Accessing LNG Regasification terminals: services



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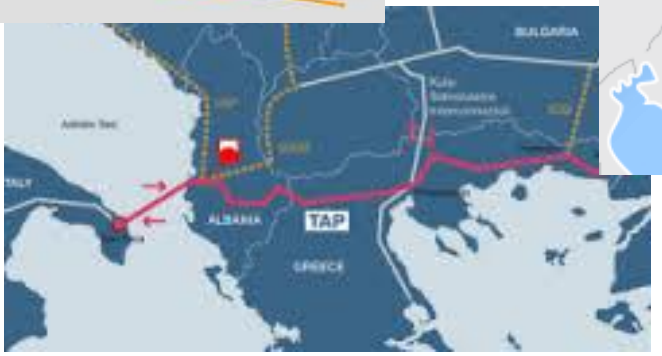
DEPA S.A.

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A short introduction to DEPA

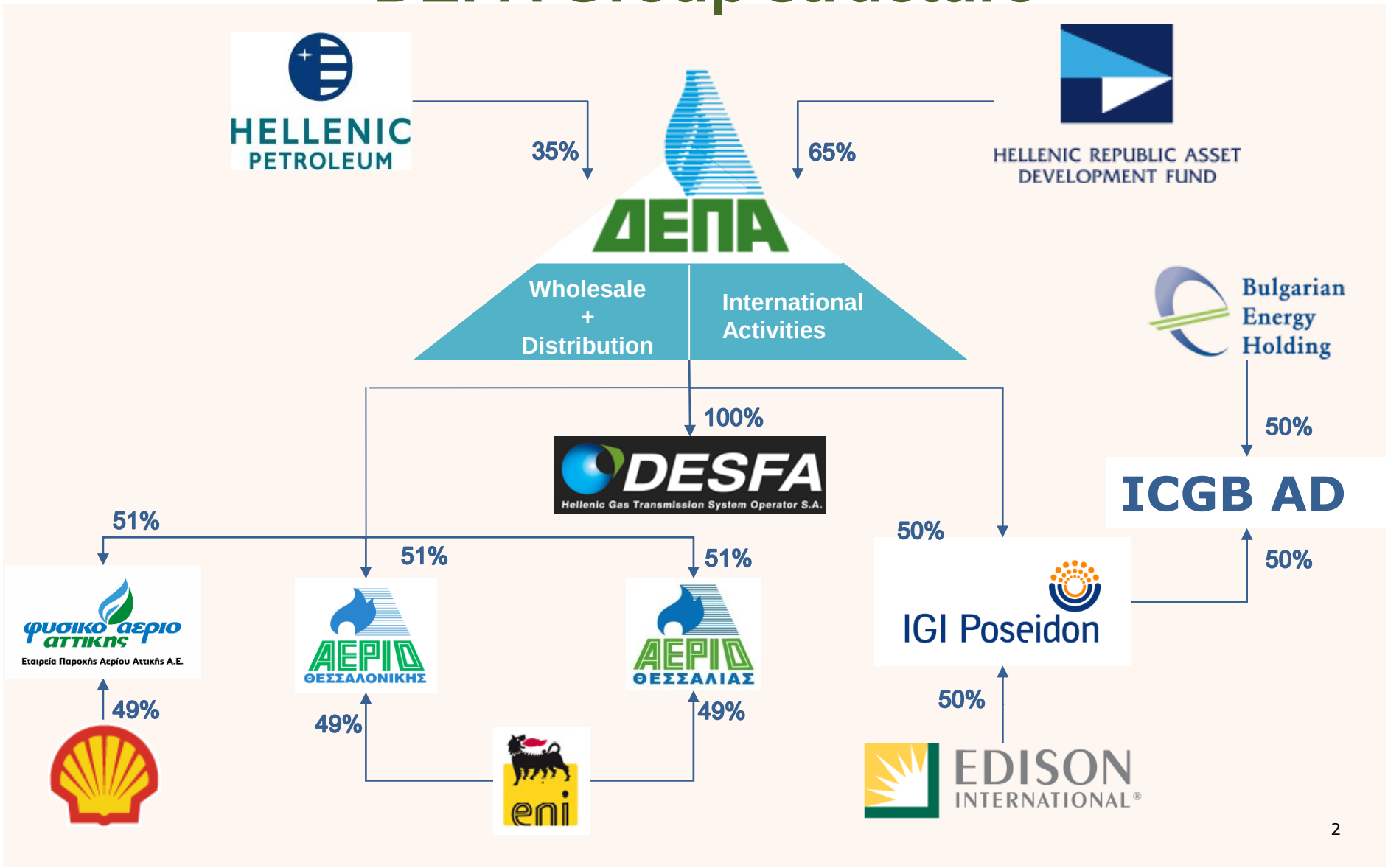








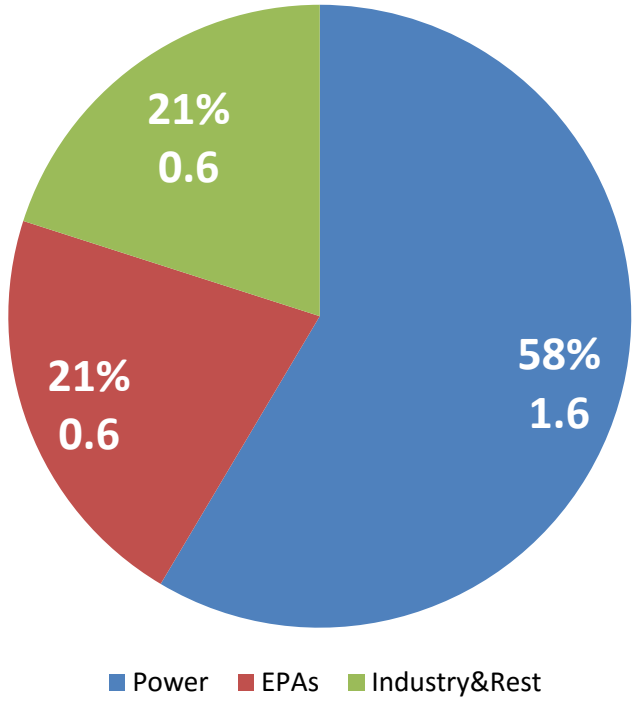
DEPA Group structure



Wholesale gas supply : key activity of DEPA

- Gas for power generation remains the dominant market sector (even following recent significantly decrease in gas consumption),
- Increasing proportion of sales to **eligible industrials**
- Industry under pressure but keeps important share
- Retail market (EPAs) with increasing role in total gas consumption.

Gas sales volumes by customer group in 2015 (3.8 Bcm)



DEPA remains the lead supplier in Greece

Established relationships with long term supplier base

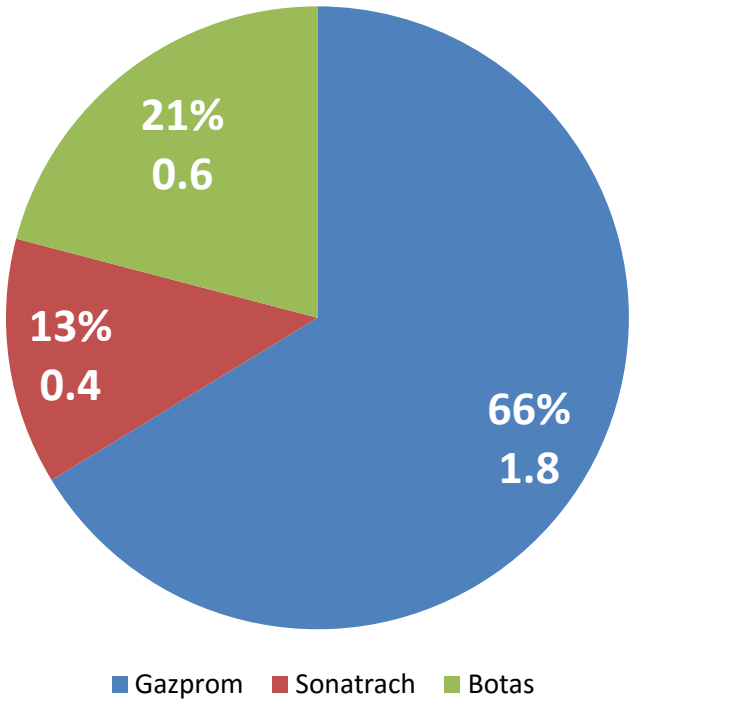
Overview of the supply sources

- DEPA is currently the only company in Greece which actively sources piped gas with long term supply contracts
- More than 90% of total DEPA's gas supplies are from long term contracts offering security of supply
- Several MSPAs for LNG carry spot price signals

DEPA active long term supply contracts

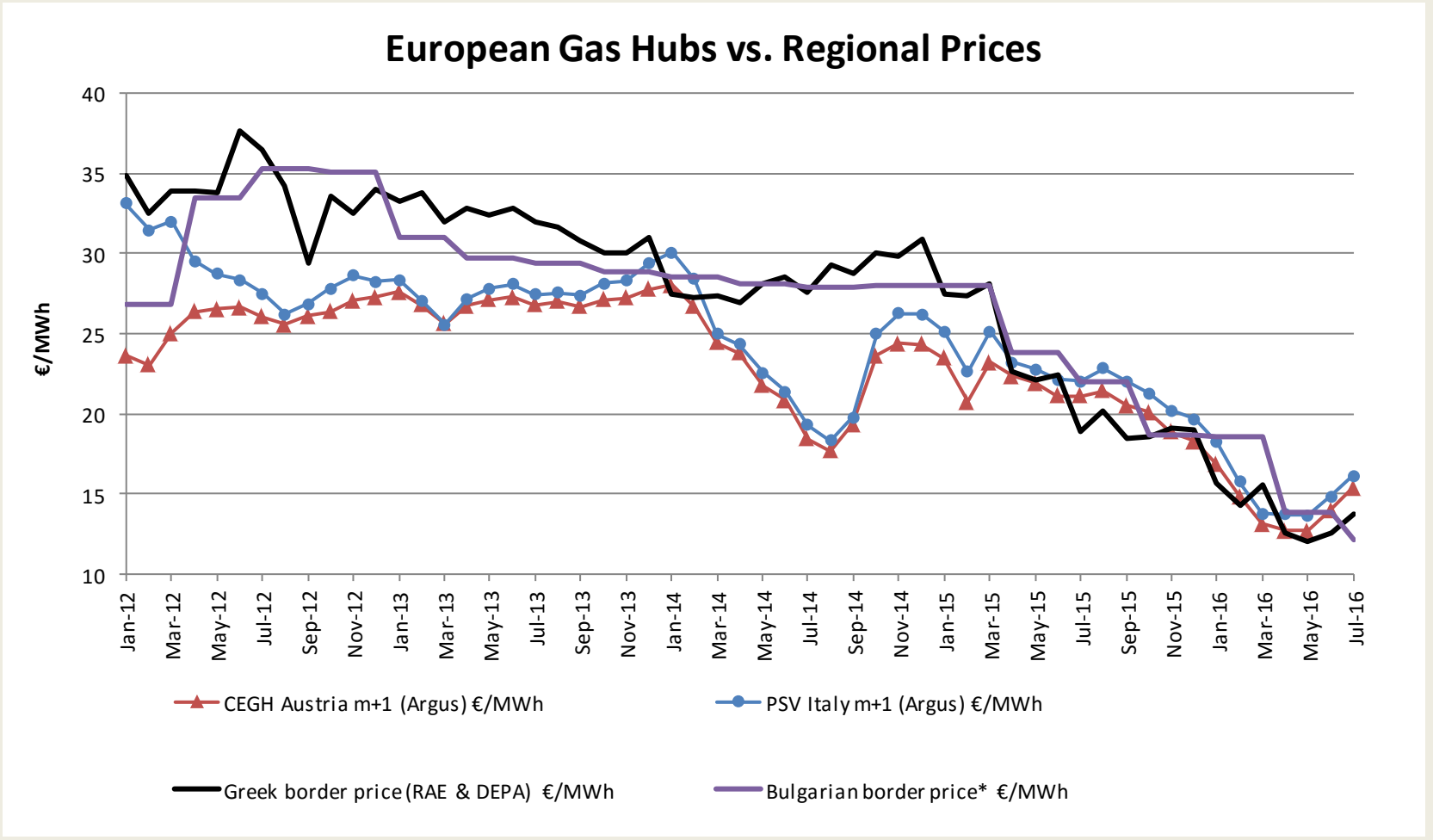
Contract term	GAZPROM	Sonatrach	Botas
Contractual ACQ (bcm)[1]	▪ 1.9 – 2.5	▪ 0.71	▪ 0.71
Contract expiry	▪ 2026	▪ 2021	▪ 2021

Natural gas volumes in 2015 by supplier (bcm)[1]



Note
1. *Under normal conditions: 1atm, 0°C, GCV = 9600 kcal/m³ @0°C*

Regional Prices vs. European Gas Hubs



* Bulgarian border price includes indigenous production

Greek Market in a nutshell

Some initial trading activity at the Greek Hub

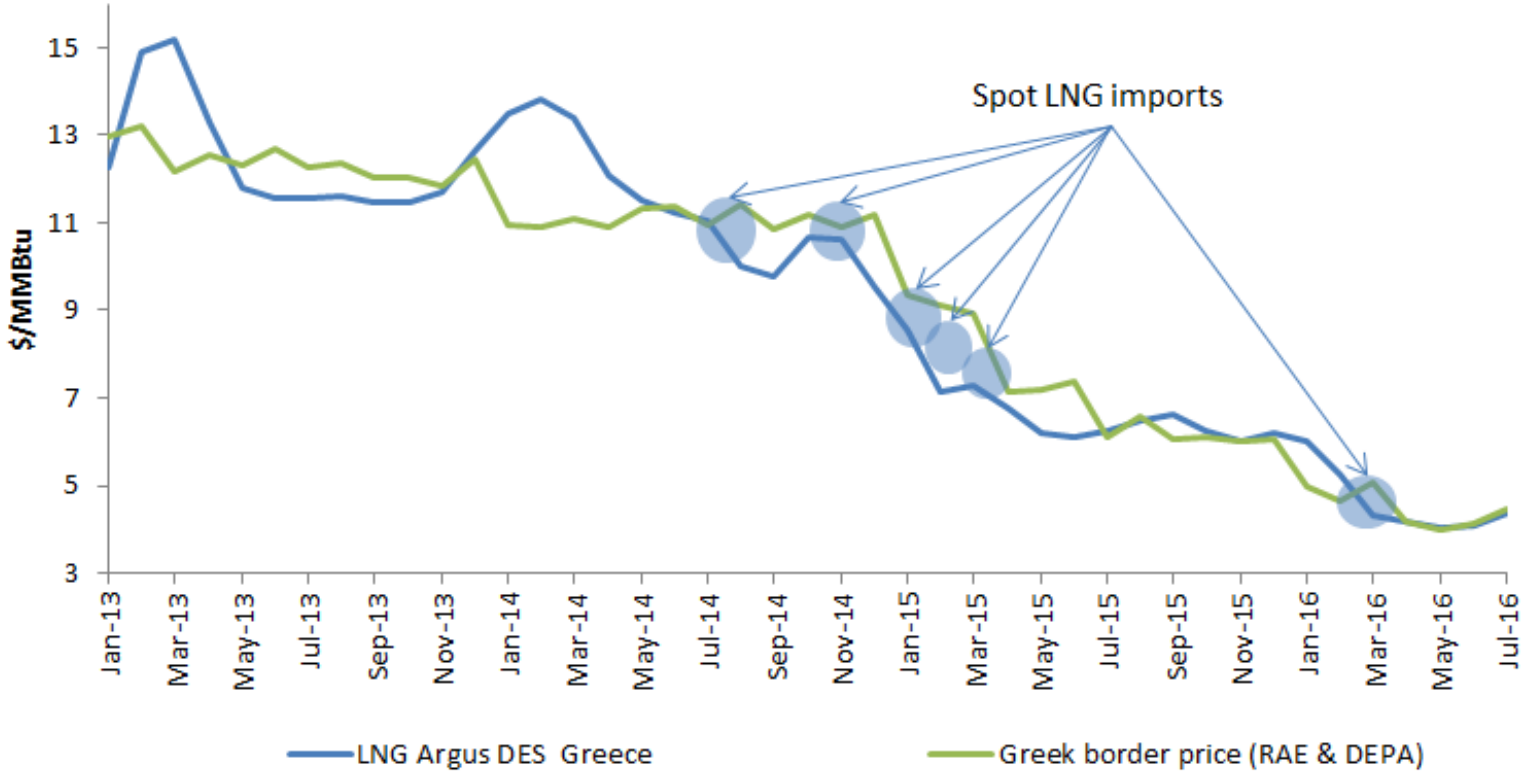
In the last 3months, **50%** of gas delivered was previously traded at the Virtual Nominations Point (VNP)



Regulatory reforms and new projects boost liquidity in the Greek Market:

- Entry Exit system since 2013
- Subsequent Hub development
- Gas Release program by DEPA
- TPA to Entry Points (regular release of unused border capacity)
- Revithoussa Expansion will strengthen hub-priced imports
- Transit pipelines TPA by design (TAP, IGB etc.)
- Interconnection Agreement between DESFA & BTG (capacity auctions soon)
- New Network Code expected end of 2016
    - fully birectional Entry/Exit Points
    - intraday renominations
    - much tighter balancing tolerance limits

Revithoussa: Gate to spot prices



Greek imports agile to prices

- LNG price slump on Q1-2014 motivated SPOT LNG imports to the Greek market
- Current gas prices make LNG-fed flows unattractive, but great potential

The Revithoussa Experience - 1

Revithoussa LNG Terminal

- Conceived from the beginning for several strategic NNGS objectives:
  - Providing a southern source to an otherwise North-loaded gas system (hydraulics)
  - Providing access to LNG, then the only alternative to Russian gas (Security of Supply)
  - Cover seasonal peaks in demand (flexibility)
  - Cover organic growth in demand (expansion)

- Therefore,
  - Seen as an essential and indispensable add-on to the Transportation System
  - Largely remunerated by socialising most of its costs into Transportation Tariffs.

The Revithoussa Experience - 2

Revithoussa LNG Terminal – Now

- Currently Offers:
  - MedMax and Conventional LNG carrier offloading
  - Temporary LNG storage, regasification and sendout
  - LNG carrier inerting and cooldown services
- Remunerated through a bundled-service tariff
- Vastly under-utilised in recent years, leading to
  - Ready to receive more cargoes
  - ‘Free’ LNG storage space and forgiving residence times
  - High losses percentages, allocated to Users
  - Under-recovery of CAPEX/OPEX, mortgaging future users
- Potential shortage of storage space is cured by Regulation
  - In-tank bilateral trades and joint cargoes allowed by NNGS Code

The Revithoussa Experience - 3

Revithoussa LNG Terminal – What next?

- New challenges:
  - Transit regasified LNG flows from Greece into Bulgaria and further
  - Small-scale LNG including LNG bunkering
  - LNG truck loading
  - LNG trade, including reloads
  - No-loss terminal
  - Industrial Symbiosis to exploit coolth (produced in regasification)
  - LNG-to-gas-to-LNG
- Hardware afoot , albeit with limitations
- Regulation also needs to adjust to new reality

Revithoussa - Coming of age

- Continuous Improvement to Revithoussa:
  - Incentives to Operator to drive losses gradually to zero (reduce burden to Users)
- Multiple types of access to Users
  - Mainstay of bundled service of LNG import, regas and sendout
  - Separate services of LNG import, storage, regas+sendout
  - LNG tanker services (inerting, cooldowns)
  - Reloading and down-packaging (large re-export, smaller re-exports)
  - LNG bunker feeder services
  - LNG truck loading
  - Provision of coolth for industrial use or District Cooling
- Tariffs for each of these types of access

Revithoussa for Regional Trade

- Opening of IP Kulata/Sidirokastro (Bulgaria-Greece) complete for
  - Virtual reverse flow
  - Limited physical reverse flow
- Open questions:
  - Should Revithoussa cost socialisation remain?

  Transit flow costs (Revithoussa to North) may be lower however, at the expense of domestic costs (mainly North to South)
- Need to strike the right balance between
  1. motivating increased Revithoussa use and
  2. Creating fair pricing between transit and domestic users

Gas swaps Sidirokatro-Revithoussa quite difficult due to I.A. regime

Current state: Gas delivered southbound at the Bulgarian - Greek border only allowed to be rerouted northbound back to Bulgaria, if first imported in Greece (ESFA Entry Capacity charge) and re-exported back into Bulgaria (ESFA Virtual Reverse Capacity charge).

Impact:

i. Increased cost (ESFA Entry Capacity charge+ ESFA Virtual Reverse Capacity charge)

ii. Increased difficulty for DEPA to fulfil its commitment to the Greek Competition Commission to decrease its booked capacity at Sidirokastro

iii. Possible operational (unwanted) congestion in the Greek transportation system

Point (i) hampers locational gas swaps between Revithoussa and Sidirokastro

Proposed state: Eliminate obligation for import and consequent re-export in the Greek NTS and allow direct backhaul to the Bulgarian system

- **A solution could be, initiation of non-physical trading at Sidirokastro, which would allow reverse flow, with a provision of a fee to cover OPEX of TSOs for this service**

Thank you!



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