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COMMISSION DE RÉGULATION DE L'ÉNERGIE

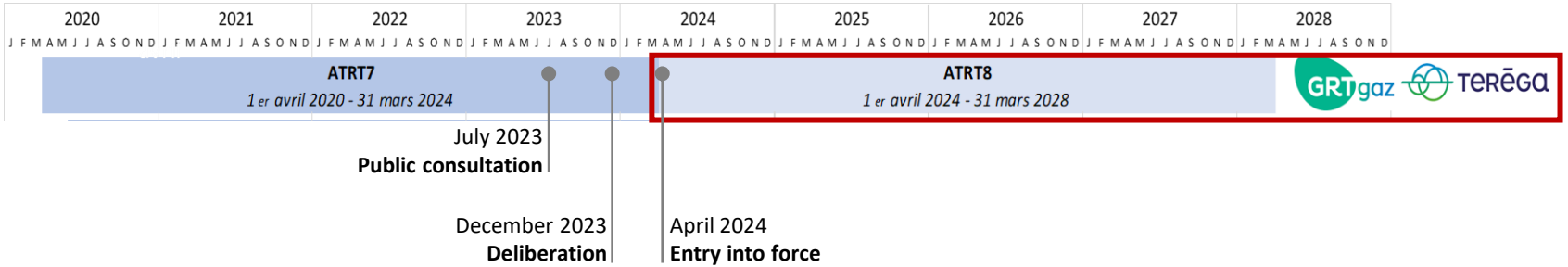
Gas Infrastructure Tariffs – 2024-2027

Workshop n°2
Gas Transmission Tariff Structure

Context and agenda

This **2nd tariff workshop** is dedicated to **the tariff structure of the gas main transmission network (called Reference Price Methodology or RPM in the Tariff Network Code)**. This workshop aims at presenting the challenges of the next regulatory period ATRT8 (2024-2028) in terms of tariff structure in the context of:

- **a significant decrease of bookings** on the main transmission network due to the end of long-term capacity contracts during the next tariff period;
- **the evolution of gas supply and demand patterns in Western Europe** and its impact on cross-border flows.



Objectives of the workshop

After a first part explaining how the current French transmission tariff structure works, the workshop will focus on:

- Identifying the main challenges to set an adequate tariff structure (RPM) for the next regulatory period;
- Presenting the preliminary orientations and quantitative results.

During the Workshop :

- Participants are invited to ask questions as they come up in the Teams chat, which will be summarized by our moderator.
- Several moments during the workshop will be dedicated to answering your questions written in the chat.
- We remind you that this workshop will be recorded for internal synthesis purposes and then deleted before December 31, 2023.

At the end of the workshop, it is possible :

- to send additional information or questions to CRE
- to request an exchange with the CRE teams → tarifs-infras@cre.fr

Workshop Agenda

1. **Overview of the main tariff principles and TAR Code**
2. Preliminary orientations for the main transmission network structure for ATRT8

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French natural gas transmission network

Network structure:

- The **main transmission network** is dedicated to both domestic and transit uses. It also enables gas to be injected and withdrawn from storage facilities;
- To reach domestic consumers, the gas exits the main network and then flows through the **regional transmission network**.

Key elements of the main transmission network:

- **5 Interconnection Points** (IPs) with neighbouring countries: Dunkirk (Norway), Virtualys (Belgium), Obergailbach (Germany), Oltingue (Switzerland and Italy) and Pirineos (Spain);
- **3 entry points from the LNG terminals**: Dunkirk (North sea), Montoir (Atlantic ocean) and Fos (Mediterranean sea). Another LNG entry point will be added in September 2023 with the connection of a FSRU in Le Havre (Channel);
- **6 entries/exits from storage facilities** : North-West, North-Atlantic, South-East, North-L gas, North-East, South-West groups;
- Approximately **700 domestic delivery points** to the regional network towards distribution networks or large consumers.

Project - For consultation purposes only

Revenues and costs allocation on the main and the regional transmission networks

For the current regulatory period ATRT7 (2020-23), CRE has decided that tariff terms applied to points on the main network should exclusively cover the costs of the main network ➔ no cross-subsidies with the regional network over the regulatory period.

Based on data shared by operators over the period 2020-2023, the costs recovered from main network tariffs and regional tariffs were as follows:

Main Tr. Network	Regional Tr. Network
% revenues and costs GRTgaz + Teréga (2020-23)	
46% **around 900 M€**	**54 %** **around 1 077 M€**

CRE will audit operators demands for the next regulatory period ATRT8 (2024-27). At first sight, the **46% share of costs to be collected from main network tariffs** is not expected to change significantly – **this assumption is kept in the rest of this presentation.**

→ The following presentation will be focused on the evolution of the main network tariff structure (RPM).

→ Regarding regional transmission network tariffs, CRE teams do not foresee at this stage any major changes at this stage during the next regulatory period.

Share of allowed revenue of the main transmission network collected by type of point during ATRT7 period

	Entry points	Exit points
Revenue distribution (average per year)	34%	66%
IPs	21%	21%
LNG Terminal	11 %	-
Storages	2%	2%
Domestic	-	43%

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Gas transmission Tariff Network Code

Regulation (EU) 2017/460 (Tariff Network Code or NC TAR) mainly aims at harmonizing reference price methodologies i.e. gas transmission tariff structures in Europe. The main principles to be followed when establishing a tariff structure are as follows:

- It provides for obligations of **transparency** and **non-discrimination** between different categories of users.
- It requires that **the tariff terms reflect the costs supported by the TSOs.**
- It defines a reference price methodology for calculating tariffs (**Capacity Weighted Distance** "CWD"), that must be used as a comparison with the proposed methodology. To achieve an adequate cost reflectivity, the CWD methodology uses two cost drivers:
  - **the distance travelled by the gas** between the entry and exit points of the main transmission network,
  - the level of **capacity bookings.**
- It requires that **cross-subsidies** between network users be minimized. **Unit costs to be recovered from domestic users and transit users have to be compared.** Any difference above 10% between these unit costs must be justified.

Implementation of the NC TAR requirements during the ATRT7 regulatory period (2020-23)

1. 100% capacity-based tariffs: Shippers buy a right of use and reserve capacity that they pay for, regardless of the use they make of it → no commodity charge

→Using only capacity tariffs is consistent with the actual cost drivers of the transmission system. Indeed, most of TSOs' costs are fixed and largely correlated with the length of the network and its peak capacity.

2. Equalization of tariffs for homogenous groups of points: entry IPs, entry points from LNG terminals, entry/exit points to/from storage facilities, exit points to the regional networks.

→ Equalization of entry tariffs provides shippers with the opportunity to choose the most competitive supply source.

3. Entry/exit split: during the ATRT7 regulatory period, CRE decided to apply a **34%/66% entry/exit split**, meaning that 34% and 66% of the main network costs are recovered from entry and exit points, respectively. The simulations presented in the next slides assume that the **entry/exit split would remain the same during the next regulatory period.**

Question

Do you have comments on the hypothesis of a 34%/66% entry/exit split used for the simulations?

ATRT7 Tariff Structure Parameters (1/2)

- **<u>Step 1</u>: Determination of distances travelled by gas based on flow scenarios (assignment of relevant entry points to relevant exit points)**
  - **Principle of the Tariff network code:** exit points should be supplied by the nearest entry point(s) (optimization of the overall distance between network points). Possibility to derogate from this principle, and to predefine or prohibit flow patterns for certain points, reflecting the use of the transmission system according to likely supply and demand patterns.

→ **Two configurations during the year**: Storages are exit points during summer (injection period, 7 months), and entry points during winter (withdrawal period, 5 months).

	Predefined/prohibited flow scenarios in ATRT7 in summer				
Exit point	Domestic (regional network)	Pirineos (Spain)	Oltingue (Switz. / Italy)	Virtualys (Belgium)	Storages
Predefined or prohibited entry point(s)	LNG terminals and IPs excl. Pirineos	Dunkirk IP only	Dunkirk IP only	LNG terminal Dunkirk	LNG terminals and IPs except Pirineos

	Predefined/prohibited flow scenarios in ATRT7 in winter			
Exit point	Domestic (regional)	Pirineos (Spain)	Oltingue (Switz. / Italy)	Virtualys (Belgium)
Predefined or prohibited entry point(s)	LNG terminal, storages and IPs excl. Pirineos	Dunkirk IP only	Dunkirk IP only	LNG terminal Dunkirk

ATRT7 Tariff Structure Parameters (2/2)

Distances resulting from the gas flow scenarios used for ATRT7

Exit point	Pirineos (Spain)	Oltingue (Switzerland / Italy)	Domestic (to the regional networks)	Storage
Average distance travelled by gas to supply exit points	1 072 km	762 km	253 km (average)	345 km

Step 2 : Determination of tariffs based on these distances and the capacity booked at each point:

- Allocation of costs to be recovered from entry and exit points (34% vs. 66%)
- At entry points : equalization of tariffs by type of point (IPs/LNG terminals/ Storages)
- At exit points : equalization of storage tariffs and equalization of exit tariffs to the regional network
- Application of 80% discount to the storage tariff (as provided for by Art. 9 of the NC TAR).

➔ Considering these constraints, the tariffs applied to each point are defined so that the unit cost (in €/km/MWh/d) of domestic and transit gas “routes" (i.e. the sum of the entry and exit tariff terms divided by the distance travelled) is the same.

Current tariffs on the main transmission network for 2023

€/GWh/d/y	Entry point	Exit point
LNG terminals	95,13	-
Ips (entry)	105,70	-
Taisnières B	81,99	-
Obergailbach (exit)	-	375,60
Oltingue (exit)	-	386,85
Pirineos (exit)	-	587,20
Storage	9,22	21,53
Domestic exit points	-	95,20

Review of capacity bookings during ATRT7

Bookings assumptions used to set the tariff structure in 2019:

GWh/d/y	Entry points	Exit points
IPs	1 805	378
LNG	994	-
Storages	2 401	1 088
Domestic exit points	-	4 210
Total	5 200	5 725

Actual bookings (average per year over the regulatory period 2020-23)

GWh/d/y	Entry points	Exit points
IPs	1 776	426
LNG	1 056	-
Storages	2 423	1 095
Domestic exit points	-	4 065
Total	5 256	5 586

Overall, actual bookings during the ATRT7 regulatory period were in line with forecasts, except at domestic delivery points (lower).

Question

Do you have questions / comments / feedbacks on the current ATRT7 tariff structure parameters?

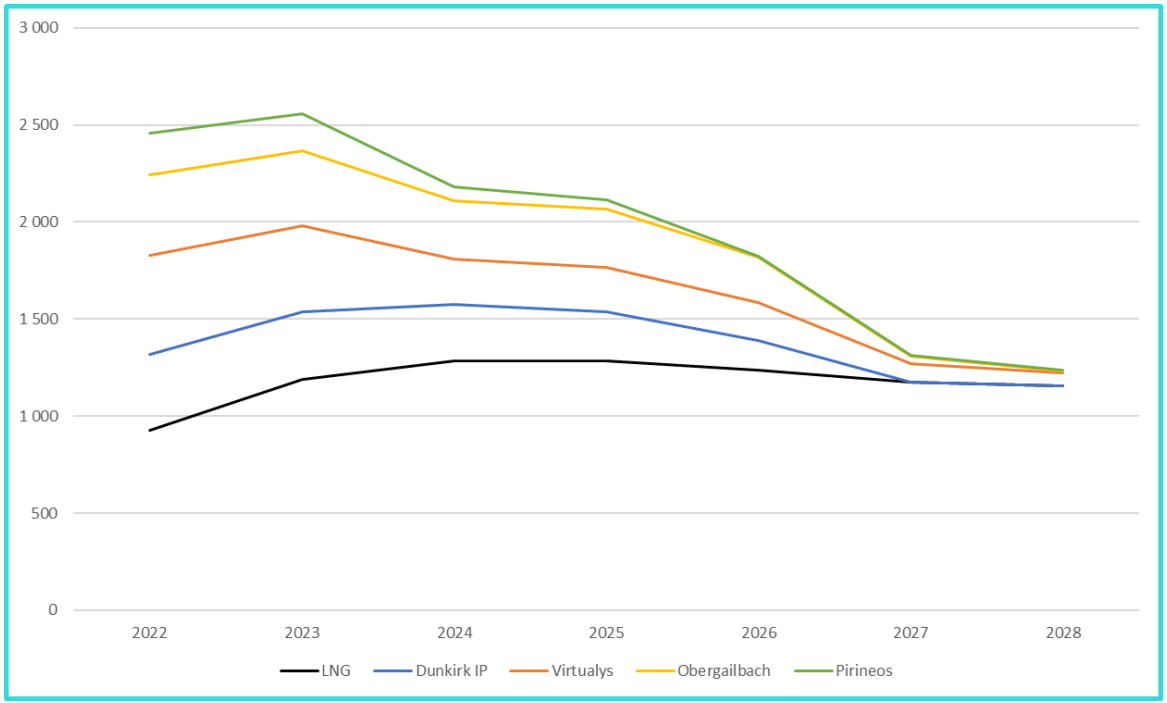
Workshop Agenda

1. Overview of the main tariff principles and TAR Code

2. **Preliminary orientations for the main transmission network structure for ATRT8**

Expected decrease in long-term bookings and evolution of demand and supply patterns over the ATRT8 period (1/2)

Long-term booked capacity at IPs and LNG entry points (stacked curves – in GWh/d)



(1) The long-term booked entry capacity at the interconnection points is **gradually decreasing throughout the ATRT8 period**. These capacities may not always be replaced by shorter-term bookings.

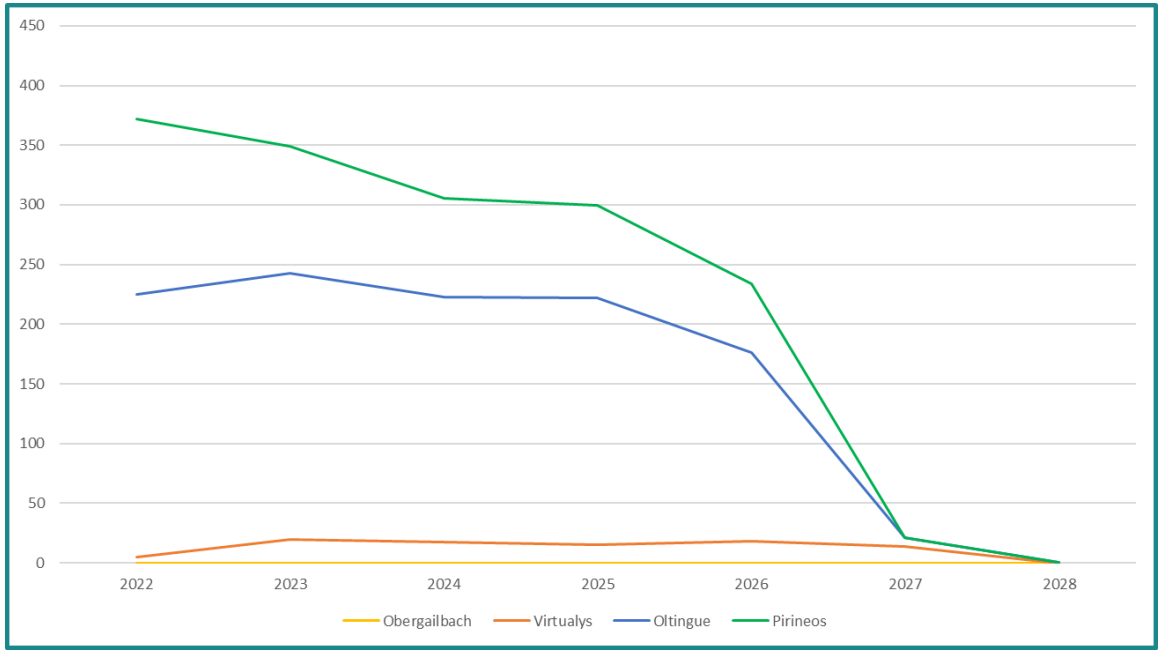
This induces **an uncertainty regarding the amount of capacity bookings** that TSOs can charge. A **decrease of capacity bookings would mechanically result in a tariff increase.**

The end of long-term bookings also requires to **reassess the flow scenarios used to set the tariff structure**. The ATRT7 flow scenarios were consistent with the historical supply patterns (supply of Spain (Pirineos IP) and Italy (Oltingue IP) by Norwegian gas coming from the Dunkirk IP).

➔ These effects will be partly mitigated **by long term capacities recently booked on the French LNG terminals** (including the new FSRU at Le Havre).

Expected decrease in long-term bookings and evolution of demand and supply patterns over the ATRT8 period (2/2)

Long-term booked capacity at IPs exit points (stacked curves – in GWh/d)



(2) The long-term bookings at exit IPs will also decrease over the **ATRT8 period**.

Moreover, the decrease of Russian gas supply has led to a **major change in gas supply patterns**. The resulting altered supply patterns (South→North and West→East) should still be valid throughout the ATRT8 period. However, some uncertainties remain regarding the amount of gas exports to the East of Europe, depending on the pace of LNG terminals commissioning, for instance in Germany.

(3) The level of **bookings at domestic exits will depend on the decrease of gas consumption** (impact of sobriety, energy transition, gas prices…).

The main transmission network's tariff structure has to balance conflicting constraints and challenges

Ensuring cost reflectivity and non-discrimination

- Entry/exit split
- No cross-subsidy between intra-system (domestic consumption) and cross-system uses (unit cost)

Taking into account the decrease in bookings and the evolution of supply & demand patterns

CRE's preliminary hypotheses for ATRT8 vs. actual bookings over the past ATRT7 period

- Bookings at external points (IPs and LNG terminals connexion points)
  - Entry: -12 %
  - Exit : + 2 %
- Domestic exist bookings: -1 %

Relative levels of tariff terms

Consistency of flow scenarios used for calculating the distances

- Consistency with the costs attributed to the different network users
- Adequacy with the new supply and demand patterns

Tariffs' affordability

- Relevant tariff level at all points
- The tariff level should not hamper the security of supply

Questions

Do you agree with the main challenges identified for the ATRT8's structure?

Do you consider other elements should be taken into account?

The tariff's structure is based on three main sets of parameters

- The tariff structure is based on three main sets of parameters:
  1) the level of bookings expected during the regulatory period: the simulations presented here are based on a set of preliminary hypotheses made by CRE;
  2) the flow scenarios: three scenarios tested
     - Scenario A: identical to ATRT7, for comparison purposes
     - Scenarios B and C: two new scenarios based on different reasonings, attempting to grasp the new context
  3) secondary adjustments (art. 6 and 9 of TAR NC), with the possibility to introduce:
     - A tariff equalisation for a homogeneous group of points
     - Discounts on tariffs at LNG and/or storage points

➔ The **significant evolution of the context compared to the current regulatory period** (decrease in long-term contracts, evolution of gas demand/supply patterns) implies an evolution of parameters, **and in particular of the flow scenarios**.

Disclaimer

- All hypotheses are **preliminary, working hypotheses** for simulations purposes:
  - They do not reflect the final decision of CRE, nor the state of discussions with TSOs
  - They may evolve in the coming weeks/months
  - The hypotheses, possibly modified, will also be included in the July public consultation
- The simulations are based on the **same allowed revenue as 2023**:
  - They do not reflect the TSO's assumptions for their expected allowed revenue over the ATRT8 period nor the level that will be set by CRE
  - They only reflect the impact of the envisaged evolutions of tariff structure / RPM compared to the current ATRT7 regulatory period

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Booking hypotheses

- As presented previously, **the level of bookings expected for the ATRT8 period is uncertain**.
- The simulations presented today are based on a set of preliminary hypotheses made by CRE:
  - These hypotheses are **based on the existing long-term bookings for the ATRT8 period, and on the short-term bookings and demand/supply patterns observed in the previous months**;
  - The hypotheses are **consistent with the level of gas demand in France**;
- These hypotheses **are preliminary and might evolve throughout the next months before ATRT8 tariffs are set**.

	Entry	Exit
Dunkirk IP (Norway)	530 GWh/j	
Virtualys IP + Taisnières B (Belgium)	250 GWh/j	40 GWh/j
Obergailbach IP (Germany)	220 GWh/j	75 GWh/j
Oltingue IP (Switzerland - Italy)		230 GWh/j
Pirineos IP (Spain)	225 GWh/j	90 GWh/j
PITTM (LNG terminals)	1 255 GWh/j	
Domestic exits (regional network)		4 018 GWh/j
Total (excluding storage points*)	**2 481 GWh/j**	**4 453 GWh/j**
Total ATRT7 (incurred, excluding storage points)	*2 833 GWh/j*	*4 491 GWh/j*

** Booking hypotheses for the storage points are consistent with the storage technical capacities*

Question

Do you have comments on the hypotheses of capacity bookings used for the simulations?

Secondary adjustments

The Tariff network code allows for secondary adjustments, including:

1) Tariff equalisation for homogeneous groups of points

- For the ATRT7 regulatory period, the tariffs were equalised for the following homogenous groups of points:
  - Entry at IPs
  - Entry from LNG terminals (PITTM)
  - Entry from storage facilities
  - Exit to storage facilities
  - Domestic exits from the main network
- CRE teams **envisage to maintain these parameters for the ATRT8 regulatory period**.

2) Discounts at storage or LNG connection points

- A 80 % discount was applied at the storage entry and exit points during the ATRT7 period.
  - For the ATRT8 period, CRE teams consider to **maintain a level of discount that will ensure that the same level of revenue is collected at the storage points** (i.e. around 40-45 M€/year).
  - This corresponds to a 70 % discount for the scenarios B and C.
- At this stage, CRE teams do not consider to apply a discount to LNG entry points for the ATRT8 period.

Questions

Do you have comments regarding the discount level for the storage tariff?

Do you have remarks regarding the other secondary adjustments?

Flow scenarios

Scenario A – Business as Usual

Same flow scenario as the ATRT7, for comparison purposes

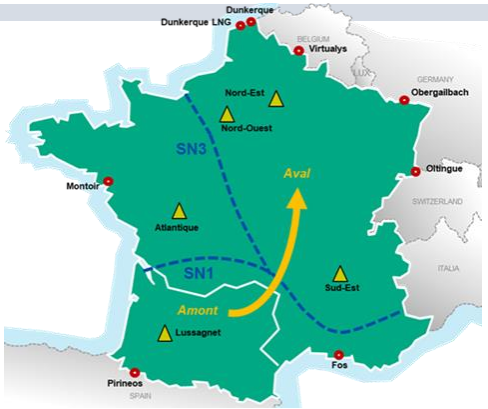
- Virtualys IP: supplied by Dunkirk LNG entry point
- Obergailbach IP: supplied by Dunkirk IP
- Oltingue IP: supplied by Dunkirk IP
- Pirineos IP: supplied by Dunkirk IP
- PITS (storage) and domestic exits: supplied by the closest available entry point(s)

Scenario B New flows

- Virtualys IP: supplied by Dunkirk LNG entry point
- Obergailbach IP: supplied by the closest available IP or LNG entry/ies, except Virtualys IP*
- Oltingue IP: supplied by the closest available IP or LNG entry/ies, except Obergailbach IP*
- Pirineos IP: supplied by the closest available IP or LNG entry/ies
- PITS and domestic exits: supplied by the closest available entry point(s) (IP, LNG or PITS)

Scenario C – New flows with internal congestions

- Virtualys IP: supplied by Dunkirk LNG entry point
- Obergailbach IP: supplied by the closest available IP or LNG entry/ies, except Virtualys IP*
  - In winter, it cannot be supplied by entry points located South of the South/North congestion n°3 (Pirineos IP and Montoir/Fos LNG points)
- Oltingue IP: supplied by the closest available IP or LNG entry/ies, except Virtualys IP and Obergailbach IP*
  - In winter, it cannot be supplied by entry points located south of the South/North congestion n°3 (Pirineos IP and Montoir/Fos LNG points)
- Pirineos IP: supplied by the closest available IP or LNG entry/ies
- PITS and domestic exits: supplied by the closest available entry point(s) (IP, LNG or PITS)



** cf. ATRT7: these transit routes are not (or less) economically relevant*

Question

What is your opinion regarding the flow scenarios used for scenarios B and C?

Results – Scenario A

Hypotheses

Flow scenarios: similar to ATRT7 (IPs are supplied by Dunkirk IP)

Discount: storage (80 %)

Tariff equalisation: entry (IP / LNG points), storage points and domestic exits

Main results		Tariff (€/MWh/d/year)	Change vs. 2023 tariff
Entry	IPs	158	+ 49 %
	PITTM (LNG)	85	- 11 %
Exit	Obergailbach	378	+ 1 %
	Oltingue	453	+ 17 %
	Pirineos	697	+ 19 %
	Domestic	97	+ 2 %

- The consistency of these flow scenarios with the ATRT8 expected demand/supply patterns is questionable. They likely **need to be adapted to the new context**.
- The increase in the entry tariff at IPs would **not be consistent with the objective of tariff continuity** (i.e. avoiding major variations between regulatory periods).

Results – Scenario B

Hypotheses

Flow scenarios: Obergailbach IP cannot be supplied by Virtualys and Oltingue IP cannot be supplied by Obergailbach

Tariff equalisation: entry (IP / LNG points), storage points and domestic exits

Discount: storage (70 %)

Main results		Tariff (€/MWh/d/year)	Change vs. 2023 tariff
Entry	IPs	128	+ 22 %
	PITTM (LNG)	107	+ 13 %
Exit	Obergailbach	404	+ 7 %
	Oltingue	403	+ 4 %
	Pirineos	516	-12 %
	Domestic	101	+ 6 %

Results – Scenario C

Hypotheses

Flow scenarios:

- *All year*: Obergailbach IP cannot be supplied by Virtualys and Oltingue IP can't be supplied by Obergailbach and Virtualys
- *In winter*: Obergailbach and Oltingue cannot be supplied by entry points located South of the South/North congestion n°3 (Pirineos IP and Montoir/Fos LNG points)

Tariff equalisation: entry (IP / LNG points), storage points and domestic exits

Discount: storage (70 %)

Main results		Tariff (€/MWh/d/year)	Change vs. 2023 tariff
Entry	IPs	133	+ 25 %
	PITTM (LNG)	106	+ 12 %
Exit	Obergailbach	419	+ 11 %
	Oltingue	462	+ 20 %
	Pirineos	461	-21 %
	Domestic	99	+ 4 %

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Share of the main network allowed revenue (~900 M€) collected by category of points

The main effect of scenarios B and C would be to shift a part of the allowed revenue formerly collected at entry IPs to entries from LNG terminals.

	ATRT7 (incurred)	
	Entry	Exit
IPs	20 %	21 %
PITTM (LNG)	11 %	
PITS (storage)	2 %	2 %
Domestic		43 %
Total	34 %	66 %

	ATRT8 – Scenario A	
	Entry	Exit
IPs	21 %	21 %
PITTM (LNG)	12 %	
PITS (storage)	1 %	2 %
Domestic		43 %
Total	34 %	66 %

	ATRT8 – Scenario B	
	Entry	Exit
IPs	18 %	19 %
PITTM (LNG)	15 %	
PITS (storage)	2 %	3 %
Domestic		44 %
Total	34 %	66 %

	ATRT8 – Scenario C	
	Entry	Exit
IPs	18 %	20 %
PITTM (LNG)	15 %	
PITS (storage)	2 %	3 %
Domestic		43 %
Total	34 %	66 %

Questions

Do you share CRE's assessment that the flow scenarios used for the ATRT7 (scenario A) may have to evolve to take into account the current context?

What are your preliminary views on scenarios B and C? Regarding:

- **Entry tariffs**
- **Domestic exit tariff**
- **Cross-border exit tariffs**

Do you have other questions or comments?

Next steps

Following this workshop, you can:

- tell us if this type of workshop is valuable to you
- send additional information or questions to CRE
- request an exchange with the CRE teams

at: tarifs-infras@cre.fr

Next workshop on May 10th, on renewable and low carbon gases.

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Thank you for your attention!