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# Iran's Natural Gas Potential

## Iran's place as a natural gas supplier to Europe

**Eurasia Dialogues, 2015**
**Moscow, Russia**

# STRUCTURE

1. Iran's Gas Sector: production, consumption and policies
2. Important stakeholders: NIGC and its subsidiaries
3. Current projects and future prospects
4. Iran's potential role as a natural gas supplier to Europe

# GAS SECTOR

Vast potential

Minimal realisation?

# GAS SECTOR

- World's 2nd largest natural gas reserves
- 3rd largest gas domestic consumption 2013
- Minimal exports
- Net gas importer Turkmenistan

**IRAN'S NATURAL GAS EXPORTS**

| DESTINATION | BCM PER YEAR | START DATE |
|---|---|---|
| Turkey | 10* | 2001 |
| Armenia | 1.1-2.3 | 2007 |
| Azerbaijan | 0.3 – 0.7 | 2005 |

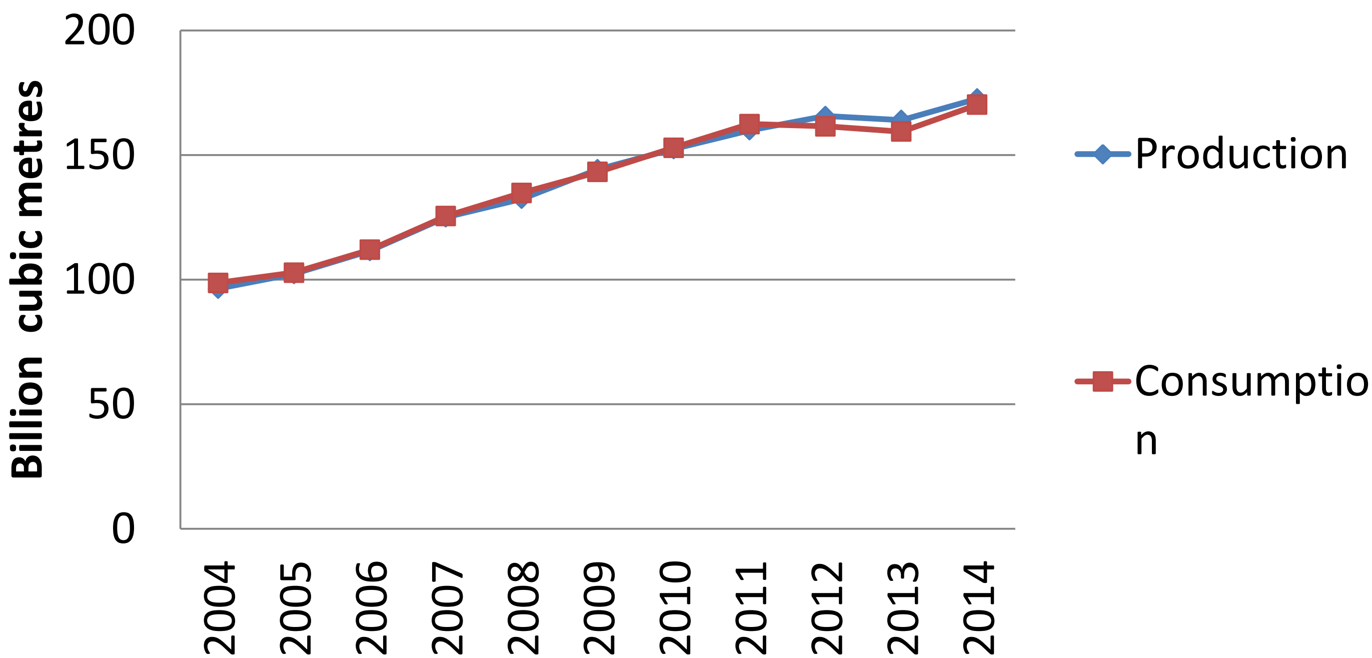
**has not reached full capacity*

**IRAN'S NATURAL GAS IMPORTS**

| SUPPLIER | BCM PER YEAR | START DATE |
|---|---|---|
| Turkmenistan (I) | 8 | 1997 |
| Turkmenistan (II) | UP TO 14 | 2007 |

Source: data from NIGC, Iran Gas Industry presentation 2015

# Gas Production vs. Consumption




*Excludes gas flared or recycled. Includes natural gas produced for Gas-to-Liquids transformation.**Excludes natural gas converted to liquid fuels but includes derivatives of coal as well as natural gas consumed in Gas-to-Liquids transformation.

Source: Kalina,EUCERS' graph based on BP Data (BP Statistical Review of World Energy, June 2015)

- More gas allocated to domestic market to free oil for exports
- Heavily subsidised gas prices

# BY SECTOR

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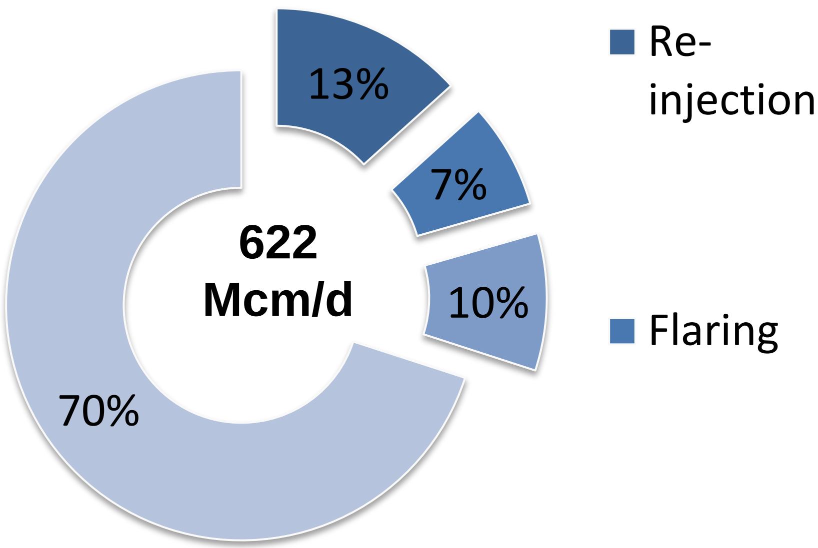
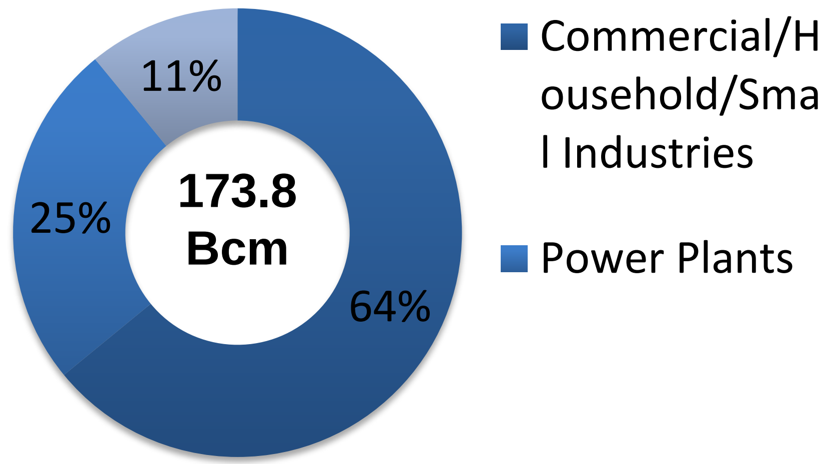
**Iran's Gas production 2013**




**Gas Consumption by Sector (Persian calendar year ending March 2015)**




- ➢ Gas re-injection into declining oil fields
- ➢ Stimulating natural gas based industry

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Source: based on NIGC data

# NATIONAL IRANIAN GAS COMPANY

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# IRI Constitution 1979

- Article 44.2 puts 'all large-scale and mother industries' under public ownership and administration by the State.

- Article 45 considers all mineral deposits a 'public wealth and property' that '/…/ shall be at the disposal of the Islamic government for it to utilise in accordance with the public interest'.

- Article 153 [No Foreign Control]: '[a]ny form of agreement resulting in foreign control over the natural resources, economy, army, or culture of the country, as well as other aspects of the national life, is forbidden'.

# Ministry of Petroleum

Main Affiliated Companies

- **NIOC** – National Iranian Oil Co.
- **NIGC** – National Iranian Gas Co.
- **NIPC** – National Iranian Petrochemical Co.
- **NIORDC** – National Iranian Oil Refining and Distribution Co.

**NIGC subs**:

- National Iranian Gas Export Company - NIGEC
- Provincial Gas Companies
- Gas Treating Companies
- Iranian Gas Transmission Company
- Iranian Gas Engineering and Development Company
- Iranian Underground Gas Storage Company
- Iranian Gas Commerce Company

# GAS SECTOR STRATEGY

- 8-10 % of natural gas trade
- More than 300 Bcm production by 2020
- Development of the South Pars gas field
- Expanding domestic pipeline system
- Developing regional export pipeline infrastructure
- Decreasing domestic consumption & improving efficiency
- Completion of main LNG projects

# PROSPECTS FOR GROWTH

Current and potential projects

# NATURAL GAS FIELDS

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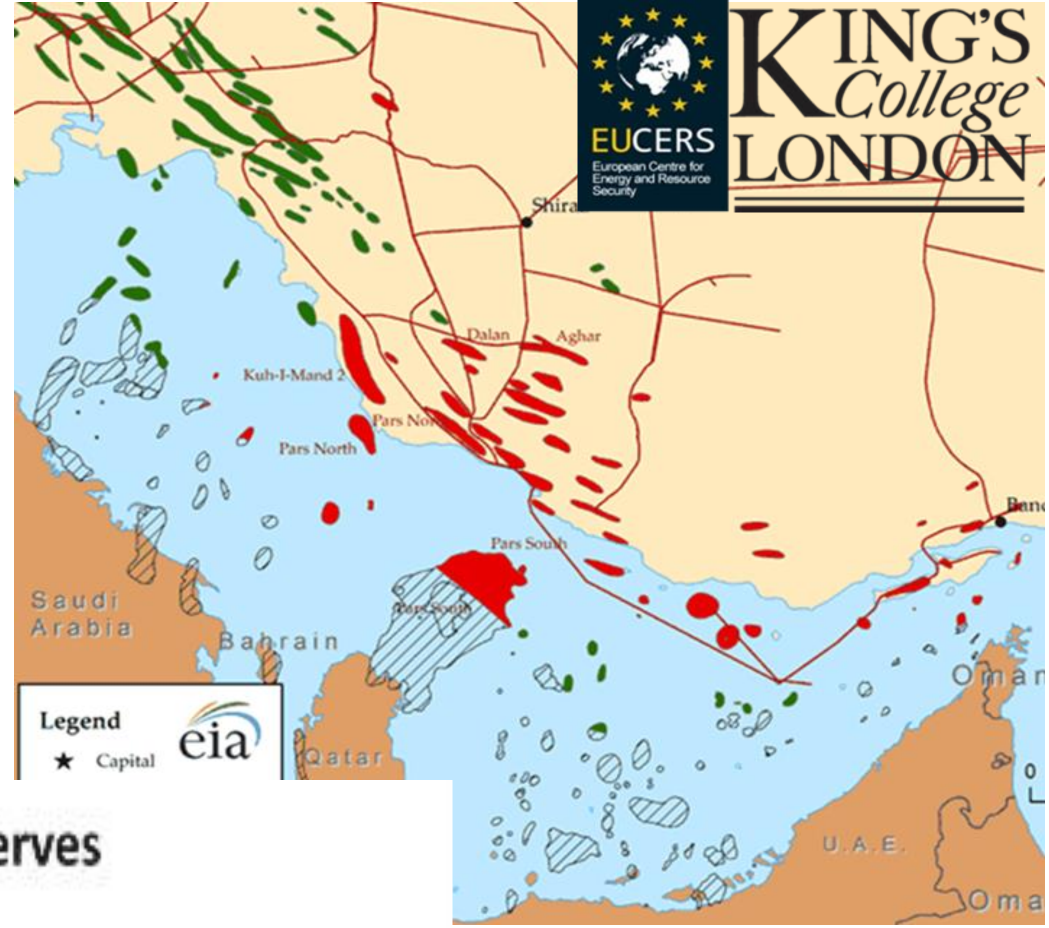
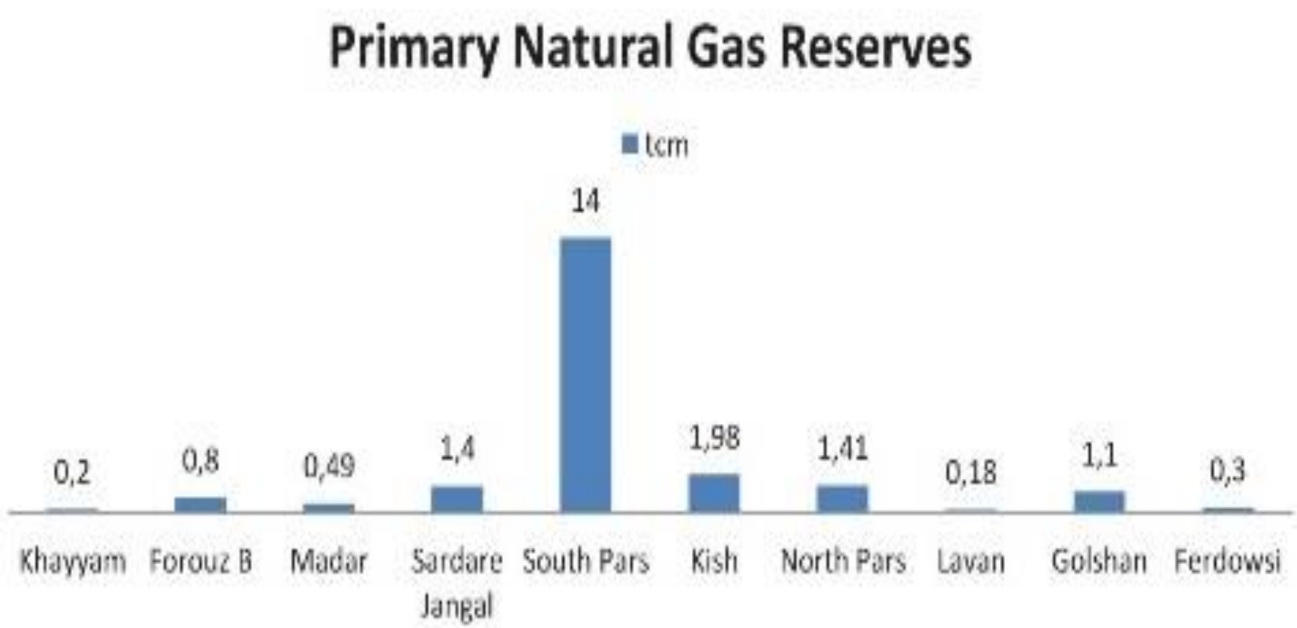
South Pars + Qatar side of the field: world's largest natural gas field




Map Source: EIA




Source: EIA, BP, in Akhundzada, Emin, and Seray Özkan. "Iranian Energy Outlook." 2014.

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# GAS FIELDS DEVELOPMENT

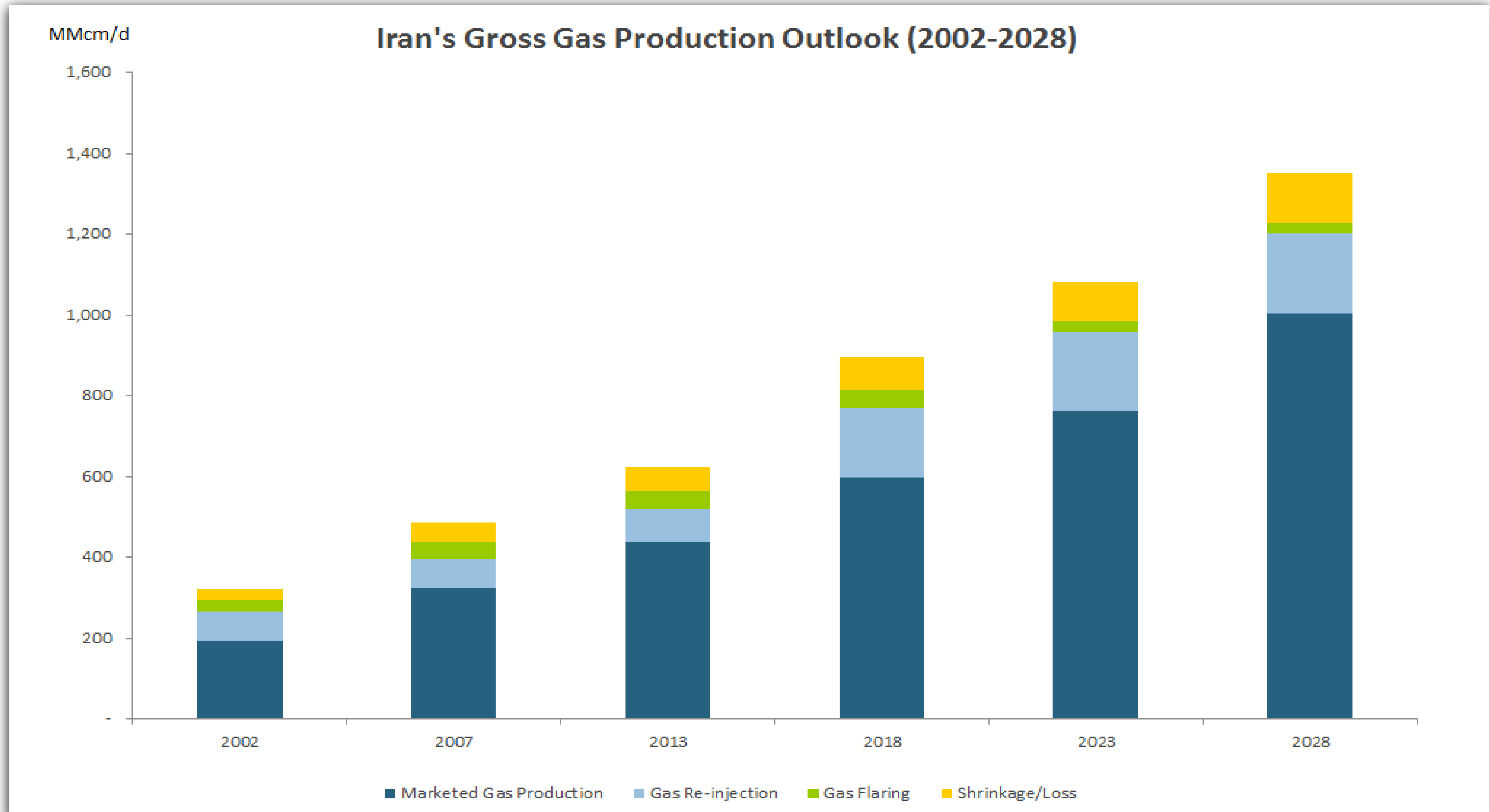
- Potential to increase gas production with **300MMcm/d** by 2020

- More than **543MMcm/d** after 2025

| Gas Field | Production capacity MMcm/d | Expected Completion year |
|---|---|---|
| SP 11 | 50.00 | after 2025 |
| SP 12 | 80.00 | 2015/16 |
| SP 13 | 50.00 | after 2020 |
| SP14 | 50.00 | after 2020 |
| SP 15 | 50.00 | 2015/16 |
| SP 16 | | |
| SP 17 | 50.00 | 2015/16 |
| SP 18 | | |
| SP 19 | 50.00 | up to 2020/23 |
| SP 20 | 50.00 | |
| SP 21 | | |
| SP 22 | 50.00 | after 2020 |
| SP 23 | | |
| SP 24 | | |
| Kish | 28.00 | 2016/2020 |
| Lavan | 21.00 | 2015/2016 |
| Foruz B | | after 2020 |
| Golshan | | |
| Ferdowsi | 14.00 | 2017/18 |
| Farzad B | | after 2025 |
| Total increase of maximum | 243 / 343 | up to 2020 |
| Total increase of more than | 543 | after 2025 |

# GROSS GAS PRODUCTION

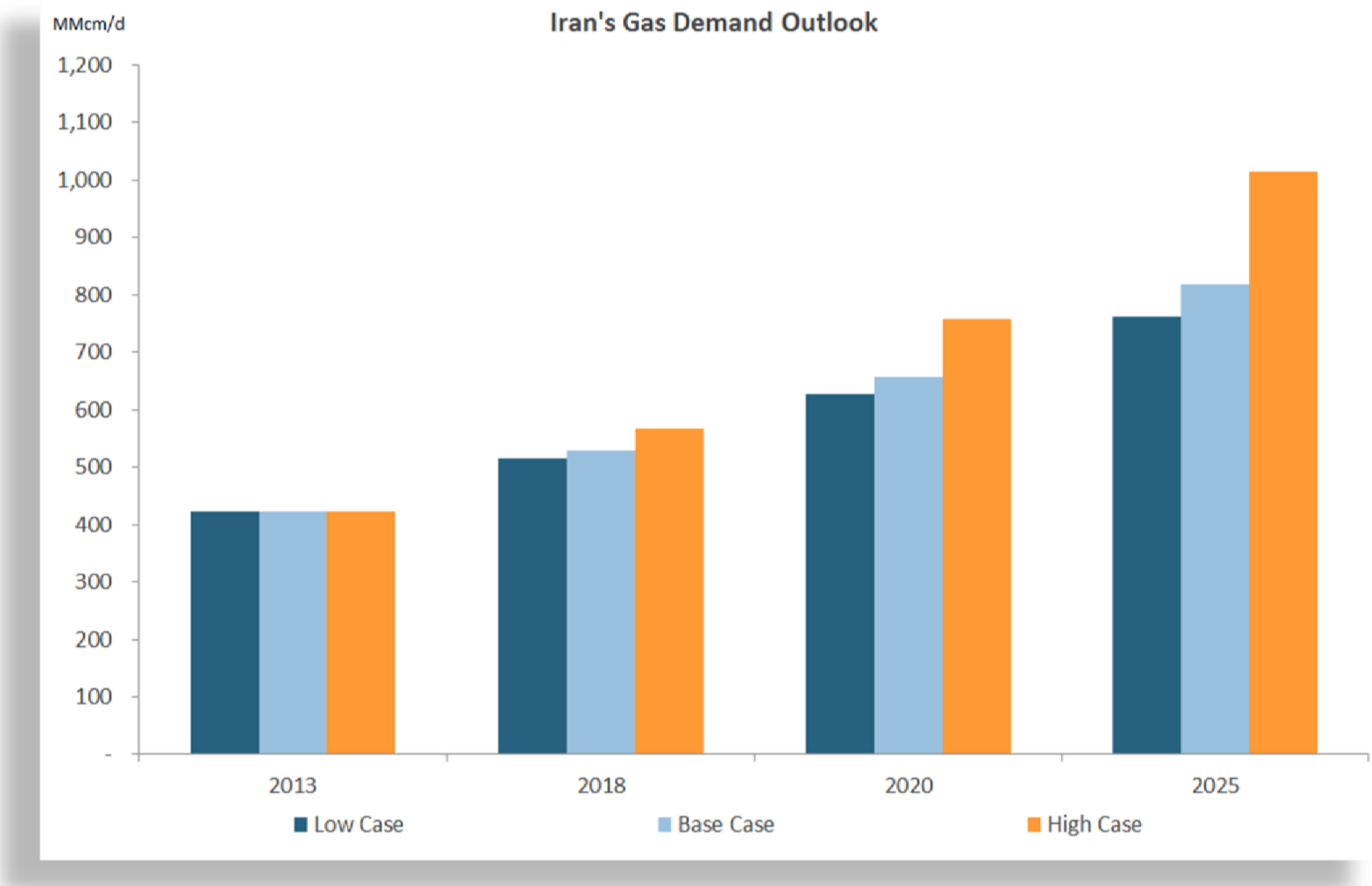
330 Billion Cubic Metres by 2020




Source: K.Damianova,EUCERS

# DEMAND

High case: Iran have difficulties to cover domestic demand

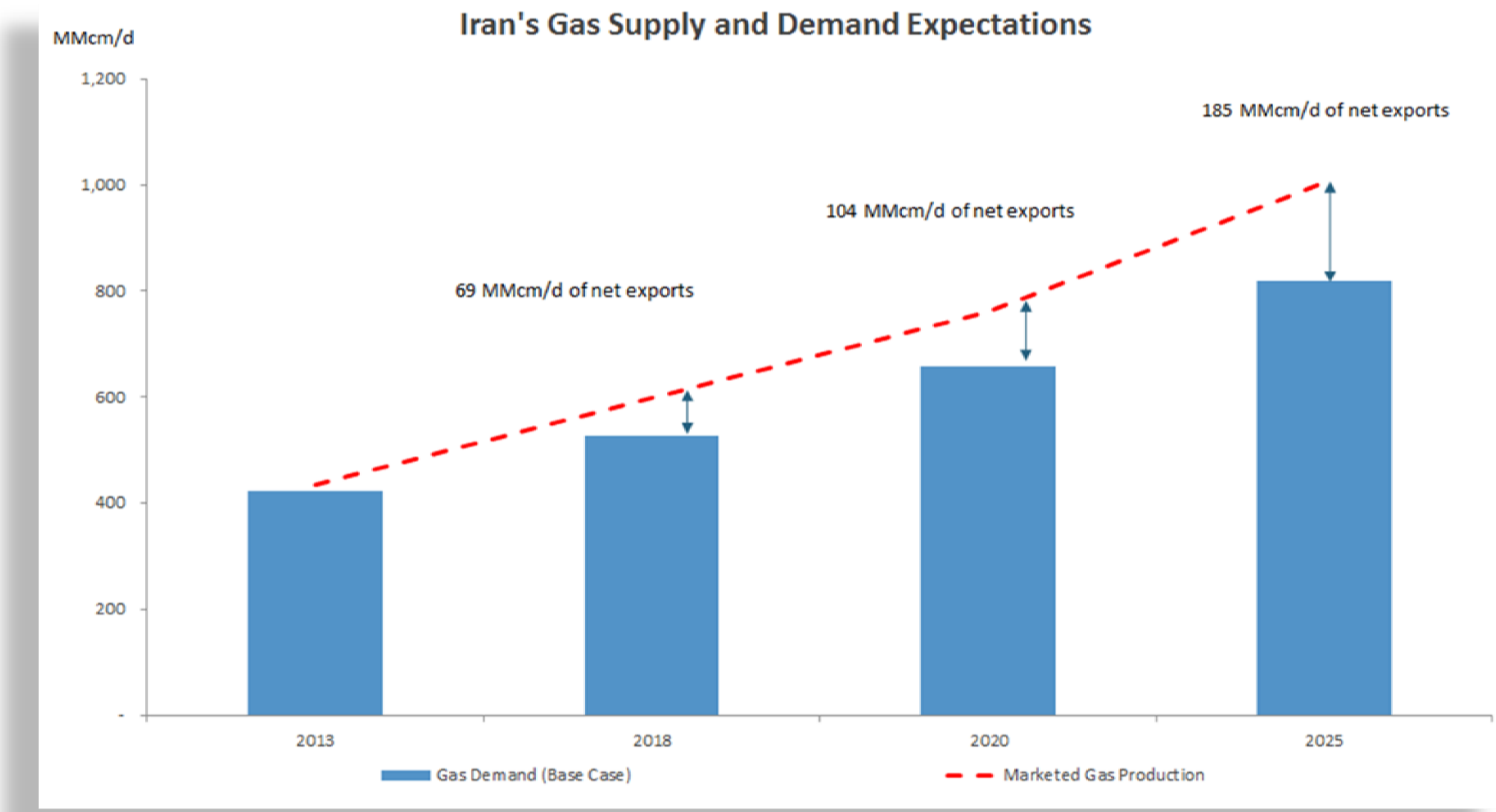



Source: K.Damianova,EUCERS

# EXPORT POTENTIAL

Investmensts Production Consumption

Iran - key natural gas exporter after 2020

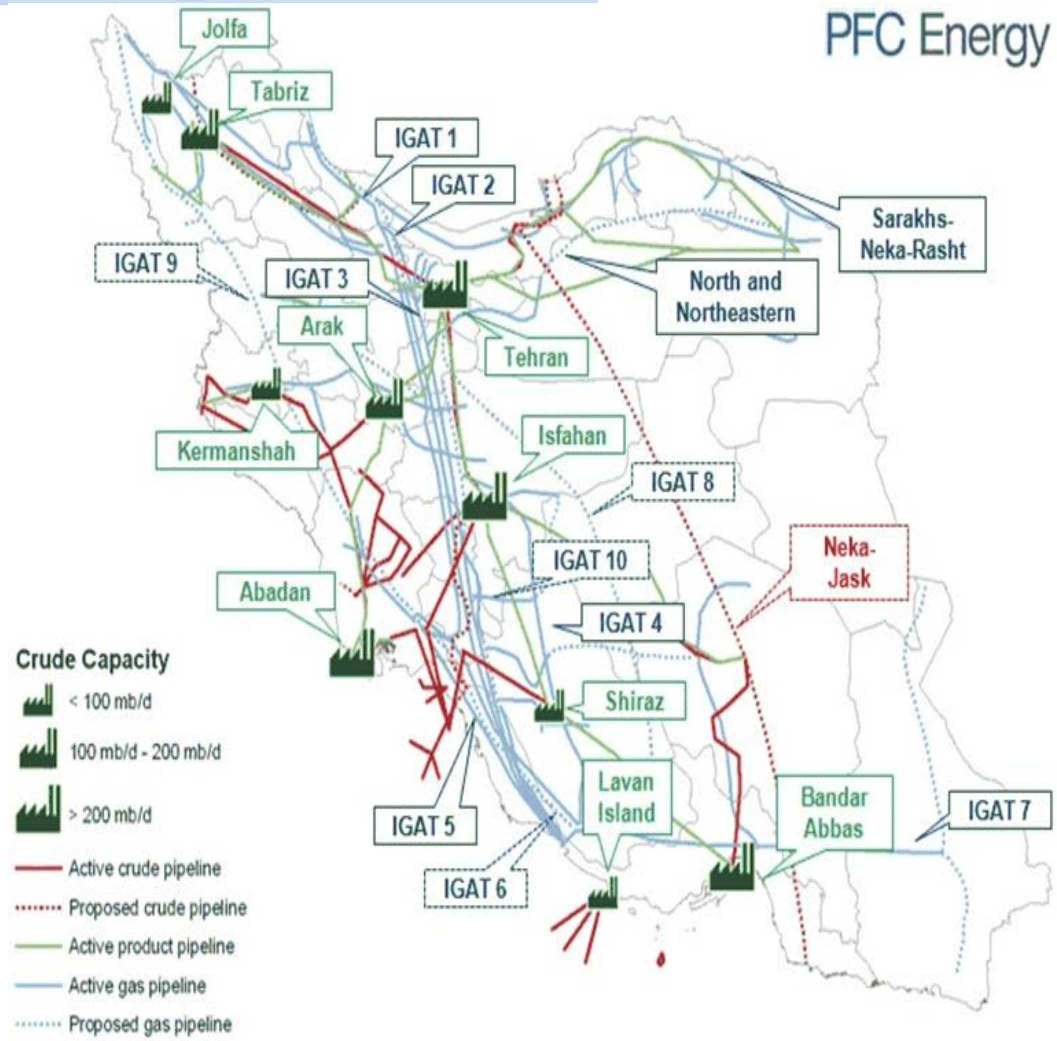



Source: K.Damianova,EUCERS

# INFRASTRUCTURE PROJECTS

NIGC:

- **IGAT 9** & gas export lines to Europe
- **IGAT 7** & export lines to Oman&Pakistan
- **IGAT 6** & export lines to Iraq




Source: NIGC, Iranian Gas Industry: Opportunities&Challenges presentation

Map Spurce:EIA

# PIPELINE PROJECTS

| Project Name | Capacity (BCM/Y) | Project status | Start Date |
|---|---|---|---|
| Pakistan | 7.8 | Finalized GSPA | 2016 |
| Iraq (phase 1) | 9 | Finalized GSPA | 2015 |

| Project Name | Capacity (BCM/Y) | Project Status | Start Date |
|---|---|---|---|
| India | 10.9 | Negotiation | 2017 |
| Oman | 10.2 | Term sheet is signed | 2016 |
| Kuwait | 3.1 | Negotiation on term sheet | 2017 |
| Turkey (phase 2) | 0.5 - 3 | HOA is signed | 2015 |
| Iraq (phase 2) | 24 | MOU is signed | 2017 |

Source: NIGC, Iranian Gas Industy: Opportunities&Challenges presentation

# LNG PROJECTS

| Project Name | Capacity (mmton/Y) | Project Progress Status | Commencement Date |
|---|---|---|---|
| IRAN LNG | 10 | Final investment decision | 2017 |
| NORTH PARS | 20 | PDA contract assessment | 2018 |
| Golshan & Ferdowsi | 9 | Under negotiation for PDA & GSPA | 2020 |
| Gazestan | 1 | Under negotiation | 2016 |
| Total | 40 | | |

Source: NIGC, Iranian Gas Industy: Opportunities&Challenges presentation

# IRAN'S PLACE AS A NATURAL GAS SUPPLIER TO THE EU

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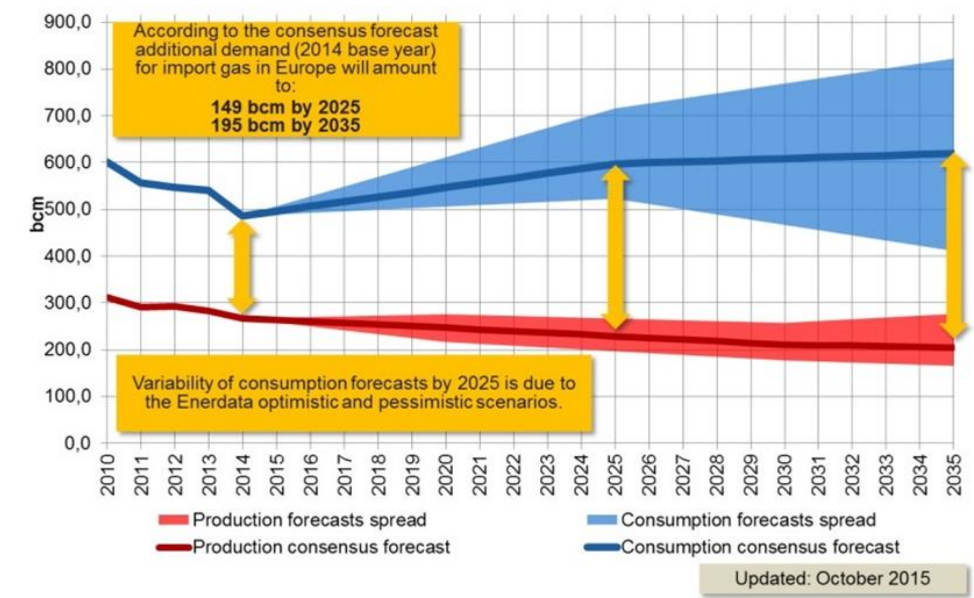
# EUROPEAN ENERGY SECURITY

- ❑ Declining indigenous production
- ❑ Growing demand
- ❑ Relying on few gas suppliers

## ENERGY UNION

- Pool resources, connect networks and unite the EU's power when negotiating with non EU countries.
- **Diversify energy sources – so Europe can quickly switch to other supply channels if the financial or political cost of importing from the East becomes too high.**
- Help EU countries become less dependent on energy imports.
- Reduce Europe's energy use by 27% or greater by 2030
- Build on the EU's target of emitting at least 40% less greenhouse gases by 2030
- Make the EU the world number one in renewable energy and lead the fight against global warming

### Natural Gas European Demand and Production Gap




## Supply Routes

1. Opening the Southern Gas Corridor
2. Developing the Mediterranean Hub
3. Building LNG terminals

Graph Source: GazpromExport

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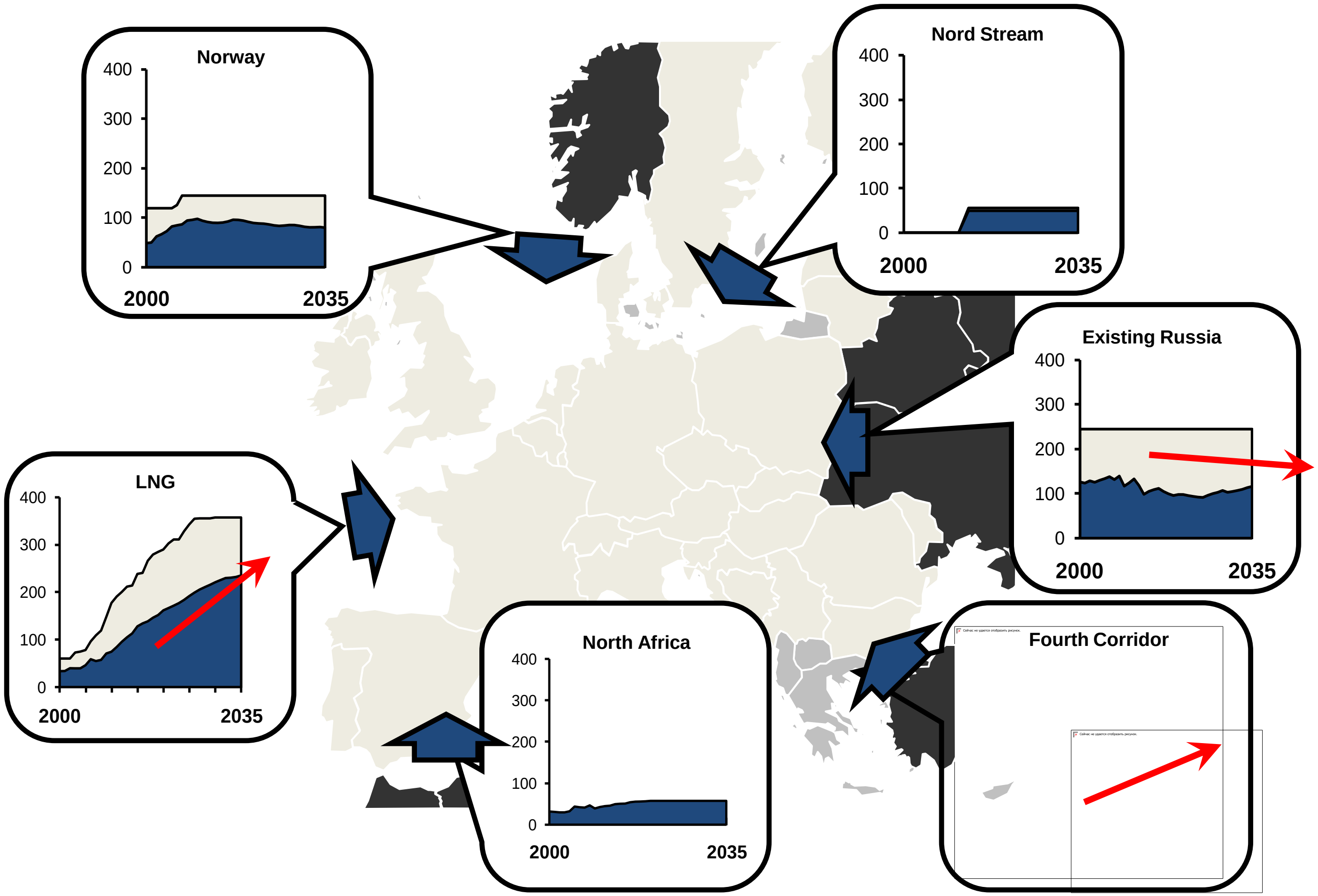
# IRAN'S PLACE IN EU'S GAS SUPPLY




1. Vast natural gas production potential
2. Domestic infrastructure expansions
3. Investments flow due to sanctions relief

Source: M.Kuhn 'Enabling Iran's Natural Gas Options', 2014

# EC FOR IRAN

24-Sep-2014 13:16 - **PLAN FOR IRANIAN GAS IMPORTS TO EU IF SANCTIONS ON TEHRAN REMOVED IS NEAR TOP OF EU MID-TERM ENERGY PRIORITIES- EUROPEAN COMMISSION SOURCE**

Henning Gloystein;
Thompson Reuters

***„Iran seems to be a credible alternative to Russian gas in the long term“***

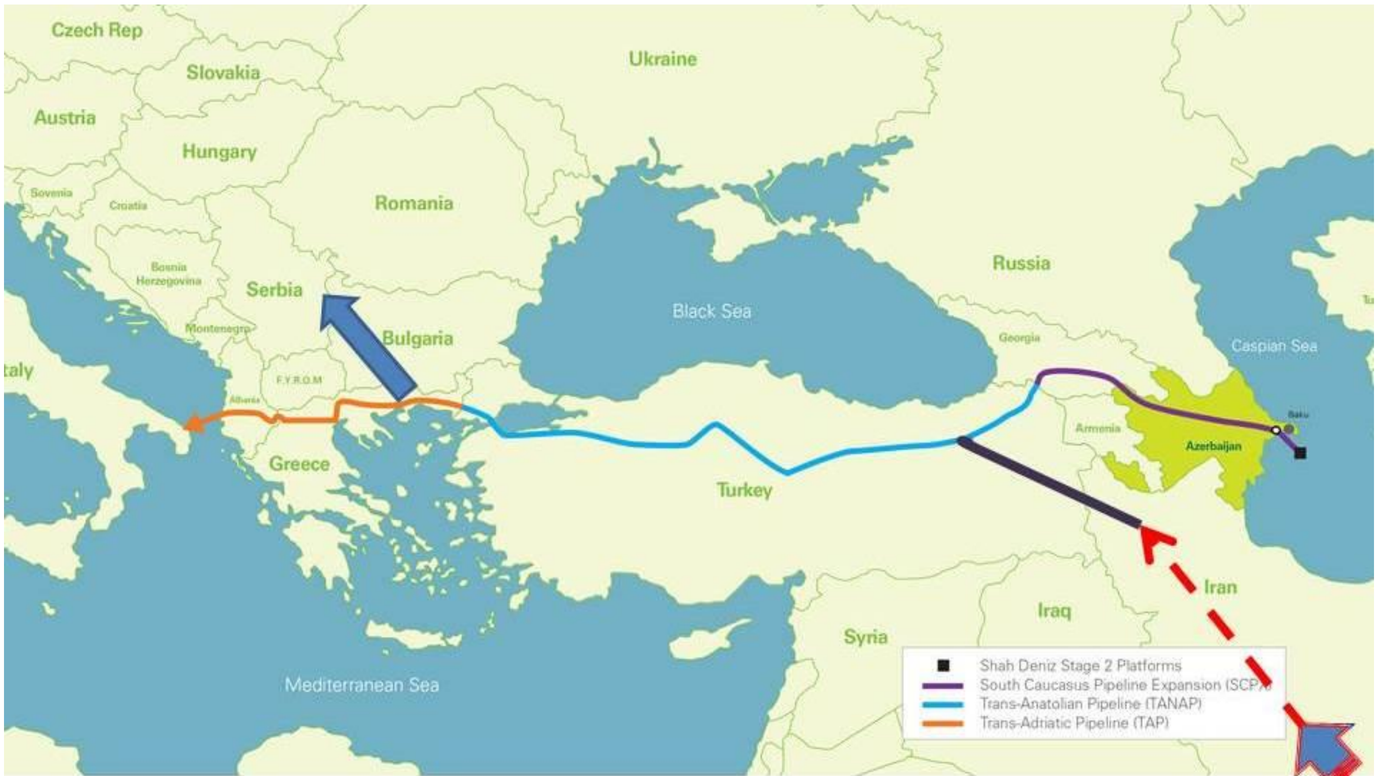
IN-DEPTH ANALYSIS:
The EU's energy security made urgent by the Crimean crisis
Author: Pasquale DE MICCO
DIRECTORATE-GENERAL FOR EXTERNAL POLICIES

*'Iran negotiations, if successful, might lead to a progressive* ***reopening of Iranian oil and gas markets towards Europe****'*- **Domenique Ristori**, the Director General for Energy, EC in the 2014 January edition of the EC'

Support the opening of the Southern Corridor as a route for the diversification of supply for Europe and the Balkan region, also connecting it to the Interconnection Greece-Bulgaria, Interconnection Turkey-Bulgaria and Ionian – Adriatic pipeline, and ensure the possibility for sources from other potential suppliers (e.g. Iraq, **IRAN**, Mediterranean Sea and Turkmenistan)

**Council of the European Union**
**Draft** Follow-up to the European Council - Energy security

# SOUTH GAS CORRIDOR EU-Iran gas supply routes




Source: open data

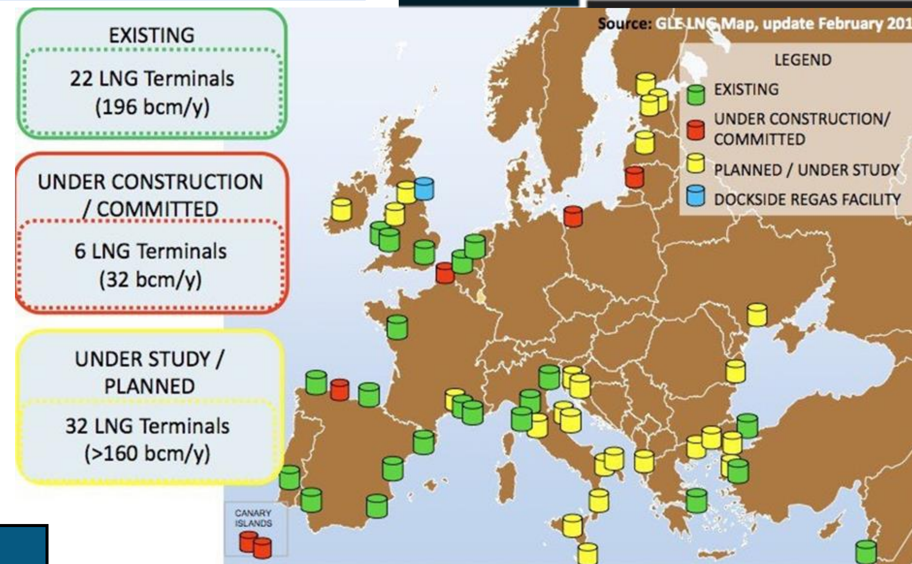
1. Increase gas production
2. Develop domestic infrastructure
3. Revise gas prices issues
4. Expand Iran-Turkey pipeline

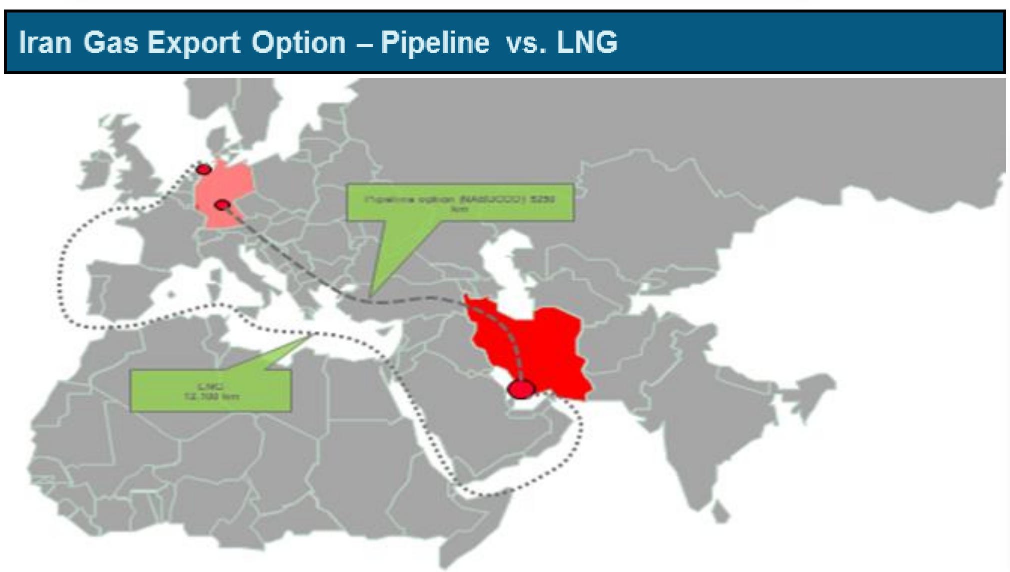
# LNG

EU LNG strategy - priority

LNG exports proffered by Iran:

- More costly
- More flexible
- Direct connection




Source: Kuhn, Enabling Iran's Natural Gas, 2014

If neighbourhood gas export projects reaslised and present exports increased, more than 50 MMcm/d for LNG, only after 2025.

**LNG prices and market growth: Asia vs. Europe**

# SOURCES:

- M.Kuhn, Enabling the Iranian Gas Export Options, Springer 2014
- K.K.Damianova, Iran's Re-Emergence on Global Energy Markets, EUCERS/KAS 2015

- Facts Global Energy (FGE)
- International Energy Agency (IEA)
- National Iranian Gas Company (NIGC)
- Petro Energy Information Network SHANA
- Gazprom Export

# СПОСИБО БОЛЬШОЕ!
# THANK YOU!

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