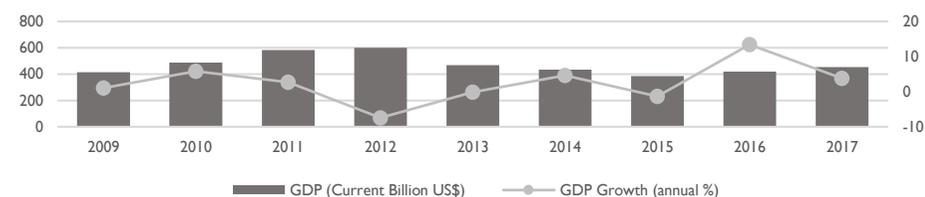
Graph 4.5.1.1. Iran: Population and Labor Force

2009 - 2018 | Million Inhabitants



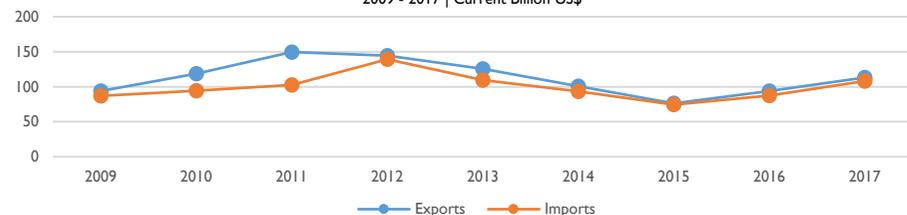
Graph 4.5.1.2. Iran: GDP and GDP Growth

2009 - 2017 | Current Billion US\$ and Annual %



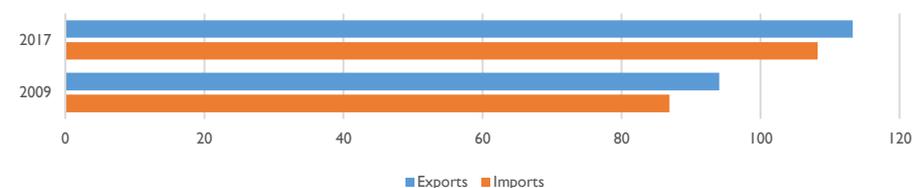
Graph 4.5.1.3. Iran: Exports and Imports (Goods and Services)

2009 - 2017 | Current Billion US\$



Graph 4.5.1.4. Iran: Exports and Imports (Goods and Services)

2009 vs 2017 | Current Billion US\$



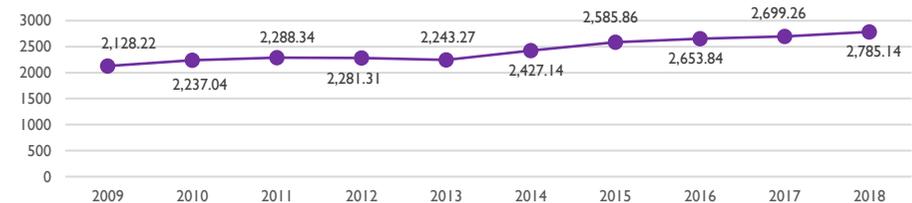
Graph 4.5.1.5. Iran: Inflation (Consumer Prices)

2009 - 2017 | Annual %



Graph 4.5.1.6. Iran: Natural Gas Use

2009 - 2018 | Scm per Capita



4.5.2 Reserves and Production

Table 4.5.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Proven Natural Gas Reserves | 33,090 | 33,620 | 33,790 | 33,710 | 33,850 | 33,440 | 33,720 | 33,820 | 33,330 | 33,899 |

Table 4.5.2.2 Historical Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Gross Production | 211.30 | 222.64 | 227.48 | 229.14 | 229.83 | 245.68 | 256.98 | 277.39 | 301.45 | 311.49 |
| Marketed Production | 155.19 | 165.01 | 170.78 | 172.31 | 171.57 | 188.02 | 202.97 | 211.14 | 217.80 | 233.97 |
| Reinjection | 27.72 | 29.20 | 31.44 | 28.72 | 29.61 | 28.08 | 28.90 | 31.69 | 31.09 | 33.57 |
| Shrinkage | 6.09 | 8.67 | 8.62 | 8.80 | 7.99 | 9.45 | 10.68 | 11.82 | 12.94 | 12.64 |
| Other losses | 22.30 | 19.76 | 16.64 | 19.31 | 20.66 | 20.13 | 14.43 | 22.74 | 39.62 | 31.31 |

Table 4.5.2.3 Detailed 2018 Natural Gas Production (MMcm)

| | 2018 | | | | | | | | | | | |
|---------------------|----------|----------|----------|----------|-----|-----|-----|-----|-----|-----|-----|-----|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Gross Production | 29577.10 | 29552.30 | 26865.60 | 25091.40 | NA |
| Marketed Production | 27410.20 | 28154.20 | 24667.40 | 22208.40 | NA |

4.5.3 Domestic Consumption and Trade

Table 4.5.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Residential | 73.30 | 70.28 | 77.30 | 78.03 | 78.45 | 83.35 | 81.98 | 85.17 | 88.85 | 93.98 |
| Industrial | 13.59 | 17.73 | 20.35 | 23.10 | 23.28 | 22.40 | 25.85 | 28.67 | 31.55 | 32.80 |
| Power Generation | 41.35 | 46.28 | 39.32 | 38.12 | 36.70 | 45.35 | 56.87 | 62.03 | 65.48 | 67.52 |
| Transportation | 3.03 | 4.99 | 6.03 | 6.65 | 6.65 | 7.05 | 7.37 | 7.56 | 7.59 | 8.12 |
| Petrochemical (feedstock) | 2.80 | 4.25 | 4.62 | 4.55 | 3.70 | 4.19 | 4.54 | 5.07 | 5.82 | 5.85 |
| Refineries | 8.66 | 8.28 | 8.60 | 7.14 | 7.71 | 8.13 | 7.13 | 5.54 | 5.13 | 5.65 |
| Others | 12.47 | 13.20 | 14.57 | 14.74 | 15.08 | 17.55 | 19.23 | 17.11 | 13.34 | 13.90 |
| Totals | 155.20 | 165.01 | 170.79 | 172.33 | 171.57 | 188.02 | 202.97 | 211.15 | 217.76 | 227.82 |

Table 4.5.3.2 Historical Trade: Natural Gas Exports

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------|------|------|------|------|------|------|------|------|-------|-------|
| Pipeline (Bcm) | 5.77 | 8.49 | 9.12 | 9.18 | 9.54 | 9.76 | 8.60 | 8.65 | 12.89 | 12.24 |
| Totals (Bcm) | 5.77 | 8.49 | 9.12 | 9.18 | 9.54 | 9.76 | 8.60 | 8.65 | 12.89 | 12.24 |

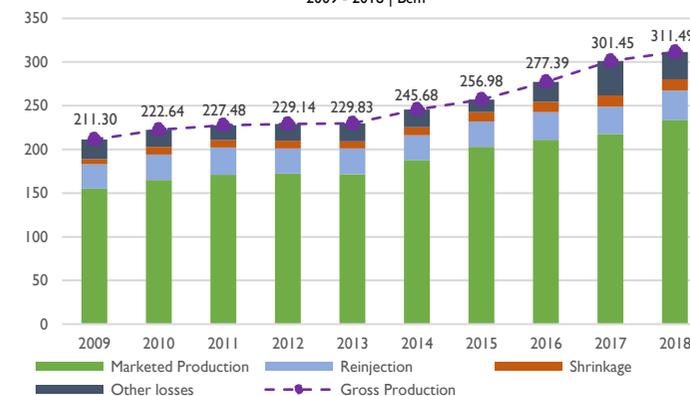
Table 4.5.3.3 Detailed 2018 Trade: Natural Gas Exports

| | 2018 | | | | | | | | | | | |
|-----------------|---------|---------|--------|---------|---------|---------|---------|-----|-----|-----|-----|-----|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Pipeline (MMcm) | 1201.56 | 1037.26 | 997.60 | 1265.11 | 1015.25 | 1022.69 | 1193.50 | NA | NA | NA | NA | NA |
| Totals (MMcm) | 1201.56 | 1037.26 | 997.60 | 1265.11 | 1015.25 | 1022.69 | 1193.50 | NA | NA | NA | NA | NA |

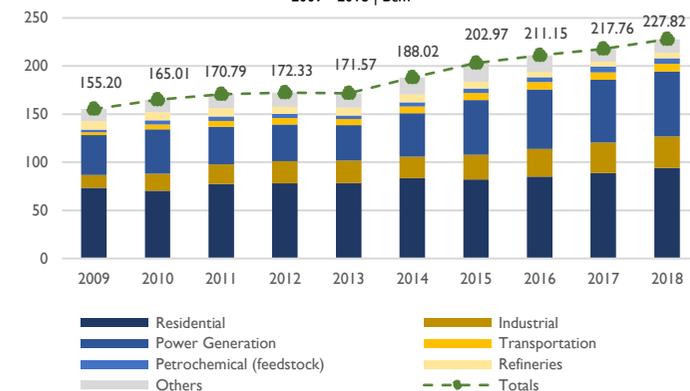
Table 4.5.3.4 Historical Trade: Natural Gas Imports

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------|------|------|-------|------|------|------|------|------|------|------|
| Pipeline (Bcm) | 5.34 | 7.52 | 11.65 | 6.51 | 5.09 | 6.33 | 9.50 | 7.33 | 4.72 | 5.91 |
| Totals (Bcm) | 5.34 | 7.52 | 11.65 | 6.51 | 5.09 | 6.33 | 9.50 | 7.33 | 4.72 | 5.91 |

Graph 4.5.2.1. Iran: Natural Gas Annual Production 2009 - 2018 | Bcm



Graph 4.5.3.1. Iran: Natural Gas Annual Domestic Consumption 2009 - 2018 | Bcm



Graph 4.5.3.2. Iran: Natural Gas Exports and Imports 2009 - 2018 | Bcm

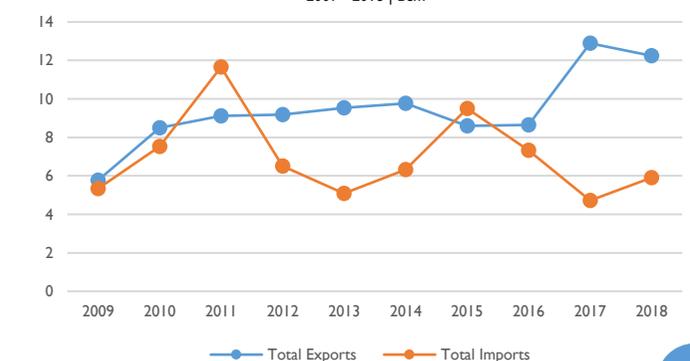


Table 4.5.3.5 Detailed 2018 Trade: Natural Gas Imports

| | 2018 | | | | | | | | | | | |
|------------------------|-------|------|------|--------|--------|--------|--------|-----|-----|-----|-----|-----|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Pipeline (MMcm) | 98.89 | 0.00 | 0.00 | 140.43 | 192.51 | 297.91 | 496.00 | NA | NA | NA | NA | NA |
| Totals (MMcm) | 98.89 | 0.00 | 0.00 | 140.43 | 192.51 | 297.91 | 496.00 | NA | NA | NA | NA | NA |

4.5.4 Transport and Plants

4.5.4.1 Natural Gas Export Pipelines

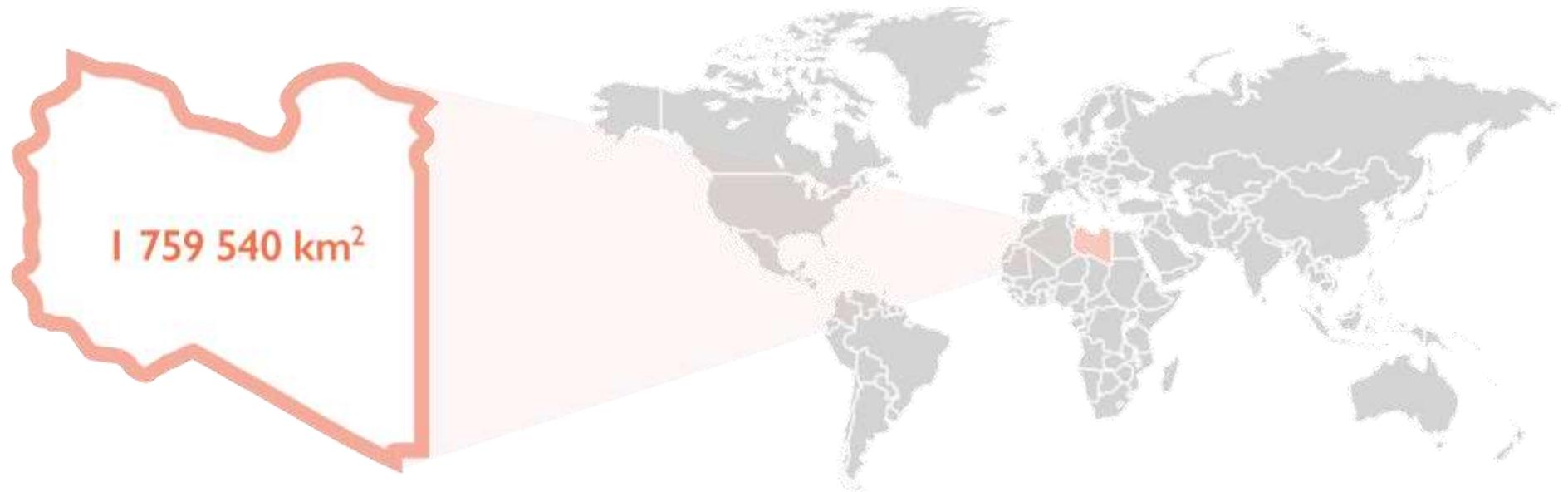
| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/Year) | Type | Start Year | Length (km) | Diameter (Inches) |
|----------------------|--------------|------------|-----|--------------------------------|--------------------------------|--------------------|---------------------|--------|------------|-------------|-------------------|
| | From | To | Via | | | | | | | | |
| Tabriz-Ankara | Iran | Turkey | - | NIOC, Botas | NIOC, Botas | Operational | 14.0 | Export | 2002 | 3,250 | 40 |
| Jolfa-Nakhchivan | Iran | Azerbaijan | - | NIGC, SOCAR | NIGC, SOCAR | Operational | 10.0 | Swap | 2005 | 627 | 40 |
| Tabriz-Sardanian | Iran | Armenia | - | NIOC, Armenia Gazprom | NIOC, Armenia Gazprom | Operational | 2.3 | Export | 2006 | 140 | 30 |
| Asaluye-Baghdad | Iran | Iraq | - | NIOC, INOC | NIOC, INOC | Operational | 12.8 | Export | 2017 | 230 | NA |
| Dauletabad-Khangiran | Turkmenistan | Iran | - | Turkmengaz | Turkmengaz | Operational | 12.0 | Import | 2007 | 182 | 48 |
| Asaluye-Basrah | Iran | Iraq | - | NIOC, INOC | NIOC, INOC | Under Construction | NA | Export | NA | NA | NA |
| Asaluye-Nawabshah | Iran | Pakistan | - | NIOC, SNGPL, SSGC, Gazprom JSC | NIOC, SNGPL, SSGC, Gazprom JSC | Under Construction | 40.0 | Export | NA | 2,775 | 56 |
| Asaluye-Sohar | Iran | Oman | - | NIOC, OGC | NIOC, OGC | Planned | 9.9 | Export | 2020 | NA | NA |

4.5.4.2 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|-----------|------------------------------|-----------------------|--------------------|------------|----------|-------------|
| Iran LNG | 2 | 6.7 | Under Construction | 2020 | NIOC | Iran LNG |
| Iran FLNG | 1 | 0.7 | Planned | 2020 | NIOC | NA |



State of
LIBYA



Population:
6 678 567



Capital:
Tripoli



Continent:
Africa



Currency:
Libyan Dinar



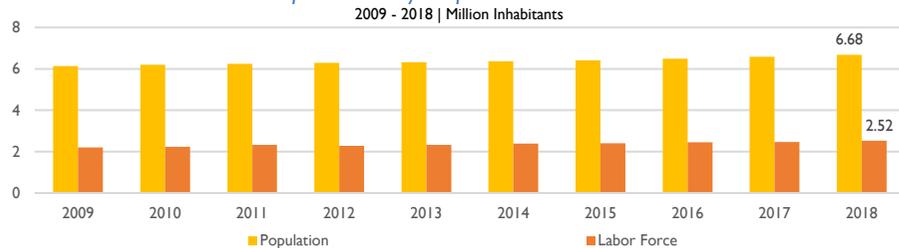
Time Zone:
Eastern European
GMT+2

4.6.1 Macroeconomics

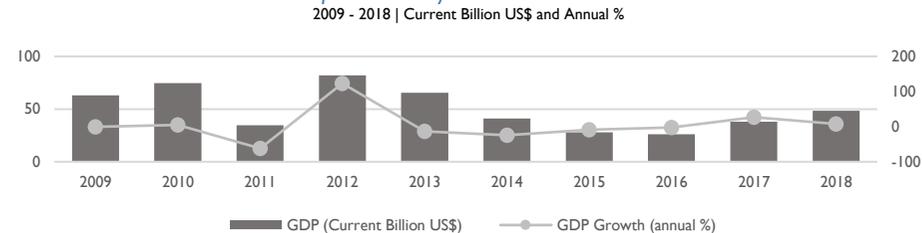
4.6.1.1 Libya Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Population (Inhabitants) | 6,133,984 | 6,197,663 | 6,247,439 | 6,285,750 | 6,320,359 | 6,362,037 | 6,418,315 | 6,492,164 | 6,580,724 | 6,678,567 |
| Labor Force (Inhabitants) | 2,196,742 | 2,233,721 | 2,327,595 | 2,287,419 | 2,334,508 | 2,389,743 | 2,412,343 | 2,453,464 | 2,474,772 | 2,523,550 |
| GDP (Current Billion US\$) | 63.03 | 74.77 | 34.70 | 81.87 | 65.50 | 41.14 | 27.84 | 26.22 | 38.12 | 48.32 |
| GDP Growth (Annual %) | -0.79 | 5.02 | -62.08 | 123.14 | -13.60 | -24.00 | -8.86 | -2.80 | 26.68 | 7.84 |
| GDP per Capita (Current US\$) | 10,275.27 | 12,064.78 | 5,554.18 | 13,025.28 | 10,363.79 | 6,466.91 | 4,337.92 | 4,038.97 | 5,792.07 | 7,235.03 |
| Exports of Goods and Services (Current Billion US\$) | 37.34 | 49.06 | 19.03 | 61.10 | 46.14 | 19.34 | 11.13 | 6.85 | 14.46 | 29.18 |
| Exports of Goods and Services (% of GDP) | 59.24 | 65.60 | 54.83 | 74.62 | 70.43 | 47.01 | 39.97 | 26.14 | 37.94 | 60.39 |
| Imports of Goods and Services (Current Billion US\$) | 26.99 | 31.48 | 15.54 | 32.54 | 42.46 | 37.80 | 20.68 | 11.56 | 13.21 | 28.02 |
| Imports of Goods and Services (% of GDP) | 42.82 | 42.10 | 44.79 | 39.75 | 64.83 | 91.88 | 74.28 | 44.08 | 34.67 | 57.99 |
| Inflation Consumer Prices (Annual %) | 2.46 | 2.80 | 15.52 | 6.06 | 2.61 | NA | NA | NA | NA | NA |
| Energy Use (kg of Oil Equivalent per Capita) | 3,146.18 | 3,353.53 | 2,190.81 | 2,744.01 | 3,071.82 | 2,808.65 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 1,059.40 | 1,127.79 | 688.54 | 1,545.09 | 1,809.18 | 1,598.16 | 1,353.82 | 780.00 | 730.94 | 714.43 |

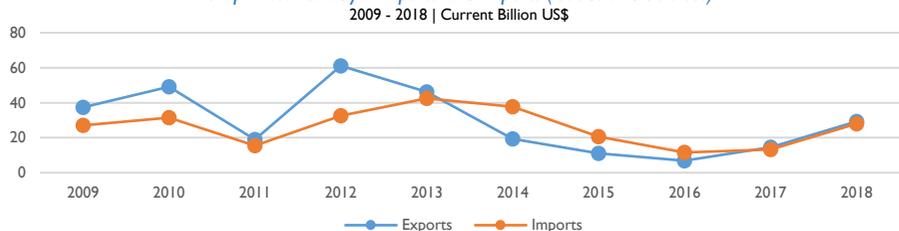
Graph 4.6.1.1. Libya: Population and Labor Force



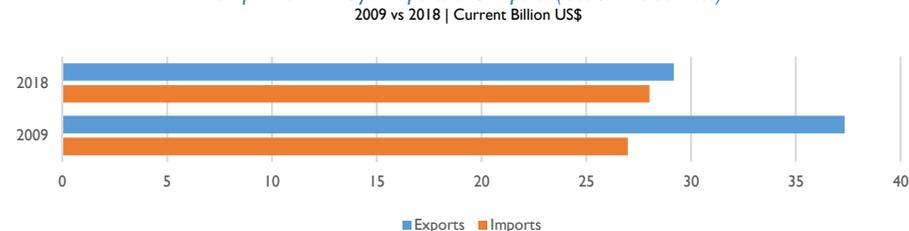
Graph 4.6.1.2. Libya: GDP and GDP Growth



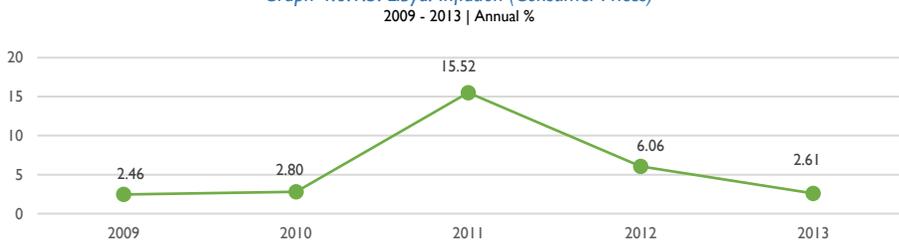
Graph 4.6.1.3. Libya: Exports and Imports (Goods and Services)



Graph 4.6.1.4. Libya: Exports and Imports (Goods and Services)



Graph 4.6.1.5. Libya: Inflation (Consumer Prices)



Graph 4.6.1.6. Libya: Natural Gas Use



4.6.2 Reserves and Production

Table 4.6.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Proven Natural Gas Reserves | 1,549 | 1,495 | 1,547 | 1,549 | 1,506 | 1,505 | 1,505 | 1,505 | 1,505 | 1,505 |

Table 4.6.2.2 Historical Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 29.29 | 30.26 | 9.86 | 23.44 | 22.88 | 20.94 | 22.56 | 14.78 | 14.73 | 14.60 |
| Marketed Production | 16.59 | 16.81 | 6.96 | 16.07 | 16.99 | 16.59 | 15.15 | 9.86 | 9.12 | 9.04 |
| Reinjection | 3.37 | 3.40 | 0.70 | 1.40 | 1.15 | 0.00 | 0.00 | 0.60 | 0.50 | 0.45 |
| Flaring | 3.23 | 3.48 | 1.30 | 3.92 | 3.25 | 2.12 | 2.70 | 3.20 | 3.89 | 3.91 |
| Other losses | 6.10 | 6.57 | 0.90 | 2.05 | 1.49 | 2.23 | 4.71 | 1.12 | 1.21 | 1.20 |

4.6.3 Domestic Consumption and Trade

Table 4.6.3.1 Domestic Gas Consumption (Bcm)

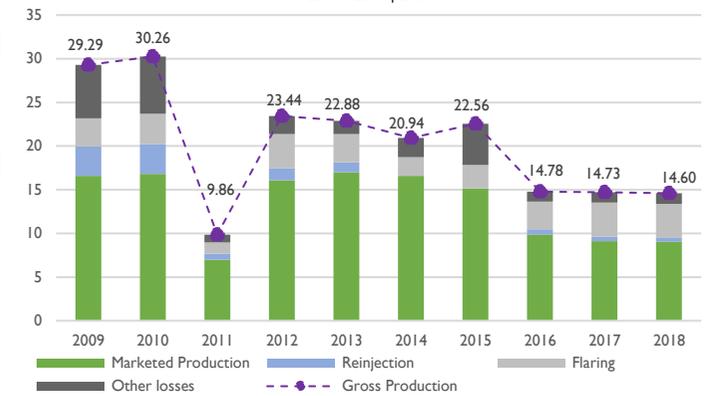
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------------|------|------|------|------|-------|-------|------|------|------|------|
| Industrial | 0.94 | 0.92 | 0.97 | 0.66 | 1.28 | 1.32 | 0.76 | 0.74 | 0.67 | 0.63 |
| Power Generation | 4.32 | 4.84 | 2.56 | 7.93 | 8.87 | 7.77 | 6.69 | 3.09 | 2.94 | 2.94 |
| Petrochemical (feedstock) | 0.94 | 0.96 | 0.61 | 0.91 | 0.93 | 0.72 | 1.08 | 1.05 | 1.01 | 1.01 |
| Refineries | 0.30 | 0.27 | 0.16 | 0.22 | 0.36 | 0.36 | 0.17 | 0.18 | 0.19 | 0.19 |
| Totals | 6.50 | 6.99 | 4.30 | 9.71 | 11.43 | 10.17 | 8.69 | 5.06 | 4.81 | 4.77 |

Table 4.6.3.2 Historical Trade: Natural Gas Exports

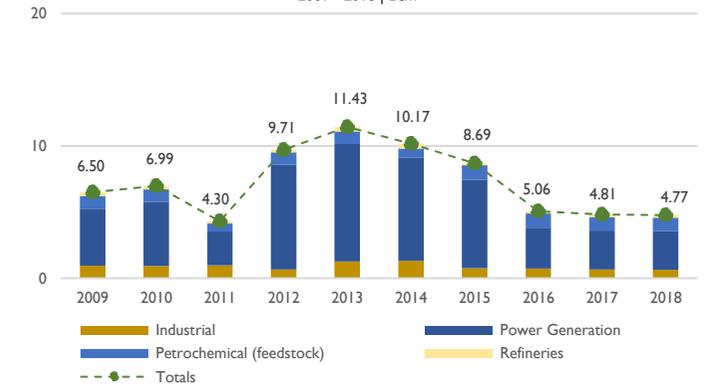
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|-------|------|------|------|------|------|------|------|------|------|
| Pipeline (Bcm) | 9.37 | 9.53 | 2.57 | 6.35 | 5.55 | 6.42 | 7.03 | 4.80 | 4.32 | 4.27 |
| LNG | | | | | | | | | | |
| Bcm* | 0.72 | 0.29 | 0.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MMT | 0.53 | 0.21 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Totals (Bcm) | 10.09 | 9.82 | 2.66 | 6.35 | 5.55 | 6.42 | 7.03 | 4.80 | 4.32 | 4.27 |

* Gas equivalent

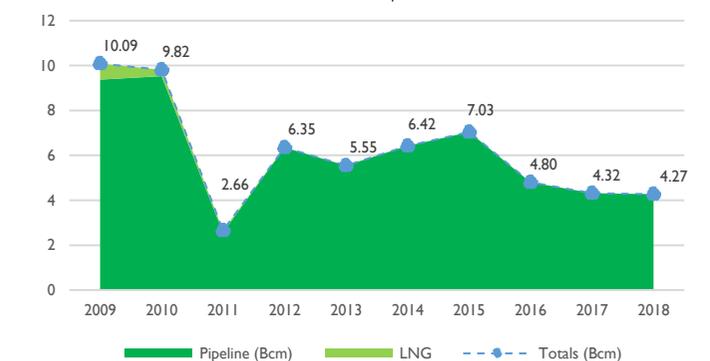
Graph 4.6.2.1. Libya: Natural Gas Annual Production 2009 - 2018 | Bcm



Graph 4.6.3.1. Libya: Natural Gas Annual Domestic Consumption 2009 - 2018 | Bcm



Graph 4.6.3.2. Libya: Natural Gas Annual Exports 2009 - 2018 | Bcm



4.6.4 Transport and Plants

4.6.4.1 Natural Gas Export Pipelines

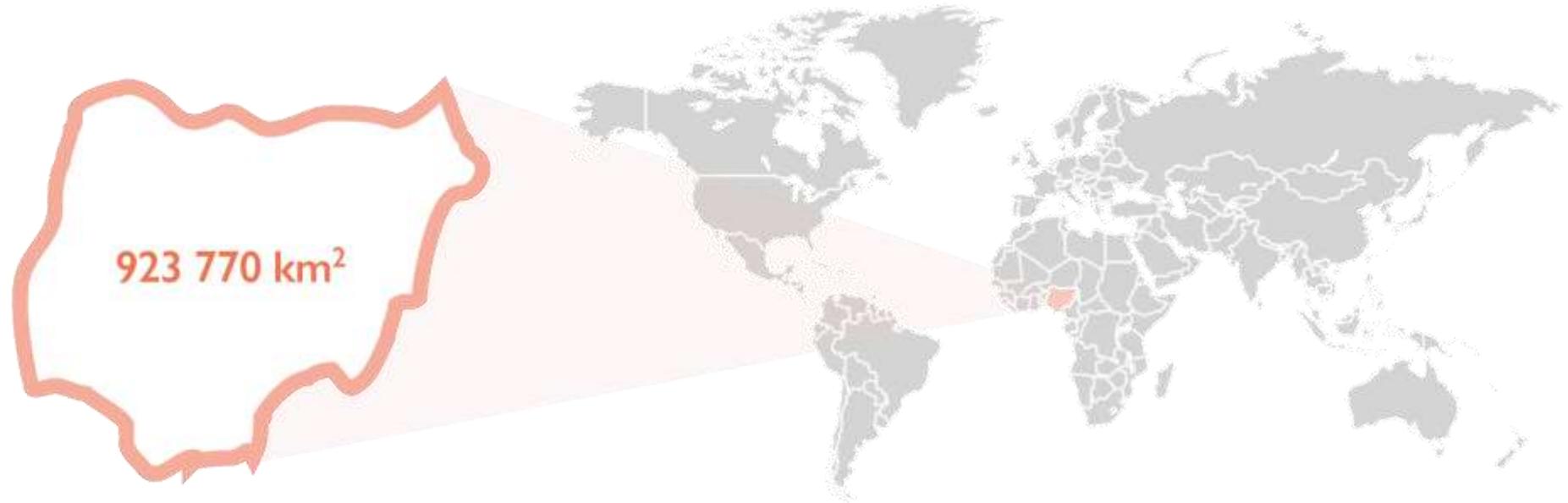
| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/Year) | Type | Start Year | Length (km) | Diameter (Inches) |
|--------------|------------|--------|-----|--------------|--------------|-------------|------------------------|--------|---------------|----------------|----------------------|
| | From | To | Via | | | | | | | | |
| Green Stream | Libya | Sicily | - | Green Stream | Green Stream | Operational | 11.0 | Export | 2004 | 520 | 32 |

4.6.4.2 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|----------------|---------------------------------|--------------------------|---------|---------------|-----------|-------------------|
| Marsa al Brega | 1 | 3.2 | Offline | 1960 | Libya NOC | Sirte Oil Company |



Federal Republic of
NIGERIA



Population:
195 874 740



Capital:
Abuja



Continent:
Africa



Currency:
Nigerian Naira



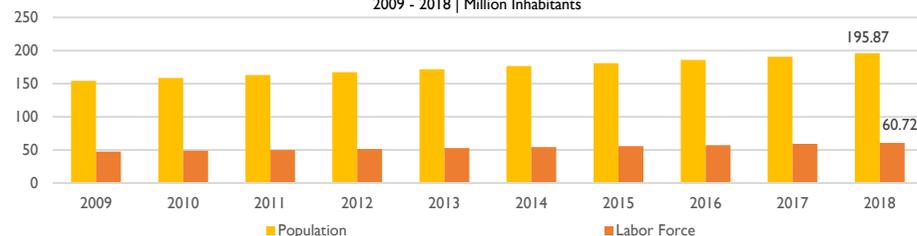
Time Zone:
West Africa
GMT+1

4.7.1 Macroeconomics

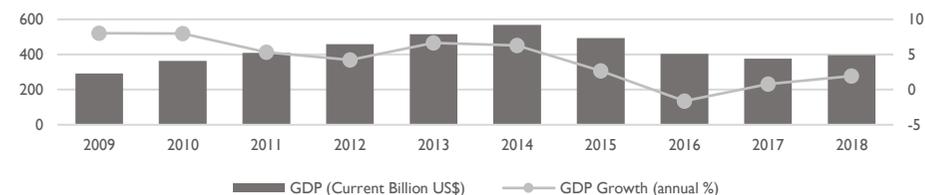
4.7.1.1 Nigeria Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Population (Inhabitants) | 154,324,933 | 158,503,197 | 162,805,071 | 167,228,767 | 171,765,769 | 176,404,902 | 181,137,448 | 185,960,289 | 190,873,311 | 195,874,740 |
| Labor Force (Inhabitants) | 47,456,985 | 48,757,838 | 50,046,951 | 51,395,024 | 52,804,823 | 54,247,539 | 55,806,382 | 57,389,153 | 59,035,065 | 60,724,387 |
| GDP (Current Billion US\$) | 291.88 | 363.36 | 410.33 | 459.38 | 514.97 | 568.50 | 494.58 | 404.65 | 375.75 | 397.27 |
| GDP Growth (Annual %) | 8.04 | 8.01 | 5.31 | 4.23 | 6.67 | 6.31 | 2.65 | -1.62 | 0.81 | 1.94 |
| GDP per Capita (Current US\$) | 1,891.34 | 2,292.45 | 2,520.40 | 2,746.99 | 2,998.07 | 3,222.69 | 2,730.43 | 2,176.00 | 1,968.56 | 2,028.18 |
| Exports of Goods and Services (Current Billion US\$) | 54.38 | 93.24 | 129.74 | 144.92 | 92.95 | 104.80 | 52.71 | 37.30 | 49.49 | NA |
| Exports of Goods and Services (% of GDP) | 18.63 | 25.66 | 31.62 | 31.55 | 18.05 | 18.44 | 10.66 | 9.22 | 13.17 | NA |
| Imports of Goods and Services (Current Billion US\$) | 50.87 | 64.17 | 88.88 | 59.65 | 66.94 | 70.78 | 53.37 | 46.55 | 49.51 | NA |
| Imports of Goods and Services (% of GDP) | 17.43 | 17.66 | 21.66 | 12.99 | 13.00 | 12.45 | 10.79 | 11.50 | 13.18 | NA |
| Inflation Consumer Prices (Annual %) | 11.54 | 13.72 | 10.84 | 12.22 | 8.48 | 8.06 | 9.01 | 15.68 | 16.52 | 12.09 |
| Energy Use (kg of Oil Equivalent per Capita) | 721.81 | 756.35 | 778.84 | 798.63 | 780.14 | 763.63 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 23.05 | 31.52 | 37.84 | 43.81 | 44.83 | 43.82 | 61.32 | 47.74 | 58.00 | 62.13 |

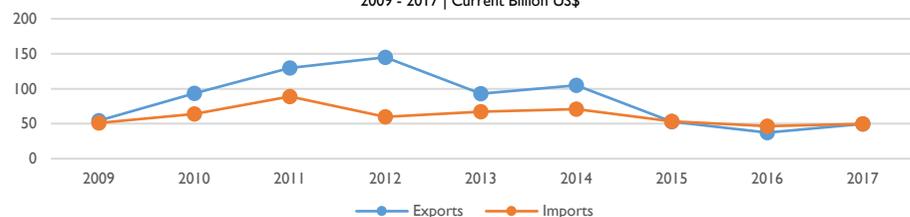
Graph 4.7.1.1. Nigeria: Population and Labor Force
2009 - 2018 | Million Inhabitants



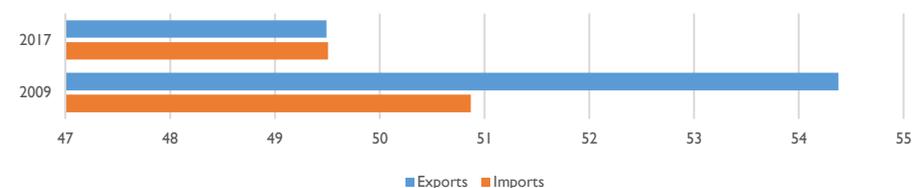
Graph 4.7.1.2. Nigeria: GDP and GDP Growth
2009 - 2018 | Current Billion US\$ and Annual %



Graph 4.7.1.3. Nigeria: Exports and Imports (Goods and Services)
2009 - 2017 | Current Billion US\$



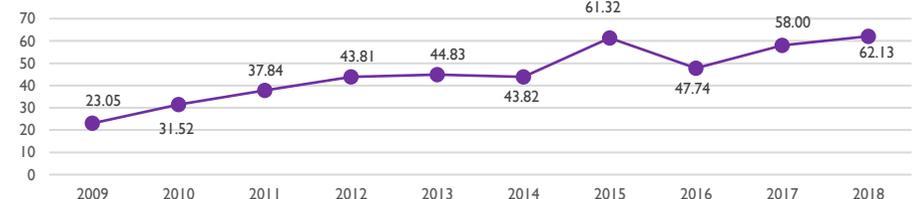
Graph 4.7.1.4. Nigeria: Exports and Imports (Goods and Services)
2009 vs 2017 | Current Billion US\$



Graph 4.7.1.5. Nigeria: Inflation (Consumer Prices)
2009 - 2018 | Annual %



Graph 4.7.1.6. Nigeria: Natural Gas Use
2009 - 2018 | Scm per Capita



4.7.2 Reserves and Production

Table 4.7.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Proven Natural Gas Reserves | 5,204 | 5,106 | 5,171 | 5,115 | 5,108 | 5,303 | 5,280 | 5,475 | 5,627 | 5,685 |

Table 4.7.2.2 Historical Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 56.72 | 79.85 | 84.01 | 84.85 | 79.63 | 86.33 | 85.22 | 76.78 | 79.49 | 80.27 |
| Marketed Production | 23.21 | 36.19 | 41.32 | 42.57 | 38.41 | 43.84 | 45.15 | 41.99 | 45.79 | 46.97 |
| Reinjection | 14.25 | 21.29 | 22.52 | 20.52 | 21.47 | 22.89 | 21.04 | 19.90 | 21.68 | 21.51 |
| Flaring | 13.33 | 15.29 | 14.27 | 13.18 | 12.11 | 10.74 | 9.69 | 8.18 | 8.14 | 7.98 |
| Other losses | 5.94 | 7.08 | 5.89 | 8.57 | 7.64 | 8.85 | 9.35 | 6.70 | 3.88 | 3.81 |

Table 4.7.2.3 Detailed 2018 Natural Gas Production (MMcm)

| | 2018 | | | | | | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Gross Production | 7167.26 | 6789.45 | 7207.44 | 6853.13 | 6569.56 | 5930.27 | 6430.04 | 7014.72 | 6761.15 | 6716.44 | 6025.92 | 6808.70 |
| Marketed Production | 4080.29 | 3969.92 | 4318.86 | 4079.73 | 3985.77 | 3199.88 | 3599.48 | 4108.31 | 4020.86 | 3840.31 | 3489.11 | 4276.98 |

4.7.3 Domestic Consumption and Trade

Table 4.7.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------------|------|------|------|------|------|------|-------|------|-------|-------|
| Industrial | 0.82 | 1.08 | 1.30 | 1.90 | 2.23 | 2.31 | 3.56 | 3.33 | 4.21 | 4.60 |
| Power Generation | 2.31 | 3.30 | 4.19 | 4.63 | 4.88 | 4.96 | 7.20 | 5.36 | 6.86 | 7.57 |
| Petrochemical (feedstock) | 0.34 | 0.51 | 0.55 | 0.69 | 0.47 | 0.35 | 0.27 | 0.06 | 0.00 | 0.00 |
| Refineries | 0.09 | 0.11 | 0.13 | 0.11 | 0.11 | 0.11 | 0.08 | 0.13 | 0.00 | 0.00 |
| Totals | 3.56 | 5.00 | 6.16 | 7.33 | 7.70 | 7.73 | 11.11 | 8.88 | 11.07 | 12.17 |

Table 4.7.3.2 Historical Trade: Natural Gas Exports

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Pipeline (Bcm) | 0.00 | 0.12 | 0.83 | 0.40 | 0.60 | 0.60 | 0.60 | 0.12 | 0.39 | 0.72 |
| LNG | | | | | | | | | | |
| Bcm* | 15.75 | 23.66 | 25.94 | 28.27 | 24.54 | 26.78 | 26.70 | 25.02 | 34.33 | 31.11 |
| MMT | 11.58 | 17.40 | 19.07 | 20.79 | 18.04 | 19.69 | 19.63 | 18.40 | 25.24 | 22.88 |
| Totals (Bcm) | 15.75 | 23.78 | 26.77 | 28.67 | 25.14 | 27.38 | 27.30 | 25.14 | 34.72 | 31.83 |

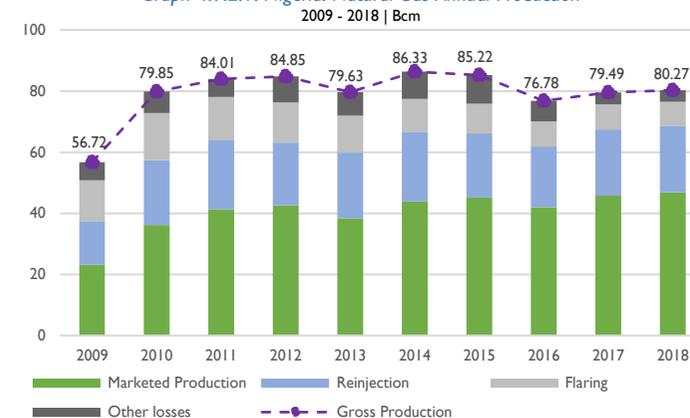
* Gas equivalent

Table 4.7.3.3 Detailed 2018 Trade: Natural Gas Exports

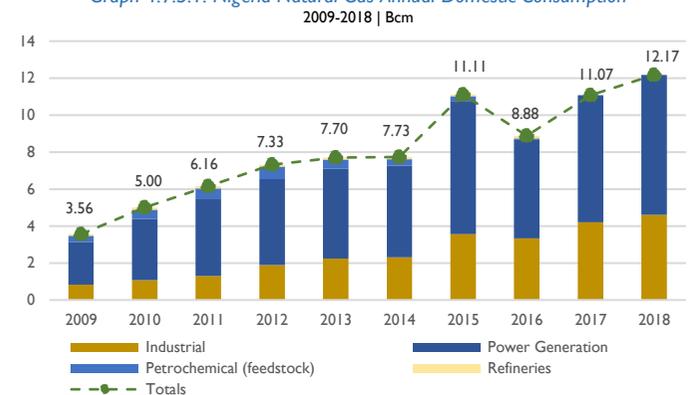
| | 2018 | | | | | | | | | | | |
|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Pipeline (MMcm) | 34.24 | 34.24 | 66.51 | 68.77 | 41.04 | 40.47 | 77.54 | 76.41 | 80.09 | 78.96 | 56.32 | 61.69 |
| LNG | | | | | | | | | | | | |
| MMcm* | 2901.32 | 2683.41 | 2839.62 | 2583.79 | 2608.98 | 1846.86 | 2267.96 | 2842.74 | 2861.41 | 2628.79 | 2186.46 | 2862.26 |
| 1000MT | 2133.32 | 1973.09 | 2087.96 | 1899.85 | 1918.37 | 1357.98 | 1667.62 | 2090.25 | 2103.98 | 1932.93 | 1607.69 | 2104.60 |
| Totals (MMcm) | 2935.56 | 2717.65 | 2906.13 | 2652.56 | 2650.01 | 1887.33 | 2345.50 | 2919.15 | 2941.50 | 2707.74 | 2242.78 | 2923.96 |

* Gas equivalent

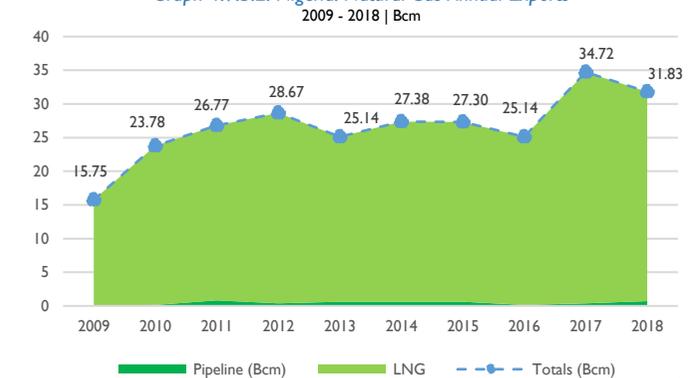
Graph 4.7.2.1. Nigeria: Natural Gas Annual Production



Graph 4.7.3.1. Nigeria Natural Gas Annual Domestic Consumption



Graph 4.7.3.2. Nigeria: Natural Gas Annual Exports



4.7.4 Transport and Plants

4.7.4.1 Natural Gas Export Pipelines

| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/Year) | Type | Start Year | Length (km) | Diameter (Inches) |
|---------------------------|------------|-------|------------|----------|-------------|-------------|------------------------|--------|---------------|----------------|----------------------|
| | From | To | Via | | | | | | | | |
| West African Gas Pipeline | Nigeria | Ghana | Benin-Togo | WAGP | Chevron | Operational | 8.3 | Export | 2006 | 678 | 20 |

4.7.4.2 LNG Carrier Fleet

| Ship Name | Owner(s) | Delivered Year | Size (1000 Scm) |
|----------------------|---------------------|-------------------|--------------------|
| LNG Edo | Bonny Gas Transport | 1980 | 126.50 |
| LNG Rivers | Bonny Gas Transport | 2002 | 137.20 |
| LNG Sokoto | Bonny Gas Transport | 2002 | 137.20 |
| LNG Bayelsa | Bonny Gas Transport | 2003 | 137.50 |
| LNG Akwa Ibom | Bonny Gas Transport | 2004 | 141.00 |
| LNG River Orashi | BW Gas | 2004 | 145.91 |
| LNG Adamawa | Bonny Gas Transport | 2005 | 141.00 |
| LNG Cross River | Bonny Gas Transport | 2005 | 141.00 |
| LNG Enugu | BW Gas | 2005 | 145.00 |
| LNG Oyo | BW Gas | 2005 | 140.50 |
| LNG River Niger | Bonny Gas Transport | 2006 | 141.00 |
| LNG Benue | BW Gas | 2006 | 145.70 |
| LNG Lokoja | BW Gas | 2006 | 148.30 |
| LNG Borno | NYK Line | 2007 | 149.60 |
| LNG Ogun | NYK Line | 2007 | 149.60 |
| LNG Kano | BW Gas | 2007 | 148.30 |
| LNG Ondo | BW Gas | 2007 | 148.30 |
| LNG Imo | BW Gas | 2008 | 148.30 |
| LNG Bonny II | Bonny Gas Transport | 2015 | 133.00 |
| LNG Finima II | Bonny Gas Transport | 2015 | 133.00 |
| LNG Lagos II | Bonny Gas Transport | 2015 | 122.00 |
| LNG Port-Harcourt II | Bonny Gas Transport | 2015 | 122.00 |
| LNG Abuja II | Bonny Gas Transport | 2016 | 126.50 |
| Total | | | 3,208.41 |

4.7.4.3 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|------------|---------------------------------|--------------------------|-------------|---------------|-------------|-------------|
| NLNG 1 & 2 | 2 | 7.0 | Operational | 1999 | Nigeria LNG | Nigeria LNG |
| NLNG 3 | 1 | 3.3 | Operational | 2002 | Nigeria LNG | Nigeria LNG |
| NLNG 4 | 1 | 4.1 | Operational | 2005 | Nigeria LNG | Nigeria LNG |
| NLNG 5 | 1 | 4.1 | Operational | 2006 | Nigeria LNG | Nigeria LNG |
| NLNG 6 | 1 | 4.1 | Operational | 2007 | Nigeria LNG | Nigeria LNG |
| NLNG 7 | 1 | NA | Planned | NA | Nigeria LNG | Nigeria LNG |
| NLNG 8 | 1 | NA | Planned | NA | Nigeria LNG | Nigeria LNG |



State of
QATAR



11 610 km²



Population:
2 781 677



Capital:
Doha



Continent:
Middle East



Currency:
Qatari Riyal



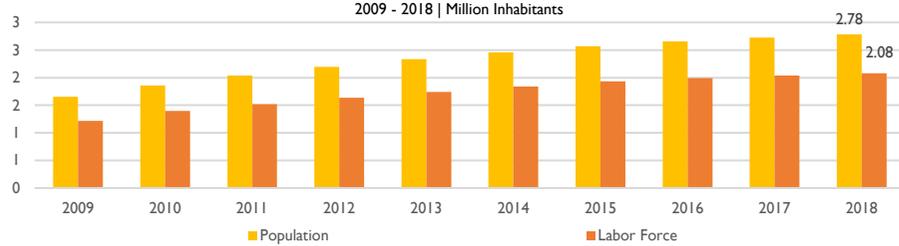
Time Zone:
Arabia
GMT+3

4.8. I Macroeconomics

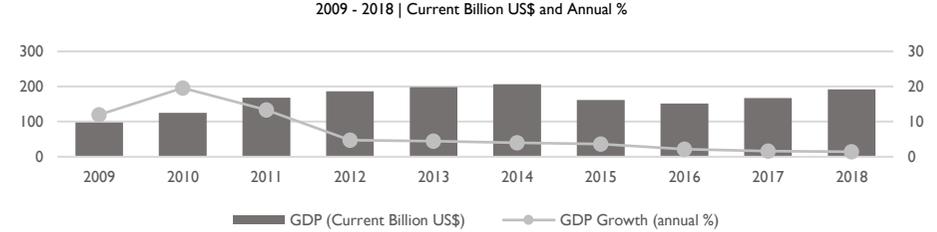
4.8.1.1 Qatar Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Population (Inhabitants) | 1,654,950 | 1,856,327 | 2,035,871 | 2,196,074 | 2,336,574 | 2,459,198 | 2,565,710 | 2,654,374 | 2,724,724 | 2,781,677 |
| Labor Force (Inhabitants) | 1,215,195 | 1,398,290 | 1,519,415 | 1,634,458 | 1,741,482 | 1,841,983 | 1,935,922 | 1,992,709 | 2,039,507 | 2,080,808 |
| GDP (Current Billion US\$) | 97.80 | 125.12 | 167.78 | 186.83 | 198.73 | 206.22 | 161.74 | 151.73 | 166.93 | 192.01 |
| GDP Growth (Annual %) | 11.96 | 19.59 | 13.38 | 4.69 | 4.41 | 3.98 | 3.66 | 2.13 | 1.58 | 1.43 |
| GDP per Capita (Current US\$) | 59,094.44 | 67,403.16 | 82,409.58 | 85,076.15 | 85,050.91 | 83,858.53 | 63,039.02 | 57,163.06 | 61,264.40 | 69,026.47 |
| Exports of Goods and Services (Current Billion US\$) | 50.01 | 77.98 | 121.84 | 142.88 | 144.51 | 140.23 | 92.29 | 72.40 | 85.20 | NA |
| Exports of Goods and Services (% of GDP) | 51.13 | 62.32 | 72.62 | 76.47 | 72.72 | 68.00 | 57.06 | 47.71 | 51.04 | NA |
| Imports of Goods and Services (Current Billion US\$) | 28.37 | 29.72 | 43.79 | 54.69 | 58.95 | 64.00 | 59.27 | 63.48 | 62.19 | NA |
| Imports of Goods and Services (% of GDP) | 29.01 | 23.75 | 26.10 | 29.27 | 29.67 | 31.04 | 36.65 | 41.83 | 37.26 | NA |
| Inflation Consumer Prices (Annual %) | -4.86 | -2.43 | 1.14 | 2.32 | 3.21 | 3.35 | 1.61 | 2.87 | 0.41 | NA |
| Energy Use (kg of Oil Equivalent per Capita) | 14,643.23 | 14,890.44 | 15,370.63 | 17,344.38 | 17,266.13 | 17,922.73 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 12,755.67 | 16,053.21 | 9,627.33 | 10,655.38 | 16,342.80 | 16,476.92 | 17,110.27 | 15,709.92 | 13,954.44 | 14,722.20 |

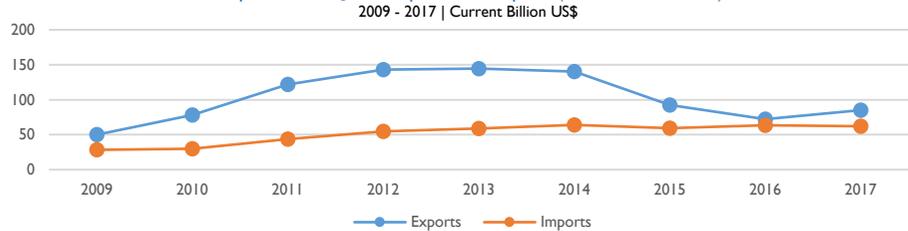
Graph 4.8.1.1. Qatar: Population and Labor Force



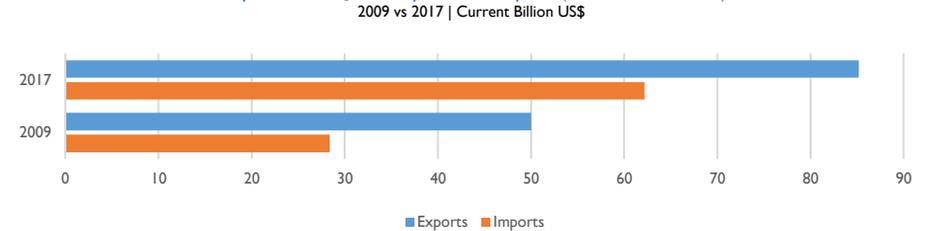
Graph 4.8.1.2. Qatar: GDP and GDP Growth



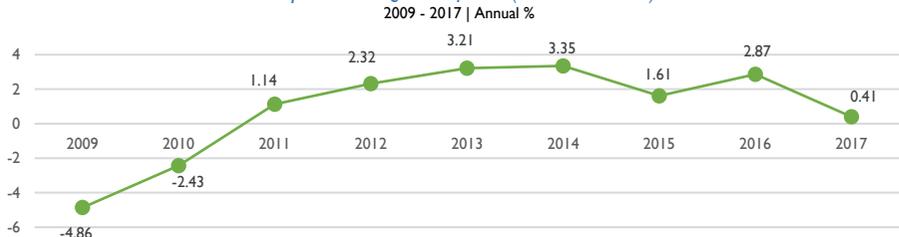
Graph 4.8.1.3. Qatar: Exports and Imports (Goods and Services)



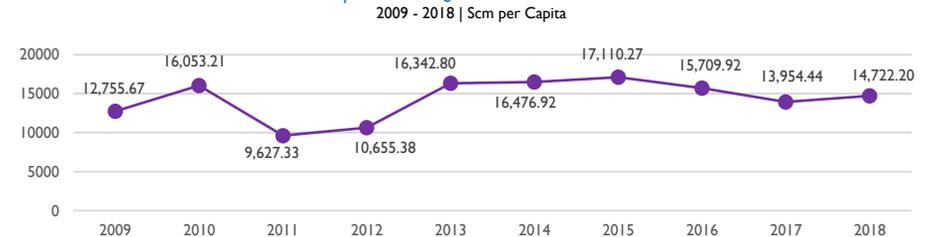
Graph 4.8.1.4. Qatar: Exports and Imports (Goods and Services)



Graph 4.8.1.5. Qatar: Inflation (Consumer Prices)



Graph 4.8.1.6. Qatar: Natural Gas Use



4.8.2 Reserves and Production

Table 4.8.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Proven Natural Gas Reserves | 25,366 | 25,201 | 25,110 | 25,069 | 24,681 | 24,531 | 24,299 | 24,073 | 23,861 | 23,846 |

Table 4.8.2.2 Historical Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Gross Production | 102.81 | 136.25 | 150.02 | 163.03 | 171.06 | 173.40 | 175.92 | 172.17 | 171.40 | 175.42 |
| Marketed Production | 89.30 | 131.17 | 145.27 | 157.05 | 164.96 | 167.43 | 170.05 | 166.10 | 165.37 | 170.04 |
| Reinjection | 3.89 | 2.07 | 2.11 | 2.66 | 2.71 | 2.65 | 2.53 | 2.74 | 2.66 | 2.25 |
| Flaring | 3.97 | 1.02 | 0.56 | 0.70 | 0.74 | 0.71 | 0.72 | 0.72 | 0.69 | 0.60 |
| Other losses | 5.65 | 1.99 | 2.08 | 2.62 | 2.65 | 2.61 | 2.62 | 2.58 | 2.62 | 2.53 |

Table 4.8.2.3 Detailed 2018 Natural Gas Production (MMcm)

| | 2018 | | | | | | | | | | | |
|----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Gross Production | 18312.25 | 15717.89 | 15979.88 | 17032.59 | 18295.57 | 17465.83 | 18299.96 | 18695.86 | 18028.21 | 18057.68 | 16845.69 | 17814.52 |
| Marketed Production | NA |

4.8.3 Domestic Consumption and Trade

Table 4.8.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Totals | 21.11 | 29.80 | 19.60 | 23.40 | 38.19 | 40.52 | 43.90 | 41.70 | 38.02 | 40.95 |

Table 4.8.3.2 Historical Trade: Natural Gas Exports

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| Pipeline (Bcm) | 18.75 | 19.15 | 19.20 | 19.22 | 19.90 | 20.09 | 19.75 | 20.00 | 21.96 | 22.36 |
| LNG | | | | | | | | | | |
| Bcm* | 49.44 | 75.75 | 102.60 | 102.98 | 103.41 | 102.32 | 104.53 | 105.20 | 104.23 | 104.41 |
| MMT | 36.35 | 55.70 | 75.44 | 75.72 | 76.04 | 75.24 | 76.86 | 77.35 | 76.64 | 76.77 |
| Totals (Bcm) | 68.19 | 94.90 | 121.80 | 122.20 | 123.31 | 122.41 | 124.28 | 125.20 | 126.19 | 126.77 |

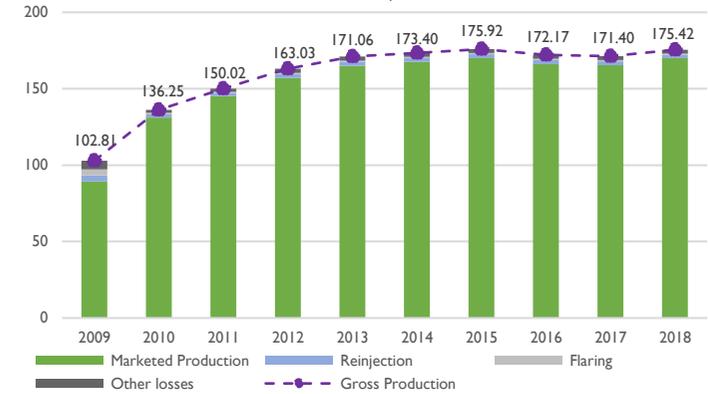
* Gas equivalent

Table 4.8.3.3 Detailed 2018 Trade: Natural Gas Exports

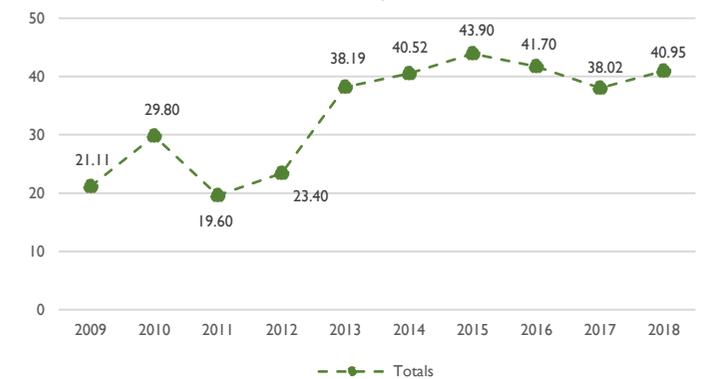
| | 2018 | | | | | | | | | | | |
|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Pipeline (MMcm) | 1469.48 | 1513.59 | 1357.11 | 1958.96 | 2099.75 | 2046.46 | 2112.92 | 2112.04 | 2023.52 | 2043.57 | 1807.75 | 1815.34 |
| LNG | | | | | | | | | | | | |
| MMcm* | 12451.91 | 10432.61 | 10826.18 | 10887.26 | 11615.35 | 11219.42 | 11219.42 | 12003.34 | 11476.82 | 11410.81 | 10905.95 | 11359.02 |
| 1000MT | 9155.82 | 7671.03 | 7960.43 | 8005.34 | 8540.69 | 8249.57 | 8249.57 | 8825.99 | 8438.84 | 8390.30 | 8019.08 | 8352.22 |
| Totals (MMcm) | 13921.39 | 11946.20 | 12183.30 | 12846.22 | 13715.10 | 13265.88 | 13332.34 | 14115.38 | 13500.34 | 13454.38 | 12713.70 | 13174.36 |

* Gas equivalent

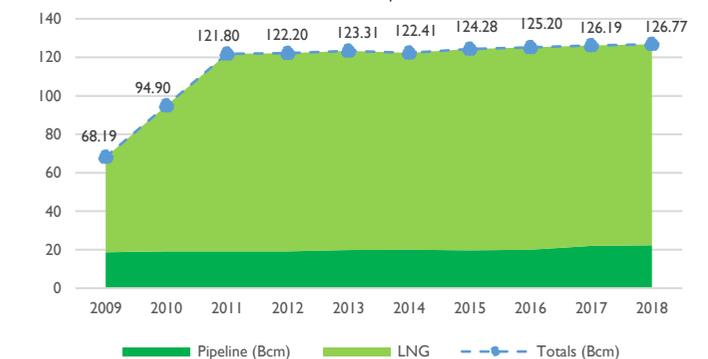
Graph 4.8.2.1. Qatar: Natural Gas Annual Production 2009 - 2018 | Bcm



Graph 4.8.3.1. Qatar: Natural Gas Annual Domestic Consumption 2009 - 2018 | Bcm



Graph 4.8.3.2. Qatar: Natural Gas Annual Exports 2009 - 2018 | Bcm



4.8.4 Transport and Plants

4.8.4.1 Natural Gas Export Pipelines

| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/Year) | Type | Start Year | Length (km) | Diameter (Inches) |
|----------|------------|----------------------------|-----|----------------|----------------|-------------|------------------------|--------|---------------|----------------|----------------------|
| | From | To | Via | | | | | | | | |
| Dolphin | Qatar | United Arab Emirates, Oman | - | Dolphin Energy | Dolphin Energy | Operational | 33.1 | Export | 2007 | 364 | 48 |

4.8.4.2 LNG Carrier Fleet

| Ship Name | Owner(s) | Delivered Year | Size (1000 Scm) |
|---------------------|---------------------------------|----------------|--------------------|
| Umm Bab | Nakilat / Maran Gas | 2005 | 217.59 |
| Simaisma | Nakilat / Maran Gas | 2006 | 210.20 |
| Al Marrouna | Nakilat / Teekay | 2006 | 216.31 |
| Al Khuwair | Nakilat / Teekay | 2006 | 210.15 |
| Al Jassasiya | Nakilat / Maran Gas | 2007 | 266.37 |
| Ejnan | Nakilat / NYK | 2007 | 263.30 |
| Al Gattara | Nakilat / International Seaways | 2007 | 266.37 |
| Tembek | Nakilat / International Seaways | 2007 | 266.48 |
| Al Ruwais | Nakilat / Pronav | 2007 | 266.25 |
| Al Safliya | Nakilat / Pronav | 2007 | 265.98 |
| Al Areesh | Nakilat / Teekay | 2007 | 210.10 |
| Al Ghuwairiya | Nakilat | 2008 | 210.10 |
| Mozah | Nakilat | 2008 | 216.30 |
| Umm Slal | Nakilat | 2008 | 210.15 |
| Bu Samra | Nakilat | 2008 | 210.10 |
| Al Oraiq | Nakilat / "K" Line | 2008 | 216.29 |
| Umm Al Amad | Nakilat / "K" Line | 2008 | 210.20 |
| Maran Gas Asclepius | Nakilat / Maran Gas | 2008 | 266.00 |
| Al Aamriya | Nakilat / MOL | 2008 | 266.00 |
| Fraiha | Nakilat / MOL | 2008 | 263.30 |
| Murwab | Nakilat / MOL | 2008 | 266.00 |
| Al Sahla | Nakilat / NYK | 2008 | 263.30 |
| Al Thumama | Nakilat / NYK | 2008 | 266.28 |
| Al Utouriya | Nakilat / NYK | 2008 | 266.00 |
| Al Gharrafa | Nakilat / International Seaways | 2008 | 266.00 |
| Al Hamla | Nakilat / International Seaways | 2008 | 210.10 |
| Al Ghariya | Nakilat / Pronav | 2008 | 210.10 |
| Duhail | Nakilat / Pronav | 2008 | 145.70 |
| Al Daayen | Nakilat / Teekay | 2008 | 174.00 |
| Al Huwaila | Nakilat / Teekay | 2008 | 161.87 |
| Al Kharsaah | Nakilat / Teekay | 2008 | 161.87 |
| Al Shamal | Nakilat / Teekay | 2008 | 145.82 |
| Al Ghashamiya | Nakilat | 2009 | 145.70 |
| Sub Totals | | | 7,410.28 |
| Total | | | 13,422.26 |

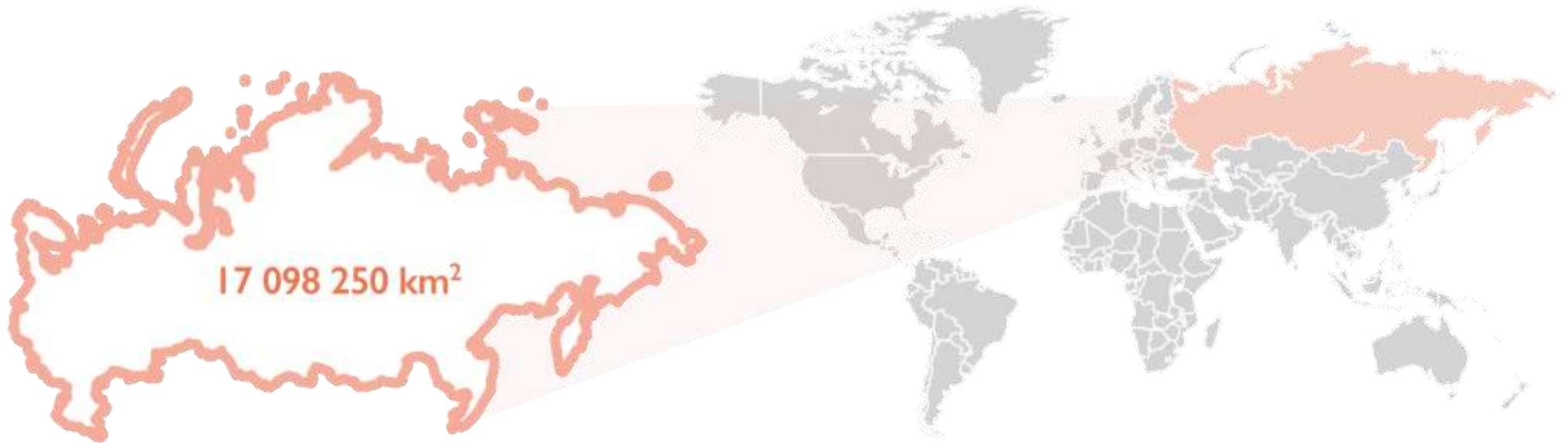
| Ship Name | Owner(s) | Delivered Year | Size (1000 Scm) |
|----------------------|---------------------|----------------|--------------------|
| Sheehaniya | Nakilat | 2009 | 159.80 |
| Mesaimmeer | Nakilat | 2009 | 159.80 |
| Onaiza | Nakilat | 2009 | 161.87 |
| Al Dafna | Nakilat | 2009 | 161.87 |
| Al Mafyar | Nakilat | 2009 | 159.80 |
| Mekaines | Nakilat | 2009 | 145.89 |
| Al Bahiya | Nakilat | 2009 | 145.00 |
| Al Karaana | Nakilat | 2009 | 159.80 |
| Al Kharaitiyat | Nakilat | 2009 | 159.80 |
| Al Khattiya | Nakilat | 2009 | 210.17 |
| Al Nuaman | Nakilat | 2009 | 210.10 |
| Al Rekayyat | Nakilat | 2009 | 210.10 |
| Al Sadd | Nakilat | 2009 | 216.20 |
| Al Mayeda | Nakilat | 2009 | 216.20 |
| Al Samriya | Nakilat | 2009 | 215.00 |
| Lijmiliya | Nakilat | 2009 | 145.00 |
| Shagra | Nakilat | 2009 | 216.20 |
| Aseem | Nakilat / SCI | 2009 | 216.20 |
| Aamira | Nakilat | 2010 | 216.20 |
| Rasheeda | Nakilat | 2010 | 216.20 |
| Zarga | Nakilat | 2010 | 210.15 |
| Maran Gas Coronis | Nakilat / Maran Gas | 2012 | 210.15 |
| Woodside Goode | Nakilat / Maran Gas | 2013 | 210.15 |
| Woodside Rogers | Nakilat / Maran Gas | 2013 | 210.15 |
| Maran Gas Apollonia | Nakilat / Maran Gas | 2014 | 155.00 |
| Maran Gas Delphi | Nakilat / Maran Gas | 2014 | 149.54 |
| Maran Gas Efessos | Nakilat / Maran Gas | 2014 | 148.79 |
| Maran Gas Posidonia | Nakilat / Maran Gas | 2014 | 148.85 |
| Maran Gas Alexandria | Nakilat / Maran Gas | 2015 | 217.00 |
| Maran Gas Lindos | Nakilat / Maran Gas | 2015 | 217.00 |
| Maran Gas Sparta | Nakilat / Maran Gas | 2015 | 217.00 |
| Maran Gas Achilles | Nakilat / Maran Gas | 2016 | 217.00 |
| Sub Totals | | | 6,011.98 |
| Total | | | 13,422.26 |

4.8.4.3 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|-----------------------|---------------------------------|--------------------------|-------------|----------------------|--|---------------|
| Qatargas I | 3 | 9.9 | Operational | 1996 1997 1998 | Qatar Petroleum, ExxonMobil, Total, Mitsui, Marubeni | Qatargas |
| Qatargas 2 | 2 | 15.6 | Operational | 2009 | Qatar Petroleum, ExxonMobil, Total | Qatargas |
| Qatargas 3 | 1 | 7.8 | Operational | 2010 | Qatar Petroleum, ConocoPhillips, Mitsui | Qatargas |
| Qatargas 4 | 1 | 7.8 | Operational | 2011 | Qatar Petroleum, Shell | Qatargas |
| Raslaffan | 2 | 6.6 | Operational | 1999 | Qatar Petroleum, ExxonMobil, Korea LNG Ltd, Itochu, LNG Japan Corp | Qatargas |
| Raslaffan (II) | 3 | 14.1 | Operational | 2004 | Qatar Petroleum, ExxonMobil | Qatargas |
| Raslaffan 3 | 2 | 15.6 | Operational | 2010 | Qatar Petroleum, ExxonMobil | Qatargas |
| North Field Expansion | 4 | 33.0 | Project | 2024 2025 | Qatar Petroleum | Project Phase |



Russian Federation
RUSSIA



Population:
144 478 050



Capital:
Moscow



Continent:
Euroasia



Currency:
Russian Ruble



Time Zone:
GMT+3
(Moscow)

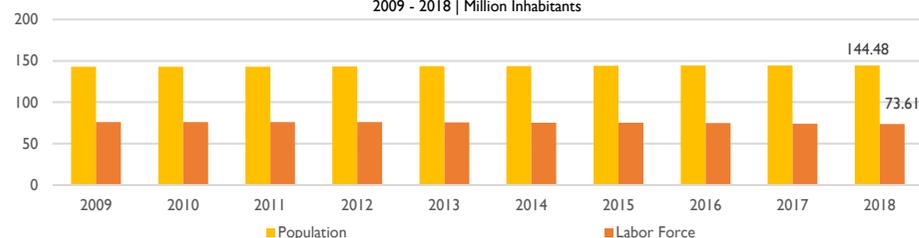
4.9.I Macroeconomics

4.9.I.1 Russia Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Population (Inhabitants) | 142,785,342 | 142,849,449 | 142,960,868 | 143,201,676 | 143,506,911 | 143,819,666 | 144,096,870 | 144,342,396 | 144,496,740 | 144,478,050 |
| Labor Force (Inhabitants) | 76,118,376 | 75,969,251 | 76,121,763 | 75,909,195 | 75,519,863 | 75,327,362 | 75,135,866 | 75,036,834 | 74,308,529 | 73,613,697 |
| GDP (Current Billion US\$) | 1,222.64 | 1,524.92 | 2,051.66 | 2,210.26 | 2,297.13 | 2,059.98 | 1,363.59 | 1,282.72 | 1,578.62 | 1,657.55 |
| GDP Growth (Annual %) | -7.80 | 4.50 | 4.30 | 3.70 | 1.80 | 0.70 | -2.31 | 0.33 | 1.63 | 2.25 |
| GDP per Capita (Current US\$) | 8,562.81 | 10,675.00 | 14,351.21 | 15,434.57 | 16,007.09 | 14,100.73 | 9,313.79 | 8,745.38 | 10,750.59 | 11,288.87 |
| Exports of Goods and Services (Current Billion US\$) | 341.58 | 445.51 | 573.99 | 594.19 | 592.50 | 558.28 | 391.45 | 330.14 | 411.26 | 509.55 |
| Exports of Goods and Services (% of GDP) | 27.94 | 29.22 | 27.98 | 26.88 | 25.79 | 27.10 | 28.71 | 25.74 | 26.05 | 30.74 |
| Imports of Goods and Services (Current Billion US\$) | 250.60 | 322.37 | 408.78 | 447.05 | 468.62 | 426.06 | 281.49 | 263.79 | 326.91 | 344.26 |
| Imports of Goods and Services (% of GDP) | 20.50 | 21.14 | 19.92 | 20.23 | 20.40 | 20.68 | 20.64 | 20.57 | 20.71 | 20.77 |
| Inflation Consumer Prices (Annual %) | 11.65 | 6.85 | 8.44 | 5.07 | 6.75 | 7.82 | 15.53 | 7.04 | 3.68 | 2.88 |
| Energy Use (kg of Oil Equivalent per Capita) | 4,531.29 | 4,819.04 | 5,049.43 | 5,167.01 | 5,078.63 | 4,942.88 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 3,505.96 | 3,806.10 | 3,935.34 | 3,872.86 | 3,762.88 | 3,770.00 | 3,621.18 | 3,712.21 | 3,761.33 | 3,344.42 |

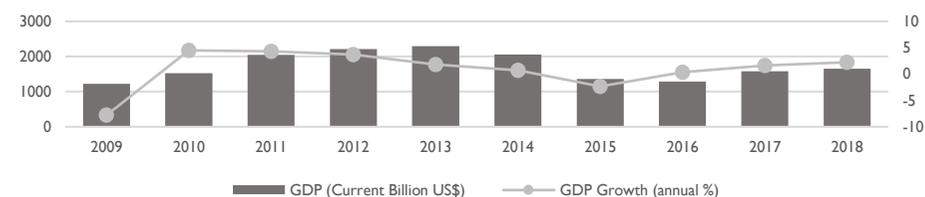
Graph 4.9.1.1. Russia: Population and Labor Force

2009 - 2018 | Million Inhabitants



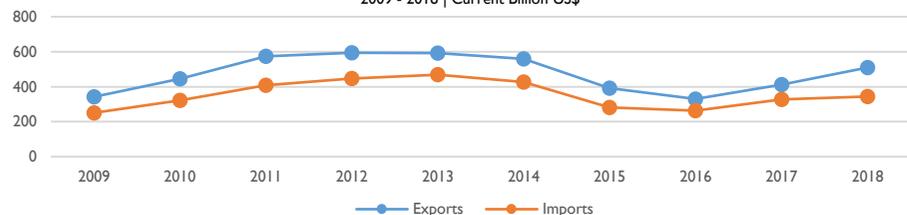
Graph 4.9.1.2. Russia: GDP and GDP Growth

2009 - 2018 | Current Billion US\$ and Annual %



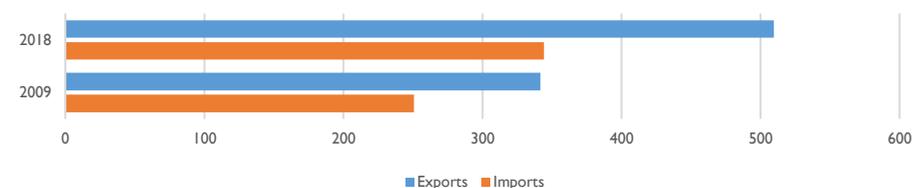
Graph 4.9.1.3. Russia: Exports and Imports (Goods and Services)

2009 - 2018 | Current Billion US\$



Graph 4.9.1.4. Russia: Exports and Imports (Goods and Services)

2009 vs 2018 | Current Billion US\$



Graph 4.9.1.5. Russia: Inflation (Consumer Prices)

2009 - 2018 | Annual %



Graph 4.9.1.6. Russia: Natural Gas Use

2009 - 2018 | Scm per Capita



4.9.2 Reserves and Production

Table 4.9.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Proven Natural Gas Reserves | 46,000 | 46,000 | 48,676 | 48,810 | 49,335 | 49,896 | 50,205 | 50,617 | 50,508 | 50,279 |

Table 4.9.2.2 Historical Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Gross Production | 584.00 | 651.30 | 670.80 | 654.68 | 667.59 | 642.81 | 633.54 | 640.81 | 692.00 | 727.60 |
| Marketed Production | 561.15 | 628.93 | 647.60 | 631.15 | 645.91 | 619.75 | 612.74 | 619.81 | 668.94 | 704.51 |
| Flaring | 14.86 | 15.49 | 16.73 | 17.09 | 15.33 | 15.67 | 14.51 | 14.60 | 15.12 | 15.85 |
| Other losses | 5.46 | 6.59 | 6.67 | 6.76 | 6.76 | 6.59 | 6.76 | 6.59 | 7.04 | 7.24 |

Table 4.9.2.3 Detailed 2018 Natural Gas Production (MMcm)

| | 2018 | | | | | | | | | | | |
|----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Gross Production | 65800.00 | 58600.00 | 56900.00 | 54300.00 | 54700.00 | 51400.00 | 51500.00 | 54300.00 | 54400.00 | 61900.00 | 62000.00 | 64300.00 |
| Marketed Production | 65800.00 | 58600.00 | 56900.00 | 54300.00 | 54700.00 | 51400.00 | 51500.00 | 54300.00 | 54400.00 | 61900.00 | 62000.00 | 64300.00 |

4.9.3 Domestic Consumption and Trade

Table 4.9.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Totals | 500.60 | 543.70 | 562.60 | 554.60 | 540.00 | 542.20 | 521.80 | 535.83 | 543.50 | 483.20 |

Table 4.9.3.2 Historical Trade: Natural Gas Exports

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Pipeline (Bcm) | 150.70 | 152.70 | 161.70 | 178.70 | 196.40 | 172.60 | 185.50 | 198.70 | 212.80 | 222.62 |
| LNG | | | | | | | | | | |
| Bcm* | 5.18 | 14.79 | 14.05 | 13.18 | 16.20 | 12.63 | 13.18 | 14.91 | 15.03 | 25.48 |
| MMT | 3.81 | 10.87 | 10.33 | 9.69 | 11.91 | 9.29 | 9.69 | 10.96 | 11.05 | 18.74 |
| Totals (Bcm) | 155.88 | 167.49 | 175.75 | 191.88 | 212.60 | 185.23 | 198.68 | 213.61 | 227.83 | 248.10 |

* Gas equivalent

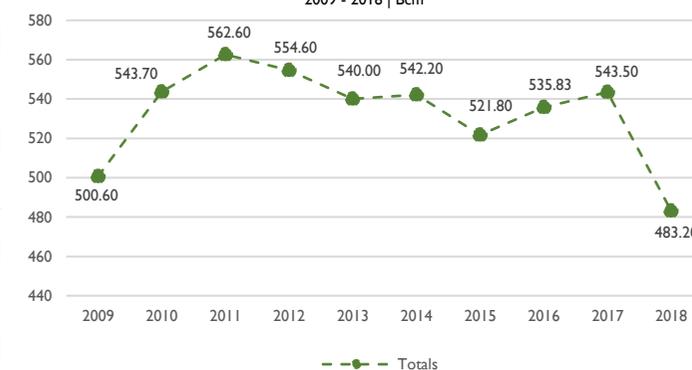
Table 4.9.3.4 Historical Trade: Natural Gas Imports

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|------|------|------|------|------|------|------|------|------|------|
| Pipeline (Bcm) | 8.30 | 4.25 | 7.97 | 8.06 | 8.23 | 8.58 | 8.84 | 8.93 | 8.94 | 9.37 |
| Totals (Bcm) | 8.30 | 4.25 | 7.97 | 8.06 | 8.23 | 8.58 | 8.84 | 8.93 | 8.94 | 9.37 |

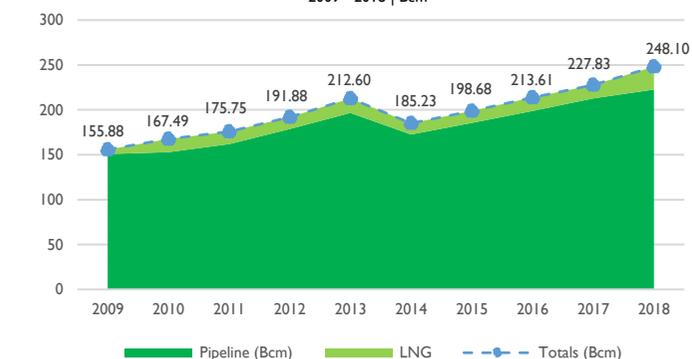
Graph 4.9.2.1. Russia: Natural Gas Annual Production
2009 - 2018 | Bcm



Graph 4.9.3.1. Russia: Natural Gas Annual Domestic Consumption
2009 - 2018 | Bcm



Graph 4.9.3.2. Russia: Natural Gas Annual Exports
2009 - 2018 | Bcm



4.9.4 Transport and Plants

4.9.4.1 Natural Gas Export Pipelines

| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/Year) | Type | Start Year | Length (km) | Diameter (Inches) |
|----------------------------------|------------|-------------------------|---------|--|--|--------------------|------------------------|--------|---------------|----------------|----------------------|
| | From | To | Via | | | | | | | | |
| Urengoy-Pomary-Uzhgorod | Russia | Europe | Ukraine | Gazprom | Gazprom | Operational | 100.0 | Export | 1967 | 2,000 | 54 |
| Blue Stream | Russia | Turkey | - | Gazprom, Blue Stream Pipeline Company BV | Gazprom, Blue Stream Pipeline Company BV | Operational | 16.0 | Export | 2003 | 1,213 | 55/47 |
| Yamal Europe | Russia | Europe (Poland Germany) | Belarus | Gazprom | Gazprom | Operational | 32.9 | Export | 2006 | 2,000 | 56 |
| Nord Stream | Russia | Germany | NA | Nord Stream AG JV | Nord Stream AG JV | Operational | 55.0 | Export | 2011 | 1,224 | 56 |
| Minsk-Vilnius-Kaunas-Kaliningrad | Russia | Belarus, Lithuania | - | Gazprom | Gazprom | Operational | 2.5 | Export | 2011 | 155 | 20 |
| Nord Stream 2 | Russia | Germany | - | NA | NA | Under Construction | 55.0 | Export | 2019 | 1,200 | 48 |
| TurkStream | Russia | Turkey | - | Gazprom | Gazprom | Under Construction | 31.5 | Export | 2019 | 930 | 32 |
| Power of Siberia | Russia | China | NA | Gazprom | NA | Under Construction | 38.0 | Export | 2019 | 3,000 | 56 |

4.9.4.2 LNG Carrier Fleet

| Ship Name | Owner(s) | Delivered Year | Size (1000 Scm) |
|------------------------|-------------|----------------|--------------------|
| Lena River | Gazprom | 2013 | 154.88 |
| Yenisei River | Gazprom | 2013 | 154.88 |
| Velikiy Novgorod | Gazprom | 2014 | 170.20 |
| Pskov | Gazprom | 2014 | 170.20 |
| SCF Mitre | Sovcomflot | 2015 | 170.00 |
| SCF Melampus | Sovcomflot | 2015 | 170.20 |
| Christophe de Margerie | Sovcomflot | 2016 | 172.60 |
| Marshal Vasilevskiy | Gazpromflot | 2017 | 174.10 |
| Total | | | 1337.06 |

4.9.4.3 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|---------------|---------------------------------|--------------------------|--------------------|---------------|---------------------------|-----------------|
| Sakhalin II | 2 | 9.6 | Operational | 2009 | Sakhalin Energy | Sakhalin Energy |
| Yamal LNG | 2 | 11.0 | Operational | 2017/2018 | Novatek | Novatek |
| Yamal LNG | 1 | 5.5 | Under Construction | 2018/2019 | Novatek | Novatek |
| Gorskaya LNG | 1 | 1.3 | Under Construction | 2019/2021 | Gazprom | Gazprom |
| Portovaya LNG | 1 | 1.5 | Planned | 2020 | Gazprom | Gazprom |
| Kamchatka LNG | 4 | 20.0 | Planned | 2022/2023 | Novatek | Novatek |
| Baltic LNG | 2 | 10.0 | Planned | 2023 | Gazprom | Gazprom |
| Sakhalin II | 2 | 10.0 | Planned | 2023/2024 | Sakhalin Energy (Gazprom) | Sakhalin Energy |
| Arctic LNG | 3 | 19.8 | Planned | 2023 | Novatek | Novatek |
| Far East LNG | 1 | 5.0 | Planned | 2023 | Rosneft | Rosneft |

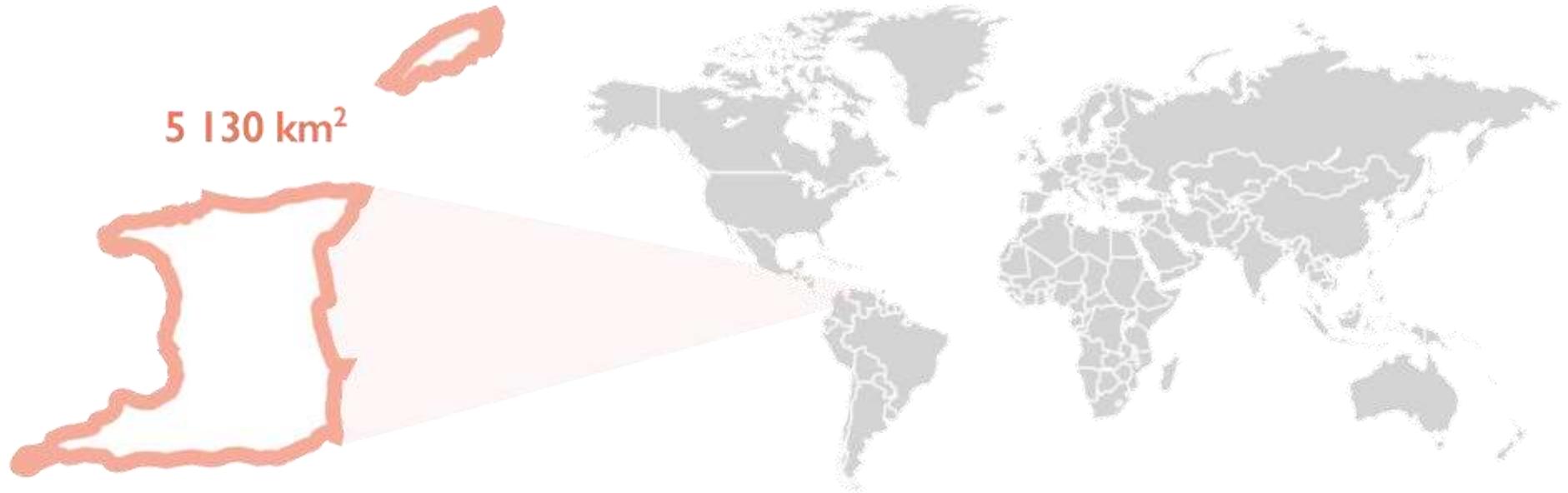
4.9.4.4 Regasification Plants

| Regasification Plant | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|----------------------|--------------------------|--------------------|---------------|----------|-------------|
| Kaliningrad LNG | 2.7 | Under Construction | 2019 | Gazprom | Gazprom |



Republic of

TRINIDAD AND TOBAGO



Population:
1 389 858



Capital:
Port of Spain



Continent:
South America
Caribbean Sea



Currency:
Trinidad and
Tobago Dollar



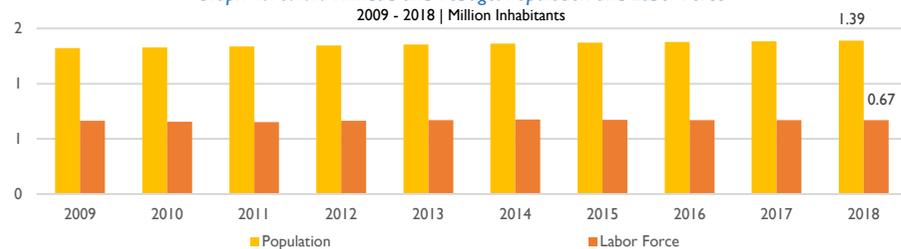
Time Zone:
Atlantic
GMT-4

4.10.1 Macroeconomics

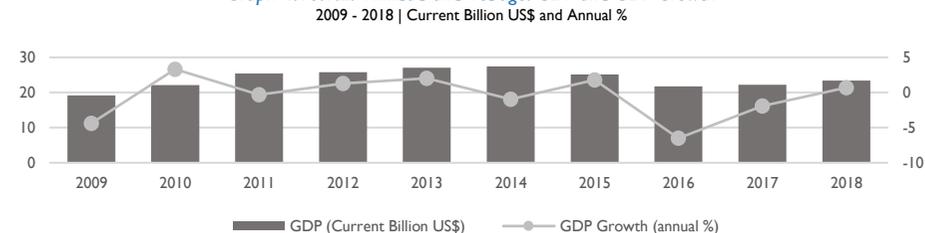
4.10.1.1 Trinidad and Tobago Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Population (Inhabitants) | 1,320,930 | 1,328,147 | 1,336,178 | 1,344,817 | 1,353,700 | 1,362,342 | 1,370,328 | 1,377,564 | 1,384,072 | 1,389,858 |
| Labor Force (Inhabitants) | 664,418 | 655,900 | 651,721 | 663,438 | 668,818 | 676,084 | 672,579 | 670,083 | 668,716 | 668,877 |
| GDP (Current Billion US\$) | 19.17 | 22.16 | 25.43 | 25.77 | 27.11 | 27.48 | 25.12 | 21.75 | 22.25 | 23.41 |
| GDP Growth (Annual %) | -4.39 | 3.32 | -0.29 | 1.29 | 2.01 | -0.97 | 1.78 | -6.51 | -1.90 | 0.70 |
| GDP per Capita (Current US\$) | 14,514.14 | 16,683.36 | 19,034.15 | 19,161.96 | 20,026.79 | 20,169.65 | 18,332.49 | 15,786.12 | 16,076.08 | 16,843.70 |
| Exports of Goods and Services (Current Billion US\$) | 9.99 | 12.11 | 15.88 | 13.88 | 19.74 | 15.59 | 11.85 | 10.11 | NA | NA |
| Exports of Goods and Services (% of GDP) | 0.52 | 54.67 | 62.46 | 54.01 | 74.66 | 59.54 | 50.31 | 48.14 | NA | NA |
| Imports of Goods and Services (Current Billion US\$) | 7.36 | 6.89 | 11.06 | 13.26 | 14.07 | 12.77 | 11.27 | 10.64 | NA | NA |
| Imports of Goods and Services (% of GDP) | 0.38 | 31.10 | 43.48 | 51.61 | 53.21 | 48.77 | 47.85 | 50.67 | NA | NA |
| Inflation Consumer Prices (Annual %) | 6.98 | 10.55 | 5.11 | 9.26 | 5.20 | 5.68 | 4.66 | 3.07 | 1.88 | NA |
| Energy Use (kg of Oil Equivalent per Capita) | 14,210.55 | 15,108.65 | 14,775.98 | 14,312.39 | 14,478.93 | 14,363.52 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 12,262.43 | 13,143.76 | 12,995.53 | 12,667.23 | 12,522.72 | 12,196.73 | 12,143.64 | 10,930.64 | 10,873.71 | 10,854.11 |

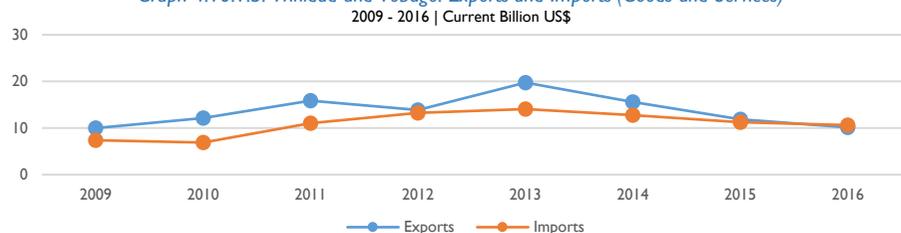
Graph 4.10.1.1. Trinidad and Tobago: Population and Labor Force



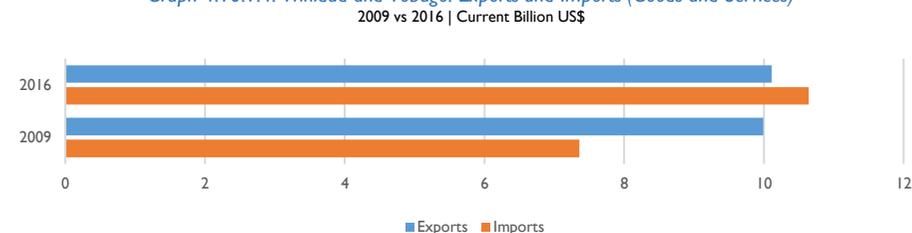
Graph 4.10.1.2. Trinidad and Tobago: GDP and GDP Growth



Graph 4.10.1.3. Trinidad and Tobago: Exports and Imports (Goods and Services)



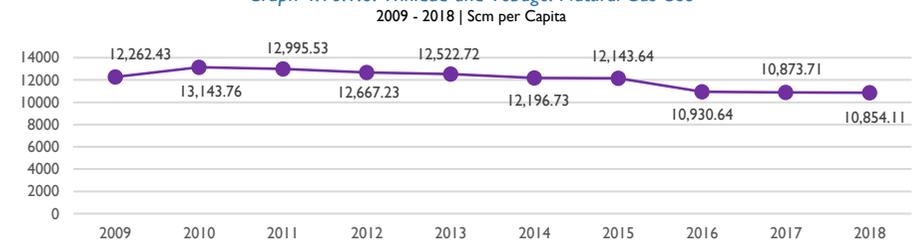
Graph 4.10.1.4. Trinidad and Tobago: Exports and Imports (Goods and Services)



Graph 4.10.1.5. Trinidad and Tobago: Inflation (Consumer Prices)



Graph 4.10.1.6. Trinidad and Tobago: Natural Gas Use



4.10.2 Reserves and Production

Table 4.10.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|
| Proven Natural Gas Reserves | 408 | 381 | 375 | 371 | 347 | 326 | 300 | 281 | 298 | NA |

Table 4.10.2.2 Historical Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 43.23 | 45.61 | 44.77 | 44.40 | 42.85 | 38.10 | 39.59 | 34.00 | 35.36 | 36.46 |
| Marketed Production | 40.40 | 42.25 | 39.69 | 39.34 | 39.84 | 35.51 | 36.94 | 31.81 | 33.48 | 34.93 |
| Reinjection | 1.74 | 1.74 | 1.74 | 1.99 | 1.82 | 1.47 | 1.47 | 1.36 | 0.74 | 1.06 |
| Flaring | 1.29 | 1.61 | 1.17 | 1.12 | 1.19 | 1.12 | 0.92 | 0.72 | 1.05 | 0.29 |
| Shrinkage | 0.00 | 0.00 | 1.80 | 1.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other losses | 0.00 | 0.01 | 0.36 | 0.70 | 0.00 | 0.00 | 0.26 | 0.11 | 0.08 | 0.19 |

Table 4.10.2.3 Detailed 2018 Natural Gas Production (MMcm)

| | 2018 | | | | | | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Gross Production | 3356.71 | 2814.00 | 3205.43 | 2987.30 | 3026.35 | 3198.17 | 3171.43 | 3128.57 | 2625.56 | 2925.46 | 2898.65 | 3122.72 |
| Marketed Production | 3192.72 | 2669.67 | 3089.00 | 2863.97 | 2885.27 | 3060.51 | 3024.36 | 3013.82 | 2460.47 | 2779.35 | 2857.78 | 3033.40 |

4.10.3 Domestic Consumption and Trade

Table 4.10.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Industrial | 1.27 | 1.71 | 1.65 | 1.62 | 1.62 | 1.59 | 1.31 | 0.89 | 0.88 | 0.90 |
| Power Generation | 2.81 | 3.03 | 3.14 | 3.14 | 3.15 | 3.11 | 3.04 | 2.81 | 2.81 | 2.51 |
| Petrochemical (feedstock) | 11.79 | 12.30 | 12.03 | 11.51 | 11.48 | 11.34 | 11.50 | 10.58 | 10.58 | 10.98 |
| Refineries | 0.33 | 0.42 | 0.54 | 0.76 | 0.71 | 0.57 | 0.78 | 0.78 | 0.78 | 0.70 |
| Totals | 16.20 | 17.46 | 17.36 | 17.04 | 16.95 | 16.62 | 16.64 | 15.06 | 15.05 | 15.09 |

Table 4.10.3.2 Historical Trade: Natural Gas Exports

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| LNG | Bcm* | 19.88 | 20.03 | 18.32 | 18.96 | 19.00 | 18.94 | 16.90 | 14.27 | 14.61 | 16.67 |
| | MMT | 14.61 | 14.72 | 13.47 | 13.94 | 13.97 | 13.93 | 12.43 | 10.49 | 10.74 | 12.26 |
| Totals (Bcm) | 19.88 | 20.03 | 18.32 | 18.96 | 19.00 | 18.94 | 16.90 | 14.27 | 14.61 | 16.67 | |

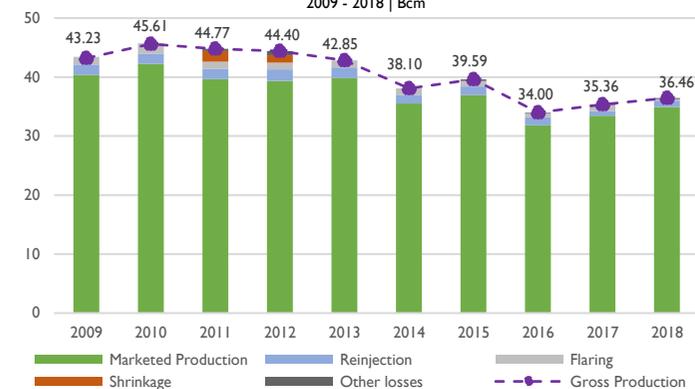
* Gas equivalent

Table 4.10.3.3 Detailed 2018 Trade: Natural Gas Exports

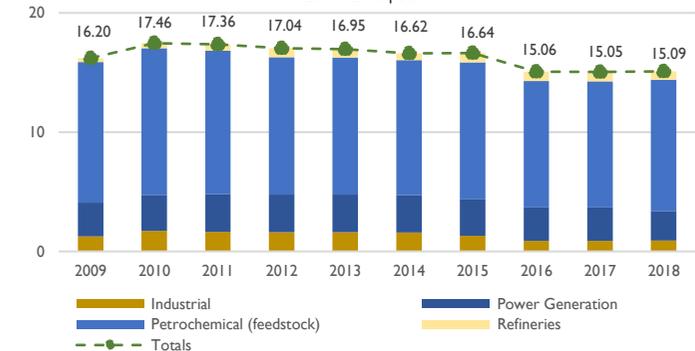
| | | 2018 | | | | | | | | | | | |
|---------------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| LNG | MMcm* | 1596.68 | 1299.93 | 1463.18 | 1365.19 | 1251.90 | 1567.35 | 1373.70 | 1560.67 | 1126.65 | 1183.68 | 1317.95 | 1558.15 |
| | 1000MT | 1174.03 | 955.83 | 1075.87 | 1003.82 | 920.52 | 1152.46 | 1010.08 | 1147.55 | 828.42 | 870.35 | 969.08 | 1145.70 |
| Totals (MMcm) | | 1596.68 | 1299.93 | 1463.18 | 1365.19 | 1251.90 | 1567.35 | 1373.70 | 1560.67 | 1126.65 | 1183.68 | 1317.95 | 1558.15 |

* Gas equivalent

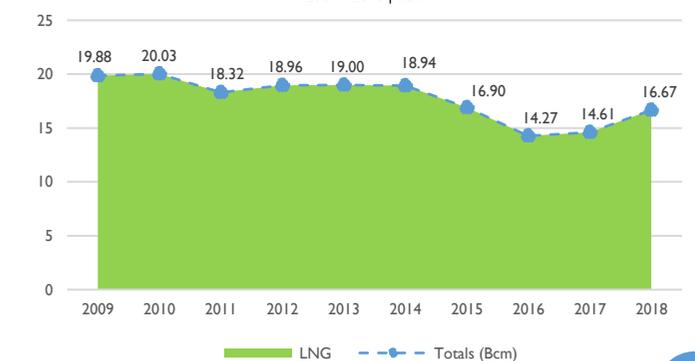
Graph 4.10.2.1. Trinidad and Tobago: Natural Gas Annual Production 2009 - 2018 | Bcm



Graph 4.10.3.1. Trinidad and Tobago: Natural Gas Annual Domestic Consumption 2009 - 2018 | Bcm



Graph 4.10.3.2. Trinidad and Tobago: Natural Gas Annual Exports 2009 - 2018 | Bcm



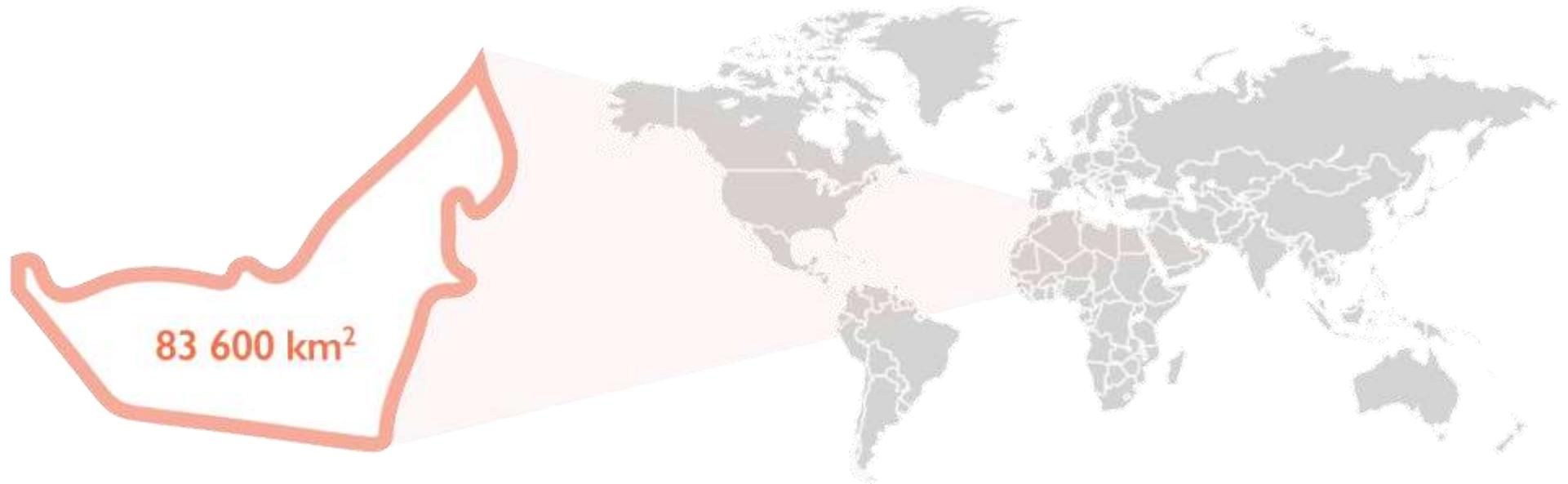
4.10.4 Transport and Plants

4.10.4.1 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|--------------|---------------------------------|--------------------------|-------------|------------------------------|--------------|--------------|
| Atlantic LNG | 4 | 14.8 | Operational | 1999 2002 2003 2005 | Atlantic LNG | Atlantic LNG |



UNITED ARAB EMIRATES



Population:
9 630 959



Capital:
Abu Dhabi



Continent:
Middle East



Currency:
United Arab
Emirates Dirham



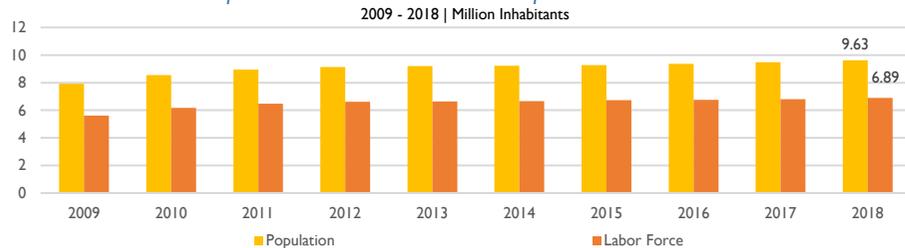
Time Zone:
Gulf
GMT+4

4.1.1 Macroeconomics

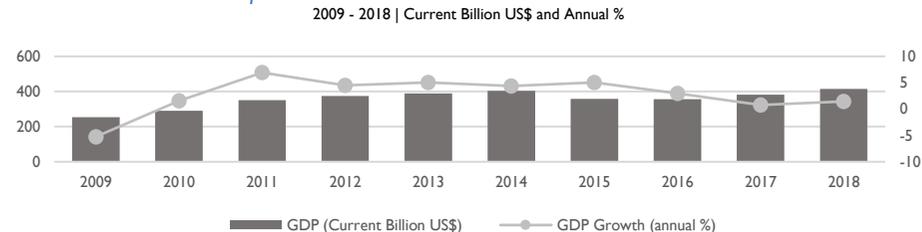
4.1.1.1 United Arab Emirates Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Population (Inhabitants) | 7,917,372 | 8,549,988 | 8,946,777 | 9,141,596 | 9,197,910 | 9,214,175 | 9,262,900 | 9,360,980 | 9,487,203 | 9,630,959 |
| Labor Force (Inhabitants) | 5,611,764 | 6,182,808 | 6,463,816 | 6,603,315 | 6,646,962 | 6,667,896 | 6,719,149 | 6,742,584 | 6,808,447 | 6,885,110 |
| GDP (Current Billion US\$) | 253.55 | 289.79 | 350.67 | 374.59 | 390.11 | 403.14 | 358.14 | 357.05 | 382.58 | 414.18 |
| GDP Growth (Annual %) | -5.24 | 1.60 | 6.93 | 4.48 | 5.05 | 4.40 | 5.06 | 2.99 | 0.79 | 1.42 |
| GDP per Capita (Current US\$) | 32,024.18 | 33,893.30 | 39,194.68 | 40,976.50 | 42,412.63 | 43,751.84 | 38,663.38 | 38,141.85 | 40,325.38 | 43,004.95 |
| Exports of Goods and Services (Current Billion US\$) | 201.96 | 225.27 | 314.83 | 375.80 | 392.57 | 399.57 | 361.25 | 360.63 | 384.04 | 388.75 |
| Exports of Goods and Services (% of GDP) | 79.65 | 77.74 | 89.78 | 100.32 | 100.63 | 99.12 | 100.87 | 101.00 | 100.38 | 93.86 |
| Imports of Goods and Services (Current Billion US\$) | 187.14 | 184.22 | 217.47 | 242.81 | 253.22 | 277.90 | 266.28 | 270.44 | 277.09 | 281.55 |
| Imports of Goods and Services (% of GDP) | 73.81 | 63.57 | 62.02 | 64.82 | 64.91 | 68.94 | 74.35 | 75.74 | 72.43 | 67.98 |
| Inflation Consumer Prices (Annual %) | 1.56 | 0.88 | 0.88 | 0.66 | 1.10 | 2.35 | 4.07 | 1.62 | 1.97 | 3.07 |
| Energy Use (kg of Oil Equivalent per Capita) | 7,572.35 | 7,215.22 | 7,190.97 | 7,481.19 | 7,604.84 | 7,648.40 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 7,464.60 | 7,111.12 | 7,064.00 | 7,175.99 | 7,273.39 | 7,152.02 | 7,754.59 | 7,686.16 | 7,587.06 | 7,396.98 |

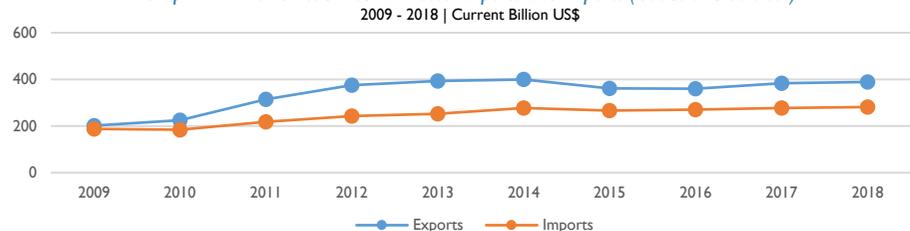
Graph 4.1.1.1.1. United Arab Emirates: Population and Labor Force



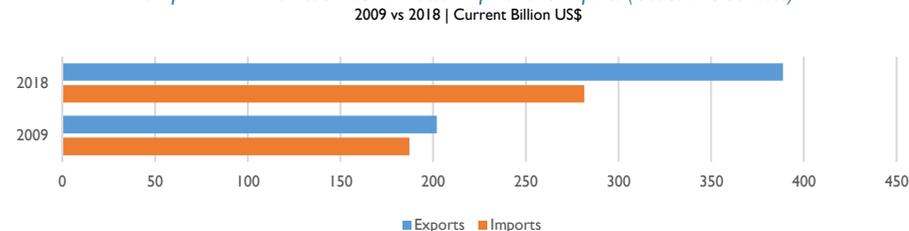
Graph 4.1.1.1.2. United Arab Emirates: GDP and GDP Growth



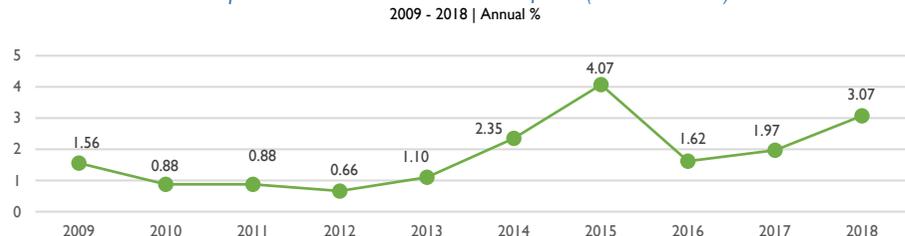
Graph 4.1.1.1.3. United Arab Emirates: Exports and Imports (Goods and Services)



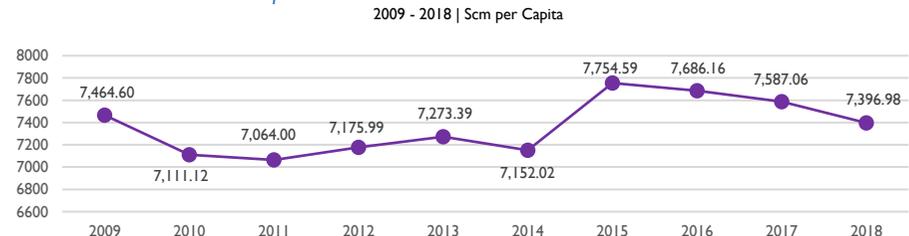
Graph 4.1.1.1.4. United Arab Emirates: Exports and Imports (Goods and Services)



Graph 4.1.1.1.5. United Arab Emirates: Inflation (Consumer Prices)



Graph 4.1.1.1.6. United Arab Emirates: Natural Gas Use



4.11.2 Reserves and Production

Table 4.11.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Proven Natural Gas Reserves | 6,091 | 6,091 | 6,091 | 6,091 | 6,091 | 6,091 | 6,091 | 6,091 | 6,091 | 6,091 |

Table 4.11.2.2 Historical Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 75.09 | 79.27 | 82.43 | 83.21 | 84.32 | 84.31 | 90.27 | 91.40 | 94.63 | 95.43 |
| Marketed Production | 48.77 | 51.37 | 52.98 | 55.61 | 55.73 | 55.45 | 61.04 | 62.23 | 65.52 | 47.96 |
| Reinjection | 22.06 | 22.41 | 23.97 | 22.39 | 23.18 | 23.40 | 23.69 | 23.75 | 23.38 | 22.99 |
| Flaring | 0.97 | 0.97 | 0.98 | 1.02 | 1.02 | 1.02 | 1.04 | 1.02 | 1.03 | 0.23 |
| Shrinkage | NA | 19.01 |
| Other Losses | 3.29 | 4.52 | 4.50 | 4.19 | 4.39 | 4.44 | 4.50 | 4.40 | 4.70 | 5.24 |

4.11.3 Domestic Consumption and Trade

Table 4.11.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Totals | 59.10 | 60.80 | 63.20 | 65.60 | 66.90 | 65.90 | 71.83 | 71.95 | 71.98 | 71.24 |

Table 4.11.3.2 Historical Trade: Natural Gas Exports

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | |
|--------------|------|------|------|------|------|------|------|------|------|------|------|
| LNG | Bcm* | 6.92 | 7.82 | 7.57 | 7.37 | 7.19 | 7.91 | 7.98 | 8.06 | 7.78 | 7.08 |
| | MMT | 5.09 | 5.75 | 5.57 | 5.42 | 5.29 | 5.82 | 5.87 | 5.93 | 5.72 | 5.21 |
| Totals (Bcm) | 6.92 | 7.82 | 7.57 | 7.37 | 7.19 | 7.91 | 7.98 | 8.06 | 7.78 | 7.08 | |

* Gas equivalent

Table 4.11.3.3 Historical Trade: Natural Gas Imports

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Pipeline (Bcm) | 18.75 | 19.15 | 19.20 | 19.22 | 19.90 | 20.09 | 19.75 | 20.00 | 21.96 | 22.34 | |
| LNG | Bcm* | 0.00 | 0.00 | 0.54 | 0.08 | 0.41 | 0.26 | 1.04 | 0.03 | 1.50 | 0.05 |
| | MMT | 0.00 | 0.00 | 0.40 | 0.06 | 0.30 | 0.19 | 0.76 | 0.02 | 1.10 | 0.04 |
| Totals (Bcm) | 18.75 | 19.15 | 19.74 | 19.30 | 20.31 | 20.35 | 20.79 | 20.03 | 23.46 | 22.34 | |

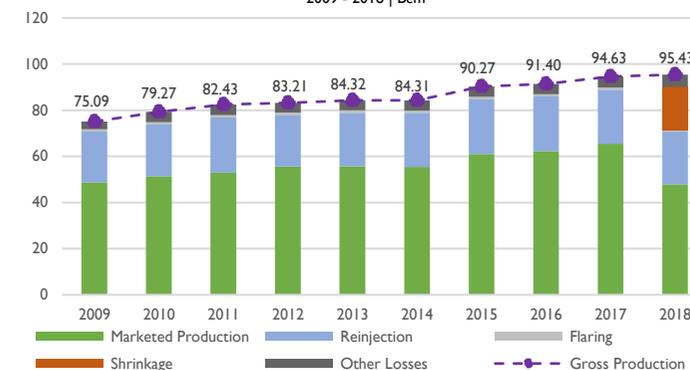
* Gas equivalent

Table 4.11.3.4 Detailed 2018 Trade: Natural Gas Imports

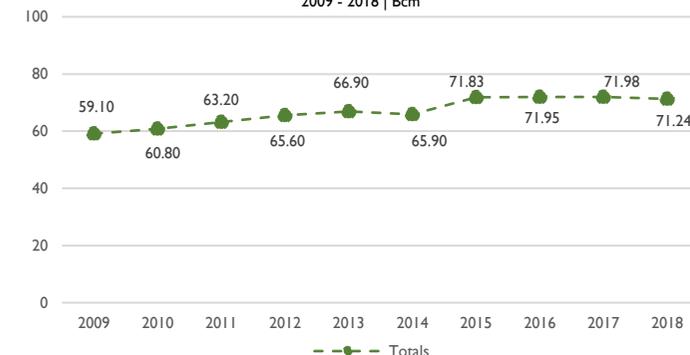
| | 2018 | | | | | | | | | | | |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Totals (MMcm) | 1472.60 | 1512.30 | 1354.10 | 1954.43 | 2100.49 | 2039.75 | 2112.43 | 2106.44 | 2029.55 | 2040.08 | 1808.44 | 1808.43 |

* Gas equivalent

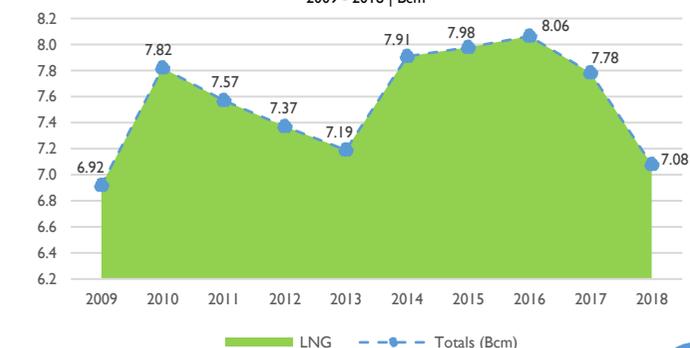
Graph 4.11.2.1. United Arab Emirates: Natural Gas Annual Production 2009 - 2018 | Bcm



Graph 4.11.3.1. United Arab Emirates: Natural Gas Annual Domestic Consumption 2009 - 2018 | Bcm



Graph 4.11.3.2. United Arab Emirates: Natural Gas Annual Exports 2009 - 2018 | Bcm



4.1.1.4 Transport and Plants

4.1.1.4.1 Natural Gas Export Pipelines

| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/Year) | Type | Start Year | Length (km) | Diameter (Inches) |
|----------|------------|----------------------|-----|----------------|----------------|-------------|---------------------|--------|------------|-------------|-------------------|
| | From | To | Via | | | | | | | | |
| Dolphin | Qatar | United Arab Emirates | - | Dolphin Energy | Dolphin Energy | Operational | 33.1 | Import | 2007 | 364 | 48 |

4.1.1.4.2 LNG Carrier Fleet

| Ship Name | Owner(s) | Delivered Year | Size (1000 Scm) |
|---------------|-----------------------------------|----------------|-----------------|
| AL Khaznah | National Gas Shipping Co. (ADNOC) | 1994 | 137.54 |
| Shahamah | National Gas Shipping Co. (ADNOC) | 1994 | 137.56 |
| Ghasha | National Gas Shipping Co. (ADNOC) | 1995 | 137.51 |
| Ish | National Gas Shipping Co. (ADNOC) | 1995 | 137.57 |
| Mubaraz | National Gas Shipping Co. (ADNOC) | 1996 | 136.98 |
| Mraweh | National Gas Shipping Co. (ADNOC) | 1996 | 137.04 |
| AL Hamra | National Gas Shipping Co. (ADNOC) | 1997 | 137.08 |
| Umm AL Ashtan | National Gas Shipping Co. (ADNOC) | 1997 | 137.11 |
| Total | | | 1,098.39 |

4.1.1.4.3 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|------------|------------------------------|-----------------------|-------------|----------------------|--------------------------|-------------|
| Das Island | 3 | 5.6 | Operational | 1977 1977 1994 | ADNOC, Mitsui, BP, Total | ADGAS |

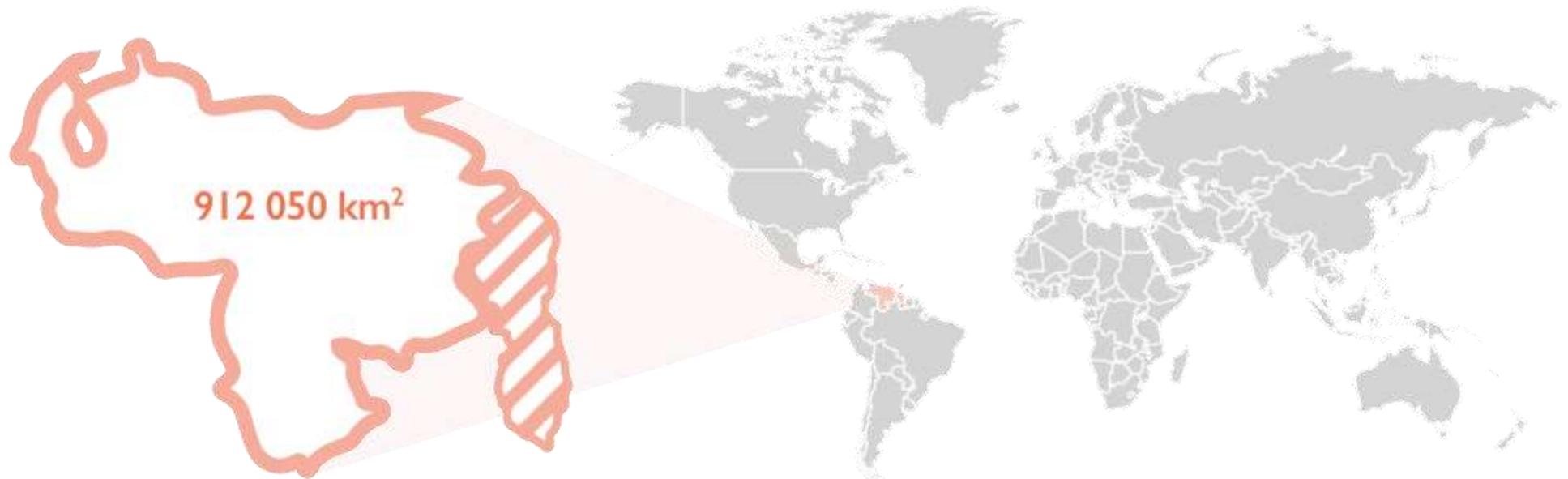
4.1.1.4.4 Regasification Plants

| Plant | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|------------------|-----------------------|-------------|------------|----------|-------------|
| Ruwais (FSRU) | 6.9 | Operational | 2016 | NA | GASCO |
| Jebel Ali (FSRU) | 10.3 | Operational | 2010 | NA | DUSUP |



Bolivarian Republic of

VENEZUELA



912 050 km²



Population:
28 870 195



Capital:
Caracas



Continent:
South
America



Currency:
Venezuelan
Bolivar



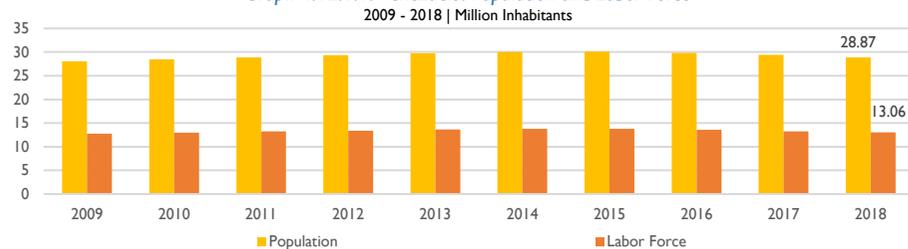
Time Zone:
Venezuela
GMT-4

4.12.1 Macroeconomics

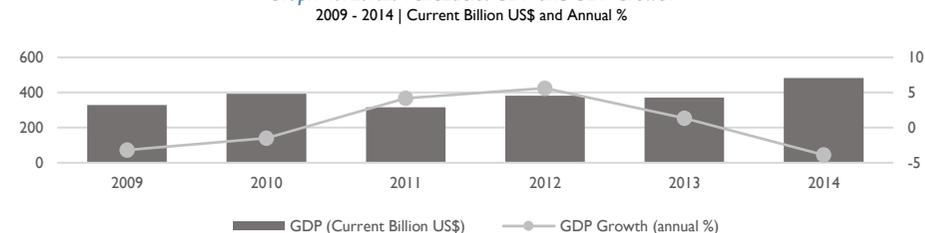
4.12.1.1 Venezuela Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Population (Inhabitants) | 28,031,009 | 28,439,940 | 28,888,369 | 29,362,449 | 29,783,571 | 30,045,134 | 30,081,829 | 29,846,179 | 29,390,409 | 28,870,195 |
| Labor Force (Inhabitants) | 12,754,866 | 12,946,998 | 13,212,462 | 13,370,027 | 13,636,270 | 13,779,431 | 13,793,175 | 13,558,907 | 13,250,320 | 13,055,431 |
| GDP (Current Billion US\$) | 329.79 | 393.19 | 316.48 | 381.29 | 371.01 | 482.36 | NA | NA | NA | NA |
| GDP Growth (Annual %) | -3.20 | -1.49 | 4.18 | 5.63 | 1.34 | -3.89 | NA | NA | NA | NA |
| GDP per Capita (Current US\$) | 11,765.10 | 13,825.36 | 10,955.35 | 12,985.51 | 12,456.71 | 16,054.49 | NA | NA | NA | NA |
| Exports of Goods and Services (Current Billion US\$) | 59.60 | 112.18 | 94.76 | 99.79 | 91.88 | 80.52 | NA | NA | NA | NA |
| Exports of Goods and Services (% of GDP) | 18.07 | 28.53 | 29.94 | 26.17 | 24.76 | 16.69 | NA | NA | NA | NA |
| Imports of Goods and Services (Current Billion US\$) | 67.44 | 69.23 | 62.33 | 92.40 | 109.49 | 151.45 | NA | NA | NA | NA |
| Imports of Goods and Services (% of GDP) | 20.45 | 17.61 | 19.70 | 24.23 | 29.51 | 31.40 | NA | NA | NA | NA |
| Inflation Consumer Prices (Annual %) | 27.08 | 28.19 | 26.09 | 21.07 | 40.64 | 62.17 | 121.74 | 254.95 | NA | NA |
| Energy Use (kg of Oil Equivalent per Capita) | 2,319.65 | 2,545.03 | 2,326.12 | 2,488.27 | 2,308.74 | NA | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 839.32 | 734.64 | 757.12 | 793.12 | 753.37 | 732.63 | 829.67 | 872.81 | 870.01 | 735.11 |

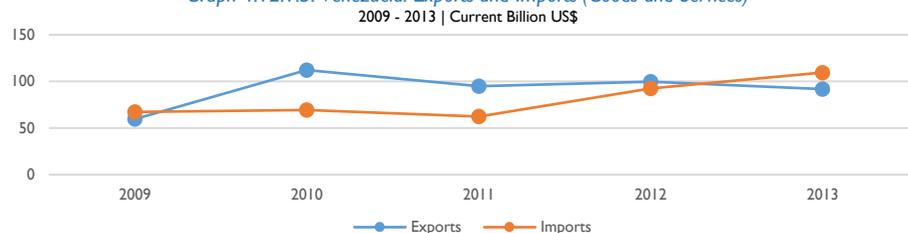
Graph 4.12.1.1. Venezuela: Population and Labor Force



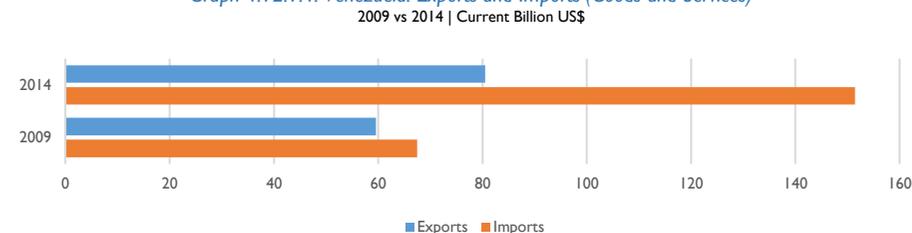
Graph 4.12.1.2. Venezuela: GDP and GDP Growth



Graph 4.12.1.3. Venezuela: Exports and Imports (Goods and Services)



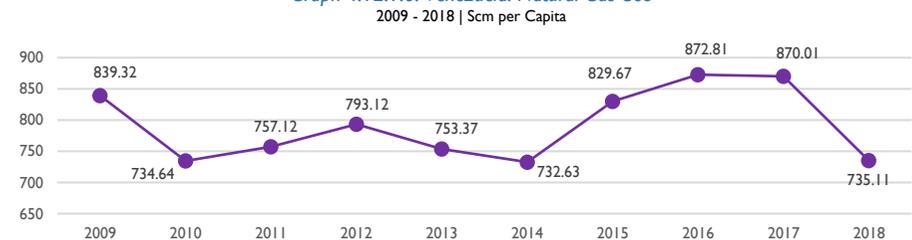
Graph 4.12.1.4. Venezuela: Exports and Imports (Goods and Services)



Graph 4.12.1.5. Venezuela: Inflation (Consumer Prices)



Graph 4.12.1.6. Venezuela: Natural Gas Use



4.12.2 Reserves and Production

Table 4.12.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Proven Natural Gas Reserves | 5,065 | 5,525 | 5,528 | 5,563 | 5,581 | 5,617 | 5,702 | 5,740 | 5,708 | 5,674 |

Table 4.12.2.2 Historical Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 72.31 | 71.08 | 73.27 | 75.97 | 76.44 | 76.72 | 80.20 | 82.16 | 76.89 | 67.44 |
| Marketed Production | 20.52 | 19.73 | 20.77 | 22.73 | 21.82 | 21.88 | 26.00 | 28.90 | 28.29 | 24.50 |
| Reinjection | 30.65 | 30.39 | 29.83 | 29.76 | 28.77 | 27.03 | 25.44 | 23.42 | 21.90 | 15.15 |
| Flaring | 8.24 | 6.68 | 9.28 | 11.35 | 13.73 | 15.32 | 16.54 | 18.82 | 17.24 | 20.73 |
| Shrinkage | 12.90 | 14.28 | 13.39 | 12.14 | 12.13 | 12.49 | 12.21 | 11.02 | 1.51 | 1.22 |
| Other losses | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.96 | 5.84 |

Table 4.12.2.3 Detailed 2018 Natural Gas Production (MMcm)

| | 2018 | | | | | | | | | | | |
|----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Gross Production | 6101.00 | 5460.00 | 5971.00 | 5763.00 | 5784.00 | 5565.00 | 5591.00 | 5524.00 | 5316.00 | 5558.00 | 5313.00 | 5490.00 |
| Marketed Production | 2149.00 | 1950.00 | 2071.00 | 1958.00 | 2167.00 | 2065.00 | 2204.00 | 2097.00 | 2009.00 | 1954.00 | 1856.00 | 2018.00 |

4.12.3 Domestic Consumption and Trade

Table 4.12.3.1 Domestic Gas Consumption (Bcm)

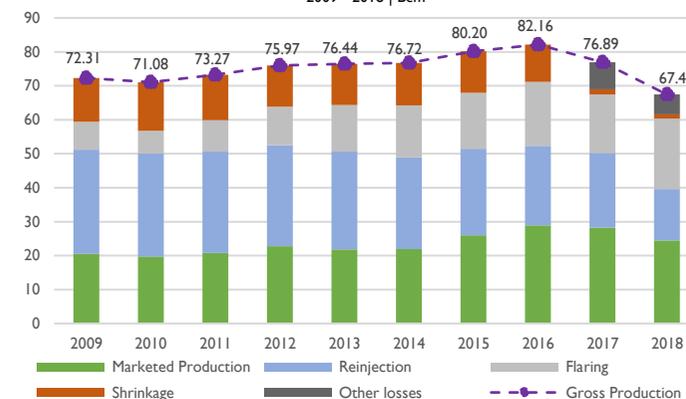
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Residential | 0.13 | 0.14 | 0.16 | 0.17 | 0.18 | 0.17 | 0.15 | 0.14 | 0.15 | 0.16 |
| Industrial | 8.78 | 5.88 | 6.81 | 7.03 | 6.06 | 4.95 | 5.75 | 4.60 | 4.69 | 3.75 |
| Power Generation | 6.32 | 5.90 | 5.43 | 6.90 | 7.15 | 7.21 | 9.69 | 11.31 | 10.20 | 8.66 |
| Petrochemical (feedstock) | 4.24 | 4.45 | 4.73 | 4.43 | 4.34 | 4.70 | 4.41 | 4.55 | 4.96 | 3.18 |
| Refineries | 4.06 | 4.53 | 4.75 | 4.77 | 4.70 | 4.98 | 4.96 | 5.45 | 5.57 | 5.47 |
| Totals | 23.53 | 20.89 | 21.87 | 23.29 | 22.44 | 22.01 | 24.96 | 26.05 | 25.57 | 21.22 |

Table 4.12.3.2 Historical Trade: Natural Gas Imports

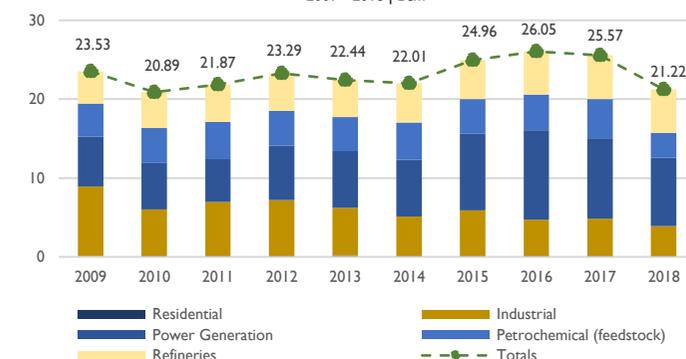
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|------|------|------|------|------|------|------|------|------|------|
| Pipeline (Bcm) | 1.80 | 1.40 | 1.79 | 1.89 | 1.82 | 1.83 | 0.95 | 0.00 | 0.00 | 0.00 |
| Totals (Bcm) | 1.80 | 1.40 | 1.79 | 1.89 | 1.82 | 1.83 | 0.95 | 0.00 | 0.00 | 0.00 |

* Gas equivalent

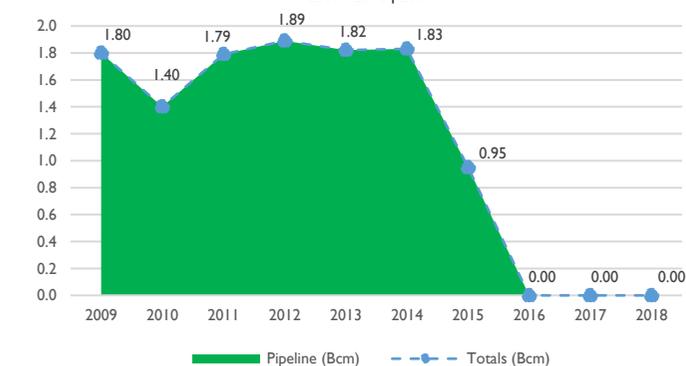
Graph 4.12.2.1. Venezuela: Natural Gas Annual Production
2009 - 2018 | Bcm



Graph 4.12.3.1. Venezuela: Natural Gas Annual Domestic Consumption
2009 - 2018 | Bcm



Graph 4.12.3.2. Venezuela: Natural Gas Annual Imports
2009 - 2018 | Bcm



4.12.4 Transport and Plants

4.12.4.1 Natural Gas Export Pipelines

| Pipeline | Connection | | Owner(s) | Operator(s) | Status | Capacity (Bcm/Year) | Type | Start Year | Length (km) | Diameter (Inches) |
|---------------------------------------|------------|-----------|-----------|-------------|-------------|------------------------|---------------|------------|----------------|----------------------|
| | From | To | | | | | | | | |
| Antonio Ricaurte (Trans Caribbean) | Colombia | Venezuela | PDVSA Gas | PDVSA Gas | Operational | 2.7 | Import/Export | 2007 | 225 | 26 |

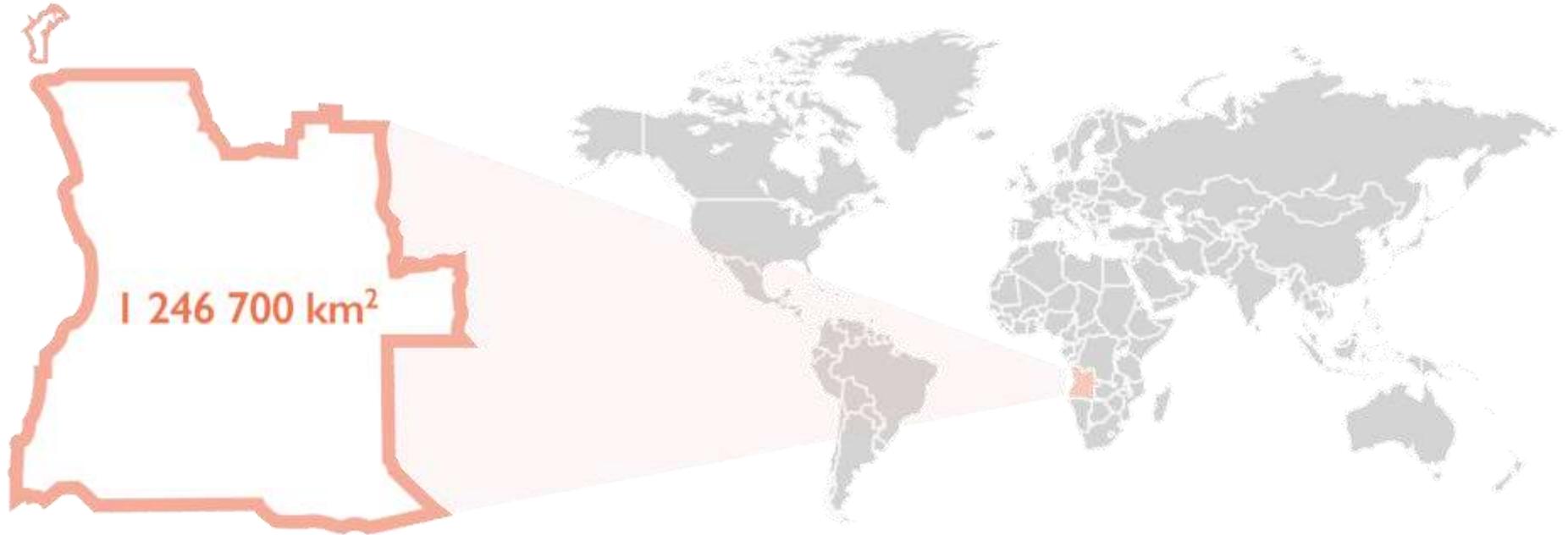


Section 5
GECF Observer Countries



Republic of

ANGOLA



Population:
30 809 762



Capital:
Luanda



Continent:
Africa



Currency:
Angolan kwanza



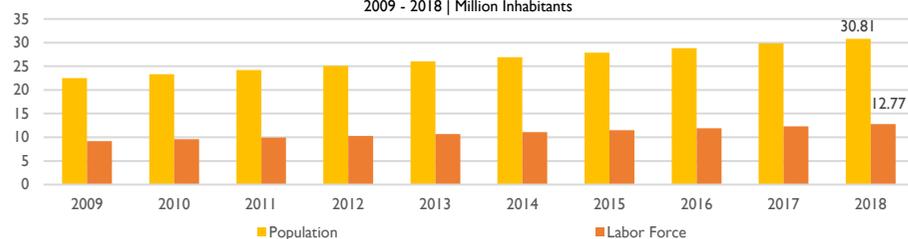
Time Zone:
West Africa
GMT+1

5.1.1 Macroeconomics

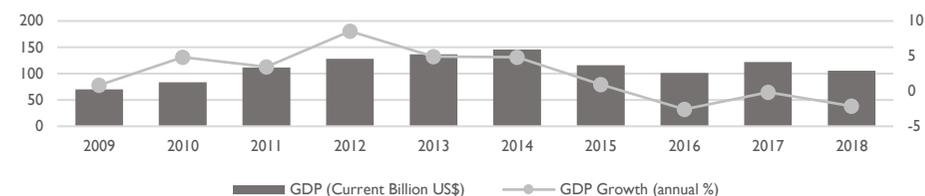
5.1.1.1 Angola Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Population (Inhabitants) | 22,514,281 | 23,356,246 | 24,220,661 | 25,107,931 | 26,015,780 | 26,941,779 | 27,884,381 | 28,842,484 | 29,816,748 | 30,809,762 |
| Labor Force (Inhabitants) | 9,219,902 | 9,575,303 | 9,926,995 | 10,296,516 | 10,680,348 | 11,077,613 | 11,487,508 | 11,903,178 | 12,329,217 | 12,774,775 |
| GDP (Current Billion US\$) | 70.31 | 83.80 | 111.79 | 128.05 | 136.71 | 145.71 | 116.19 | 101.12 | 122.12 | 105.75 |
| GDP Growth (Annual %) | 0.86 | 4.86 | 3.47 | 8.54 | 4.95 | 4.82 | 0.94 | -2.58 | -0.15 | -2.13 |
| GDP per Capita (Current US\$) | 3,122.78 | 3,587.88 | 4,615.47 | 5,100.10 | 5,254.88 | 5,408.41 | 4,166.98 | 3,506.07 | 4,095.81 | 3,432.39 |
| Exports of Goods and Services (Current Billion US\$) | 41.31 | 51.57 | 67.82 | 71.63 | 69.38 | 65.13 | 34.57 | 28.44 | 35.42 | NA |
| Exports of Goods and Services (% of GDP) | 58.76 | 61.54 | 60.67 | 55.94 | 50.75 | 44.70 | 29.75 | 28.12 | 29.00 | NA |
| Imports of Goods and Services (Current Billion US\$) | 44.78 | 35.68 | 43.95 | 45.92 | 49.30 | 50.47 | 38.50 | 25.53 | 28.40 | NA |
| Imports of Goods and Services (% of GDP) | 63.69 | 42.58 | 39.31 | 35.86 | 36.06 | 34.64 | 33.13 | 25.25 | 23.25 | NA |
| Inflation Consumer Prices (Annual %) | 13.73 | 14.47 | 13.48 | 10.28 | 8.78 | 7.28 | 10.28 | 32.38 | 31.69 | 20.19 |
| Energy Use (kg of Oil Equivalent per Capita) | 515.22 | 520.96 | 521.78 | 552.36 | 533.76 | 544.61 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 30.65 | 31.43 | 31.05 | 30.27 | 31.60 | 23.72 | 27.61 | 26.90 | 26.46 | 23.17 |

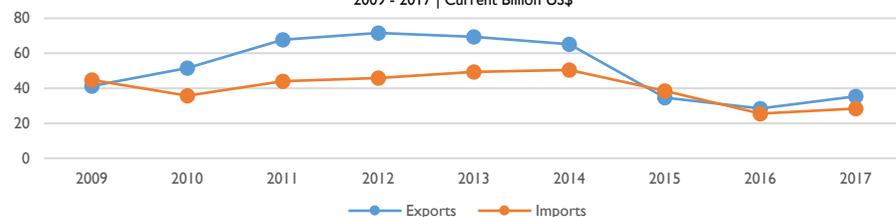
Graph 5.1.1.1. Angola: Population and Labor Force
2009 - 2018 | Million Inhabitants



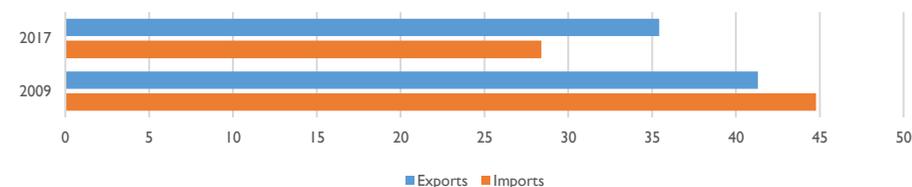
Graph 5.1.1.2. Angola: GDP and GDP Growth
2009 - 2018 | Current Billion US\$ and Annual %



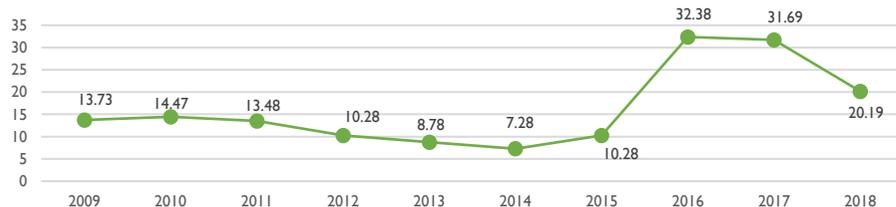
Graph 5.1.1.3. Angola: Exports and Imports (Goods and Services)
2009 - 2017 | Current Billion US\$



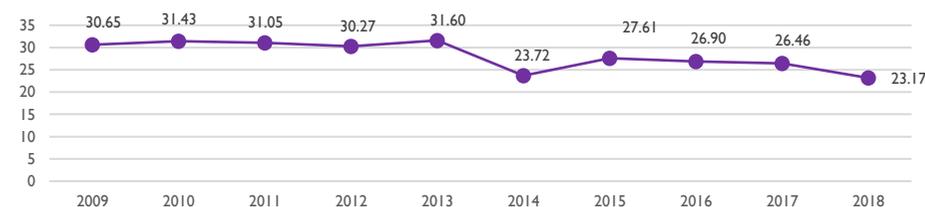
Graph 5.1.1.4. Angola: Exports and Imports (Goods and Services)
2009 vs 2017 | Current Billion US\$



Graph 5.1.1.5. Angola: Inflation (Consumer Prices)
2009 - 2018 | Annual %



Graph 5.1.1.6. Angola: Natural Gas Use
2009 - 2018 | Scm per Capita



5.1.2 Reserves and Production

Table 5.1.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|
| Proven Natural Gas Reserves | 275 | 275 | 275 | 275 | 275 | 308 | 308 | 440 | 422 | 384 |

Table 5.1.2.2 Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 10.10 | 10.32 | 10.73 | 10.85 | 10.76 | 10.44 | 10.54 | 11.71 | 14.98 | 13.94 |
| Marketed Production | 0.69 | 0.74 | 0.75 | 0.76 | 0.93 | 0.73 | 0.77 | 1.71 | 5.83 | 6.14 |
| Reinjection | 2.29 | 2.36 | 2.60 | 2.63 | 2.58 | 2.53 | 2.55 | 2.50 | 2.60 | 2.80 |
| Flaring | 6.91 | 7.04 | 7.18 | 7.26 | 7.00 | 6.99 | 7.00 | 7.20 | 6.10 | 4.20 |
| Other losses | 0.21 | 0.18 | 0.20 | 0.20 | 0.25 | 0.19 | 0.22 | 0.30 | 0.45 | 0.80 |

5.1.3 Domestic Consumption and Trade

Table 5.1.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------|------|------|------|------|------|------|------|------|------|------|
| Totals | 0.69 | 0.73 | 0.75 | 0.76 | 0.82 | 0.64 | 0.77 | 0.78 | 0.79 | 0.71 |

Table 5.1.3.2 Historical Trade: Natural Gas Exports

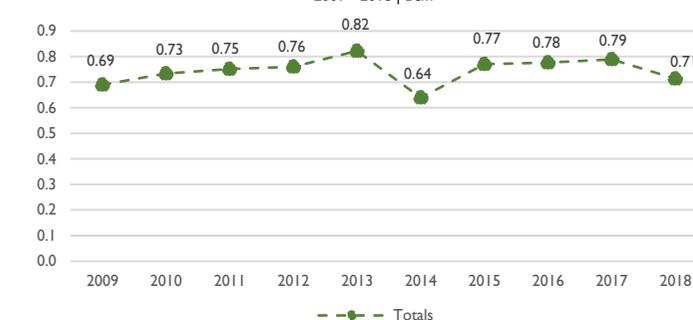
| | | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------------|------|------|------|------|------|------|------|------|------|------|------|
| LNG | Bcm* | 0.00 | 0.00 | 0.00 | 0.00 | 0.47 | 0.44 | 0.00 | 0.93 | 4.98 | 5.25 |
| | MMT | 0.00 | 0.00 | 0.00 | 0.00 | 0.34 | 0.32 | 0.00 | 0.68 | 3.66 | 3.86 |
| Totals (Bcm) | | 0.00 | 0.00 | 0.00 | 0.00 | 0.47 | 0.44 | 0.00 | 0.93 | 4.98 | 5.25 |

* Gas equivalent

Graph 5.1.2.1. Angola: Natural Gas Annual Production
2009 - 2018 | Bcm



Graph 5.1.3.1. Angola: Natural Gas Annual Domestic Consumption
2009 - 2018 | Bcm



Graph 5.1.3.2. Angola: Natural Gas Trade and Marketed Production
2009 - 2018 | Bcm



5.1.4 Transport and Plants

5.1.4.1 LNG Carrier Fleet

| Ship Name | Owner(s) | Delivered Year | Size (1000 Scm) |
|---------------------|--|----------------|-----------------|
| Cubal | NYK Line/Mitsui & Co/Teekay LNG Partners | 2012 | 160.28 |
| Lobito | Mitsui & Co/NYK Line/Teekay LNG Partners | 2011 | 160.28 |
| Malanje | Mitsui & Co/NYK Line/Teekay LNG Partners | 2011 | 160.28 |
| Sonangol Benguela | Sonangol | 2007 | 160.50 |
| Sonangol Etosha | Sonangol | 2007 | 160.50 |
| Sonangol Sambizanga | Sonangol | 2007 | 160.50 |
| Soyo | Mitsui & Co/NYK Line/Teekay LNG Partners | 2011 | 160.28 |
| Total | | | 1122.60 |

5.1.4.2 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|------------|------------------------------|-----------------------|-------------|------------|------------|-------------|
| Angola LNG | 1 | 5.2 | Operational | 2013 | Angola LNG | Angola LNG |



Republic of

AZERBAIJAN



Population:
9 942 334



Capital:
Baku



Continent:
Euroasia



Currency:
Azerbaijani
Manat



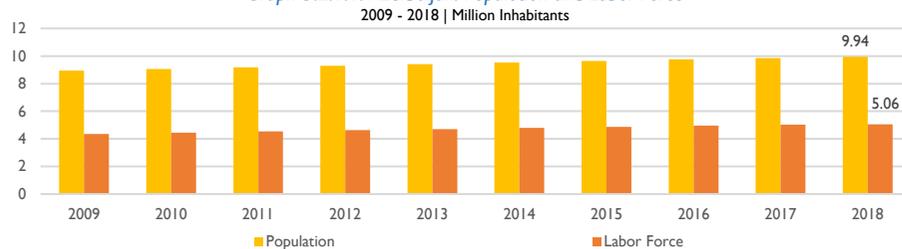
Time Zone:
Azerbaijan
GMT+4

5.2.1 Macroeconomics

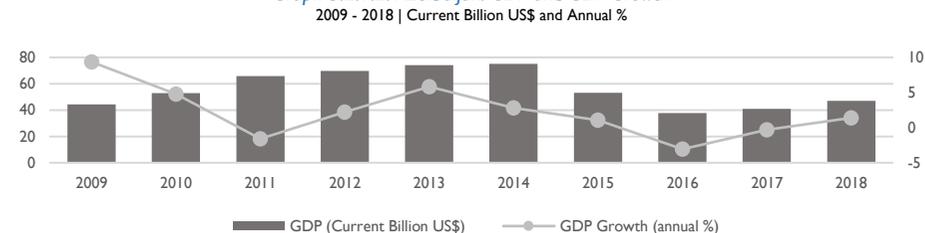
5.2.1.1 Azerbaijan Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Population (Inhabitants) | 8,947,243 | 9,054,332 | 9,173,082 | 9,295,784 | 9,416,801 | 9,535,079 | 9,649,341 | 9,757,812 | 9,854,033 | 9,942,334 |
| Labor Force (Inhabitants) | 4,358,813 | 4,454,608 | 4,542,765 | 4,626,294 | 4,700,437 | 4,788,222 | 4,873,418 | 4,966,648 | 5,032,491 | 5,058,498 |
| GDP (Current Billion US\$) | 44.29 | 52.90 | 65.95 | 69.68 | 74.16 | 75.24 | 53.07 | 37.87 | 40.87 | 46.94 |
| GDP Growth (Annual %) | 9.37 | 4.79 | -1.57 | 2.20 | 5.84 | 2.80 | 1.05 | -3.06 | -0.28 | 1.41 |
| GDP per Capita (Current US\$) | 4,950.29 | 5,842.81 | 7,189.69 | 7,496.29 | 7,875.76 | 7,891.31 | 5,500.32 | 3,880.74 | 4,147.09 | 4,721.18 |
| Exports of Goods and Services (Current Billion US\$) | 22.87 | 28.73 | 37.21 | 36.91 | 35.91 | 32.56 | 20.06 | 17.58 | 19.84 | 25.48 |
| Exports of Goods and Services (% of GDP) | 51.64 | 54.30 | 56.43 | 52.97 | 48.42 | 43.27 | 37.79 | 46.43 | 48.55 | 54.29 |
| Imports of Goods and Services (Current Billion US\$) | 10.24 | 10.94 | 15.88 | 17.62 | 19.48 | 19.72 | 18.47 | 16.53 | 17.10 | 17.71 |
| Imports of Goods and Services (% of GDP) | 23.11 | 20.68 | 24.08 | 25.29 | 26.26 | 26.21 | 34.81 | 43.65 | 41.85 | 37.72 |
| Inflation Consumer Prices (Annual %) | 1.46 | 5.73 | 7.85 | 1.07 | 2.42 | 1.39 | 4.01 | 12.45 | 12.90 | 1.92 |
| Energy Use (kg of Oil Equivalent per Capita) | 1,334.17 | 1,279.55 | 1,369.35 | 1,472.90 | 1,474.00 | 1,502.08 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 964.48 | 896.92 | 980.43 | 1,004.32 | 1,001.22 | 1,053.67 | 1,152.19 | 1,112.17 | 1,065.06 | 1,084.82 |

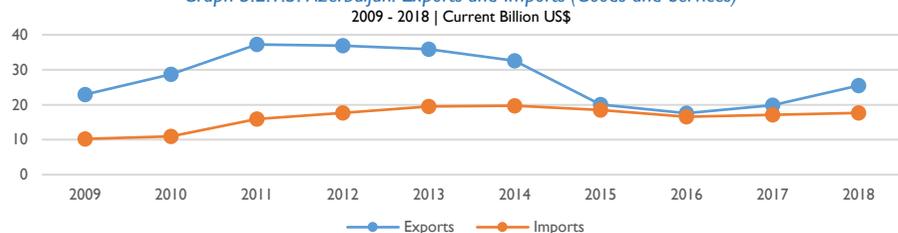
Graph 5.2.1.1. Azerbaijan: Population and Labor Force



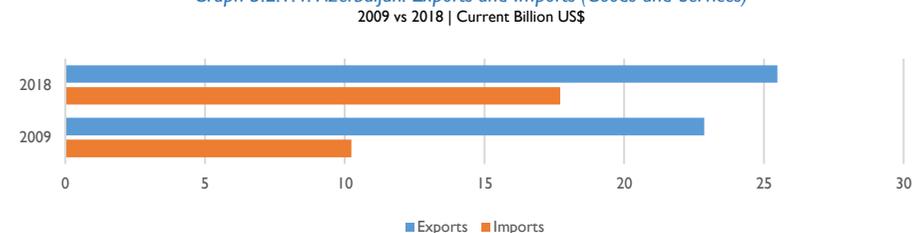
Graph 5.2.1.2. Azerbaijan: GDP and GDP Growth



Graph 5.2.1.3. Azerbaijan: Exports and Imports (Goods and Services)



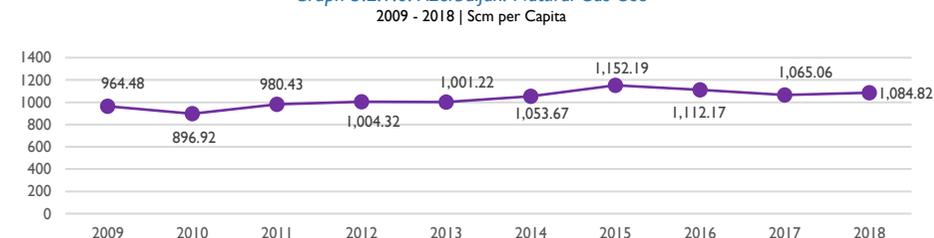
Graph 5.2.1.4. Azerbaijan: Exports and Imports (Goods and Services)



Graph 5.2.1.5. Azerbaijan: Inflation (Consumer Prices)



Graph 5.2.1.6. Azerbaijan: Natural Gas Use



5.2.2 Reserves and Production

Table 5.2.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Proven Natural Gas Reserves | 1,310 | 1,317 | 1,317 | 1,308 | 1,300 | 1,292 | 1,284 | 1,277 | 1,270 | 1,435 |

Table 5.2.2.2 Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 22.63 | 25.07 | 24.58 | 26.40 | 27.85 | 28.22 | 27.83 | 27.91 | 27.07 | 28.41 |
| Marketed Production | 15.83 | 16.17 | 15.87 | 16.75 | 17.38 | 18.29 | 18.67 | 18.17 | 17.73 | 18.62 |
| Reinjection | 3.90 | 5.50 | 5.40 | 6.25 | 7.70 | 7.35 | 7.00 | 7.45 | 7.30 | 7.60 |
| Flaring | 1.50 | 1.30 | 1.10 | 0.75 | 0.65 | 0.60 | 0.31 | 0.29 | 0.24 | 0.29 |
| Other losses | 1.40 | 2.10 | 2.21 | 2.65 | 2.12 | 1.98 | 1.85 | 2.00 | 1.80 | 1.90 |

5.2.3 Domestic Consumption and Trade

Table 5.2.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------|------|------|------|------|------|-------|-------|-------|-------|-------|
| Totals | 8.63 | 8.12 | 8.99 | 9.34 | 9.43 | 10.05 | 11.12 | 10.85 | 10.50 | 10.79 |

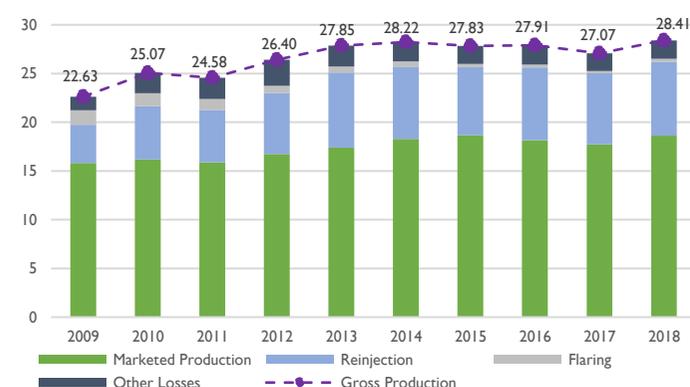
Table 5.2.3.2 Historical Trade: Natural Gas Exports (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|------|------|------|------|------|------|------|------|------|------|
| Pipeline (Bcm) | 5.81 | 5.45 | 6.29 | 6.09 | 7.68 | 7.77 | 7.32 | 7.62 | 8.86 | 9.19 |
| Totals (Bcm) | 5.81 | 5.45 | 6.29 | 6.09 | 7.68 | 7.77 | 7.32 | 7.62 | 8.86 | 9.19 |

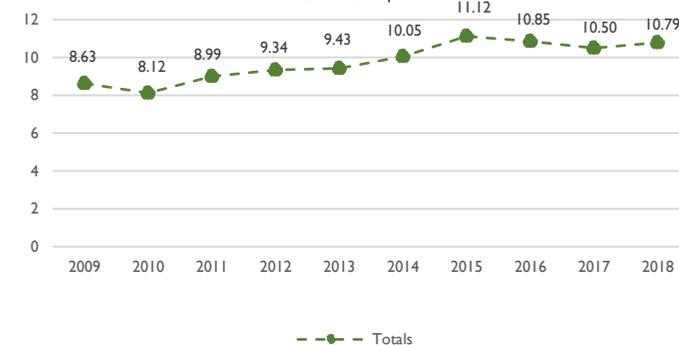
Table 5.2.3.3 Historical Trade: Natural Gas Imports (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|------|------|------|------|------|------|------|------|------|------|
| Pipeline (Bcm) | 0.25 | 0.25 | 0.25 | 0.55 | 0.45 | 0.31 | 0.21 | 0.30 | 1.63 | 1.84 |
| Totals (Bcm) | 0.25 | 0.25 | 0.25 | 0.55 | 0.45 | 0.31 | 0.21 | 0.30 | 1.63 | 1.84 |

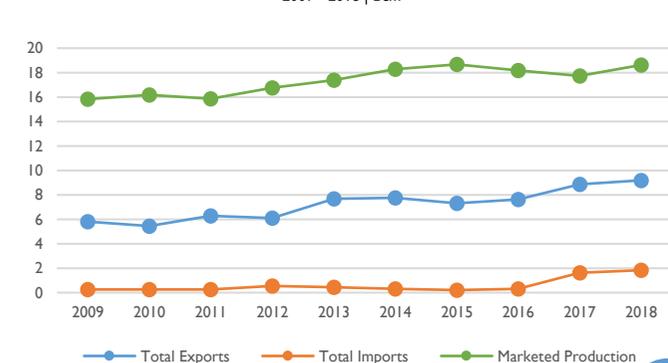
Graph 5.2.2.1. Azerbaijan: Natural Gas Annual Production 2009 - 2018 | Bcm



Graph 5.2.3.1. Azerbaijan: Natural Gas Annual Domestic Consumption 2009 - 2018 | Bcm



Graph 5.2.3.2. Azerbaijan: Natural Gas Trade and Marketed Production 2009 - 2018 | Bcm



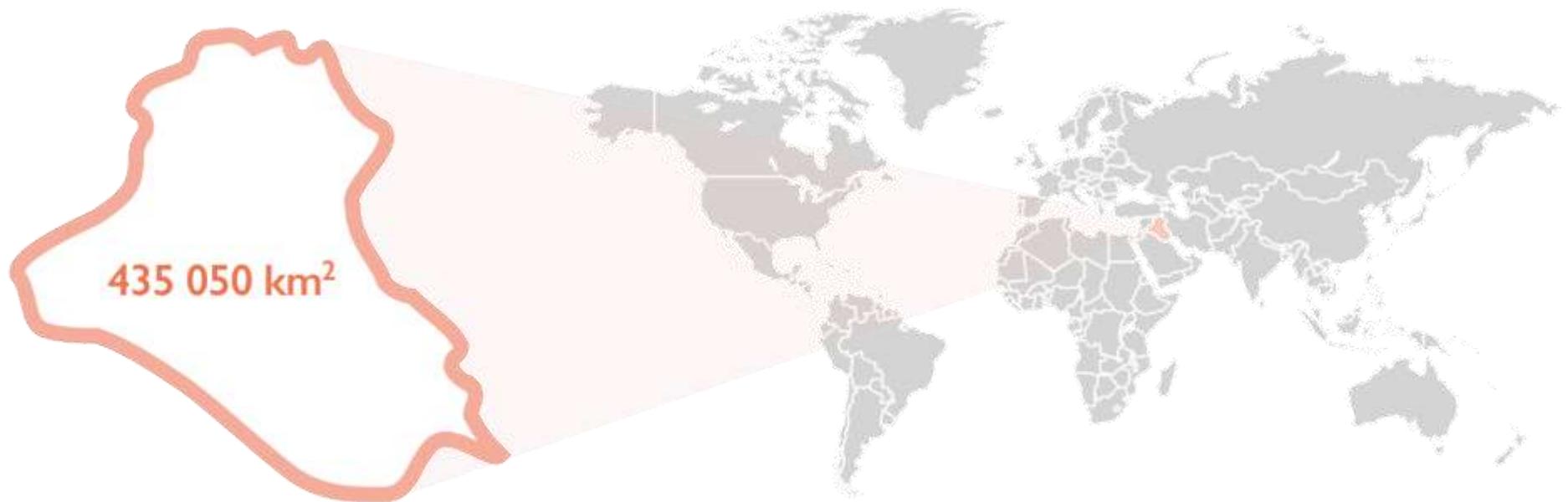
5.2.4 Transport and Plants

5.2.4.1 Natural Gas Export Pipelines

| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/Year) | Type | Start Year | Length (km) | Diameter (Inches) |
|--|------------|-----------------|-----|---|----------------|-------------|------------------------|--------|---------------|----------------|----------------------|
| | From | To | Via | | | | | | | | |
| South Caucasus (Baku-Tbilissi-Erzurum) | Azerbaijan | Georgia, Turkey | - | BP, TPAO, SOCAR, Petronas, Lukoil, Naftiran, Intertrade | BP | Operational | 25.0 | Export | 2006 | 692 | 42 |
| Jolfa-Nakhchivan | Azerbaijan | Iran | - | SOCAR, NIGC | SOCAR, NIGC | Operational | 10.0 | Swap | 2005 | 627 | 40 |
| Mozdok–Makhachkala–Kazi Magomed | Russia | Azerbaijan | - | SOCAR, GAZPROM | SOCAR, GAZPROM | Operational | 13.0 | - | 2010 | 680 | 48 |
| Trans-Anatolian | Azerbaijan | Turkey | - | TANAP Consortium | SOCAR | Operational | 31.0 | Export | 2018 | 1,850 | 56/42 |
| Trans-Caspian | Azerbaijan | Turkmenistan | - | NA | NA | Planned | 30.0 | Export | NA | 300 | NA |



Republic of
IRAQ



Population:
38 433 600



Capital:
Baghdad



Continent:
Middle East



Currency:
Iraqi Dinar



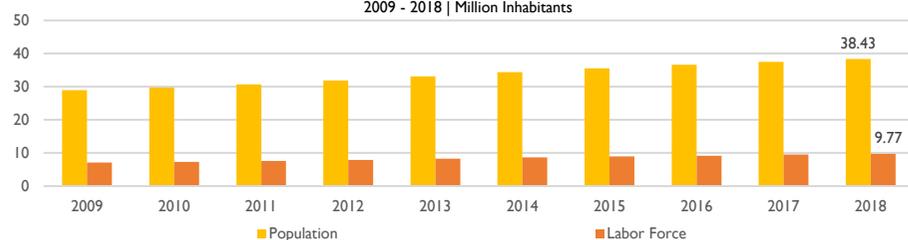
Time Zone:
Arabia
GMT+3

5.3.1 Macroeconomics

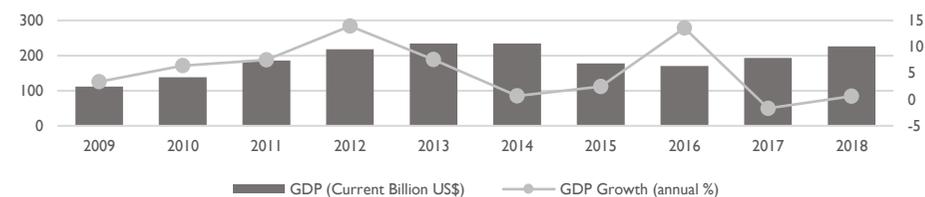
5.3.1.1 Iraq Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Population (Inhabitants) | 28,973,162 | 29,741,976 | 30,725,300 | 31,890,011 | 33,157,050 | 34,411,951 | 35,572,261 | 36,610,632 | 37,552,781 | 38,433,600 |
| Labor Force (Inhabitants) | 7,131,740 | 7,329,661 | 7,597,230 | 7,917,001 | 8,251,369 | 8,648,893 | 8,977,101 | 9,184,351 | 9,510,979 | 9,771,303 |
| GDP (Current Billion US\$) | 111.66 | 138.52 | 185.75 | 218.00 | 234.65 | 234.65 | 177.50 | 170.22 | 193.16 | 225.91 |
| GDP Growth (Annual %) | 3.38 | 6.40 | 7.55 | 13.94 | 7.60 | 0.70 | 2.48 | 13.57 | -1.67 | 0.63 |
| GDP per Capita (Current US\$) | 3,853.94 | 4,657.28 | 6,045.50 | 6,836.03 | 7,076.88 | 6,818.80 | 4,989.80 | 4,649.47 | 5,143.66 | 5,878.04 |
| Exports of Goods and Services (Current Billion US\$) | 43.99 | 54.60 | 82.51 | 96.90 | 93.10 | 97.00 | 62.73 | 55.87 | 74.18 | 98.53 |
| Exports of Goods and Services (% of GDP) | 39.40 | 39.42 | 44.42 | 44.45 | 39.68 | 41.34 | 35.34 | 32.82 | 38.40 | 43.61 |
| Imports of Goods and Services (Current Billion US\$) | 43.87 | 47.21 | 51.55 | 63.44 | 84.50 | 86.70 | 73.52 | 68.54 | 68.99 | 84.95 |
| Imports of Goods and Services (% of GDP) | 39.29 | 34.08 | 27.75 | 29.10 | 36.01 | 36.95 | 41.42 | 40.27 | 35.72 | 37.60 |
| Inflation Consumer Prices (Annual %) | -2.19 | 2.44 | 5.60 | 6.09 | 1.88 | 2.24 | 1.39 | 0.53 | 0.18 | NA |
| Energy Use (kg of Oil Equivalent per Capita) | 1,137.03 | 1,261.22 | 1,335.74 | 1,438.18 | 1,488.56 | 1,437.90 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 138.24 | 143.73 | 147.79 | 136.09 | 134.90 | 131.01 | 128.97 | 151.40 | 202.33 | 251.87 |

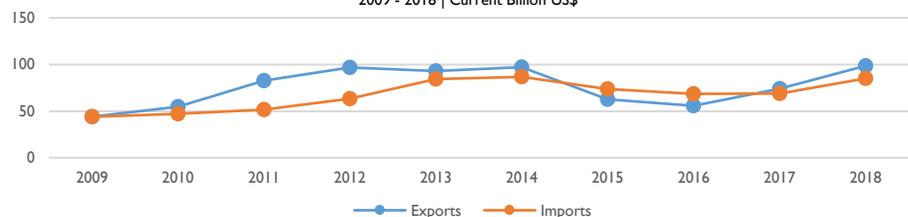
Graph 5.3.1.1. Iraq: Population and Labor Force
2009 - 2018 | Million Inhabitants



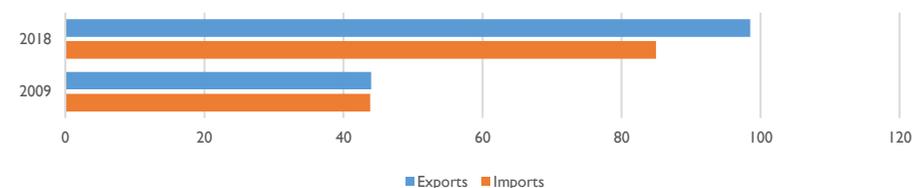
Graph 5.3.1.2. Iraq: GDP and GDP Growth
2009 - 2018 | Current Billion US\$ and Annual %



Graph 5.3.1.3. Iraq: Exports and Imports (Goods and Services)
2009 - 2018 | Current Billion US\$



Graph 5.3.1.4. Iraq: Exports and Imports (Goods and Services)
2009 vs 2018 | Current Billion US\$



Graph 5.3.1.5. Iraq: Inflation (Consumer Prices)
2009 - 2017 | Annual %



Graph 5.3.1.6. Iraq: Natural Gas Use
2009 - 2018 | Scm per Capita



5.3.2 Reserves and Production

Table 5.3.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Proven Natural Gas Reserves | 3,170 | 3,158 | 3,158 | 3,158 | 3,158 | 3,158 | 3,158 | 3,820 | 3,744 | 3,729 |

Table 5.3.2.2 Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 16.56 | 16.88 | 18.70 | 20.49 | 21.40 | 21.85 | 23.46 | 25.06 | 25.86 | 26.95 |
| Marketed Production | 6.33 | 6.61 | 5.96 | 5.95 | 6.64 | 7.00 | 6.82 | 9.13 | 9.39 | 10.79 |
| Reinjection | 0.97 | 0.81 | 0.97 | 0.88 | 0.34 | 0.15 | 0.16 | 0.15 | 0.20 | 0.20 |
| Flaring | 7.64 | 8.53 | 10.26 | 13.01 | 13.22 | 13.74 | 15.20 | 14.68 | 15.40 | 14.96 |
| Other losses | 1.62 | 0.93 | 1.51 | 0.65 | 1.20 | 0.96 | 1.28 | 1.10 | 0.88 | 1.00 |

5.3.3 Domestic Consumption and Trade

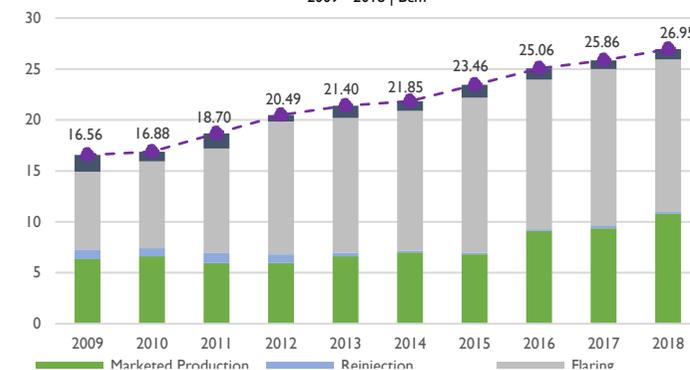
Table 5.3.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------|------|------|------|------|------|------|------|------|------|------|
| Totals | 4.01 | 4.27 | 4.54 | 4.34 | 4.47 | 4.51 | 4.59 | 5.54 | 7.60 | 9.68 |

Table 5.3.3.2 Historical Trade: Natural Gas Imports (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|------|------|------|------|------|------|------|------|------|------|
| Pipeline (Bcm) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.45 | 4.19 |
| Totals (Bcm) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.45 | 4.19 |

Graph 5.3.2.1. Iraq: Natural Gas Annual Production
2009 - 2018 | Bcm



Graph 5.3.3.1. Iraq: Natural Gas Annual Domestic Consumption
2009 - 2018 | Bcm



Graph 5.3.3.2. Iraq: Natural Gas Trade and Marketed Production
2009 - 2018 | Bcm



5.3.4 Transport and Plants

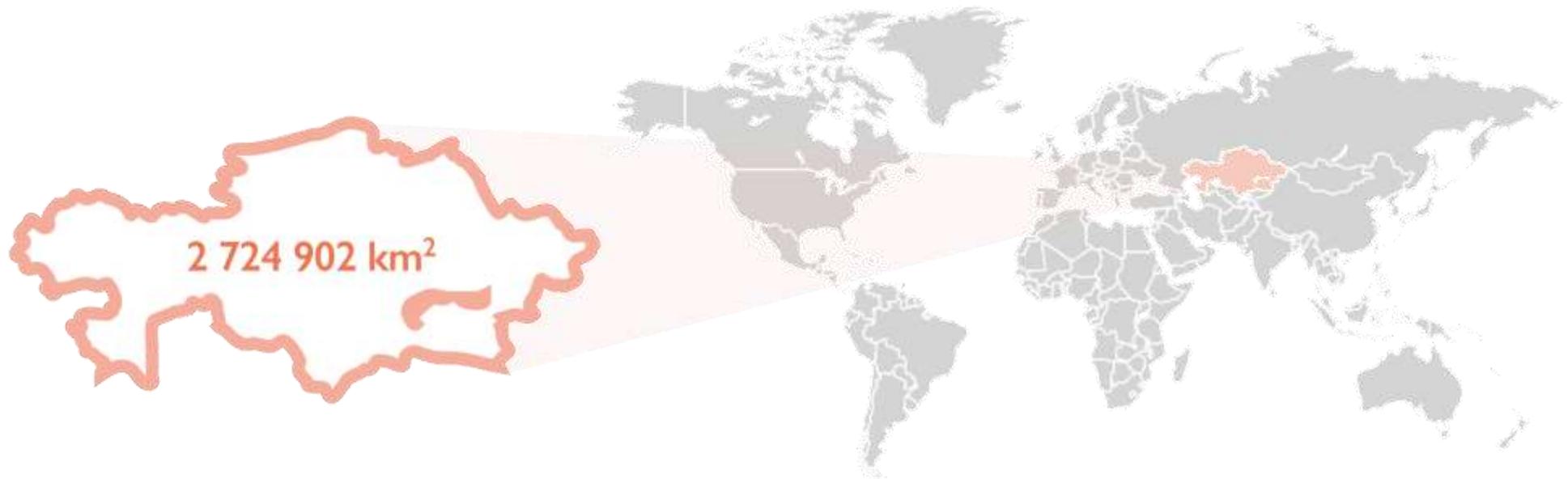
5.3.4.1 Natural Gas Export Pipelines

| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/year) | Type | Start Year | Length (km) | Diameter (Inches) |
|-----------------|------------|------|-----|------------|-------------|--------------------|------------------------|--------|---------------|----------------|----------------------|
| | From | To | Via | | | | | | | | |
| Asaluye-Baghdad | Iran | Iraq | - | NIOC, INOC | NIOC, INOC | Operational | 12.8 | Import | 2017 | 230 | NA |
| Asaluye-Basrah | Iran | Iraq | - | NIOC, INOC | NIOC, INOC | Under Construction | NA | Import | NA | NA | NA |



Republic of

KAZAKHSTAN



Population:
18 276 499



Capital:
Astana



Continent:
Asia



Currency:
Kazakhstani
Tenge



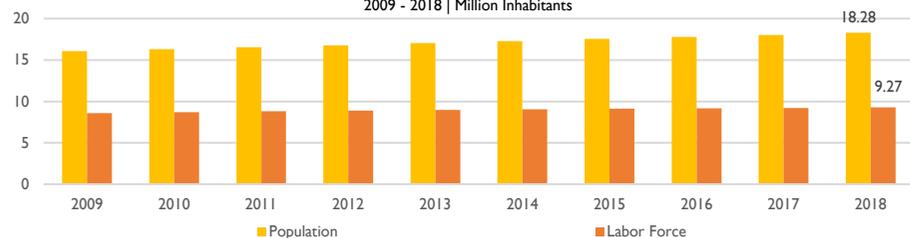
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GMT+6 (Astana)

5.4.I Macroeconomics

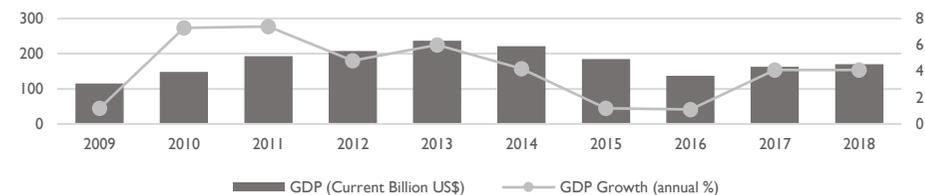
5.4.1.1 Kazakhstan Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Population (Inhabitants) | 16,092,822 | 16,321,872 | 16,557,201 | 16,792,089 | 17,035,550 | 17,288,285 | 17,542,806 | 17,794,055 | 18,037,776 | 18,276,499 |
| Labor Force (Inhabitants) | 8,573,022 | 8,719,779 | 8,806,519 | 8,887,384 | 8,961,806 | 9,050,189 | 9,109,811 | 9,172,043 | 9,222,689 | 9,272,124 |
| GDP (Current Billion US\$) | 115.31 | 148.05 | 192.63 | 208.00 | 236.63 | 221.42 | 184.39 | 137.28 | 162.89 | 170.54 |
| GDP Growth (Annual %) | 1.20 | 7.30 | 7.40 | 4.80 | 6.00 | 4.20 | 1.20 | 1.10 | 4.10 | 4.10 |
| GDP per Capita (Current US\$) | 7,165.22 | 9,070.49 | 11,634.00 | 12,386.70 | 13,890.63 | 12,807.26 | 10,510.77 | 7,714.84 | 9,030.32 | 9,331.05 |
| Exports of Goods and Services (Current Billion US\$) | 48.24 | 65.50 | 89.50 | 91.75 | 91.38 | 87.11 | 52.58 | 43.71 | 55.96 | NA |
| Exports of Goods and Services (% of GDP) | 41.84 | 44.24 | 46.46 | 44.11 | 38.62 | 39.34 | 28.52 | 31.84 | 34.36 | NA |
| Imports of Goods and Services (Current Billion US\$) | 39.12 | 44.26 | 51.34 | 61.60 | 63.40 | 56.75 | 45.24 | 39.08 | 42.78 | NA |
| Imports of Goods and Services (% of GDP) | 33.93 | 29.89 | 26.65 | 29.61 | 26.79 | 25.63 | 24.53 | 28.47 | 26.26 | NA |
| Inflation Consumer Prices (Annual %) | 7.32 | 7.40 | 8.45 | 5.20 | 5.94 | 6.85 | 6.68 | 14.36 | 7.44 | NA |
| Energy Use (kg of Oil Equivalent per Capita) | 3,944.29 | 4,234.85 | 4,670.82 | 4,398.94 | 4,786.59 | 4,434.64 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 630.09 | 706.82 | 758.97 | 771.20 | 793.05 | 867.89 | 886.29 | 888.50 | 879.82 | 1,054.01 |

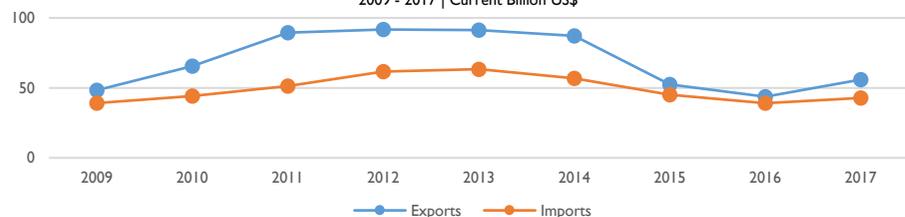
Graph 5.4.1.1. Kazakhstan: Population and Labor Force
2009 - 2018 | Million Inhabitants



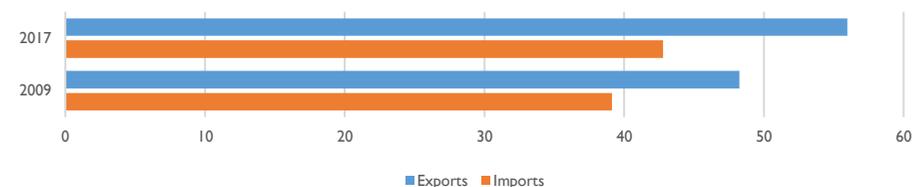
Graph 5.4.1.2. Kazakhstan: GDP and GDP Growth
2009 - 2018 | Current Billion US\$ and Annual %



Graph 5.4.1.3. Kazakhstan: Exports and Imports (Goods and Services)
2009 - 2017 | Current Billion US\$



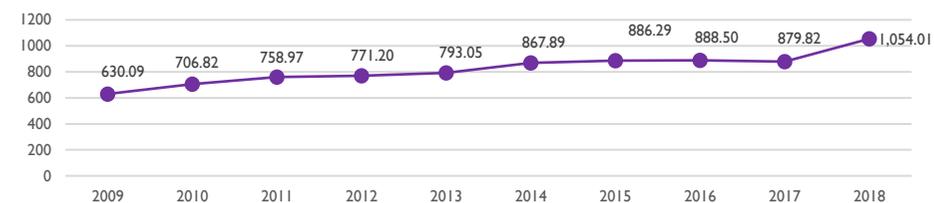
Graph 5.4.1.4. Kazakhstan: Exports and Imports (Goods and Services)
2009 vs 2017 | Current Billion US\$



Graph 5.4.1.5. Kazakhstan: Inflation (Consumer Prices)
2009 - 2017 | Annual %



Graph 5.4.1.6. Kazakhstan: Natural Gas Use
2009 - 2018 | Scm per Capita



5.4.2 Reserves and Production

Table 5.4.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Proven Natural Gas Reserves | 1,950 | 1,950 | 1,950 | 1,939 | 1,929 | 1,918 | 1,907 | 1,898 | 1,865 | 1,830 |

Table 5.4.2.2 Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 35.17 | 36.60 | 38.05 | 38.43 | 39.78 | 41.70 | 44.37 | 44.52 | 47.89 | 52.73 |
| Marketed Production | 19.22 | 19.40 | 20.36 | 20.32 | 20.70 | 21.68 | 22.64 | 22.95 | 24.56 | 27.50 |
| Reinjection | 10.50 | 11.80 | 11.50 | 11.80 | 12.25 | 12.75 | 13.50 | 13.65 | 14.49 | 15.93 |
| Flaring | 2.50 | 1.90 | 2.50 | 2.56 | 2.15 | 2.15 | 2.30 | 1.90 | 1.89 | 1.92 |
| Other losses | 2.95 | 3.50 | 3.69 | 3.75 | 4.68 | 5.12 | 5.93 | 6.02 | 6.95 | 7.38 |

5.4.3 Domestic Consumption and Trade

Table 5.4.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Totals | 10.14 | 11.54 | 12.57 | 12.95 | 13.51 | 15.00 | 15.55 | 15.81 | 15.87 | 19.26 |

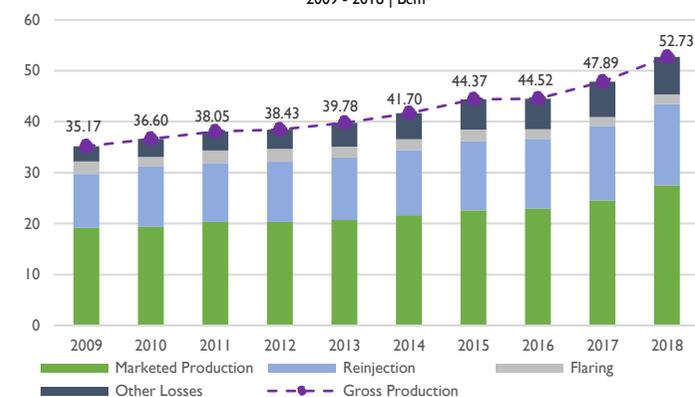
Table 5.4.3.2 Historical Trade: Natural Gas Exports (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Pipeline (Bcm) | 9.89 | 11.79 | 11.37 | 11.17 | 11.62 | 10.65 | 12.25 | 12.76 | 14.18 | 17.48 |
| Totals (Bcm) | 9.89 | 11.79 | 11.37 | 11.17 | 11.62 | 10.65 | 12.25 | 12.76 | 14.18 | 17.48 |

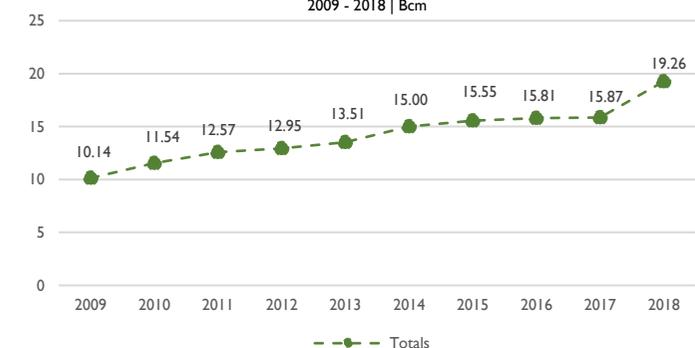
Table 5.4.3.3 Historical Trade: Natural Gas Imports (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|------|------|------|------|------|------|------|------|------|------|
| Pipeline (Bcm) | 5.10 | 5.69 | 5.20 | 3.93 | 5.28 | 4.84 | 4.70 | 5.73 | 5.70 | 7.24 |
| Totals (Bcm) | 5.10 | 5.69 | 5.20 | 3.93 | 5.28 | 4.84 | 4.70 | 5.73 | 5.70 | 7.24 |

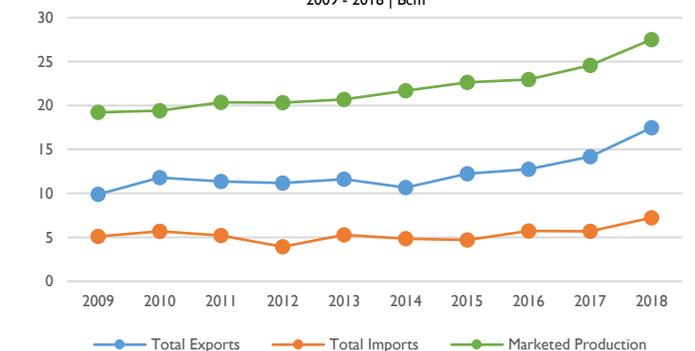
Graph 5.4.2.1. Kazakhstan: Natural Gas Annual Production
2009 - 2018 | Bcm



Graph 5.4.3.1. Kazakhstan: Natural Gas Annual Domestic Consumption
2009 - 2018 | Bcm



Graph 5.4.3.2. Kazakhstan: Natural Gas Trade and Marketed Production
2009 - 2018 | Bcm



5.4.4 Transport and Plants

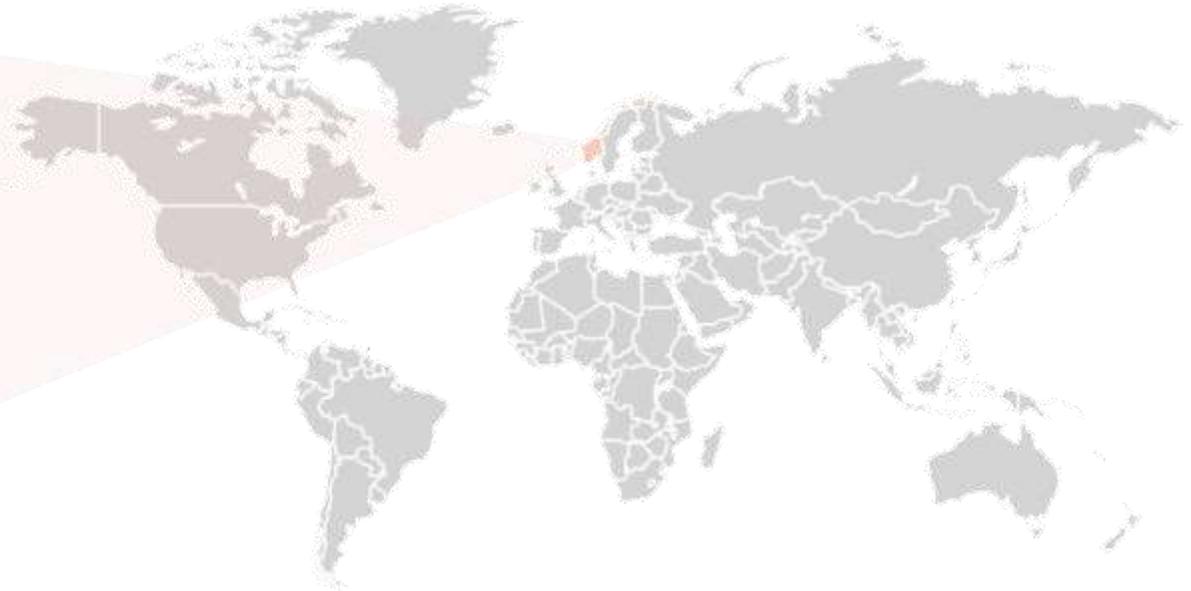
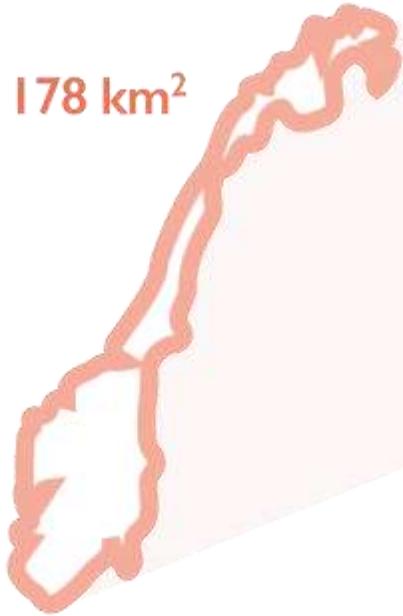
5.4.4.1 Natural Gas Export Pipelines

| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/year) | Type | Start Year | Length (km) | Diameter (Inches) |
|-------------------------------------|--------------|------------|-----|--|--|-------------|------------------------|--------|---------------|----------------|----------------------|
| | From | To | Via | | | | | | | | |
| Bukhara–Tashkent– Bishkek–Almaty | Uzbekistan | Kazakhstan | - | Uzbekneftegas, KyrKazGas, KazTransGas | Uzbekneftegas, KyrKazGas, KazTransGas | Operational | 22.0 | Import | 1971 | 684 | 40 |
| Central Asia Center (CAC) | Turkmenistan | Kazakhstan | - | Gazprom | Gazprom | Operational | 44.0 | Import | 1969/ 1988 | 2,000 | 30/50 |



Kingdom of
NORWAY

385 178 km²



Population:
5 314 336



Capital:
Oslo



Continent:
Europe



Currency:
Norwegian
Krone



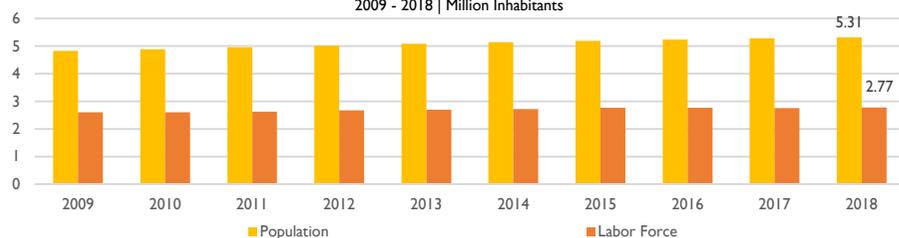
Time Zone:
Central European
GMT+2

5.5.1 Macroeconomics

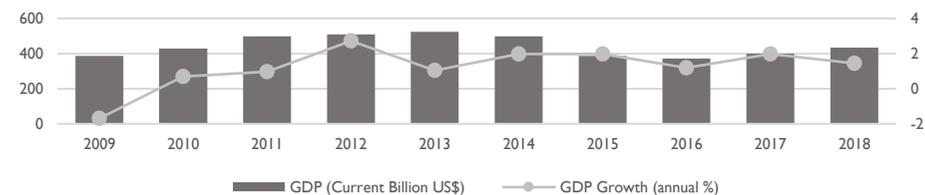
5.5.1.1 Norway Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-----------|-----------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|
| Population (Inhabitants) | 4,828,726 | 4,889,252 | 4,953,088 | 5,018,573 | 5,079,623 | 5,137,232 | 5,188,607 | 5,234,519 | 5,276,968 | 5,314,336 |
| Labor Force (Inhabitants) | 2,598,436 | 2,607,609 | 2,626,284 | 2,671,563 | 2,698,761 | 2,723,816 | 2,762,074 | 2,768,877 | 2,759,248 | 2,774,280 |
| GDP (Current Billion US\$) | 386.62 | 429.13 | 498.83 | 510.23 | 523.50 | 499.34 | 386.66 | 371.34 | 399.49 | 434.75 |
| GDP Growth (Annual %) | -1.69 | 0.69 | 0.97 | 2.72 | 1.04 | 1.98 | 1.97 | 1.19 | 1.98 | 1.45 |
| GDP per Capita (Current US\$) | 80,067.18 | 87,770.27 | 100,711.22 | 101,668.17 | 103,059.25 | 97,199.92 | 74,521.57 | 70,941.53 | 75,704.25 | 81,807.20 |
| Exports of Goods and Services (Current Billion US\$) | 151.52 | 170.47 | 205.66 | 207.02 | 204.89 | 193.66 | 145.84 | 130.79 | 144.70 | 165.43 |
| Exports of Goods and Services (% of GDP) | 39.19 | 39.73 | 41.23 | 40.57 | 39.14 | 38.78 | 37.72 | 35.22 | 36.22 | 38.05 |
| Imports of Goods and Services (Current Billion US\$) | 107.43 | 122.15 | 141.51 | 140.53 | 148.44 | 148.72 | 124.09 | 124.69 | 132.10 | 141.50 |
| Imports of Goods and Services (% of GDP) | 27.79 | 28.46 | 28.37 | 27.54 | 28.35 | 29.78 | 32.09 | 33.58 | 33.07 | 32.55 |
| Inflation Consumer Prices (Annual %) | 2.20 | 2.42 | 1.28 | 0.70 | 2.12 | 2.04 | 2.17 | 3.55 | 1.88 | 2.76 |
| Energy Use (kg of Oil Equivalent per Capita) | 6,484.12 | 6,934.59 | 5,649.70 | 5,906.14 | 6,415.99 | 5,595.65 | 5,817.64 | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 1,353.48 | 1,125.53 | 920.64 | 864.79 | 1,013.86 | 1,142.64 | 1,007.98 | 819.56 | 678.42 | 615.32 |

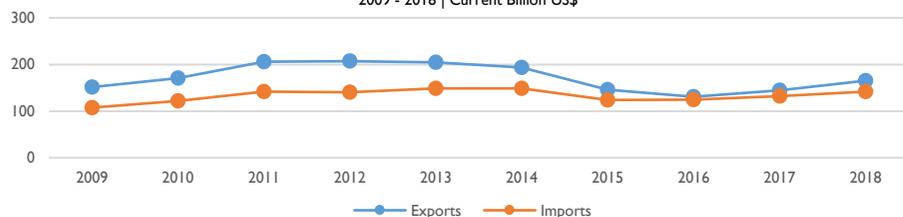
Graph 5.5.1.1. Norway: Population and Labor Force
2009 - 2018 | Million Inhabitants



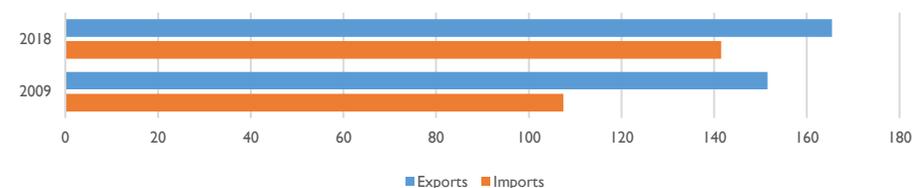
Graph 5.5.1.2. Norway: GDP and GDP Growth
2009 - 2018 | Current Billion US\$ and Annual %



Graph 5.5.1.3. Norway: Exports and Imports (Goods and Services)
2009 - 2018 | Current Billion US\$



Graph 5.5.1.4. Norway: Exports and Imports (Goods and Services)
2009 vs 2018 | Current Billion US\$



Graph 5.5.1.5. Norway: Inflation (Consumer Prices)
2009 - 2018 | Annual %



Graph 5.5.1.6. Norway: Natural Gas Use
2009 - 2018 | Scm per Capita



5.5.2 Reserves and Production

Table 5.5.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Proven Natural Gas Reserves | 2,819 | 2,762 | 2,685 | 2,687 | 2,654 | 2,547 | 2,461 | 2,388 | 2,334 | 2,226 |

Table 5.5.2.2 Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Gross Production | 146.13 | 150.71 | 149.23 | 161.40 | 151.70 | 156.62 | 168.40 | 168.68 | 176.21 | 165.95 |
| Marketed Production | 103.98 | 107.36 | 102.63 | 114.83 | 108.77 | 109.25 | 120.52 | 120.60 | 127.77 | 125.50 |
| Reinjection | 37.95 | 39.15 | 42.45 | 42.20 | 39.10 | 43.50 | 43.70 | 43.90 | 44.03 | 36.10 |
| Flaring | 0.50 | 0.60 | 0.65 | 0.68 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.29 |
| Other losses | 3.70 | 3.60 | 3.50 | 3.69 | 3.52 | 3.57 | 3.88 | 3.88 | 4.11 | 4.05 |

5.5.3 Domestic Consumption and Trade

Table 5.5.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------|------|------|------|------|------|------|------|------|------|------|
| Totals | 6.54 | 5.50 | 4.56 | 4.34 | 5.15 | 5.87 | 5.23 | 4.29 | 3.58 | 3.27 |

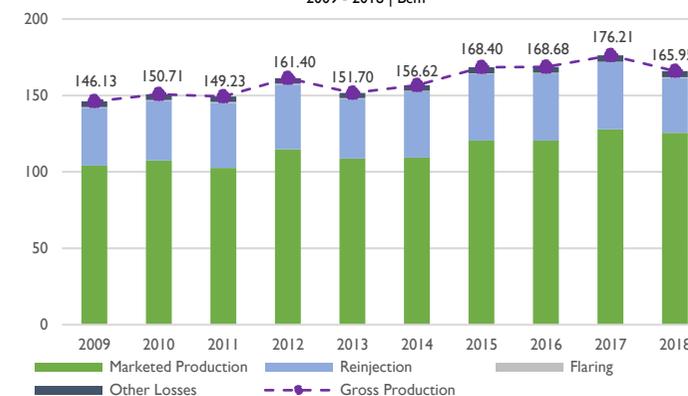
Table 5.5.3.2 Historical Trade: Natural Gas Exports (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|-------|--------|-------|--------|--------|--------|--------|--------|--------|--------|
| Pipeline (Bcm) | 94.04 | 96.28 | 92.35 | 105.68 | 99.59 | 98.64 | 107.13 | 107.07 | 116.80 | 113.33 |
| LNG | | | | | | | | | | |
| Bcm* | 3.18 | 4.62 | 4.40 | 4.80 | 3.89 | 4.74 | 5.65 | 6.08 | 5.30 | 6.73 |
| MMT | 2.33 | 3.40 | 3.24 | 3.53 | 2.86 | 3.49 | 4.15 | 4.47 | 3.90 | 4.95 |
| Totals (Bcm) | 97.22 | 100.90 | 96.75 | 110.48 | 103.48 | 103.38 | 112.78 | 113.15 | 122.10 | 120.06 |

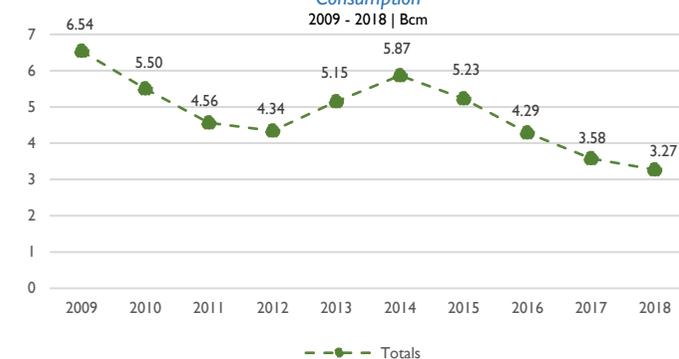
Table 5.5.3.3 Historical Trade: Natural Gas Imports (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------|------|------|------|------|------|------|------|------|------|------|
| LNG | | | | | | | | | | |
| Bcm* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 |
| MMT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.12 |
| Totals (Bcm) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 |

Graph 5.5.2.1. Norway: Natural Gas Annual Production
2009 - 2018 | Bcm



Graph 5.5.3.1. Norway: Natural Gas Annual Domestic Consumption
2009 - 2018 | Bcm



Graph 5.5.3.2. Norway: Natural Gas Trade and Marketed Production
2009 - 2018 | Bcm



5.5.4 Transport and Plants

5.5.4.1 Natural Gas Export Pipelines

| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/year) | Type | Start Year | Length (km) | Diameter (Inches) |
|-------------|------------|---------|-----|-----------|-------------|-------------|------------------------|--------|---------------|----------------|----------------------|
| | From | To | Via | | | | | | | | |
| Norpipe | Norway | Germany | NA | Gassco AS | Gassco AS | Operational | 11.7 | Export | 1977 | 440 | 36 |
| Vesterled | Norway | UK | NA | Gassco AS | Gassco AS | Operational | 14.2 | Export | 1978 | 360 | 32 |
| Zeepipe I | Norway | Belgium | NA | Gassco AS | Gassco AS | Operational | 15.3 | Export | 1993 | 808 | 40 |
| Europipe I | Norway | Germany | NA | Gassco AS | Gassco AS | Operational | 16.8 | Export | 1995 | 620 | 40 |
| Franpipe | Norway | France | NA | Gassco AS | Gassco AS | Operational | 20.1 | Export | 1998 | 840 | 42 |
| Europipe II | Norway | Germany | NA | Gassco AS | Gassco AS | Operational | 26.0 | Export | 1999 | 660 | 42 |
| Langeled | Norway | UK | NA | Gassco AS | Gassco AS | Operational | 26.3 | Export | 2006 | 536 | 44 |

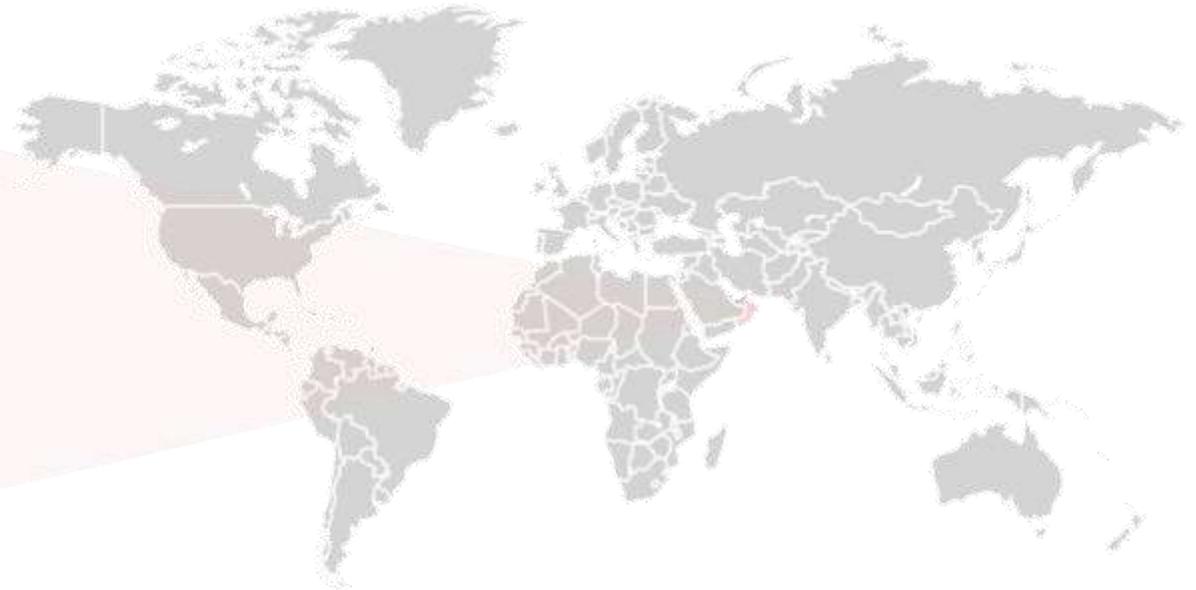
5.5.4.2 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|-------------|---------------------------------|--------------------------|-------------|---------------|------------------------|------------------------|
| Snohvit LNG | 1 | 4.3 | Operational | 2007 | Snohvit LNG Consortium | Snohvit LNG Consortium |



Sultanate of
OMAN

309 500 km²



Population:
4 829 483



Capital:
Muscat



Continent:
Middle East



Currency:
Omani Rial



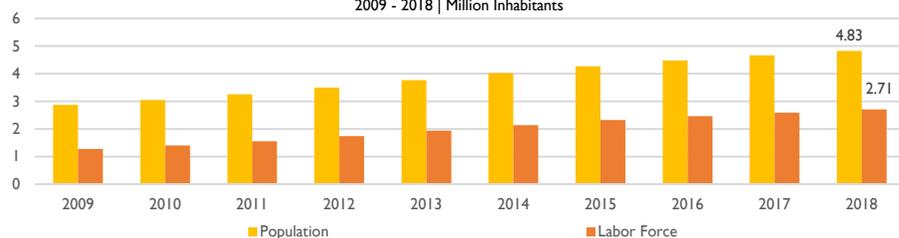
Time Zone:
Gulf
GMT+4

5.6.1 Macroeconomics

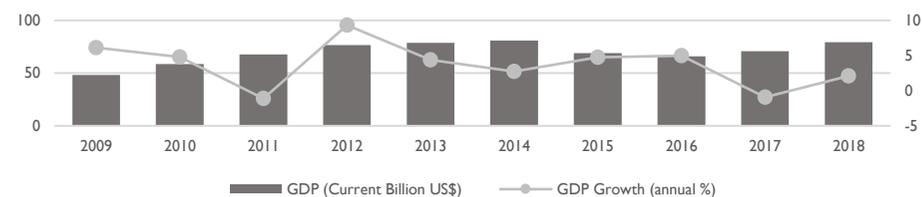
5.6.1.1 Oman Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Population (Inhabitants) | 2,876,186 | 3,041,434 | 3,251,108 | 3,498,029 | 3,764,805 | 4,027,260 | 4,267,348 | 4,479,219 | 4,665,935 | 4,829,483 |
| Labor Force (Inhabitants) | 1,273,502 | 1,402,109 | 1,557,566 | 1,739,858 | 1,937,568 | 2,136,449 | 2,325,157 | 2,459,453 | 2,591,664 | 2,711,129 |
| GDP (Current Billion US\$) | 48.39 | 58.64 | 67.94 | 76.69 | 78.78 | 81.08 | 68.92 | 65.94 | 70.78 | 79.29 |
| GDP Growth (Annual %) | 6.11 | 4.80 | -1.11 | 9.33 | 4.37 | 2.75 | 4.74 | 4.98 | -0.93 | 2.13 |
| GDP per Capita (Current US\$) | 16,823.77 | 19,281.17 | 20,896.75 | 21,923.55 | 20,926.55 | 20,131.98 | 16,150.89 | 14,721.65 | 15,170.35 | 16,418.93 |
| Exports of Goods and Services (Current Billion US\$) | 24.50 | 38.50 | 49.53 | 54.82 | 59.38 | 56.95 | 39.08 | 31.04 | 36.89 | 47.70 |
| Exports of Goods and Services (% of GDP) | 50.64 | 65.65 | 72.91 | 71.49 | 75.37 | 70.25 | 56.71 | 47.08 | 52.12 | 60.15 |
| Imports of Goods and Services (Current Billion US\$) | 16.76 | 24.17 | 29.24 | 34.41 | 41.84 | 38.16 | 36.78 | 31.27 | 34.89 | 38.01 |
| Imports of Goods and Services (% of GDP) | 34.65 | 41.21 | 43.03 | 44.87 | 53.11 | 47.06 | 53.37 | 47.42 | 49.30 | 47.93 |
| Inflation Consumer Prices (Annual %) | 3.47 | 3.26 | 4.04 | 2.95 | 1.05 | 1.02 | 0.07 | 1.11 | 1.60 | 0.88 |
| Energy Use (kg of Oil Equivalent per Capita) | 5,499.20 | 6,154.48 | 6,771.19 | 6,767.62 | 6,490.22 | 6,040.61 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 5,013.58 | 5,737.43 | 5,395.08 | 6,034.83 | 5,591.26 | 5,067.96 | 5,136.68 | 4,869.15 | 4,730.03 | 5,052.30 |

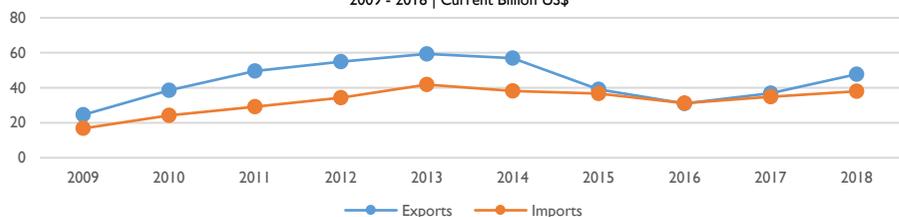
Graph 5.6.1.1. Oman: Population and Labor Force
2009 - 2018 | Million Inhabitants



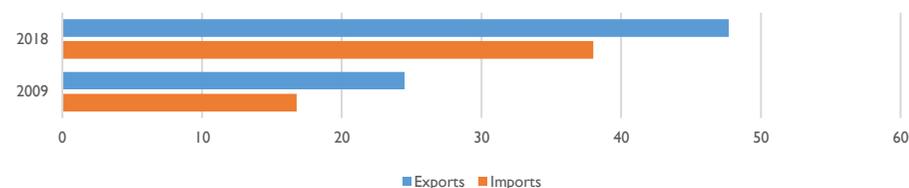
Graph 5.6.1.2. Oman: GDP and GDP Growth
2009 - 2018 | Current Billion US\$ and Annual %



Graph 5.6.1.3. Oman: Exports and Imports (Goods and Services)
2009 - 2018 | Current Billion US\$



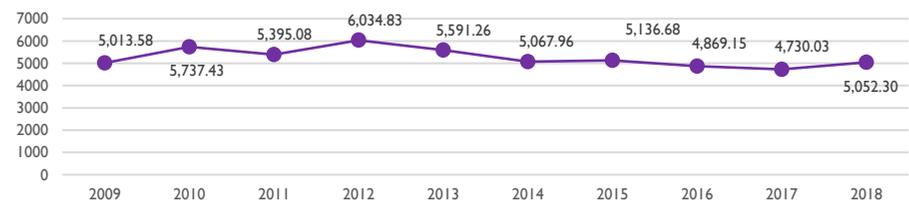
Graph 5.6.1.4. Oman: Exports and Imports (Goods and Services)
2009 vs 2018 | Current Billion US\$



Graph 5.6.1.5. Oman: Inflation (Consumer Prices)
2009 - 2018 | Annual %



Graph 5.6.1.6. Oman: Natural Gas Use
2009 - 2018 | Scm per Capita



5.6.2 Reserves and Production

Table 5.6.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Proven Natural Gas Reserves | 529 | 520 | 515 | 505 | 706 | 705 | 705 | 705 | 705 | 677 |

Table 5.6.2.2 Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 31.07 | 33.19 | 32.78 | 35.99 | 37.13 | 37.86 | 37.90 | 38.85 | 38.92 | 43.98 |
| Marketed Production | 24.77 | 26.99 | 26.53 | 30.02 | 30.38 | 30.90 | 29.98 | 30.48 | 31.26 | 35.71 |
| Reinjection | 2.63 | 2.69 | 2.96 | 2.53 | 2.86 | 2.85 | 3.71 | 3.80 | 2.90 | 3.35 |
| Flaring | 1.44 | 1.29 | 0.92 | 1.30 | 1.53 | 1.57 | 1.43 | 1.70 | 1.70 | 1.60 |
| Other losses | 2.23 | 2.22 | 2.38 | 2.14 | 2.36 | 2.54 | 2.78 | 2.87 | 3.06 | 3.32 |

5.6.3 Domestic Consumption and Trade

Table 5.6.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Totals | 14.42 | 17.45 | 17.54 | 21.11 | 21.05 | 20.41 | 21.92 | 21.81 | 22.07 | 24.40 |

Table 5.6.3.2 Historical Trade: Natural Gas Exports (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | |
|---------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| LNG | Bcm* | 11.55 | 11.43 | 10.93 | 10.86 | 11.28 | 10.27 | 10.00 | 10.64 | 11.15 | 13.28 |
| | MMT | 8.49 | 8.40 | 8.04 | 7.99 | 8.29 | 7.55 | 7.35 | 7.82 | 8.20 | 9.76 |
| Totals (Bcm) | 11.55 | 11.43 | 10.93 | 10.86 | 11.28 | 10.27 | 10.00 | 10.64 | 11.15 | 13.28 | |

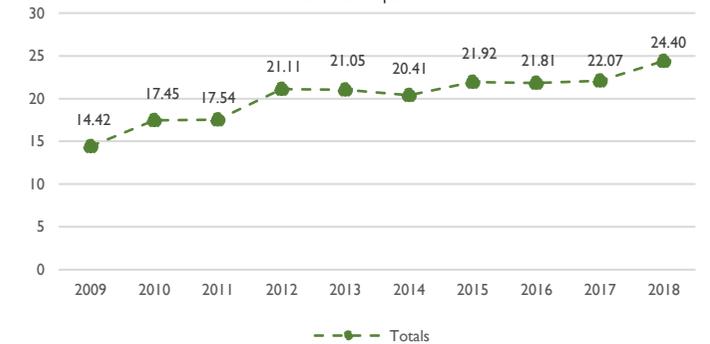
Table 5.6.3.3 Historical Trade: Natural Gas Imports (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------------|------|------|------|------|------|------|------|------|------|------|
| Pipeline (Bcm) | 1.20 | 1.90 | 1.95 | 1.95 | 1.95 | 1.97 | 1.99 | 1.97 | 1.97 | 1.97 |
| Totals (Bcm) | 1.20 | 1.90 | 1.95 | 1.95 | 1.95 | 1.97 | 1.99 | 1.97 | 1.97 | 1.97 |

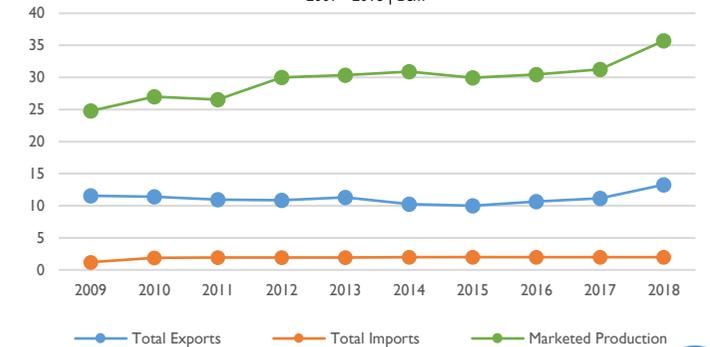
Graph 5.6.2.1. Oman: Natural Gas Annual Production 2009 - 2018 | Bcm



Graph 5.6.3.1. Oman: Natural Gas Annual Domestic Consumption 2009 - 2018 | Bcm



Graph 5.6.3.2. Oman: Natural Gas Trade and Marketed Production 2009 - 2018 | Bcm



5.6.4 Transport and Plants

5.6.4.1 Natural Gas Export Pipelines

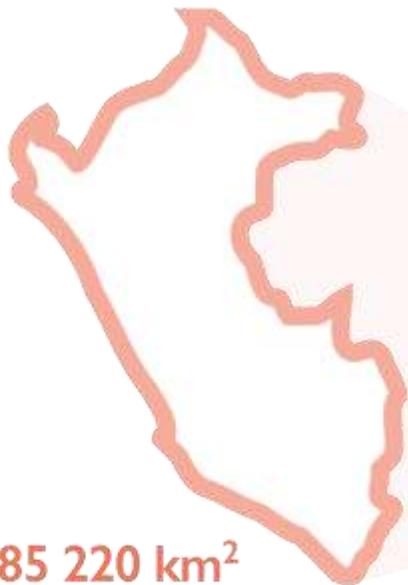
| Pipeline | Connection | | | Owner(s) | Operator(s) | Status | Capacity (Bcm/year) | Type | Start Year | Length (km) | Diameter (Inches) |
|---------------|------------|------|----------------------|----------------|----------------|-------------|------------------------|--------|---------------|----------------|----------------------|
| | From | To | Via | | | | | | | | |
| Dolphin | Qatar | Oman | United Arab Emirates | Dolphin Energy | Dolphin Energy | Operational | 33.1 | Import | 2007 | 364 | 48 |
| Asaluye-Sohar | Iran | Oman | NA | NIOC, OGC | NIOC, OGC | Planned | 9.9 | Import | 2020 | NA | NA |

5.6.4.2 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|--------|---------------------------------|--------------------------|-------------|---------------|----------|-------------|
| Qalhat | 3 | 10.8 | Operational | 2000 | Oman LNG | Oman LNG |



Republic of
PERU



1 285 220 km²



Population:
31 989 256



Capital:
Lima



Continent:
South
America



Currency:
Peruvian Sol



Time Zone:
Peru
GMT-5

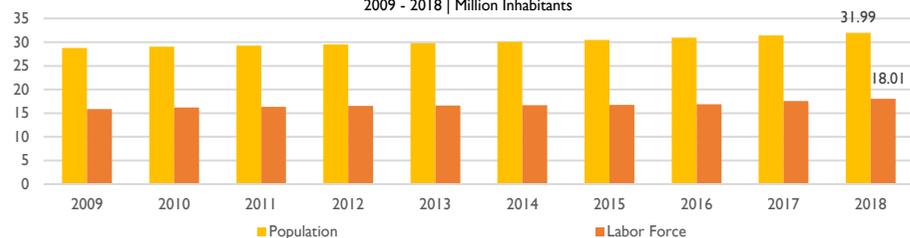
5.7.1 Macroeconomics

5.7.1.1 Peru Macroeconomic Indicators

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Population (Inhabitants) | 28,792,655 | 29,027,674 | 29,264,318 | 29,506,788 | 29,773,987 | 30,090,359 | 30,470,734 | 30,926,032 | 31,444,297 | 31,989,256 |
| Labor Force (Inhabitants) | 15,843,684 | 16,214,661 | 16,328,726 | 16,512,987 | 16,610,415 | 16,680,073 | 16,712,697 | 16,890,884 | 17,587,274 | 18,013,224 |
| GDP (Current Billion US\$) | 120.82 | 147.53 | 171.76 | 192.65 | 201.18 | 200.98 | 189.76 | 191.91 | 210.70 | 222.24 |
| GDP Growth (Annual %) | 1.10 | 8.33 | 6.33 | 6.14 | 5.85 | 2.38 | 3.26 | 3.96 | 2.52 | 3.98 |
| GDP per Capita (Current US\$) | 4,196.31 | 5,082.35 | 5,869.32 | 6,528.97 | 6,756.75 | 6,679.34 | 6,227.59 | 6,205.37 | 6,700.81 | 6,947.26 |
| Exports of Goods and Services (Current Billion US\$) | 31.95 | 41.05 | 52.39 | 52.88 | 49.91 | 45.39 | 40.40 | 43.37 | 51.77 | 56.00 |
| Exports of Goods and Services (% of GDP) | 26.44 | 27.83 | 30.50 | 27.45 | 24.81 | 22.59 | 21.29 | 22.60 | 24.57 | 25.20 |
| Imports of Goods and Services (Current Billion US\$) | 26.18 | 35.18 | 43.77 | 48.49 | 50.25 | 48.68 | 45.32 | 43.73 | 48.21 | 52.81 |
| Imports of Goods and Services (% of GDP) | 21.67 | 23.85 | 25.49 | 25.17 | 24.98 | 24.22 | 23.88 | 22.79 | 22.88 | 23.76 |
| Inflation Consumer Prices (Annual %) | 2.94 | 1.53 | 3.37 | 3.66 | 2.81 | 3.24 | 3.55 | 3.59 | 2.80 | 1.32 |
| Energy Use (kg of Oil Equivalent per Capita) | 547.43 | 643.07 | 649.26 | 692.95 | 684.15 | 790.22 | NA | NA | NA | NA |
| Natural Gas Use (Scm per Capita) | 120.97 | 189.13 | 195.12 | 224.02 | 235.78 | 254.57 | 251.72 | 288.99 | 233.30 | 234.14 |

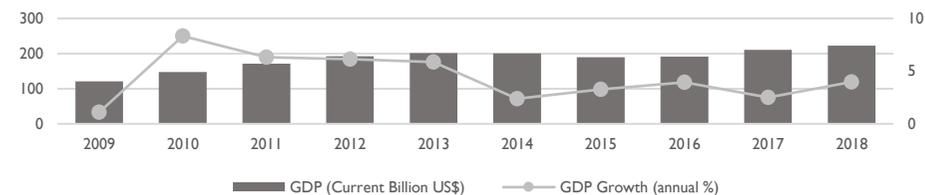
Graph 5.7.1.1. Peru: Population and Labor Force

2009 - 2018 | Million Inhabitants



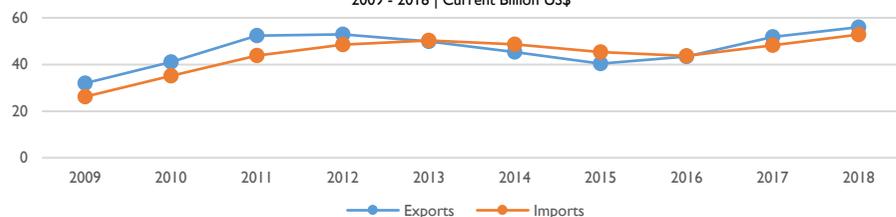
Graph 5.7.1.2. Peru: GDP and GDP Growth

2009 - 2018 | Current Billion US\$ and Annual %



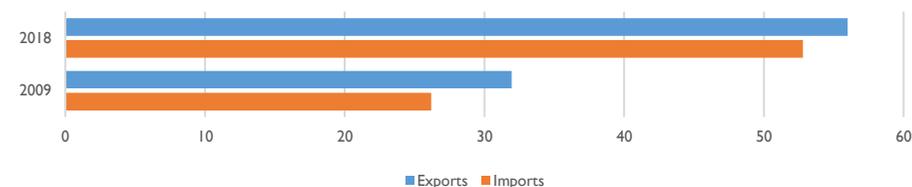
Graph 5.7.1.3. Peru: Exports and Imports (Goods and Services)

2009 - 2018 | Current Billion US\$



Graph 5.7.1.4. Peru: Exports and Imports (Goods and Services)

2009 vs 2018 | Current Billion US\$



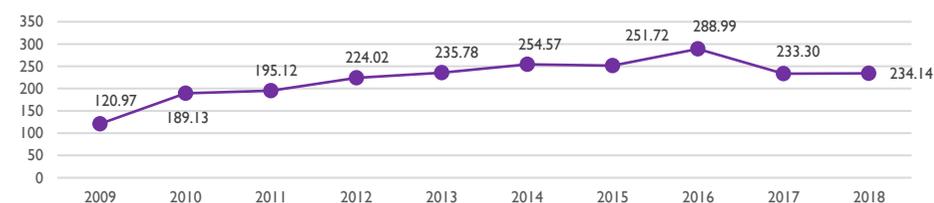
Graph 5.7.1.5. Peru: Inflation (Consumer Prices)

2009 - 2018 | Annual %



Graph 5.7.1.6. Peru: Natural Gas Use

2009 - 2018 | Scm per Capita



5.7.2 Reserves and Production

Table 5.7.2.1 Proven Natural Gas Reserves (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Proven Natural Gas Reserves | 345 | 353 | 359 | 435 | 426 | 414 | 400 | 450 | 450 | 466 |

Table 5.7.2.2 Natural Gas Production (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gross Production | 10.85 | 13.90 | 14.66 | 15.96 | 16.43 | 18.65 | 17.19 | 19.68 | 18.44 | 17.60 |
| Marketed Production | 3.47 | 7.23 | 11.54 | 11.99 | 12.43 | 13.16 | 12.69 | 14.07 | 12.99 | 12.74 |
| Reinjection | 6.23 | 5.32 | 2.32 | 2.87 | 3.00 | 5.14 | 4.20 | 5.20 | 5.10 | 4.50 |
| Flaring | 0.34 | 0.33 | 0.16 | 0.15 | 0.10 | 0.21 | 0.10 | 0.20 | 0.14 | 0.14 |
| Other losses | 0.81 | 1.02 | 0.64 | 0.94 | 0.90 | 0.14 | 0.20 | 0.21 | 0.21 | 0.21 |

5.7.3 Domestic Consumption and Trade

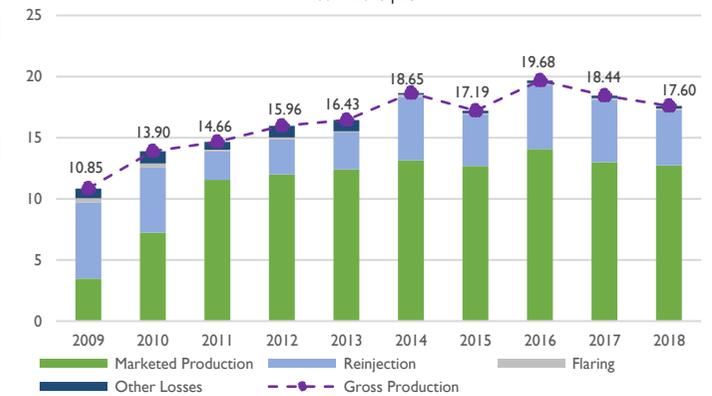
Table 5.7.3.1 Domestic Gas Consumption (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------|------|------|------|------|------|------|------|------|------|------|
| Totals | 3.48 | 5.49 | 5.71 | 6.61 | 7.02 | 7.66 | 7.67 | 8.94 | 7.34 | 7.49 |

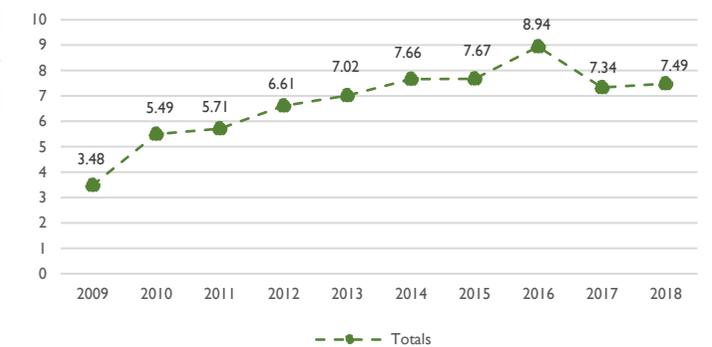
Table 5.7.3.2 Historical Trade: Natural Gas Exports (Bcm)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | |
|---------------------|-------------|------|------|------|------|------|------|------|------|------|------|
| LNG | Bcm* | 0.00 | 1.74 | 5.64 | 5.32 | 5.18 | 5.24 | 4.83 | 5.72 | 5.50 | 4.70 |
| | MMT | 0.00 | 1.28 | 4.15 | 3.91 | 3.81 | 3.85 | 3.55 | 4.21 | 4.04 | 3.46 |
| Totals (Bcm) | 0.00 | 1.74 | 5.64 | 5.32 | 5.18 | 5.24 | 4.83 | 5.72 | 5.50 | 4.70 | |

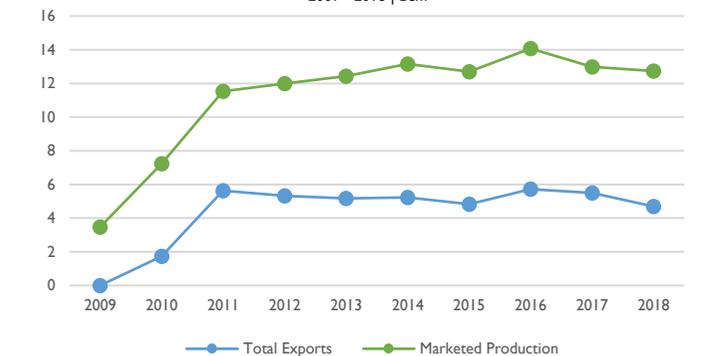
Graph 5.7.2.1. Peru: Natural Gas Annual Production 2009 - 2018 | Bcm



Graph 5.7.3.1. Peru: Natural Gas Annual Domestic Consumption 2009 - 2018 | Bcm



Graph 5.7.3.2. Peru: Natural Gas Trade and Marketed Production 2009 - 2018 | Bcm



5.7.4 Transport and Plants

5.7.4.1 Liquefaction Plants

| Plant | Liquefaction (No. of Trains) | Total Capacity (MTPA) | Status | Start Year | Owner(s) | Operator(s) |
|----------------|------------------------------|-----------------------|-------------|------------|---------------------|------------------|
| Peru LNG Plant | 1 | 4.5 | Operational | 2010 | Peru LNG Consortium | Hunt Oil Company |

GECF Main Deliverables

GECF Annual Statistical Bulletin (ASB) | General audience

With the aim to be a reference tool for policy-makers, analysts, academics, researchers, scientists and others users of energy data, GECF developed the first GECF ASB in 2017 for general audience, recognizing that Data is essential to the global gas industry, encouraging the data transparency by producing this valuable report, considered a positive element for market stability and Sustainable Gas Development for GECF Countries.

GECF Global Gas Outlook 2040 (synopsis) | General audience

The GECF Global Gas Outlook (GGO) provides modelled long-term energy projections, based on assumptions concerning macroeconomic conditions, energy prices, and energy policies. As one of the Forum's annual flagship publications, it is unique, since is the only energy outlook worldwide to focus solely on natural gas. The GGO aims to be a global reference for insights into gas markets, offering an impartial view of gas market evolution by highlighting the potential developments and scenarios over the 2040 forecast horizon.

GECF Gas Lectures | General audience

The Gas Lecture Series is a GECF initiative designed to encourage discussions and debates on natural gas related topics in the energy sector, involving producers, consumer businesses, university staff, international governmental and non-governmental organisations, and the media. Since 2014, the lectures have featured prominent scholars, experts and leaders in the energy sector.

GECF Website | General audience

As the information portal of forum, the GECF Website is a rich source of information where the latest actions accomplished by the Secretariat can be reviewed, as well as its newest publications, general reference material about natural gas and detailed information about GECF Countries.

GECF Short Term Gas Market Outlook | Exclusive for GECF Member and Observer Countries

Prepared on annual basis by the Secretariat, the Short Term Gas Market Outlook (STGMO) is a unique, concise and well documented report that describes the views of GECF on the Gas Markets, introduced exclusively in the annual GECF Ministerial Meeting.

GECF Data Exchange Centre System | Exclusive for GECF Member Countries

Using state-of-the-art technologies available to support the effort made with the establishment of the GECF Data Exchange Mechanism, the Secretariat designed the GECF Databank, a database for Primary Source Data collected from GECF Member Countries. This highly valuable repository is managed through the GECF Data Exchange Centre (DEC) System, an in-house developed system that provides to GECF Member Countries a unique tool to get, review and analyse their data.

GECF Monthly Statistical Bulletin (MSB) | Exclusive for GECF Member Countries

The Bulletin provides data gathered from GECF Countries through the GECF Data Exchange Mechanism, curated in the GECF Databank. GECF Secretariat, in close cooperation with the Special Envoys for Data & Statistics (SEDAS) from GECF Member Countries, produce its content with focus on gas value chain data.

GECF Quarterly Statistical Bulletin (QSB) | Exclusive for GECF Member Countries

The GECF Quarterly Statistical Bulletins (QSB) provides aggregated primary data, gathered by the Secretariat through the GECF Data Exchange Mechanism and complemented with JODI-Gas data for Non-GECF Countries, portraying the status of Gas Markets and its changes.

GECF Daily Brief | Exclusive for GECF Member Countries

The GECF Gas Daily Brief is an initiative created by the GECF Secretariat on 2014, issued on daily basis, only available to GECF Member Countries through the GECF Mobile Application, the GECF Data Exchange Centre System and via email, covering daily price behaviour and price news, supply and demand, trade, technology, transportation & storage, assets and investments, economic & geopolitics, policy & regulations.

GECF Members' Corner | Exclusive for GECF Member Countries

The private area of GECF Member Countries was developed in 2017, to enhance the data distribution of all Secretariat's products, creating a space for collaboration and aiming to implement in the short term more facilities that will contribute with the development of the Long Term Strategy and GECF 5 Year Plan.

GECF Mobile Application | Exclusive for GECF Member Countries

Available for iOS and Android, the exclusive GECF Mobile Application is the window that allows GECF Member Countries to review the GECF News Archive, Energy Prices and data of the GECF Annual Statistical Bulletin.

GECF Monthly Short Term Gas Market Report | Exclusive for GECF Member Countries

The Monthly Gas Market Report (MGMR), initiated in January 2016, aims to provide a monthly overview of the developments in gas markets to GECF Members Countries. The reports covers the latest developments trends and assessment in the gas market worldwide and along the Gas Value Chain (Gas Production & Supply, Demand, LNG Trade, Shipping, Prices as well as the latest forecasts of the world economy).

GECF Workshops | Exclusive for GECF Member Countries

The Secretariat of the GECF regularly organizes workshops on a number of topics of interest, relevant to the Gas Industry, to contribute to the development of the global gas discourse.

Working Papers, Studies and Articles | Exclusive for GECF Member Countries

The GECF Secretariat actively develops papers, studies and articles, upon request of GECF Member Countries, as part of its extensive research activities; aiming to provide an independent assessment on key features that are judged to have an important impact on the GECF Member Countries and the world.

For more detailed information, please consult GECF Website: <http://www.gecf.org>



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