

# 26<sup>th</sup> World Gas Conference

1 – 5 June 2015, Paris, France

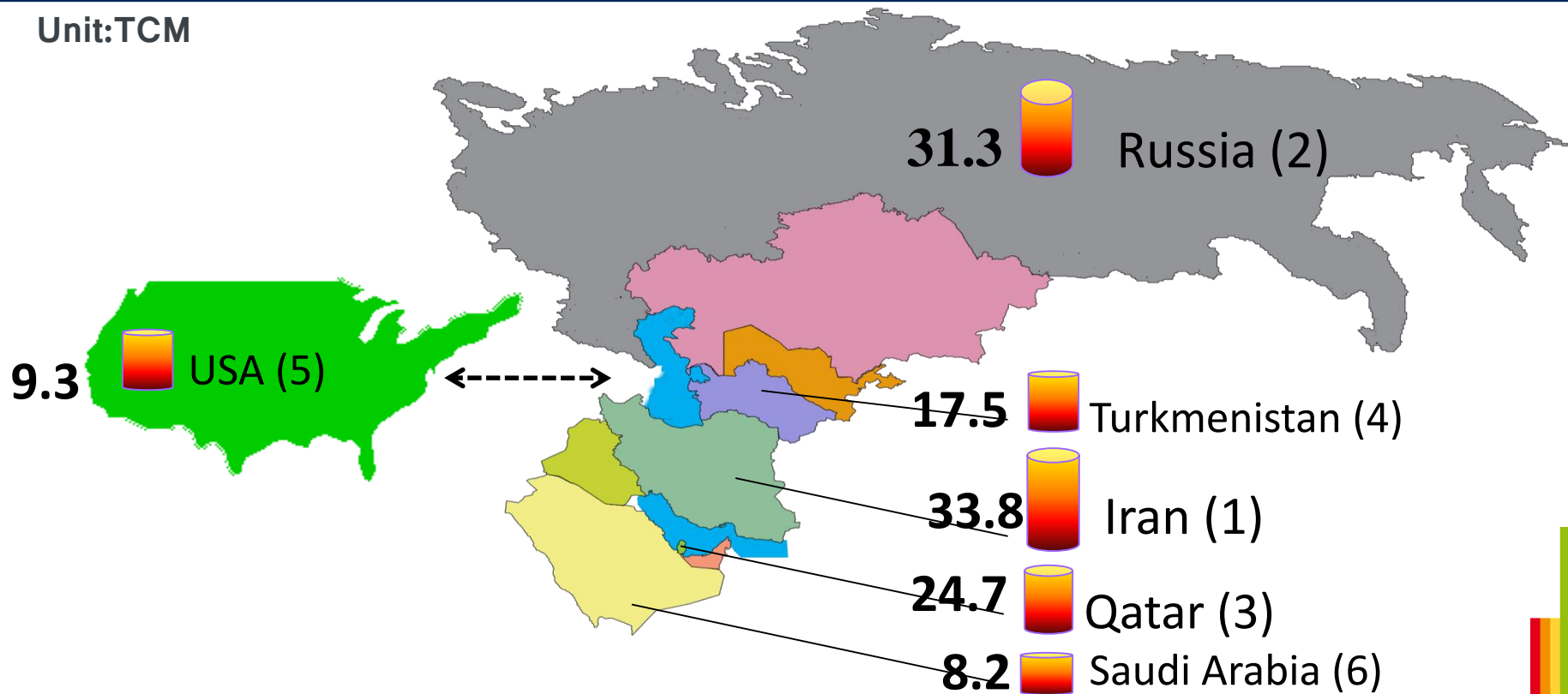


Strategy of Developing Gas Storage in Iran  
Mohsen Dourandish  
NIGC



# *Top six natural gas proved reserve holders*

Unit:TCM



## *Top 10 natural gas producers countries*

Country	Production BCM	Percentage of total
USA	687.6	20.6
Russia	604.8	17.9
Iran	166.6	4.9
Qatar	158.5	4.7
Canada	154.8	4.6
China	117.1	3.5
Norway	108.7	3.2
Saudi Arabia	103	3
Algeria	78.6	2.3
Indonesia	70.4	2.1



# *Top 10 natural gas consumers countries*

Country	Consumption BCM	Percentage of total
USA	737.2	22.2
Russia	413.5	12.3
Iran	162.2	4.8
China	161.6	4.8
Japan	116.9	3.5
Canada	103.5	3.1
Saudi Arabia	103	3.1
Germany	83.6	2.5
Mexico	82.7	2.5
UK	73.1	2.2

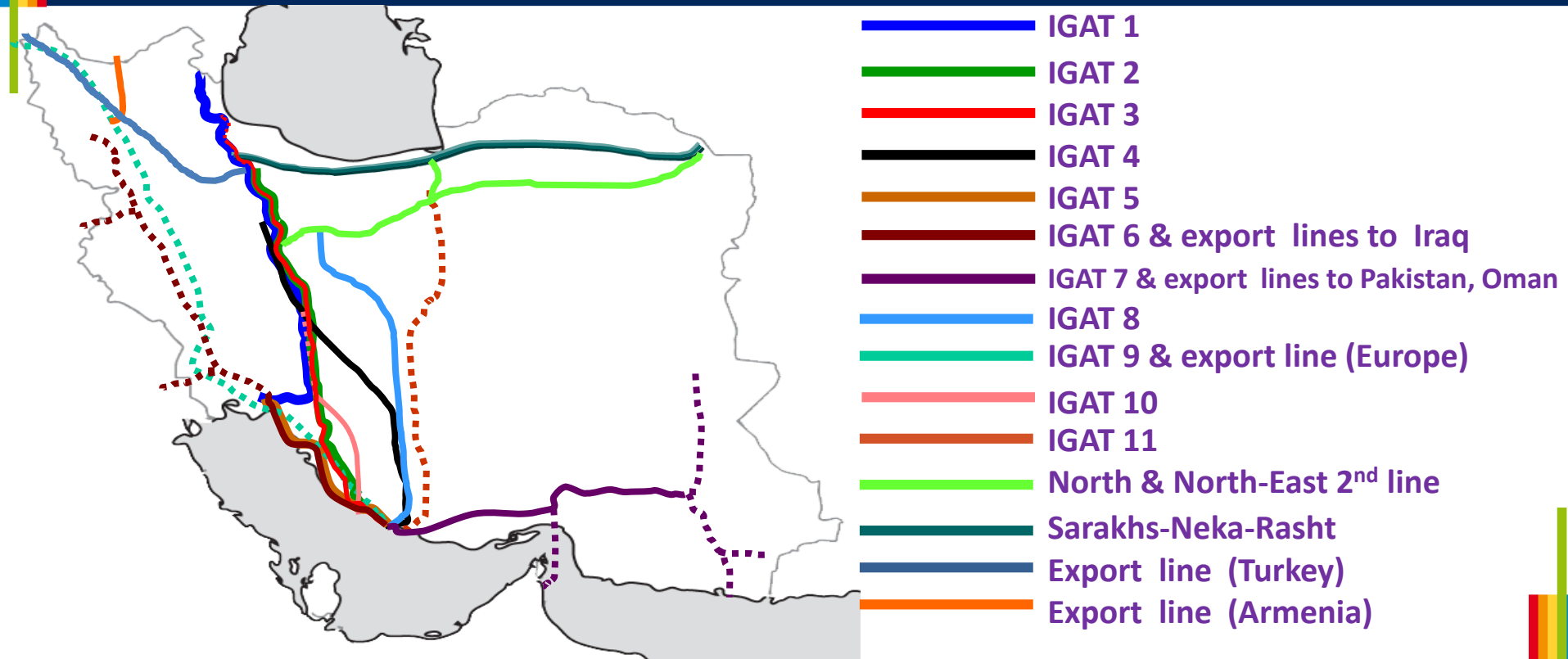
Ref: BP Statistical Review of World Energy 2014



# *Iran's Biggest Gas Fields*



# *NIGC Transmission System*

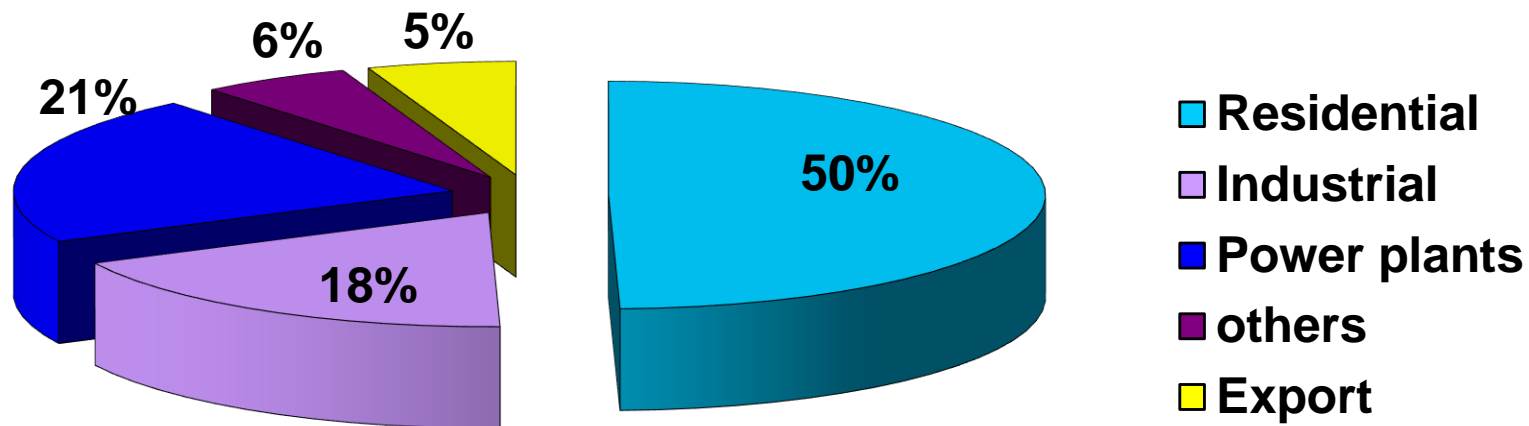


## *Summary Report of NIGC in 2014*

• High pressure Gas Transmission pipelines	36000 Km
• Gas Distribution Networks	262000 Km
• No. of Natural Gas Consuming Cities	1021
• No. of Natural Gas Consuming Rural Areas	17000
• Natural Gas Consuming Population	88%
• Share of Natural Gas in fossil fuels Basket	66%
• Export	9.6 BCM
• Import	5.3 BCM



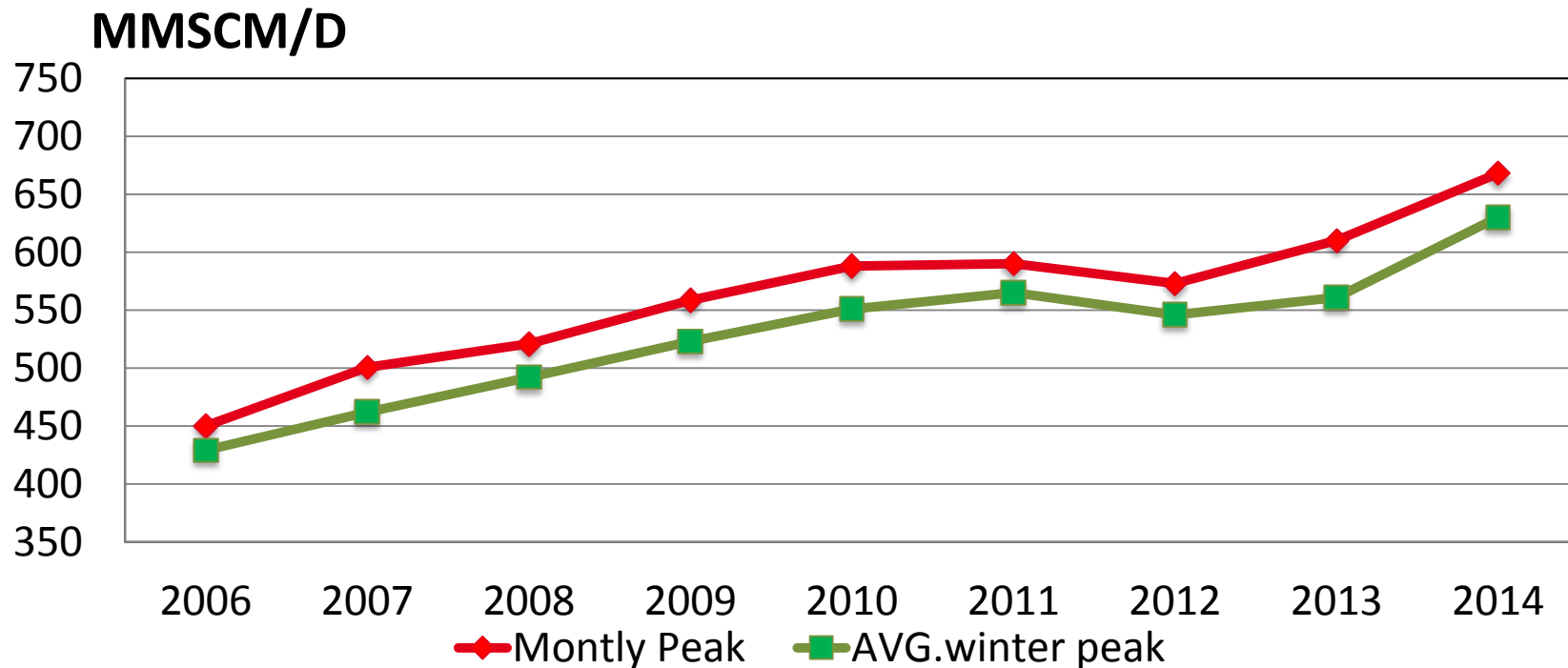
# *Iran Natural Gas Sector Consumption Breakdown in 2014*



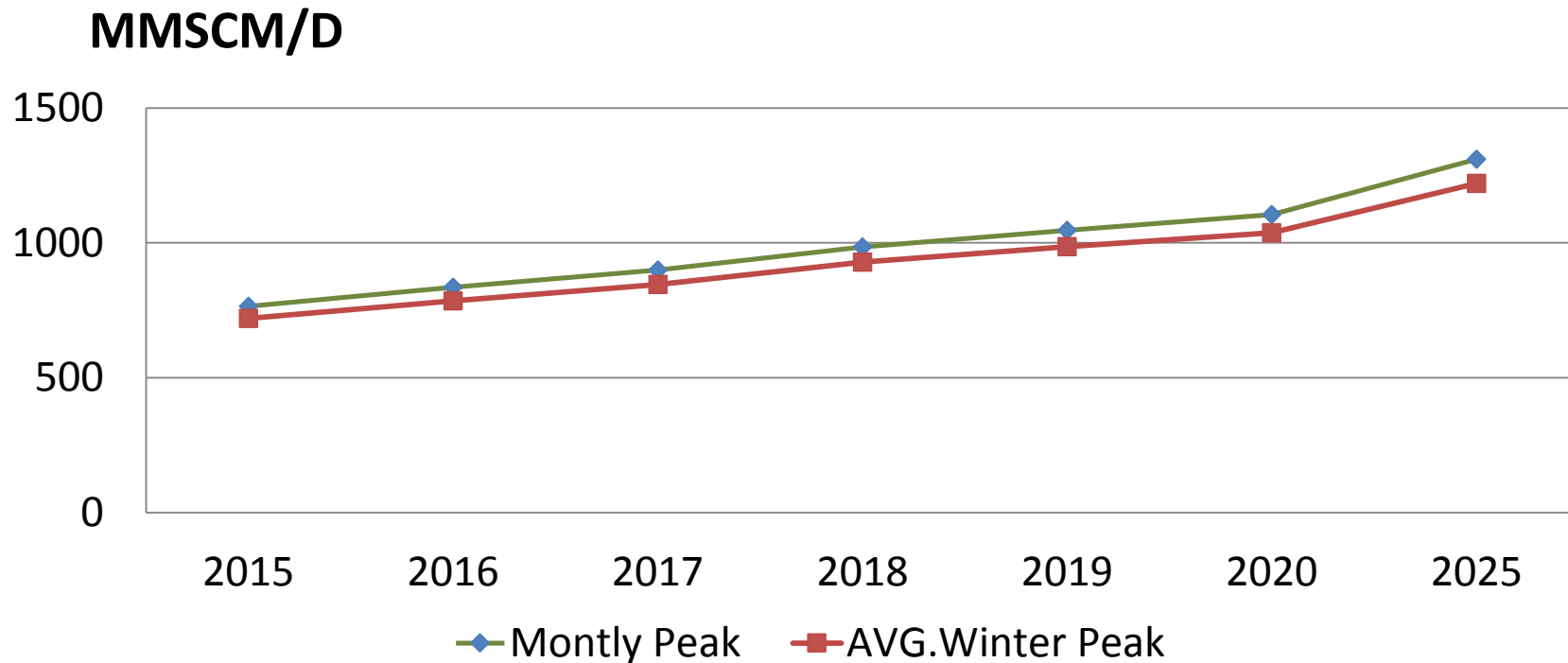


# *Cold Monthly Peak vs. Average Winter Peak Gas Consumption*

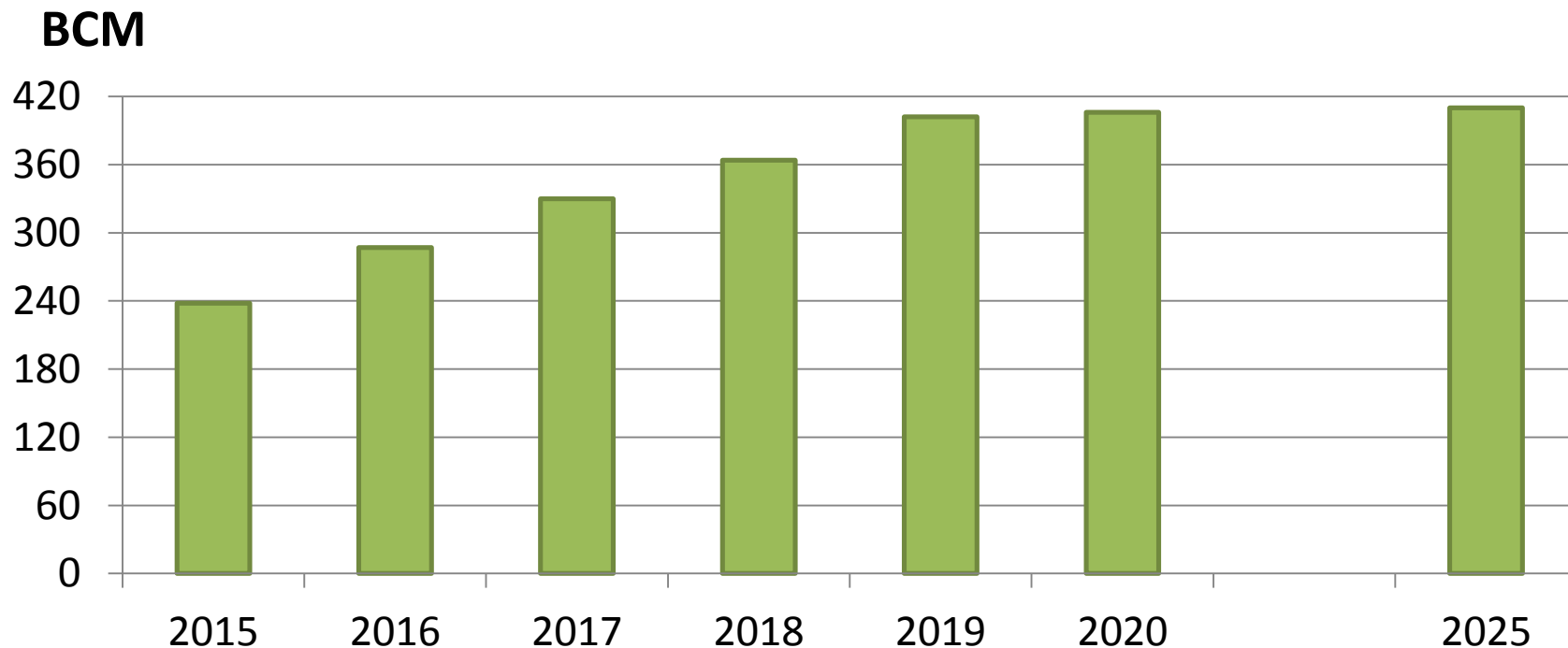
## *2006-2014*



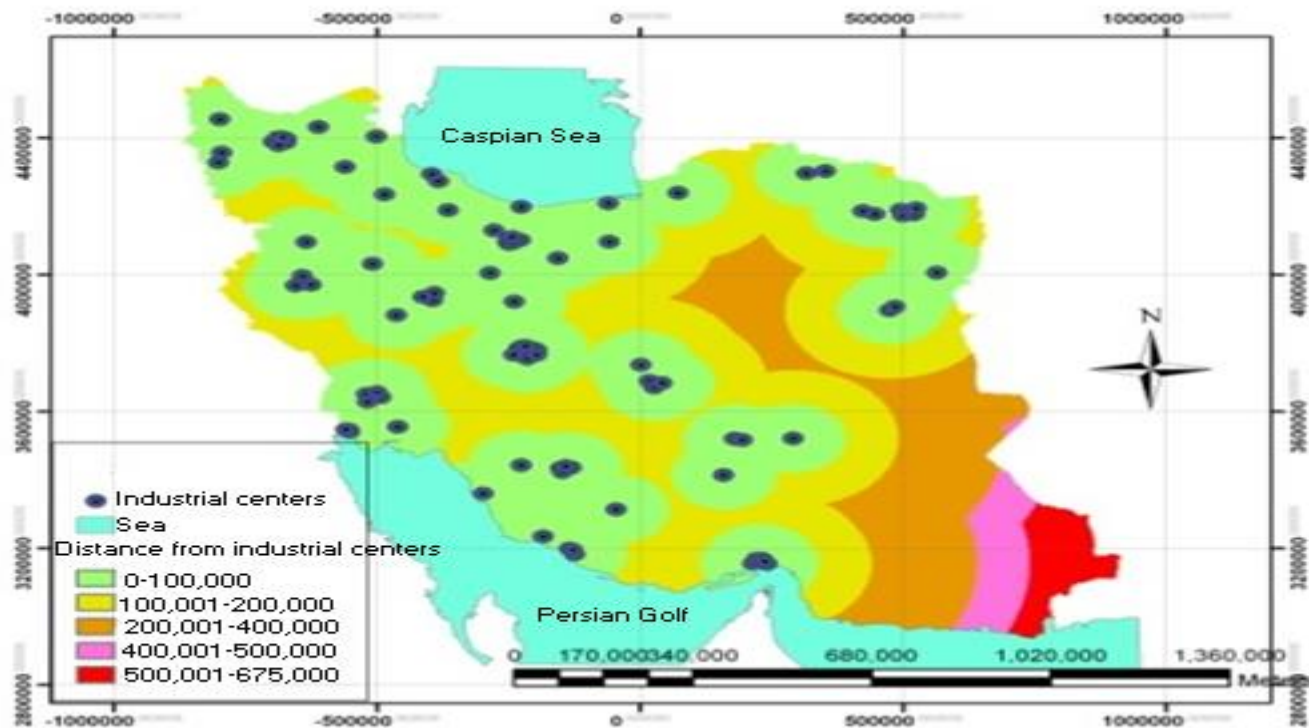
# *Cold Monthly Peak vs. Average Winter Peak Gas Consumption Forecast 2015-2025*



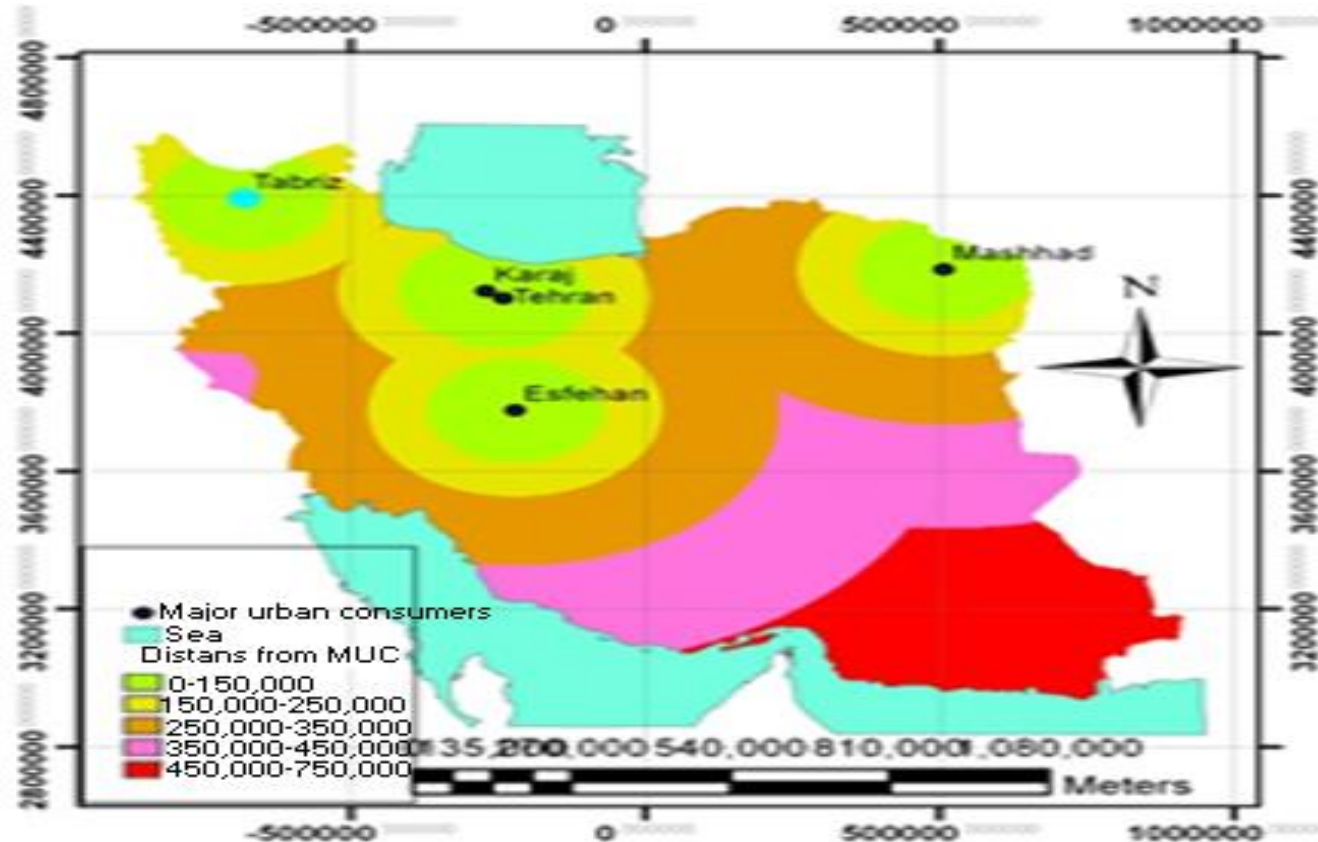
# *Iran's Natural Gas Production Forecast 2015-2025*



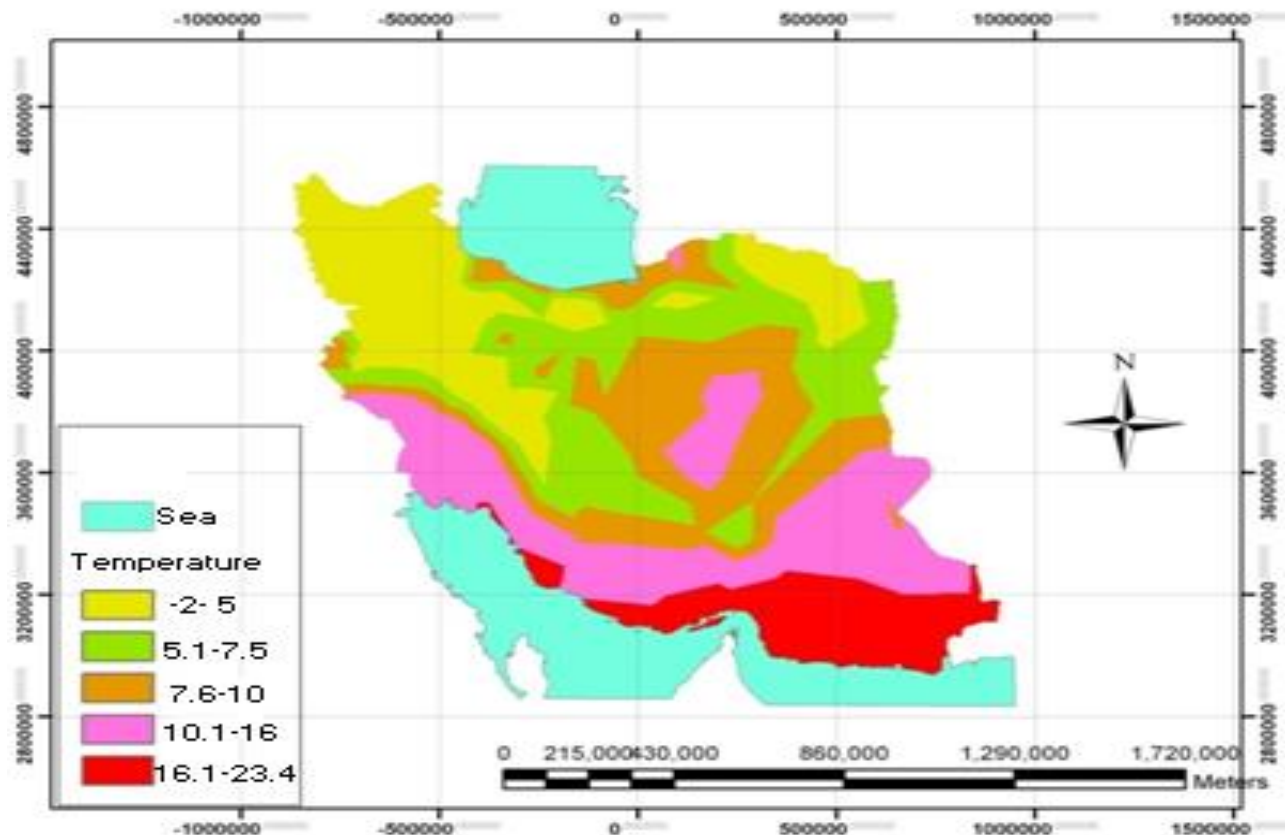
# *Distribution of Industrial Consumers*



# *Distribution of Major Urban Consumers*



# *Distribution of Temperature Zone*



# *Underground Gas Storage Projects*

Reserve Name	Capacity (BCM)	Injection rate (MMCM/D)	Withdraw period (Month/y)	Max. withdraw rate (MMCM/D)	Operation date
Serajeh	3.3	7	4	*9.8	ON OPERATION
Shourijeh	4.8	10	4	*20	ON OPERATION
Yourtsha	0.2	3	1.5	5	2017
Kashan Salt Dome	2	NA	NA	15	2018

*The statistics presented is just for First phase\**

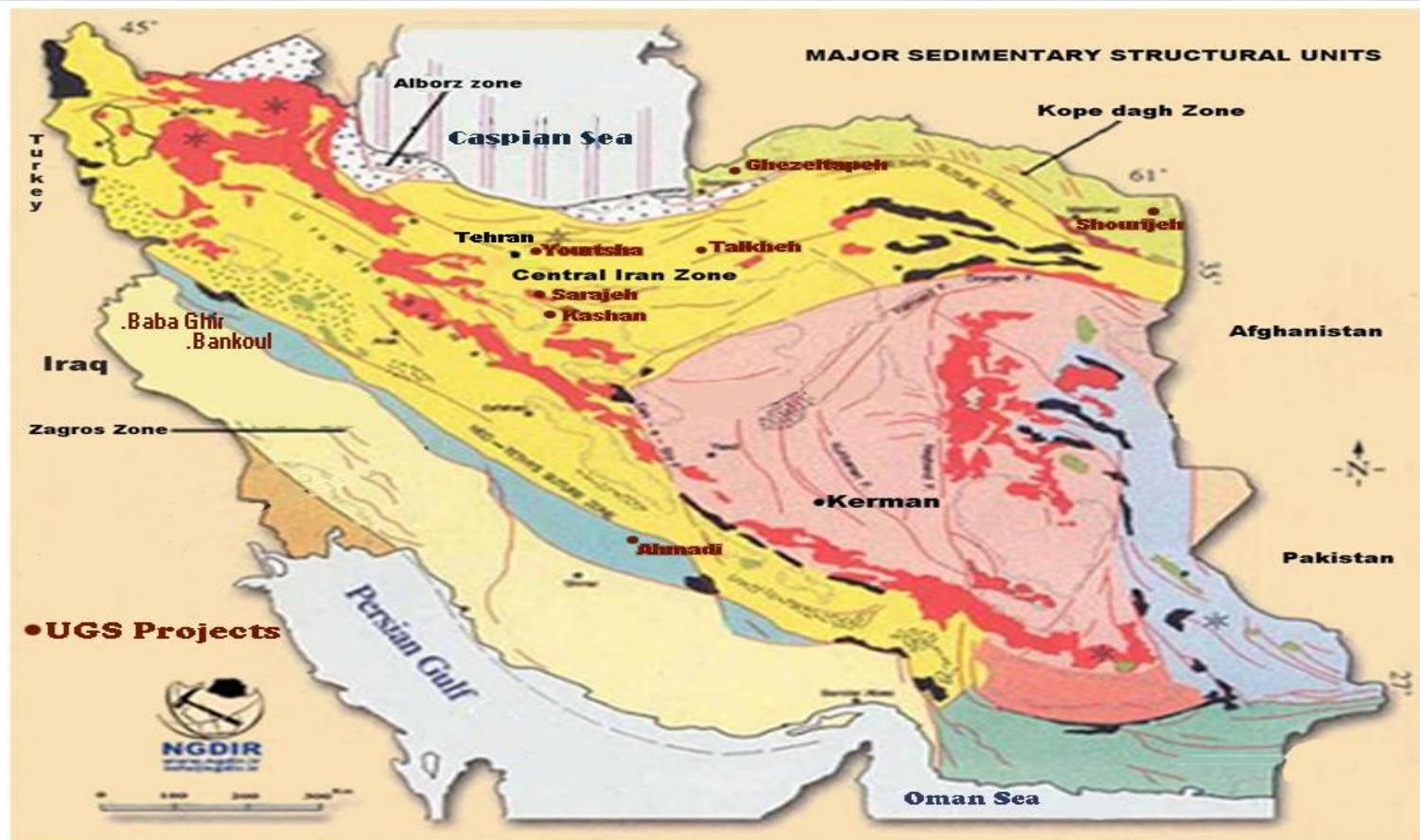
# *Underground Gas Storage Exploration Aims*

Reserve Name	location	Estimated Capacity (BCM)
Baba ghir	Western Iran	15
Bancoul	Western Iran	7
Emam hasan	Western Iran	8
Mokhtar	South-western	11
Ghezel tapeh	North Iran	2
Ahmadi	South Iran	NA





# *UGS Projects and Exploration Aims in Iran*



# *Iranian Gas Storage Development Strategy*

- ❑ **NIGC is planning to develop underground gas storage in depleted fields, aquifers and salt caverns. Strategy of developing natural gas storage in Iran is about 10% of natural gas production.**
- ❑ **Due to various underground gas storages' ability like capacity, withdraw rate and pushing gas volume, NIGC have scheduled a lot of exploration plans in Iran.**
- ❑ **As a result of so many oil and gas reserves in Iran, and also ability of storage capacity and withdraw period, depleted fields are first priority of gas storage development for NIGC. These kind of underground gas storages are used for monthly peak shaving.**
- ❑ **The second priority is salt caverns, because of several injections/withdraws cycles and low pushing gas volume. Salt caverns are used for short time peak shaving periodically up to 5-6 times a year**



# *Iranian Gas Storage Development Strategy*

- ❑ Furthermore aquifers are our exploration aim in Iran. Aquifers have high ability of gas storage like depleted fields, but they need pushing gas more than depleted fields.
- ❑ As a consequence, strategy and share of developing gas storage in Iran are about 70% for Depleted oil and gas fields, 20% for salt caverns and 10% for aquifers.
- ❑ Other peak shaving methods like LNG, CNG and propane-air, are under investigation For power plants and major and minor industries by private companies.



***Thank you for attention***

