

# 16<sup>th</sup> ERRA Energy Investment and Regulation Conference

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## Regulatory Perspectives in Developing LNG Infrastructure

Gülefşan Demirbaş  
EMRA/ICER, Turkey

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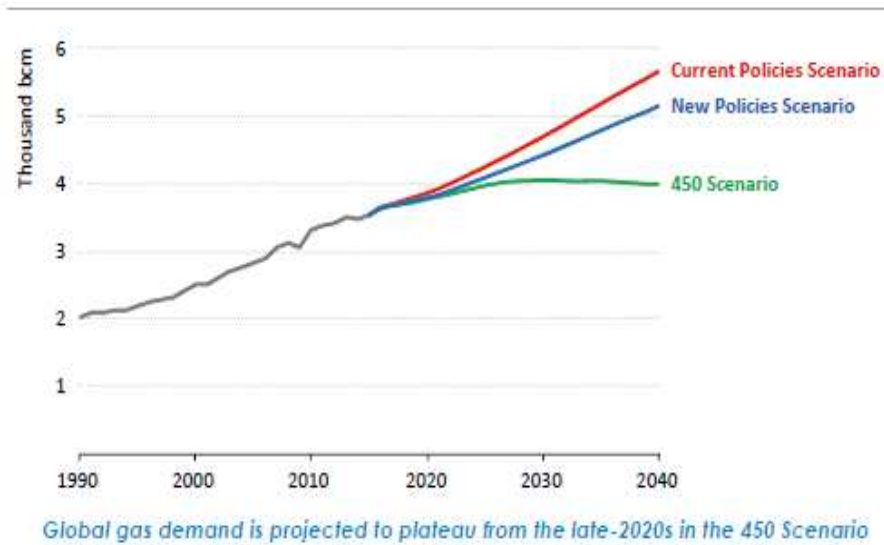
# Background

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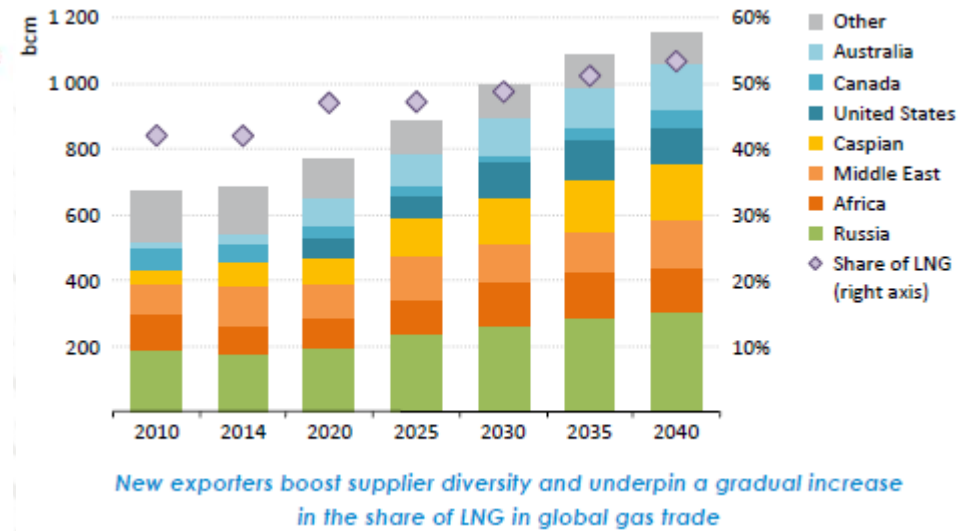
- ICER-IGU Joint Study
  - to take a picture of different regulatory choices;
  - to analyze different structures in related investment regimes;
  - to provide good regulatory practices
- A Case Study: Regulatory Perspectives in Developing Turkish LNG Infrastructure

# Global Gas Dynamics

## Global Gas Demand



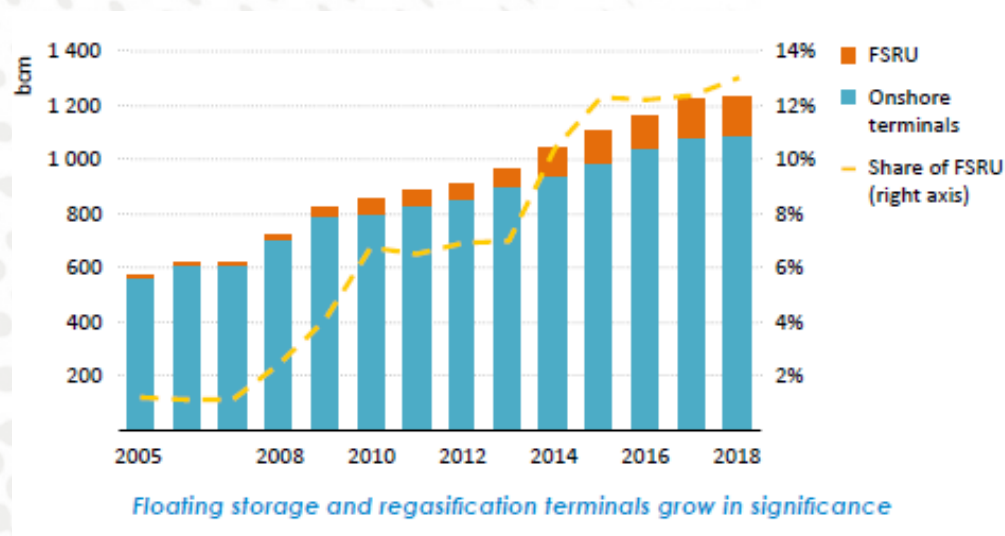
## Global Gas Trade by Exporter



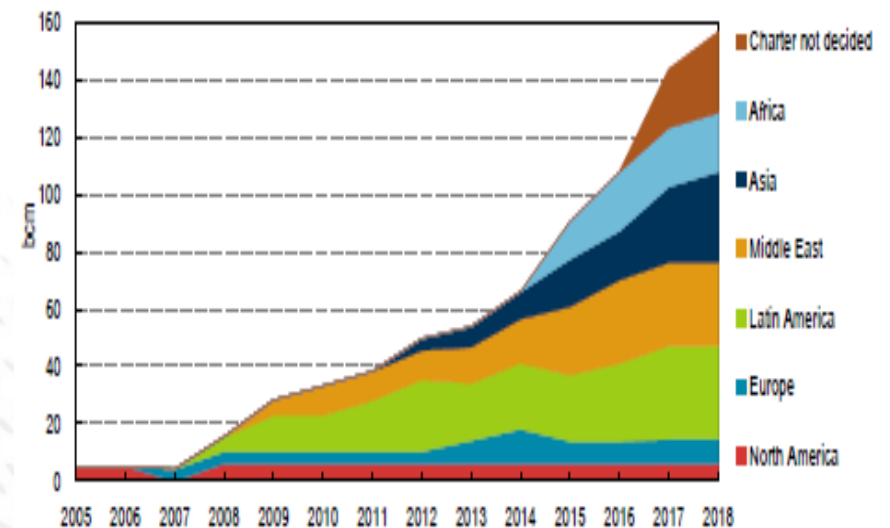
Source: IEA

# LNG: Growing Source

## Global Regasification Capacity



## FSRU Capacity



Source: IEA

# Turkish Gas & LNG Market

## 2016 Outlook

Production		367.28 SM <sup>3</sup>
Import	LNG: 16.5% Pipeline Gas: 83.5%	46 352.17 SM <sup>3</sup>
Export		674.68 SM <sup>3</sup>
Stored (in aggregate)		1 700.25 SM <sup>3</sup>
Consumption	Conversion: 36.1% Industry: 30.4% Household: 25.0% Services: 6.7% Others: 1.8%	46 395.06 SM <sup>3</sup>



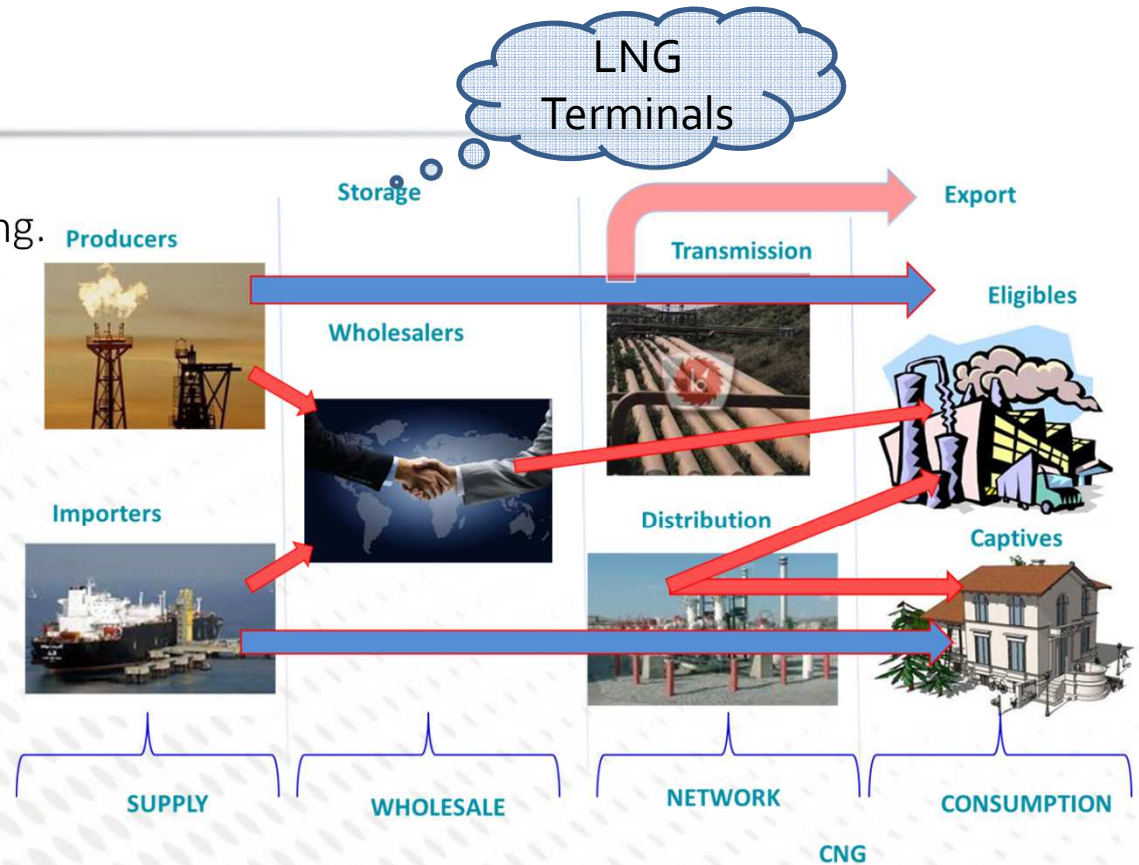
~13.000 km pipeline length  
 ₺ 9 compressor stations

↘ 4 pipeline entry points  
 ↙ 1 exit point

o 3 LNG terminals  
 x 2 u/g storages

# Legal Framework

- Free market entrance thru licensing.
- Legal & account unbundling.
- Regulated TPA regime.
- Semi-liberalization of gas imports.
- Gas release program.
- Static precautions in terms of limiting market share.
- Non-discriminatory conduct between domestic and foreign investors.



# Developing Regulatory Framework for LNG

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- Liberalizing the gas import regime.
- Introduction of spot LNG into legal texts.
- Attempts for legally defining LNG as a distinct market activity.
- Contract releases.
- Adoption of Basic Usage Principles and Procedures.
- Introduction of FSRUs.
- Developing rules for Organized Natural Gas Wholesale Market.

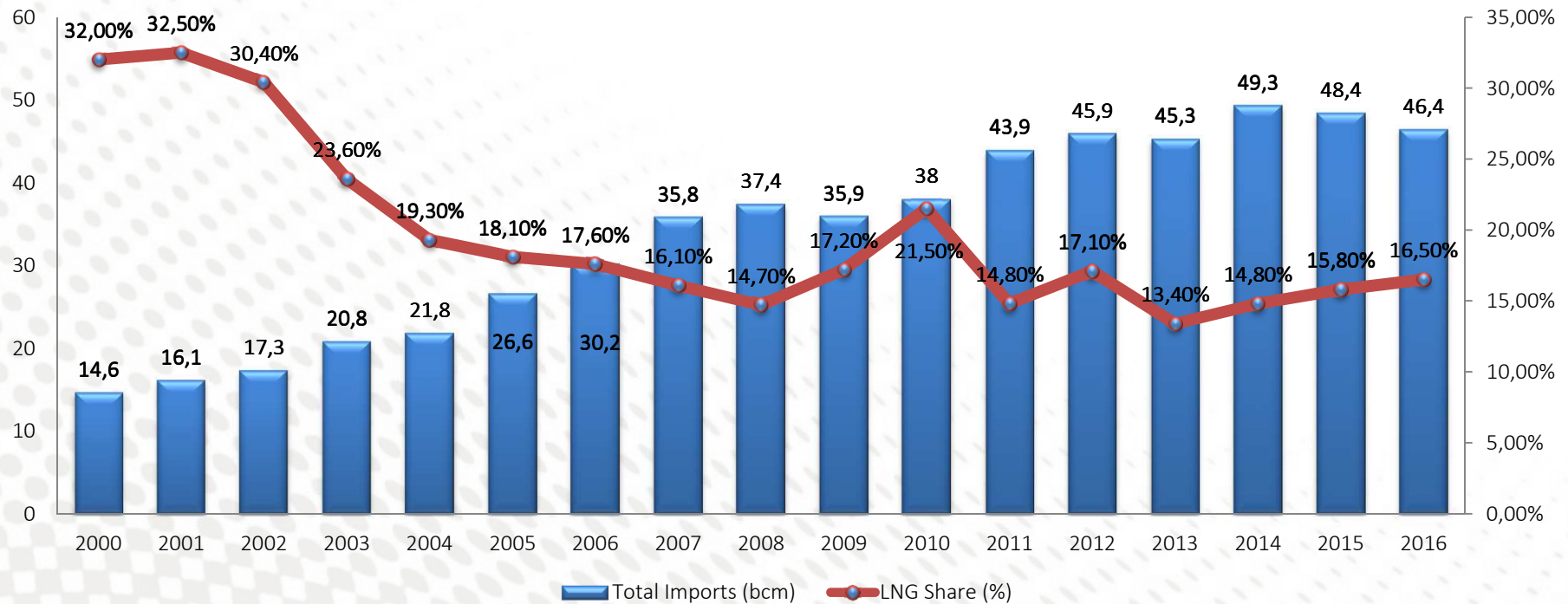
# Basic Usage Principles and Procedures

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- Regulated TPA
- Pro-rata capacity allocations on a yearly basis.
- Possibility for inventory transfers.



# Growing Gas Market vs LNG



# Turkey's FSRU Practice

Pros	Cons
Lesser environmental impact	Challenges of having all the facilities including FMS's on-board
Significantly shorter time needed to start operation (1 to 1,5 years compared to 4-5 years for onshore LNG terminal)	Operational difficulties, such as unpredictable sea movements during offloading
Suffering less for NIMBY (not in my back yard) syndromes	Different structure of operational costs
Ability to be relocated according to the demand	
Less start-up cost	

# Tariffs Applicable to FSRUs in Turkey

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- Tariff model: Revenue cap
- Return based on FSRU Rental Expenses and Line-Pack: Charter expenditures are included in the asset base, but not depreciated
- Pricing: Methodology may consider costs incurred by the services & cash-flow
- Tariff period: 3 to 10 years
- Regulatory Depreciation: 5 to 22 years
- Discounts: No
- WACC: 10%
- Tariff revisions: Deviations exceeding 10% of asset base, non-controllable OPEX

# Prospects for Improving Turkish LNG Market

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- Standardization & simplification of the Usage Procedures and Principles of the LNG terminals & FSRUs
- Improvement & standardization of web-based capacity booking & nomination platforms of the LNG terminals
- Adoption of TPA exemptions and open season practices
- Building of LNG liquefaction facilities & increasing storage capacity
- Further developing competitive market

# THANK YOU FOR YOUR ATTENTION!



[gdemirbas@epdk.org.tr](mailto:gdemirbas@epdk.org.tr)



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