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**University of Piraeus**

**Graduate Program - ENERGY: Strategy, Law & Economics**

# **INFRASTRUCTURE DEVELOPMENT AND FINANCING AT EU LEVEL**

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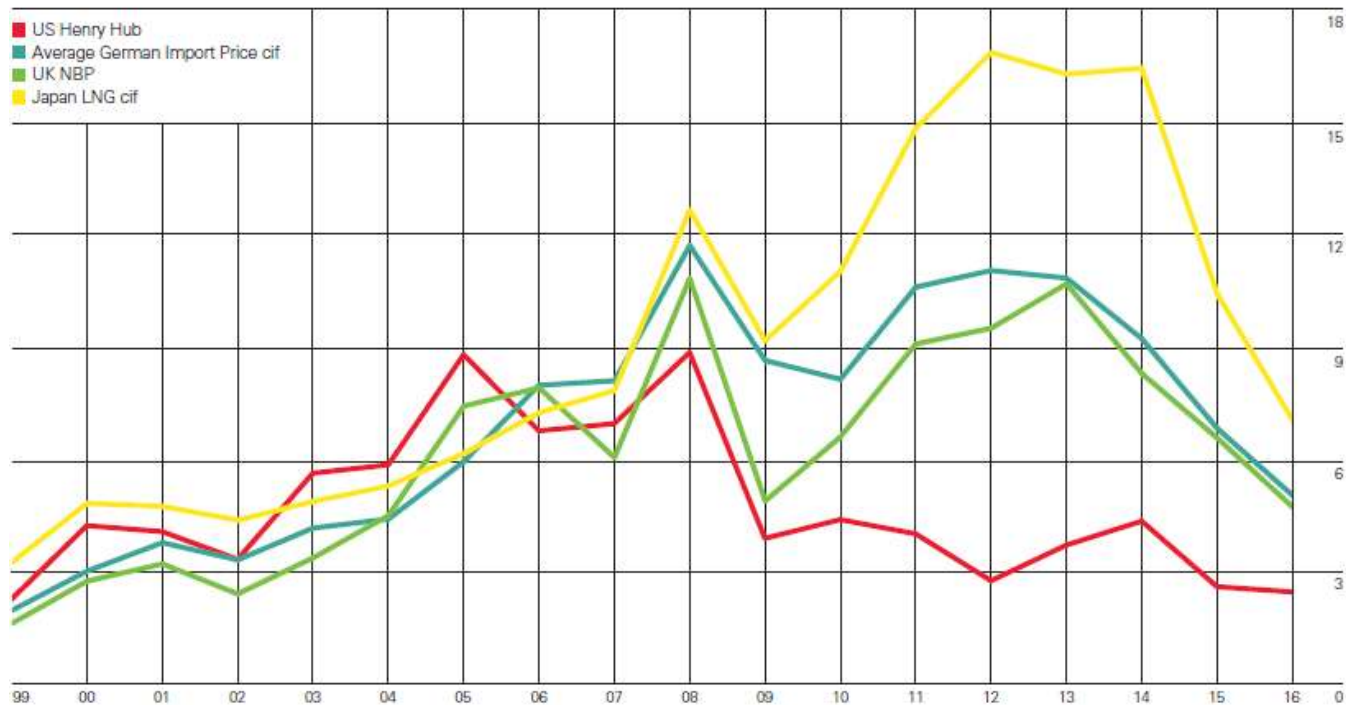
INTRODUCTION  
EU ENERGY POLICY

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# Energy policy pillars I

- Pillar 1: Competitiveness
  - Best possible prices for industry and households
- Challenges:

Prices  
\$/mmBtu



Source: BP Statistical Review of World Energy 2017

# Energy policy pillars II

- Pillar 2: Sustainability
  - 2007/2010: «20-20-20», 2011: Roadmap 2050, 2014: Targets 2030, 2015: COP 21 (“Paris Agreement”)
- Challenges:
  - High cost for RES deployment
  - CO2 Emission Trading Scheme (ETS) with limited efficiency (so far) in promoting the cleaner fuels
    - Coal prices < Gas prices for long periods
  - Asymmetric efforts to deal with climate change in different parts of the planet (at least so far)
    - “Carbon leakage”

# Energy policy pillars III

- Pillar 3: Security of supply
  - Long (availability, prices) and short term (coping with supply crises)
- Challenges (for gas sector):
  - High import dependency (~70%)
  - High concentration of suppliers
    - ~ 80% imports from Russia, Norway, Algeria
  - High dependency on import routes
  - Limited interconnections between MSs (specially in SEE)
  - Limited coordination mechanisms for dealing with supply crises

# Facing the challenges: Energy Union

COM(2015) 80 final/25.2.2015

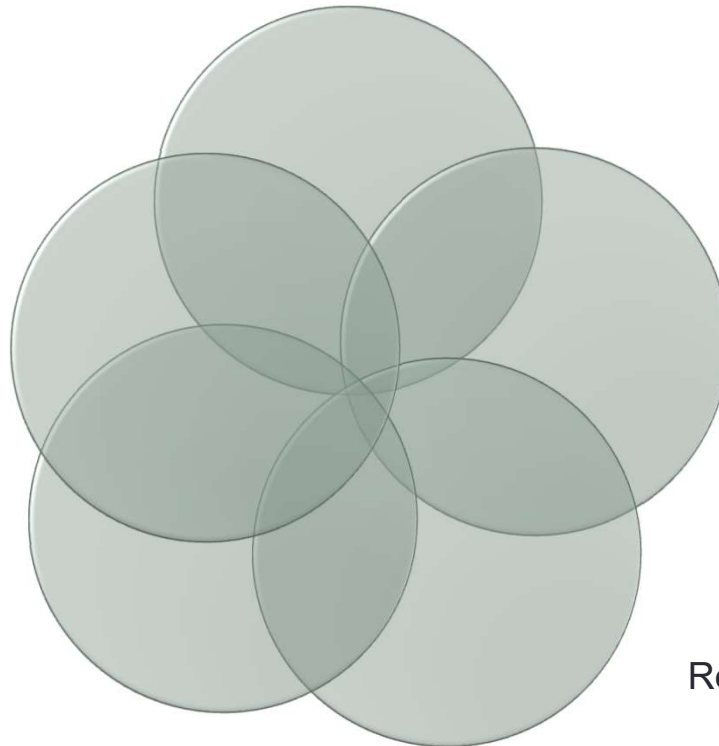
Fully integrated European  
energy market

Energy efficiency

Energy Security  
Solidarity and Trust

Decarbonization of  
Economy

Research, Innovation  
and Development





# THE ROLE OF INFRASTRUCTURE

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# Meeting energy policy objectives

- Key role of infrastructure (particularly energy networks) in fulfilling energy policy objectives:
  - Connecting markets/diversifying routes: *Competitiveness/SoS*
  - Meeting demand fluctuations/peaks: *SoS*
  - Allowing large scale RES deployment: *Sustainability*
- However, aging EU infrastructure, not “fit-for purpose” in its current state - new investments required to upgrade existing and develop new transmission infrastructure of EU importance:
  - About €140 billion in electricity and
  - at least €70 billion in gas



# The problem

- Two main types of infrastructure projects
  - Regulated
  - Merchant
- Market able to provide ~half of the required projects (of EU significance) - some projects not commercially viable/too risky but have “positive externalities”
- Need to address risk factors/financing gap in order for those projects to go ahead:
  - Financial instruments (e.g. guarantees, project bonds), to help project promoters to access necessary financing for their projects
  - Grants to (directly) contribute to the development/construction costs

# The approach

- Four steps:
  1. Identification of priority corridors
  2. Identification of priority projects
  3. Provision of financing tools/grants
  4. Facilitation of permitting procedure
- Key piece of legislation:
  - Regulation (EU) No 347/2013 on guidelines for trans-European energy infrastructure

# Regulation (EU) No 347/2013 on guidelines for trans-European energy infrastructure




- Identifies “energy infrastructure categories”: priority corridors and areas in electricity, gas, oil, and carbon dioxide



- Identifies Projects of Common Interest (PCI) necessary to implement energy infrastructure categories



- Determines the conditions for eligibility of PCI for Union financial assistance



- Provides rules and guidance for the cross-border allocation of costs and risk-related incentives for PCI



- Facilitates timely implementation of PCI by streamlining, coordinating and accelerating permit granting processes and by enhancing public participation

# Priority Gas Corridors

- North-south gas interconnections in Western Europe ('NSI West Gas'):
  - Gas infrastructure for north-south gas flows in western Europe
- North-south gas interconnections in central eastern and south eastern Europe ('NSI East Gas'):
  - Gas infrastructure for regional connections between and within the Baltic Sea region, Adriatic and Aegean Seas, eastern Mediterranean Sea and Black Sea
- Southern Gas Corridor ('SGC'):
  - Infrastructure for the transmission of gas from the Caspian Basin, Central Asia, Middle East and eastern Mediterranean Basin to the EU
- Baltic Energy Market Interconnection Plan in gas ('BEMIP Gas'):
  - Gas infrastructure to end the isolation of the three Baltic States and Finland and their dependency on a single supplier, to reinforce internal grid infrastructures, and to increase diversification and security of supplies in the Baltic Sea region.

# The “PCI” concept (I/II)

- Project of Common Interest: a project necessary to implement the energy infrastructure priority corridors and areas
  - A Union-wide list of PCIs is prepared every 2 years by the Commission, following a procedure of selecting suitable projects
    - Projects fulfilling certain criteria
    - Manageable number of projects
  - A project can be included in the PCI list if:
    - It has a significant impact/is necessary for the realization of the energy infrastructure priority corridors and areas
    - Has a positive Cost-Benefit Analysis (CBA)
    - Has significant cross-border effect
    - Has significant contribution to one of the following:
      - Market integration
      - Competitiveness
      - Sustainability
      - Security of Supply
- } Energy policy pillars

## The “PCI” concept (II/II)

- Monitoring:
  - Progress report annually by project promoters
  - Justification of any delays
  - Measures in case of unjustified delays
  - Project may be removed from the list, losing all relevant privileges
- PCIs may benefit from:
  - Accelerated planning and permit granting
    - Single national authority for obtaining permits
    - Priority status
  - Lower administrative costs due to streamlined environmental assessment processes,
  - Increased public acceptance via consultations
  - **The right to apply for funding from the Connecting Europe Facility (CEF)**
- 1<sup>st</sup> PCI list 2013, 2<sup>nd</sup> 2015, 3<sup>rd</sup> 2017

# 3<sup>rd</sup> Union PCI List 2017

## Relevant Gas PCIs: Southern Gas Corridor



# 3<sup>rd</sup> Union PCI List 2017

## Relevant Gas PCIs: North-South Interconnections Gas (East)



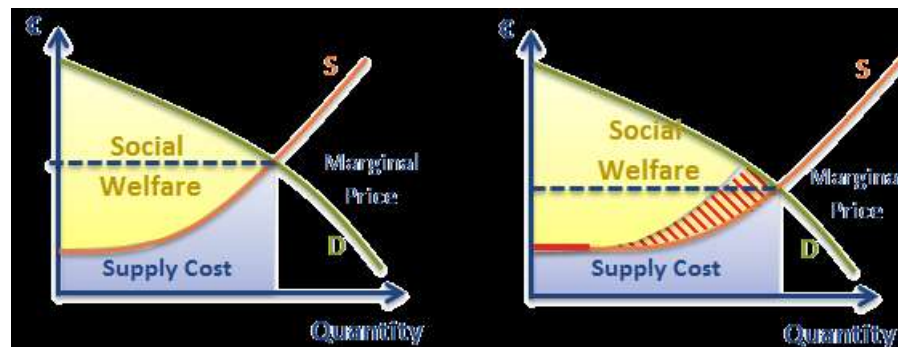


# Financing instruments of the EU

- Several ad-hoc and some more “permanent” financing instruments
- Connecting Europe Facility (CEF), a key EU funding instrument for
  - Energy
  - Telecom
  - Transport
- CEF offers:
  - Grants
  - Innovative financial instruments such as guarantees and project bonds to attract further funding from the private sector and other public sector actors.
- A total budget of €5.35 billion is made available for energy projects for the 2014-2020 period, of which €4.7 in the form of grants

# Prerequisites for financing

- Project provides significant positive externalities according to the CBA
  - SoS
  - Solidarity
  - Innovation
- Cross-border significance
- Non-commercially viable
- Cost-benefit analysis:
  - Common methodology developed by ENTSOs
  - Financial (NPV, IRR etc) and economic (socio-economic benefits) analysis
  - Economic analysis based on “incremental approach”



## Example: 2017 CEF Energy call for proposals

- The 2017 CEF Energy call for proposals will make €800 million available to finance projects of common interest in electricity and gas
- The call will support projects geared at the following objectives:
  - Ending energy isolation
  - Increasing competitiveness by promoting the integration on the internal energy market and the interoperability of electricity and gas networks across borders
  - Enhancing the Union's security of supply
  - Integrating energy from renewable sources and developing smart energy networks
  - Eliminating energy bottlenecks
  - Completion of the internal energy market
- More info:
- <https://ec.europa.eu/inea/en/connecting-europe-facility/cef-energy/calls/2017-cef-energy-call-proposals>

# References

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  - [Energy 2020: A strategy for competitive, secure, and sustainable energy \[COM\(2010\)639\]](#)
  - [A policy framework for climate and energy in the period from 2020 to 2030 \[COM\(2014\) 15\]](#)
  - [Energy Roadmap 2050 \[COM/2011/885\]](#)
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  - <http://ec.europa.eu/energy/en/topics/infrastructure>
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  - <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:115:0039:0075:en:PDF>
- Current PCI list:
  - [https://ec.europa.eu/energy/sites/ener/files/documents/annex\\_to\\_pci\\_list\\_final\\_2017\\_en.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/annex_to_pci_list_final_2017_en.pdf)
- CBA Methodology:
  - <https://www.entsog.eu/publications/cba-methodology>



Thanks for your attention!

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