

NC TAR Implementation process

Market session, hosted by GTS

28 September 2017

Agenda

- Introduction & recap
- Effect of decreasing entry tariffs on TTF price
- Discussion about two scenarios and their elements
- Preference of stakeholders (anonymous)
- Lunch
- Feedback on preference of stakeholders
- Presentation and explanation of basic calculation tool

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Effect of decreasing entry tariffs on TTF price (1/2)

- Imports will become the 'marginal', or price setting, source of gas for the Netherlands.
- This means that the cost of importing gas into the Netherlands will not only affect the cost of imported gas, but the cost of all the gas consumed.
- Hence, the 'new' Dutch gas price will be the 'old' TTF price plus the cost of cross-border gas transport
- Source Brattle report
- Example spreadsheet on GTS website

Effect of decreasing entry tariffs on TTF price (2/2)

Description	Value	Unit	Notes
Input data			
1 Total entry/exit capacity	648	mln kWh/h	Jan 2016 total booked capacity
2 Import transport capacity	78	mln kWh/h	Jan 2016 (Import + GATE)
3 load factor import	55%		based on estimations
4 Dutch gas consumption volume	366	mln MWh/a	2016 annual volume
5 Dutch gas consumption capacity	162	mln kWh/h	Jan 2016: LDC and Industry
6 Import transport tariff decrease	-0,502	euro/kWh/h/a	Equals transport tariff component at OSZ and Emden
Effect on transport costs LDC and Industry			
7 Import transport revenue loss	-39	mln euro/a	Import transport tariff decrease * Import transport capacity
8 Tariff redistribution amount	0,07	euro/kWh/h/a	Calculation of impact of import tariff adjustment on transport cost
9 Transport cost increase for LDC and Industry	11	mln euro/a	Dutch gas consumption capacity * Tariff redistribution amount
Effect on TTF Price			
10 delta TTF price	-0,10	euro/MWh	Calculation of impact of import tariff decrease on TTF gas price
11 Commodity cost decrease for LDC and Industry	-38	mln euro/a	Dutch gas consumption volume * delta TTF price
12 Overall effect	-27	mln euro/a	Decrease of total costs for LDC and Industry

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Two NC TAR compliant scenarios

NC TAR element	Scenario 1: Competitive Market, Attract gas	Scenario 2: Counter factual
Services	All-in (TT, QC, BT, BAT, AT): Obligatory TS	TT: Obligatory TS QC, BT*, BAT*, AT: Choice, NTS
Distance dependency in tariffs (RPM)	No (Postage stamp)	Yes (Counter factual CWD)
Entry/Exit revenue split	0%-100%	50%-50%
Storage discount	50% (exit side)	50%
LNG discount	-	0%
Multiplier/seasonal	One system for all points: NC TAR based Multiplier: German multipliers Seasonal: Apply NC TAR seasonal algorithm, with parameter power=2 for two groups: Off take with temperature dependency (LDC exit, L-gas exit)	Non-IP: Keep current monthly factors system IP: German multipliers Seasonal: Apply NC TAR seasonal algorithm for all IP's

* ACM considers BT and BAT as obligatory TS

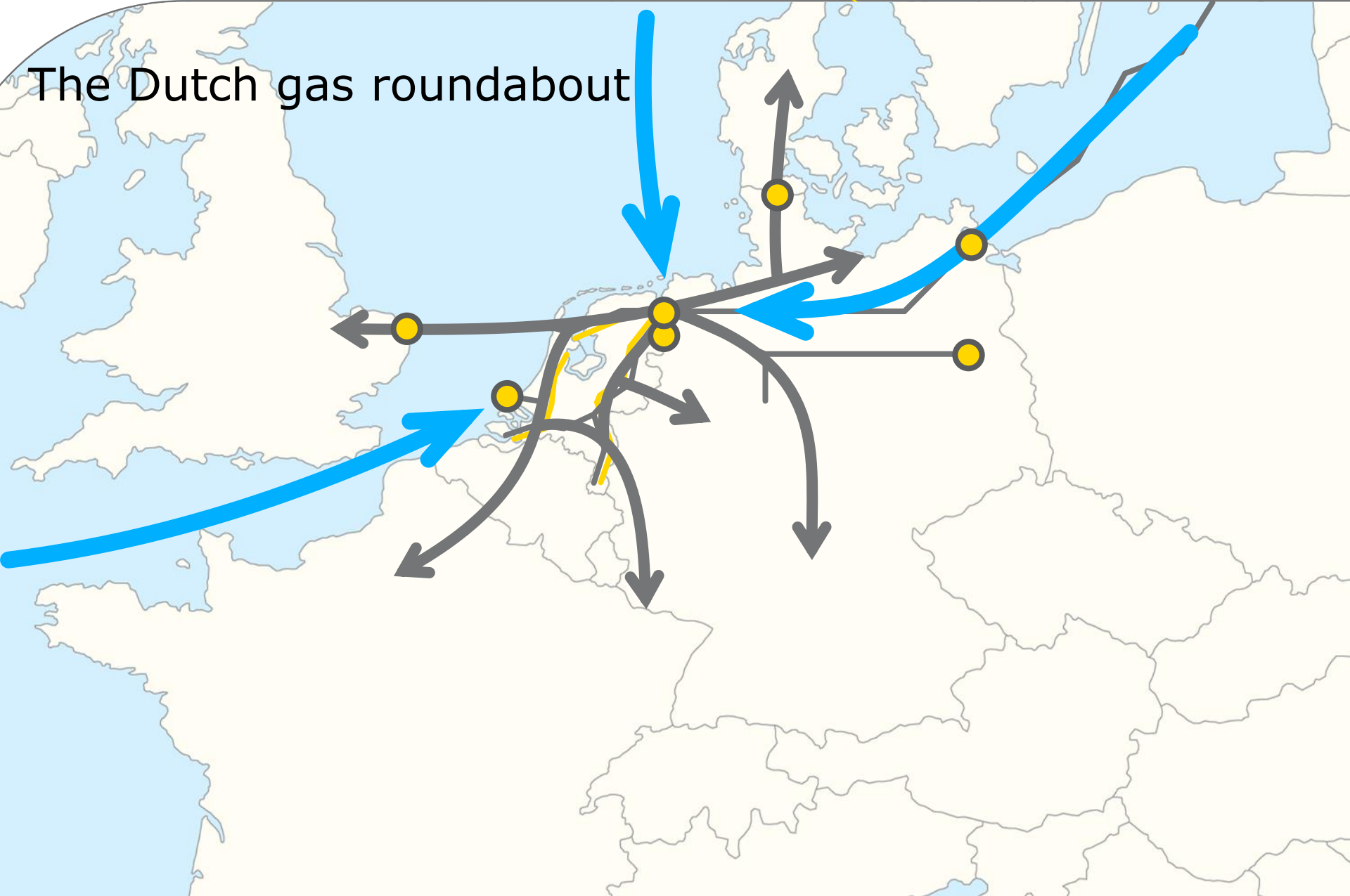
Market development over the last decade (1/2)

- Unbundling of transport and trade in NL since 2005
- Harmonisation of European access and transport conditions
- Single gas quality
- Enhanced cross border connectivity
- Gas exchange
- Gas to gas price setting
- Hub to hub trading
- Effective competition

Market development over the last decade (2/2)

- Security of supply
- Third package (CAM/CMP/BAL)
- National focus evolves to (Northwest-)European focus
- Physical system becomes virtual
- Role of TSO vs. system user

The Dutch gas roundabout



Future market developments

- Declining domestic production
- Importer of gas
- Quo Vadis
- Tariff structure for 2020-2024
- Virtualization

Virtualization of gas transport

- Decoupled entry/exit system
- Single gas quality
- TTF hub
- Virtual interconnection point
- Market integration

Competitive Market, Attract gas - scenario 1

- Transmission system is virtual for system users.
- Attracting gas leads to maximum use of gas roundabout and lowest commodity price.
- Transmission grid is interconnected; Everyone is beneficiary with respect to transport and related activities as QC and balancing.
- Each entry or exit is connected to the grid, therefore is it logical that each point contributes to connection costs.
- Prepare for future developments.

Counter factual - scenario 2


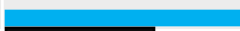


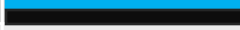

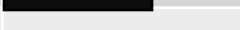


- Transmission system is virtual/physical mix for system users.
- Cost reflectivity is determined by physical location
- Different legal tasks are distinguishable services
- More or less continuation of current situation.
- Reactive to future developments.

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Comparison against goals and desirable features

NC TAR goals and desirable features	Comparison
Contribute to market integration	
Enhance security of supply	
Promote the interconnection between gas networks	
Improve transparency of transmission tariff structures	
Enable understanding of tariffs	
Ensure a reasonable level of cost reflectivity and predictability of tariffs	
Liquid trading hub	
Competitive gas market	
Transit flows	

 Scenario 1: Competitive Market, Attract gas
 Scenario 2: Counter factual

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Preference of stakeholders (anonymous)

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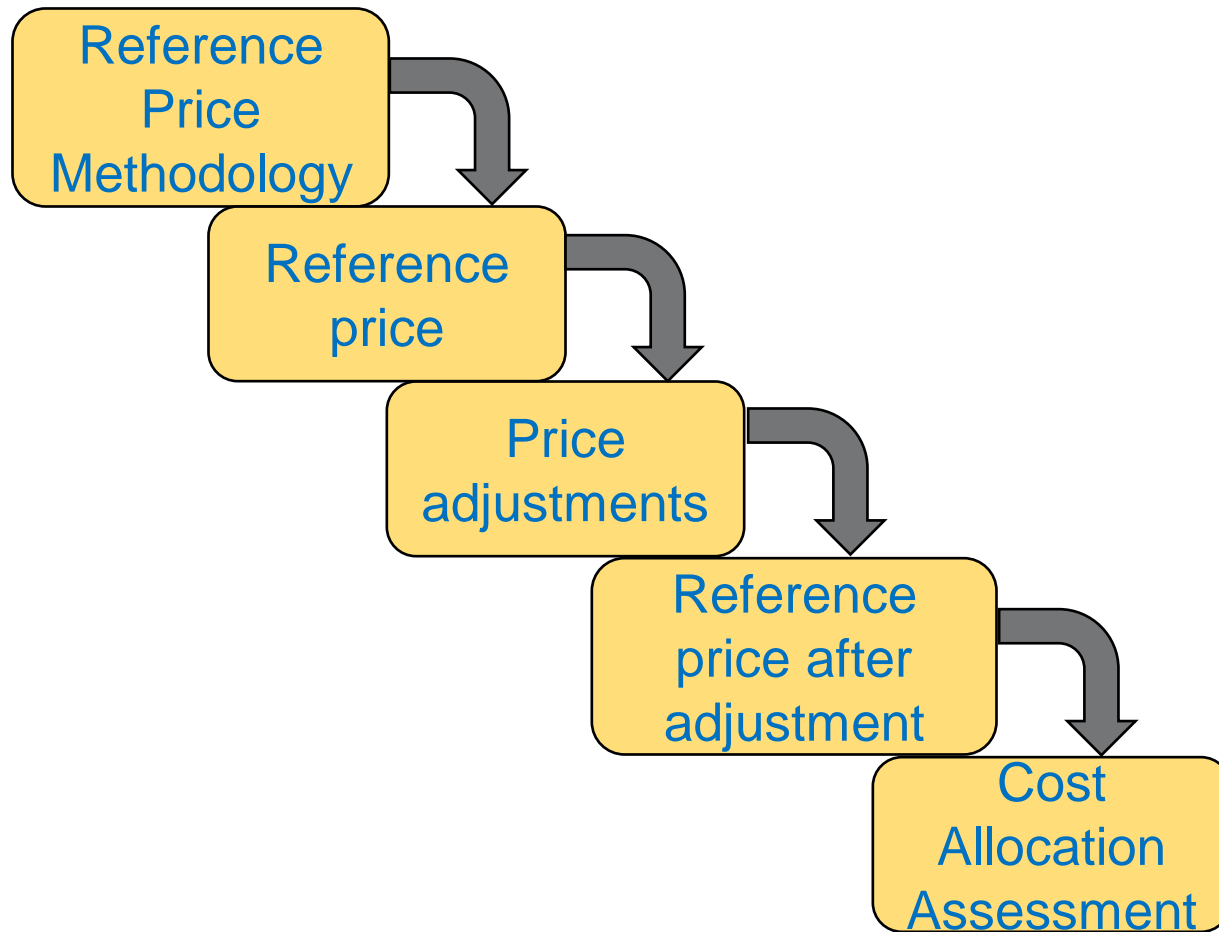
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Presentation and explanation of basic calculation tool (1/9)



Presentation and explanation of basic calculation tool (2/9)

- Tariff results for tariff year 2018
 - Expected revenues based on Method Decision and X-factor decision for year 2018, identical to input tariff proposal 2018 (TV18)

Task	Allowed revenue
TT	€705.097.713
QC	€107.245.423
BT	€27.034.463
BAT	€44.121.338
AT	€614.462
Total	€884.113.399

- Forecasted contracted capacity identical to “rekenvolumes” used in TV18

Presentation and explanation of basic calculation tool (3/9)

- Basic web based tariff calculation tool
 - Route 1: All-in service with one postage stamp for entry and one postage stamp for exit
 - Route 2: Separate services with counter factual for TT as TS and postage stamp for other tasks (QC, BT, BAT, AT) as NTS
 - QC, BT: one postage stamp for all points
 - BAT: one postage stamp for applicable points (production entry, storage entry, industry exit)
 - AT: one postage stamp for applicable entry points
 - Entry/exit revenue split applicable to TS revenue part, not to NTS revenue
 - Storage discount (and possible LNG discount) on TS part
- Parameters
 - Entry/exit revenue split,
 - Storage discount,
 - LNG discount,
 - Adjustment of forecasted contracted capacity per segment

Presentation and explanation of basic calculation tool (4/9)

For Scenario 1 fill in:

- Route 1: All-in service with postage stamp
- Entry/exit split : 0%-100%
- Storage discount: 50%
- LNG discount: 0%
- Adjustment of forecasted contracted capacity per segment: no adjustment (all factors 1)
- Given input: Allowed revenue All-in of €884.113.399

Presentation and explanation of basic calculation tool (5/9)

For Scenario 2 fill in:

- Route 2: Separate services with counter factual CWD for TT and postage stamp for other tasks (QC, BT, BAT, AT)
- Entry/exit split: 50%-50%
- Storage discount : 50%
- LNG discount: 0%
- Adjustment of forecasted contracted capacity per segment: no adjustment (all factors 1)

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QC	€107.245.423
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Total	€884.113.399

Presentation and explanation of basic calculation tool (screen shot input) (6/9)

	Route 1	Route 2
Services	All-in service (TT+QC+BT+BAT+AT) -> TS	TT -> TS; QC, BT, BAT, AT -> NTS
RPM	Postage stamp	Counter factual CWD
Entry/exit revenue split	Value (0-100)	Value (0-100)
Entry revenue	0	50
Exit revenue	100	50
Price adjustments	Value (0-100)	Value (0-100)
Discount storages	50	50
Discount LNG	0	0

Forecasted contracted capacity factor (>0 <10)	Segment
1	entry border point
1	entry production point
1	entry storage point
1	exit border point
1	exit industrial point
1	exit distribution point
1	exit storage

Adjustment factor of forecasted contracted capacity

Green = entry parameter

Calculate

Presentation and explanation of basic calculation tool (screenshot output) (7/9)

All-in service (TT+QC+BT+BAT+AT) -> TS Postage stamp		
Segment	% revenue	tariff (€/kWh/h/y)
entry border point	0,0%	€ -
entry production point	0,0%	€ -
entry storage	0,0%	€ -
exit border point	43,6%	€ 2,871
exit industrial point	13,1%	€ 2,871
exit local distribution point	35,9%	€ 2,871
exit storage	7,4%	€ 1,436
Cost Allocation Assessment (CAA)	3%	
Overall average tariff	€ 1,460	

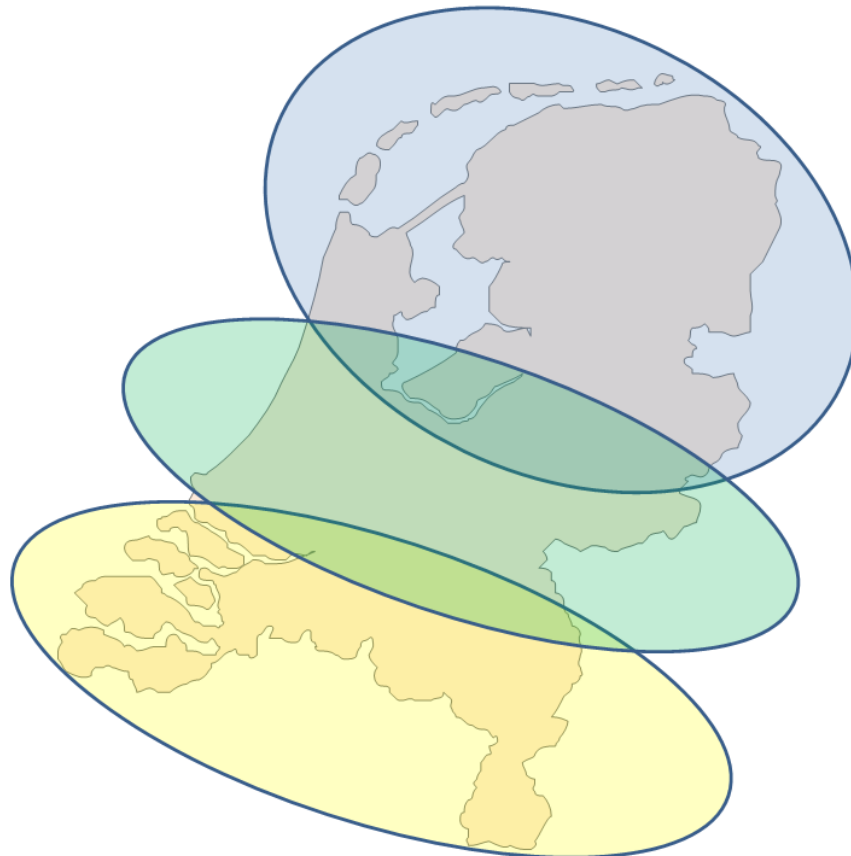
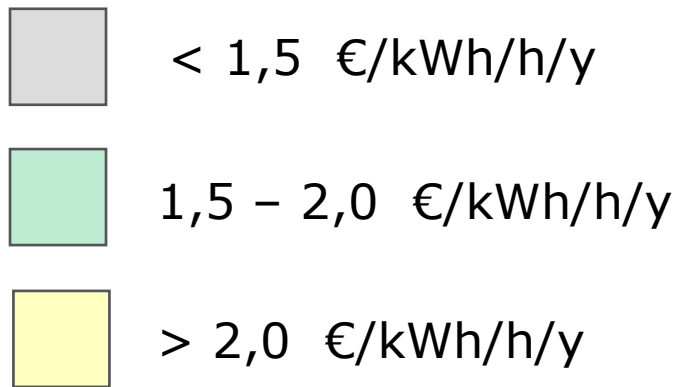
Output per segment for route 1:
All-in service and postage stamp

TT -> TS; QC, BT, BAT, AT -> NTS Counter factual CWD			
% revenue	Minimum tariff (€/kWh/h/y)	Average tariff (€/kWh/h/y)	Maximum tariff (€/kWh/h/y)
12,1%	€ 1,714	€ 1,768	€ 1,812
18,0%	€ 1,477	€ 1,794	€ 2,241
16,7%	€ 0,885	€ 1,079	€ 1,152
25,0%	€ 0,821	€ 1,708	€ 2,223
7,6%	€ 0,951	€ 1,713	€ 2,621
17,6%	€ 0,820	€ 1,458	€ 2,414
3,0%	€ 0,504	€ 0,605	€ 0,792
Cost Allocation Assessment (CAA)	5%		
Overall average tariff	€ 1,460		

Output per segment for route 2:
TT with counter factual and QC, BT, BAT, AT as postage stamp

Presentation and explanation of basic calculation tool (screenshot output) (8/9)

Global (exit) tariffs pattern for counter factual



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Z

Presentation and explanation of basic calculation tool (9/9)

Results of TV-2018

Segment	% revenue	Minimum tariff (€/kWh/h/y)	Average tariff (€/kWh/h/y)	Maximum tariff (€/kWh/h/y)
Entry border point	7%	€ 0,976	€ 1,073	€ 1,880
Entry production point	14%	€ 1,336	€ 1,413	€ 2,068
Entry storage	18%	€ 0,998	€ 1,160	€ 1,307
Exit border point	25%	€ 0,566	€ 1,736	€ 2,387
Exit industrial point	8%	€ 0,525	€ 1,770	€ 3,295
Exit local distribution point	23%	€ 0,622	€ 1,899	€ 8,221
Exit storage	4%	€ 0,462	€ 0,841	€ 1,104

Next steps

- Comments on scenario's, calculation tool and numerical results Thursday 5 October 12:00
- 13 October next market session with main elements GTS proposal
- 24 October: Publication of GTS NC TAR implementation proposal
- 31 October: market session
 - Explanation of proposal by GTS
 - ACM introduces assessment framework