

# **TYNDP 2018**

## **Tariff assumptions for existing infrastructure and projects**



# Considering infrastructure charges

## *CBAM update requested by stakeholders, ACER, and the EC*

- > For market-driven flow modelling and refined supply mixes
  
- > ➔ Considering infrastructure cost in the modelling implies to consider **tariffs** for existing and future gas infrastructure
  - TSO charges
  - LSO charges
  - SSO charges
  
- > Looking only at TSO charges would distort the assessment... **but there are stumbling blocks**
  - A comprehensive approach of all gas infrastructure is necessary
  - Tariff data collected under the assumption that ‘tomorrow is as today’
  - TYNDP has a 20-year time horizon
  - Discrepancy between time horizons for TYNDP assessment and data availability for tariffs (a few years at best)





# Need for a global approach to tariffs



## ***Charges at Interconnection Points (IPs) and other points***

> **First**, inclusion of IP tariffs will lead to market-oriented flow patterns

- Consider IP tariffs between gas hubs
- Network user optimisation is focused on arbitrage opportunities by checking hub prices and IP tariffs (a cost for network users)
- Actual and up-to-date IP tariffs are key to market-oriented flows → **but which information source?**



> **Second**, LNG and storage tariffs must be taken into account for a comprehensive picture

- Regasification terminals are essential in many countries to ensure gas supplies
- Storage facilities provide flexibility to TSOs and network users
- Therefore, skipping LSO and SSO tariffs is not an option and would only distort the TYNDP assessment (system and projects) → **but which information source?**





# Data sources for existing infrastructure



# Sources for existing infrastructure



## *Tariff data sources for IPs, LNG terminals and storages*

- > Since December 2017, **ENTSOG's Transparency Platform (TP)** is a key source for IP tariffs
  - Art. 31 (Form of publication) of the Tariff Network Code (TAR NC) sets out that ENTSOG's TP will provide a link to tariffs published by TSOs/NRAs
  - Tariff information at IPs are published by TSOs directly on the TP
  
- > **Ongoing discussion with GLE and GSE** to access tariff data for LNG terminals and storages
  - Help from GLE and GSE is central to facilitate ENTSOG's tasks





# ENTSOG's methodology for tariffs



# ENTSOG's methodology for tariffs



## *Overview*

- > **For existing infrastructure (IPs, LNG terminals and storages)**
  - Find IP tariff components on ENTSOG's TP and/or TSO/NRA websites
  - Estimate flow costs at IPs
  - Consider tariffs at LNG/storages + TSO connection points
  
- > **For infrastructure projects (IPs, LNG terminals and storages)**
  - Use simple proxies if possible, not project costs as a basis
  - Use alternative proxies when necessary
  - In PS-CBA, sensitivity analysis necessary for tariffs at new projects



# ENTSOG's methodology for tariffs (1/5)



## For existing infrastructure (1/2)

### 1. Find IP tariff components on ENTSOG's TP and/or TSO/NRA websites available from the link on ENTSOG's TP

- Consider **yearly firm tariffs** at each side of EU internal IPs (and 3<sup>rd</sup> country IPs if available) → same as ACER's MMR
- Yearly tariffs: assumption that yearly products are the most subscribed products, as shown by recent data from a majority of EU TSOs for ENTSOG's draft TAR NC monitoring report

- Get capacity and commodity components
- Tariffs valid at 1 January 2018
- Apply unit conversions (exchange rates at 1 January 2018, GCV, capacity/commodity units)
- Data is then converted to a 1 GWh/d flow
- Cross-check with ACER's MMR data

Tariff Period	Point Name	Direction	Operator	Capacity type	Product Type	Applicable tariff in common unit [value]	Applicable tariff in common unit [unit]	Start time of validity	End time of validity
01/01/2017 06:00 01/01/2021 06:00	Oberkappel	entry	Gas Connect Austria	Firm	Yearly	0.00356164	Euro/(kWh/h)/d	01/01/2017 06:00	01/01/2021 06:00
01/01/2017 06:00 01/01/2021 06:00	Überackern ABG (AT) / Überackern (DE)	exit	Gas Connect Austria	Firm	Yearly	0.00942500	Euro/(kWh/h)/d	01/01/2017 06:00	01/01/2021 06:00
01/01/2017 06:00 01/01/2021 06:00	Oberkappel	exit	Gas Connect Austria	Firm	Yearly	0.00942500	Euro/(kWh/h)/d	01/01/2017 06:00	01/01/2021 06:00





# ENTSOG's methodology for tariffs (2/5)

## For existing infrastructure (2/2)

### 2. Estimate flow costs first at each side of the border, then at the IP

- Load factor: an assumption on the usage profile of the capacity. Assumed: **LF = 100%** → same as ACER

$$\text{Load factor} = \frac{\text{Average flow}}{\text{Peak flow}}$$

**MMR:**

E.g. when the entire IP charge is expressed in volume units (e.g. Bulgaria BGN/1,000 m<sup>3</sup>), and also for the tariff commodity component that several TSOs apply, the assumption made is that the volume equivalent to the simulated energy content (i.e. 365 GWh/year) is flown constantly along the yearly period. This would equal to a capacity load factor of 100%. This supposition leads to an estimation of cross-

- Focus on hub borders by weighting tariffs at each border side with technical capacity
- Tariffs are first fully 'commoditised' into costs per flow unit, in EUR/(GWh/d)/y at each side of border
- Then, conversion to EUR/(GWh/d)/d by dividing by 365 and using the assumed LF of 100%, with peak flow equal to booked capacity

PL to CZ	POLAND	CZECH REPUBLIC	Cieszyn/Cesky Tesin Gas System	Weight	100%
PL to DE_GPL	POLAND	GERMANY_GPL	Mallnow TGPS Europol Gaz	Weight	100%
PL to UA	POLAND	UKRAINE	Hermanowice Gas System	Weight	100%
PT to ES	PORTUGAL	SPAIN	VIP IBERICO REN	Weight	100%
RO to BG	ROMANIA	BULGARIA	Negru Voda I / II Transgaz	Weight	100%

→ Finally, add up the entry and exit sides to get flow costs at existing IPs



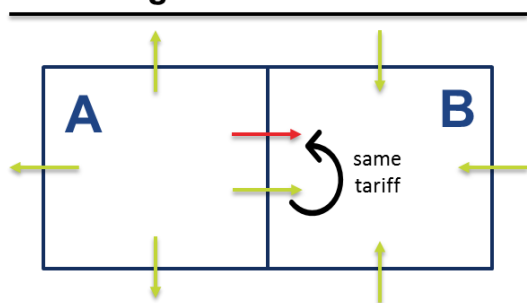
# ENTSOG's methodology for tariffs (4/5)

## For infrastructure projects (1/2)

Any calculation of tariffs based on announced project costs would be influenced by too many possible parameters (f-factor from CAM NC, CBCA analysis, CEF, tariff methodologies...) → therefore, **an harmonised methodology using proxies** is better

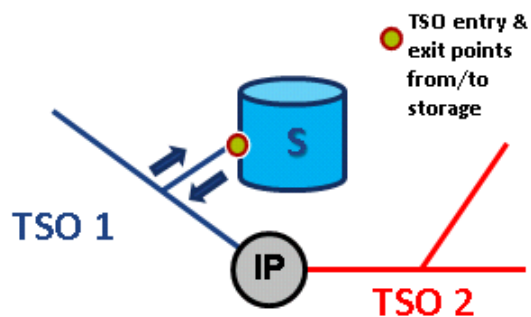
→ Start with **a simple proxy for tariffs at IPs, storage points and LNG points** if possible

### Existing border

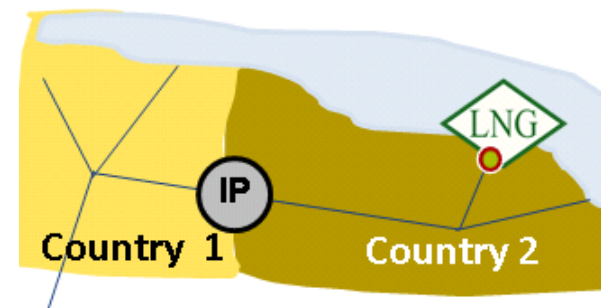


same entry/exit tariff of the existing IP

**IPs:** 1. use average tariff of existing IPs in TSO systems if any



**Storages:** 1. use average tariff of existing storages in TSO systems if any + GSE for SSOs



**LNG:** 1. use average tariff of existing LNG terminals in TSO systems if any + GLE for LSOs

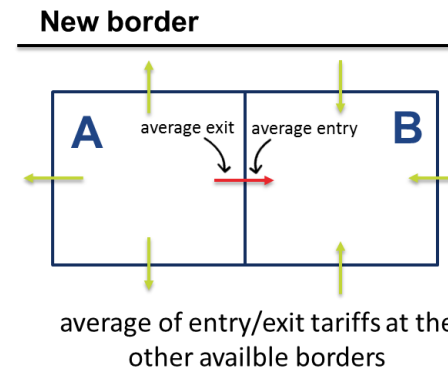
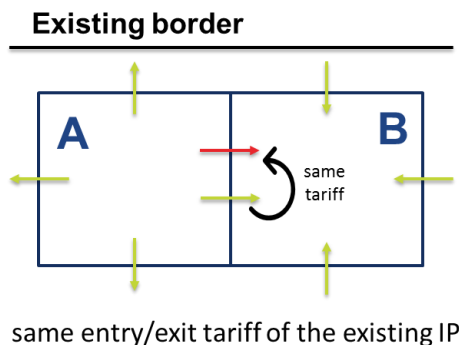
But in many cases, no existing equivalent infrastructure → need for **refined proxies**



# ENTSOG's methodology for tariffs (5/5)

## For infrastructure projects (2/2)

- > Setting tariffs for new projects is a complex process: outcome is difficult to anticipate
  - For CBA, **level-playing field** assessment requires a standard methodology
  - The modelled tariff will impact on the 'over whole year, use of the project
- > In case of new interconnection A->B



- > In case of new LNG/UGS facilities
  - if facility already existing in the country – average of the existing tariff (entry/exit)
  - if no facility existing in the country – average of all facilities in EU (entry/exit)

**Proposal: in PS-CBAs, perform a sensitivity analysis on new projects tariffs (projects highly impacted by the tariff assumptions)**



# Thank You for Your Attention

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