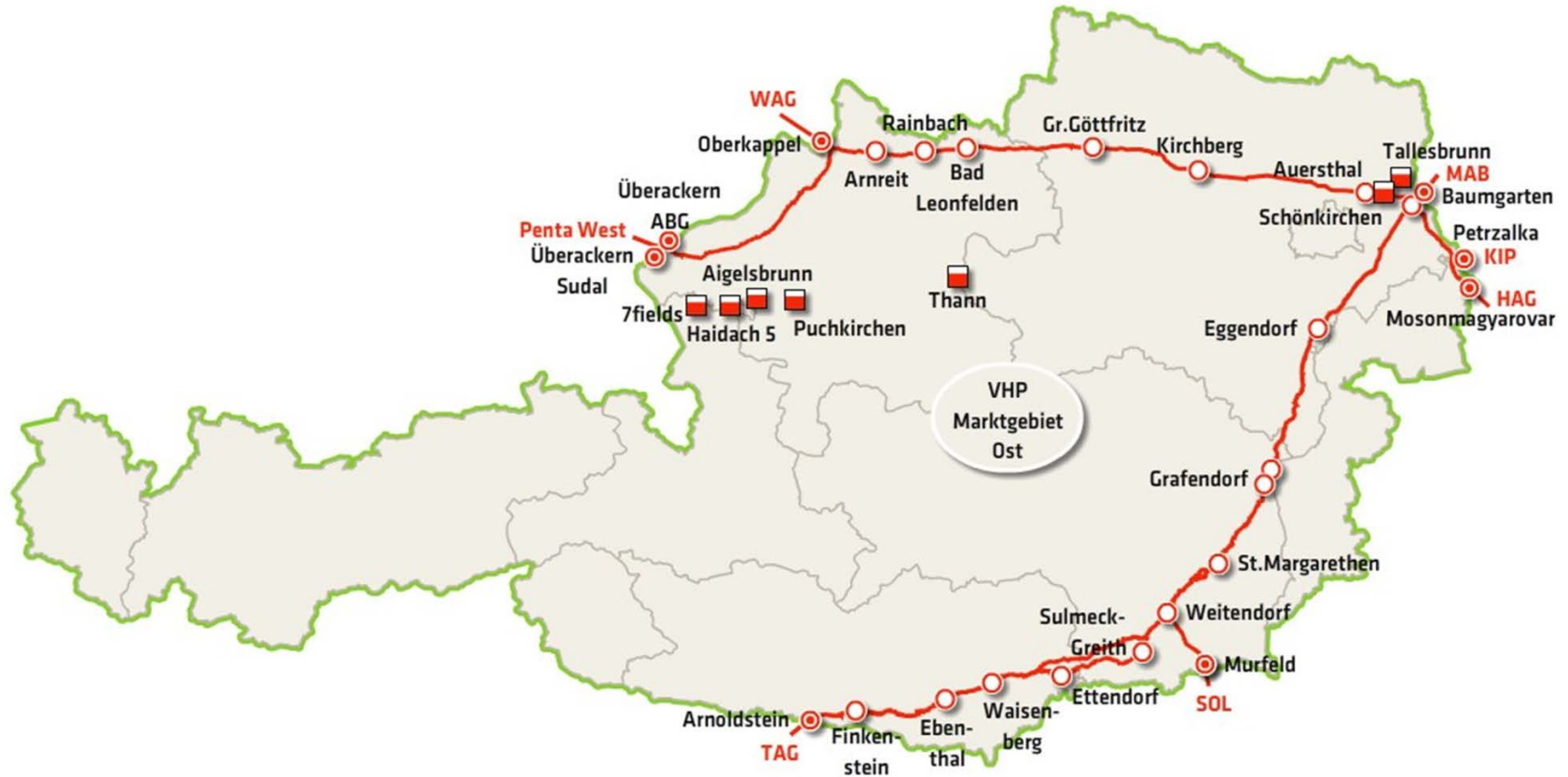




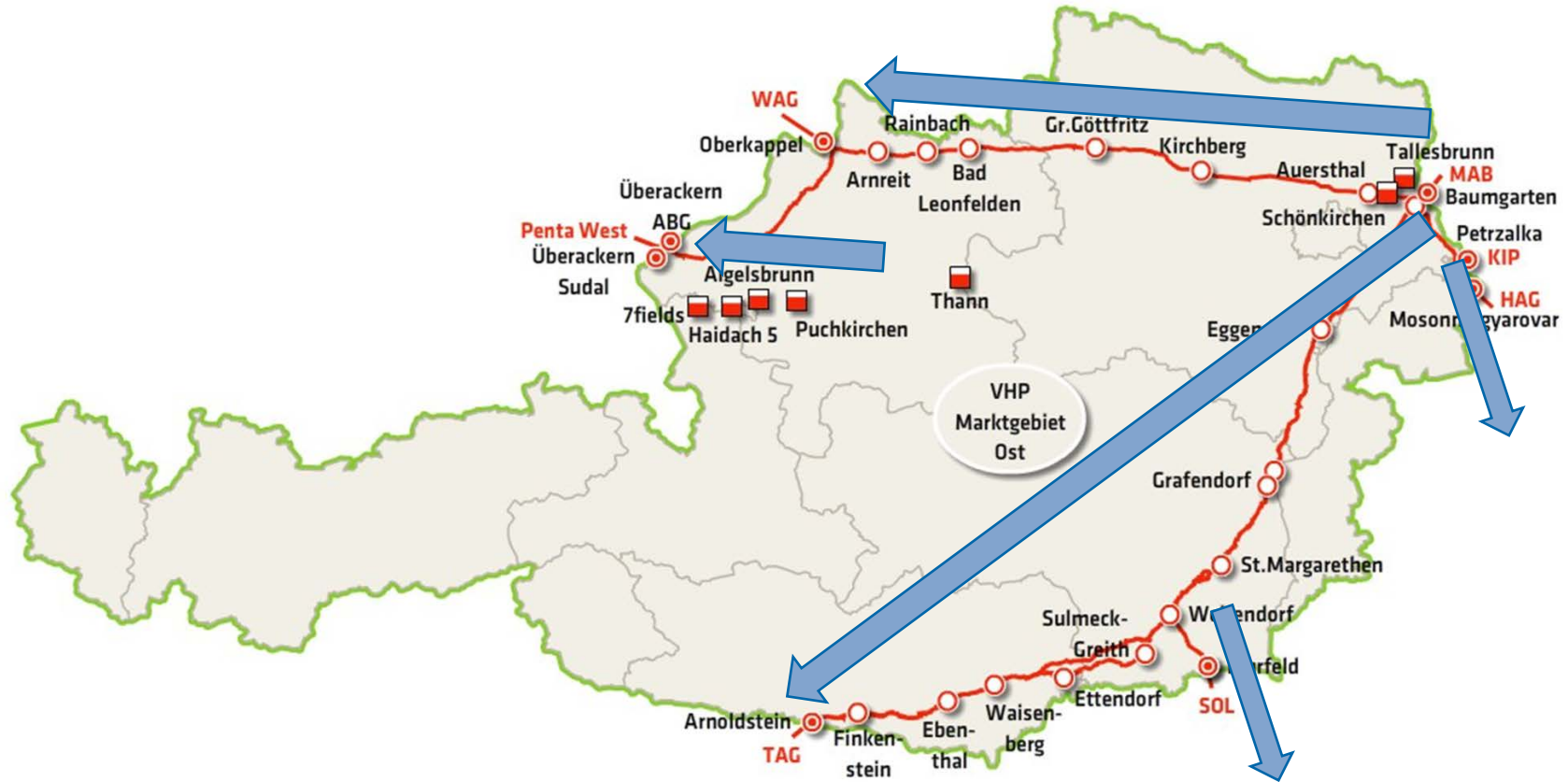
# Congestion Management in Austria

Regulatory School Energy Community  
Ljubljana



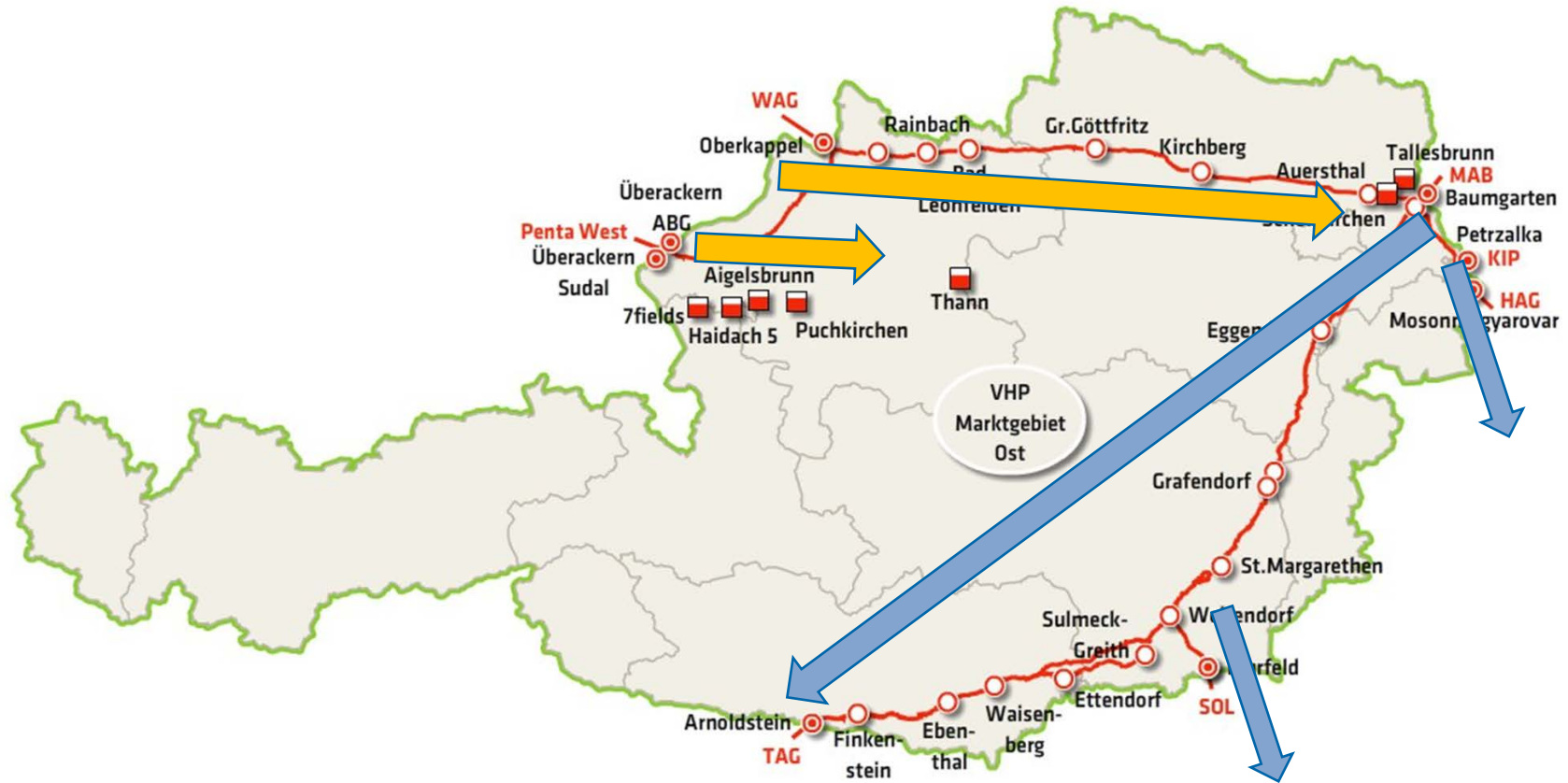
# TSO Network

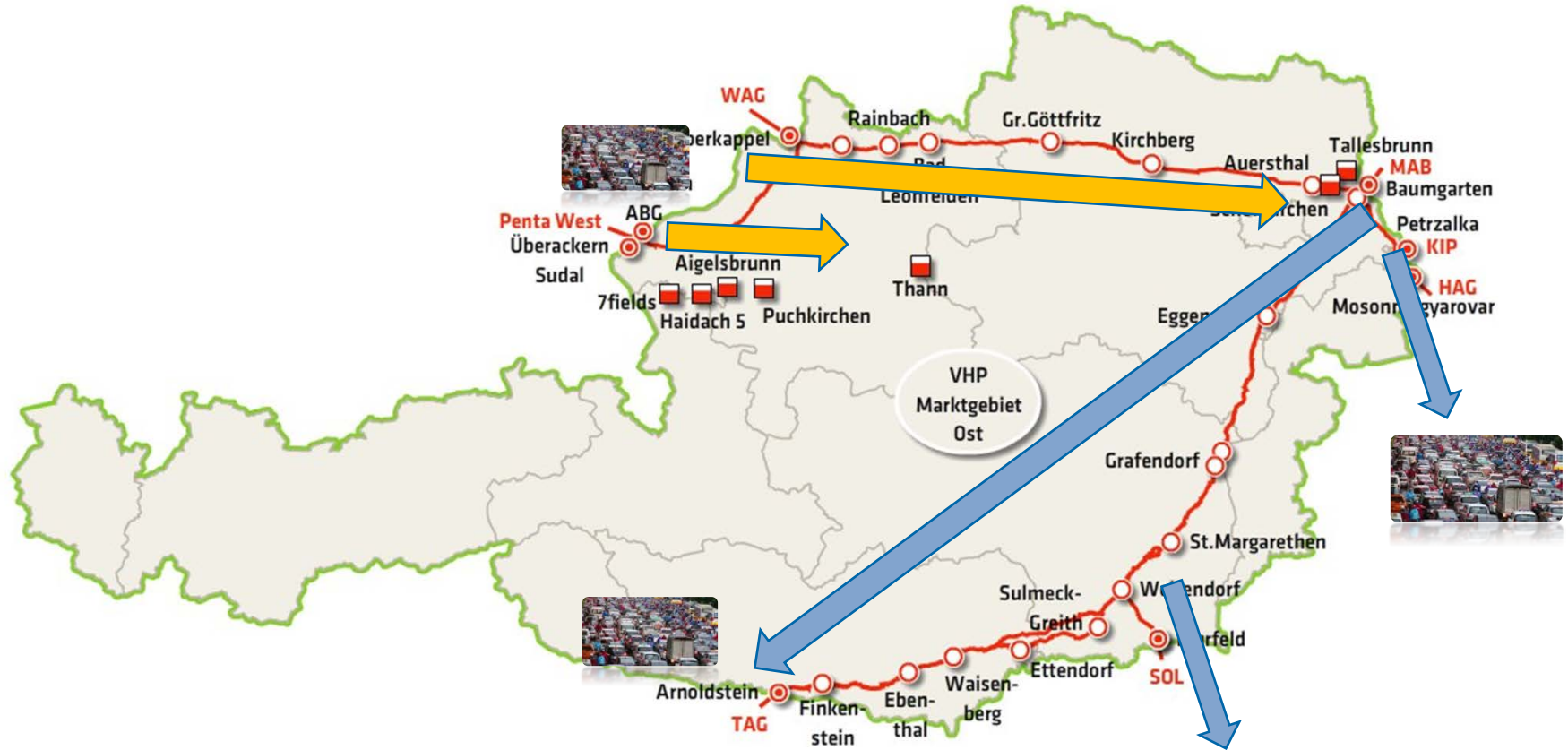
Historical flows



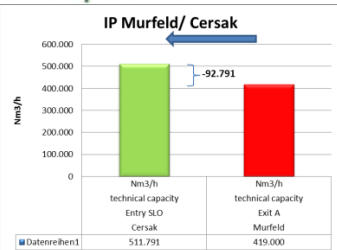
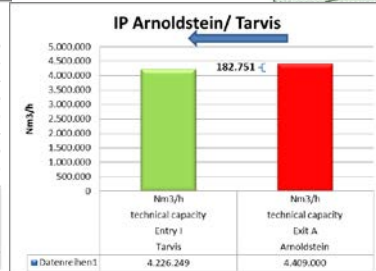
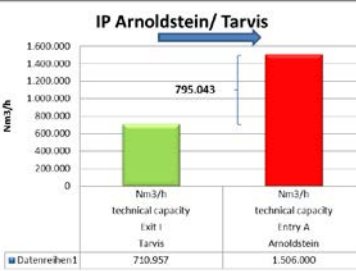
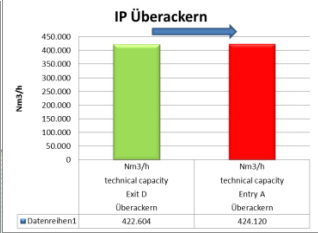
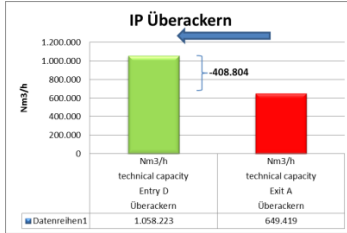
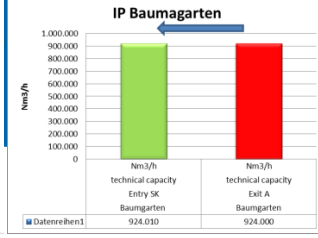
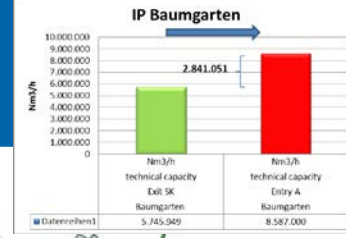
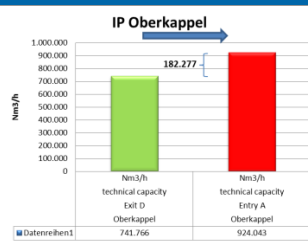
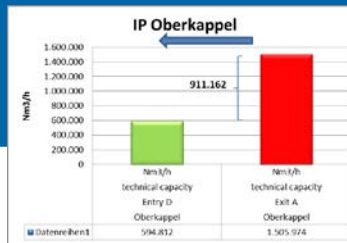
# TSO Network

Actual flows





# Austrian IPs



Oberkappel En/Ex

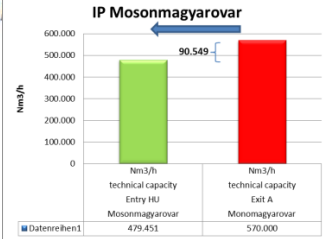
Überackern En/Ex

Virtual Trading Point

Baumgarten En/Ex

Petrzalka Ex/Entry virtual

Mosonmagyarovar Ex

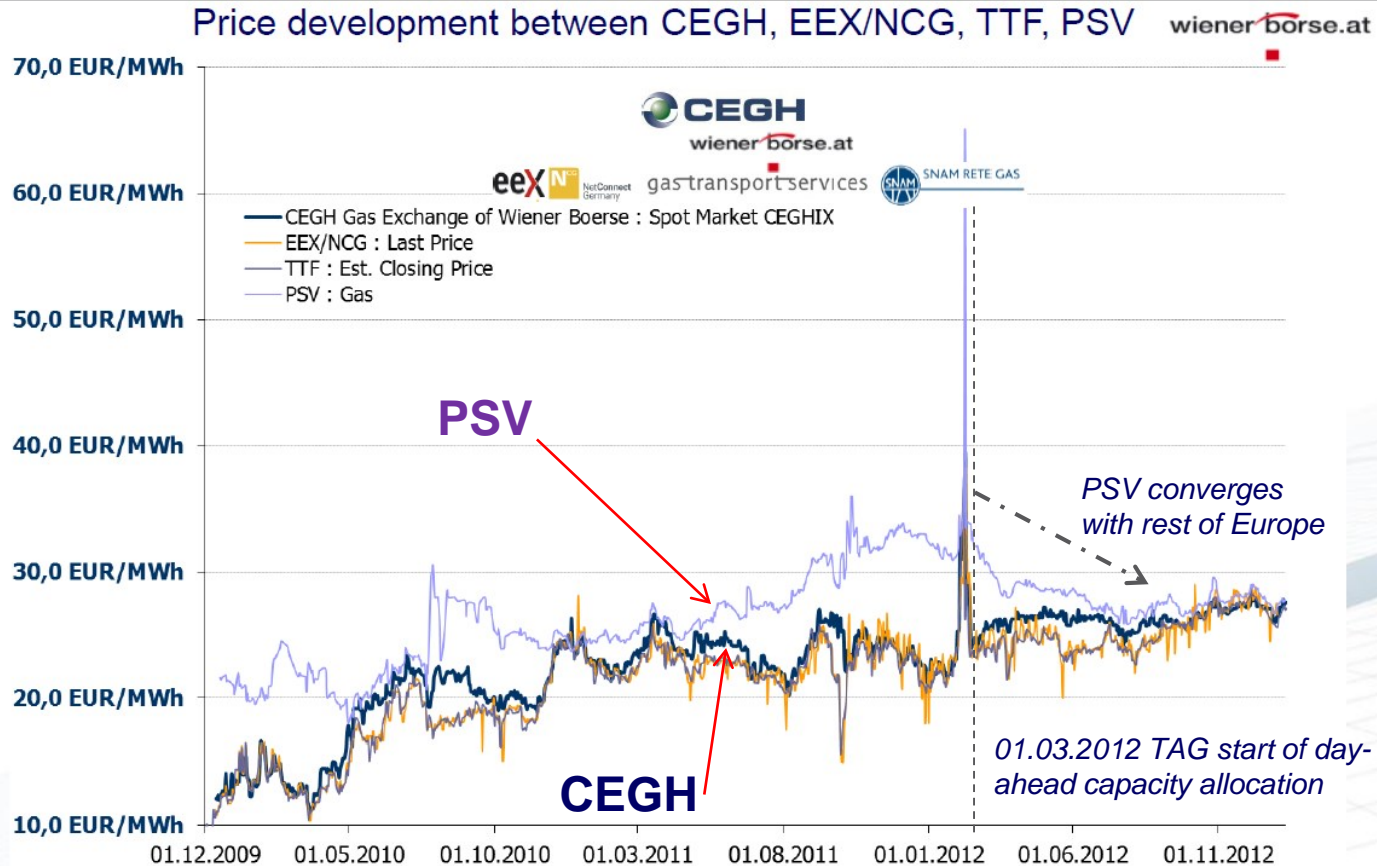


Murfeld Ex

n En/Ex

# Effects of short-term capacity allocation

Italian gas price convergence



## Oversubscription and buy-back

- Not introduced, E-Control, after monitoring the market and the associated risk agreed upon the proposal of TSOs to maintain just the DA UIOLI,

## Firm Day Ahead UIOLI pursuant to 2.2.3:

- Yes: **AT**, already foreseen in the Regulation GMMO-VO 2012, art. 11

## Surrender of capacity

- Yes: **AT**, foreseen in the GTC of TSO art. IX
- Principle by which surrender is "taken up" by TSO: Time stamp
- Shippers still pay auction premium from previous congestion auction in case reallocation clears at reserve price

## Long Term UIOLI pursuant to 2.2.5

- Yes: **AT**, already foreseen in the Regulation GMMO-VO 2012, art. 12
- But never applied

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## Interruptible products pursuant to Art 32 CAM NC

- Yes: **AT**,
- Ex-post product



1. As from 1 January 2018, transmission system operators may only offer standard capacity products for **interruptible capacity** of a duration longer than one day if the corresponding **monthly, quarterly or yearly** standard capacity product for firm capacity ***was sold at an auction premium, was sold out, or was not offered.***

2. Transmission system operators shall offer a **daily capacity product for interruptible capacity** in both directions at interconnection points where the respective standard capacity product for firm capacity ***was sold out day-ahead*** or ***was not offered.*** At unidirectional interconnection points where firm capacity is offered only in one direction, transmission system operators shall offer at least a daily product for interruptible capacity in the other direction.

Legal Framework	Valid from
– Section 11 of Gas Market Model ordinance 2012 ( <i>GMMO-VO 2012</i> ) as amended by the Gas-Marktmodell-Verordnung – Novelle 2013	01 October 2013
– Point 2.2.3 of Annex 1 to Regulation (EC) No. 715/2009 ( <i>Congestion Management Procedures / CMP Reg. 715/2009</i> )	01 July 2016
General Information	
<ul style="list-style-type: none"><li>– <b>ST UIOLI</b> = Restriction of renomination rights for firm day-ahead capacity</li><li>– Effected by regulation: <b>solely firm capacity</b></li><li>– According to GMMO-VO 2012 <b>ST UIOLI rules are applicable at all times and to all points</b></li></ul>	

Austrian TSOs : early implementation of the CMP measures !

## Upward Renomination Limitation

Nomination between 0%-80% → Renomination limited to  $\leq 90\%$

Nomination  $> 80\%$  → half of not nominated range is allowed upwards

### Examples:

Initial nomination = 65% of contracted capacity → renomination limited upwards to 90%

## Downward Renomination Limitation

Nomination between 20%-100% → Renomination limited to  $\geq 10\%$

Nomination  $< 20\%$  → half of nominated range is allowed downwards

### Examples:

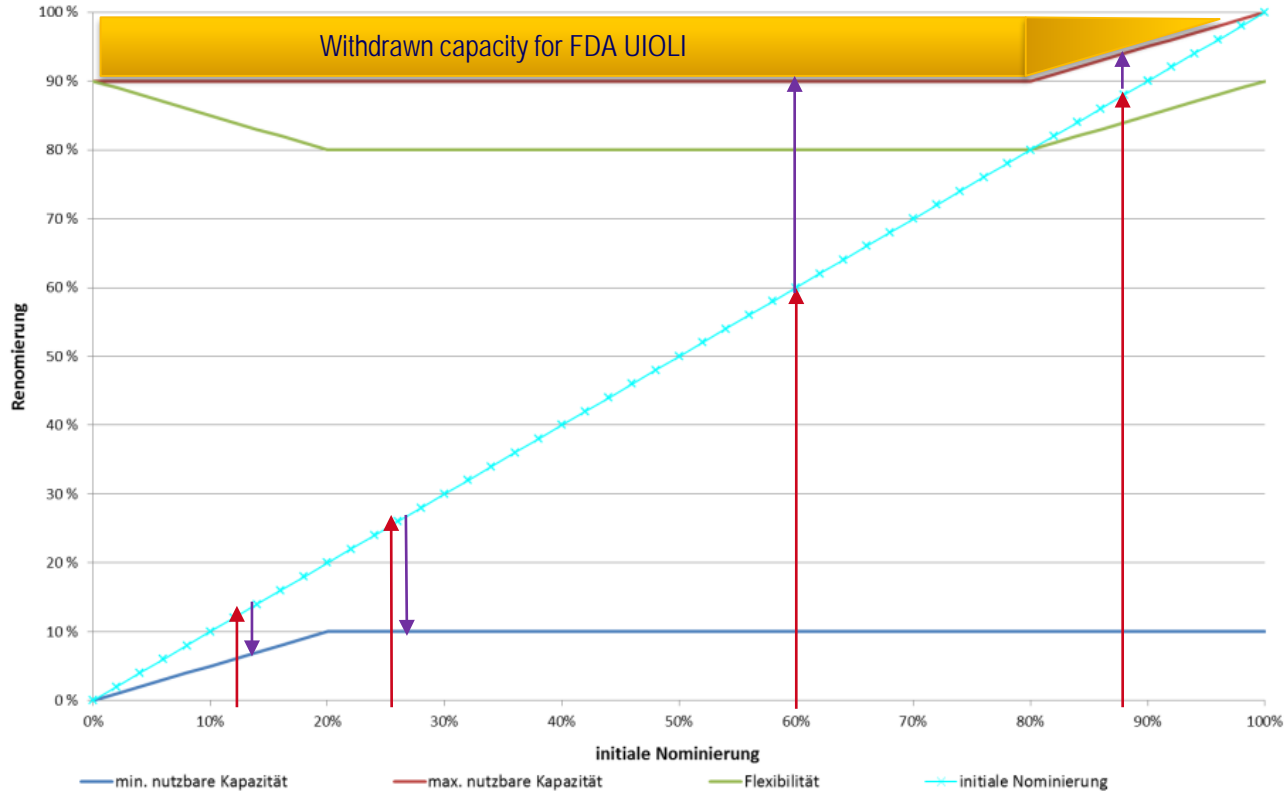
Initial nomination = 65% of contracted capacity → renomination limited downwards to 10%

Initial nomination = 16% of contracted capacity → renomination limited downwards to 8%

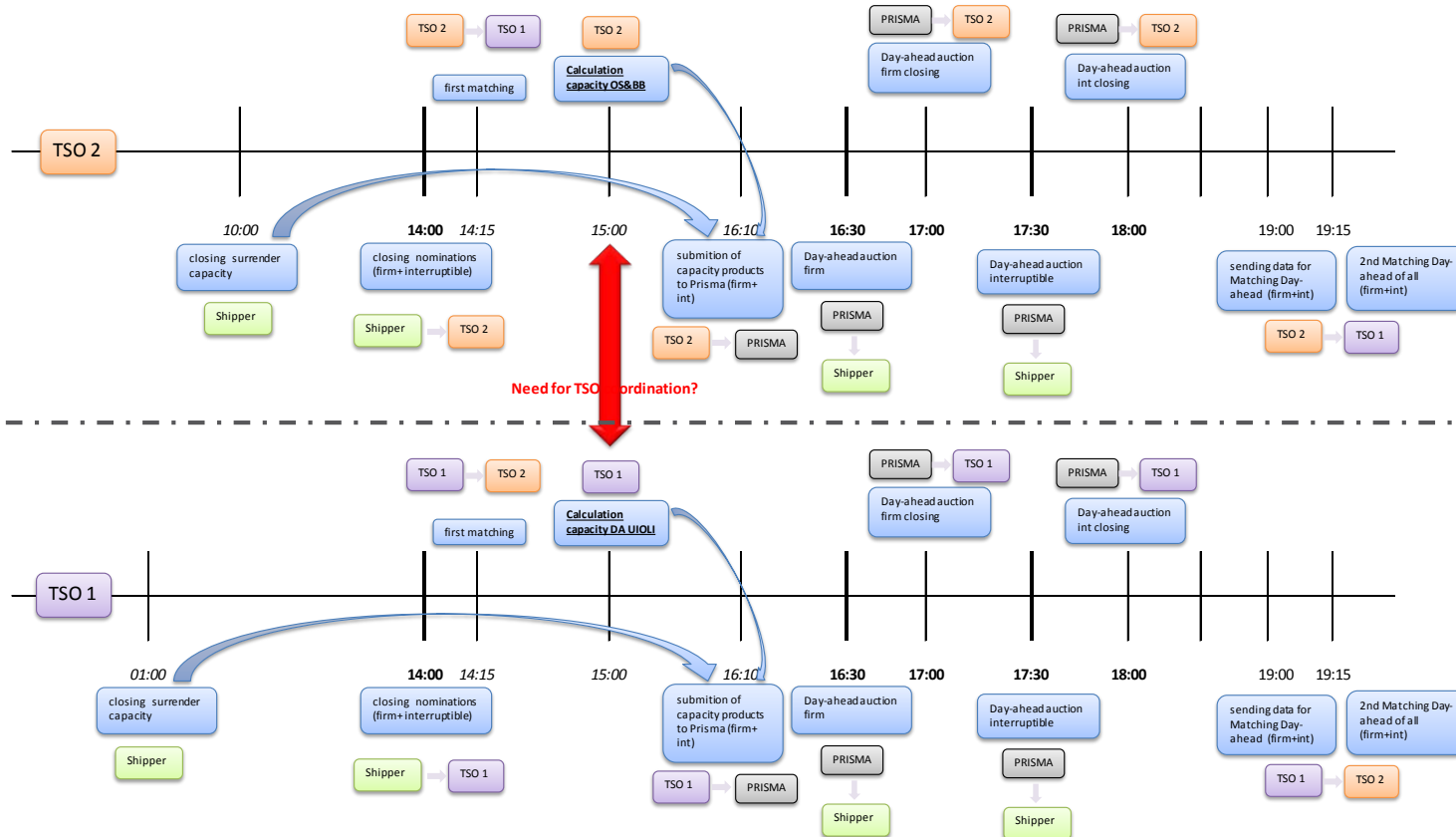
shall not apply to network users holding less than 10 % of the average technical capacity in the preceding year at the interconnection Point!

# Firm Day-ahead UIOLI

graphic representation of the scheme

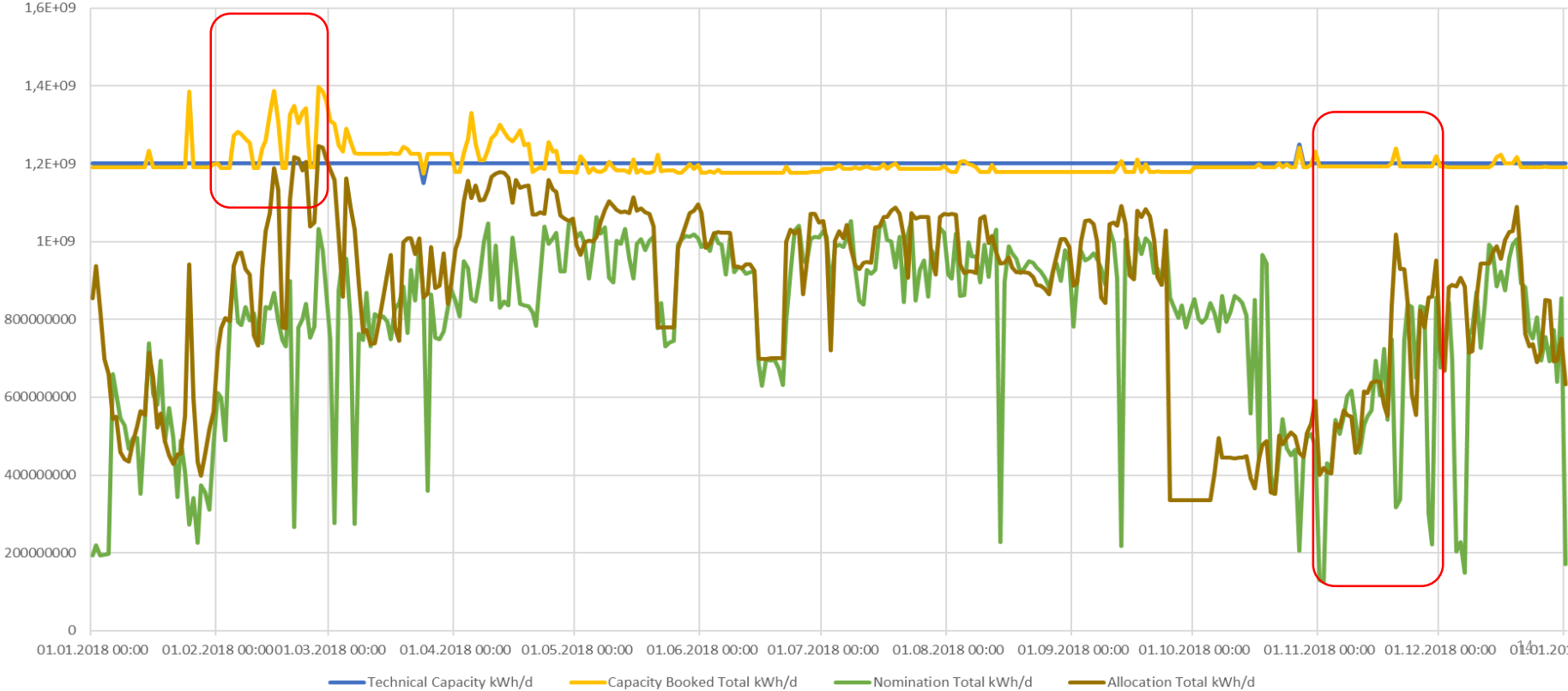


# Offer of OS in coordination with DA-UIOLI



# Arnoldstein Exit

Arnoldstein Exit AT



### ▼ CMP Capacities Made Available

Point ▲	Operator ▼▲	TSO Point Identifier ▼▲	Direction ▼▲	Period From ▼▲	Period To ▼▲	Indicator ▼▲	Value ▼▲	Last update date ▼▲
Point	Operator	TSO Point Identifier	Direction	Period From	Period To	Indicator	Value	Last update date
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	13/02/2018 06:00	14/02/2018 06:00	Available through Oversubscription	0	15/02/2018 18:52
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	13/02/2018 06:00	14/02/2018 06:00	Available through Surrender	6,510,168	15/02/2018 18:52
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	13/02/2018 06:00	14/02/2018 06:00	Available through UIOLI long-term	0	15/02/2018 18:52
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	13/02/2018 06:00	14/02/2018 06:00	Available through UIOLI short-term	83,762,208	15/02/2018 18:52
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▼ CMP Capacities Made Available

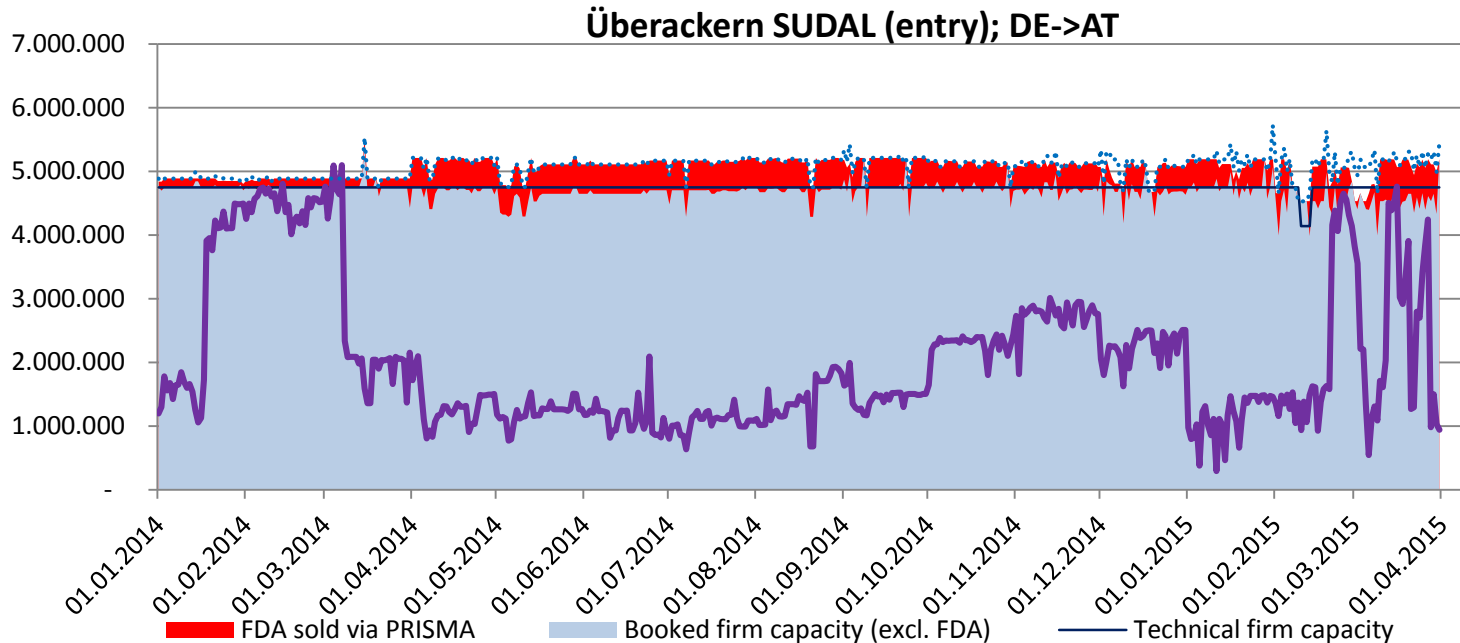
Point ▲	Operator ▼▲	TSO Point Identifier ▼▲	Direction ▼▲	Period From ▼▲	Period To ▼▲	Indicator ▼▲	Value ▼▲	Last update date ▼▲
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Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	08/11/2018 06:00	09/11/2018 06:00	Available through UIOLI long-term	0	19/11/2018 14:43
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	08/11/2018 06:00	09/11/2018 06:00	Available through UIOLI short-term	89,393,832	19/11/2018 14:43



Start of Auction	Marketed Ca	Unit Mark	Regulated	Unit Regu	Regulated	Unit Regu	Surcharge	Unit Surc	Product Runtime St	Product Runtime En	Capacity Category	TSO Exit	TSO Entry
15.01.2018 09:00	450.000	kWh/h	40.85	cent/kWh/h	23.141.972	cent/kWh/h	22.40	cent/kWh/h	01.02.2018 06:00	01.03.2018 06:00	FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.
22.01.2018 09:00	30.000	kWh/h	40.85	cent/kWh/h	19.670.672	cent/kWh/h	0.00	cent/kWh/h	01.02.2018 06:00	01.03.2018 06:00	interruptible interruptible	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.

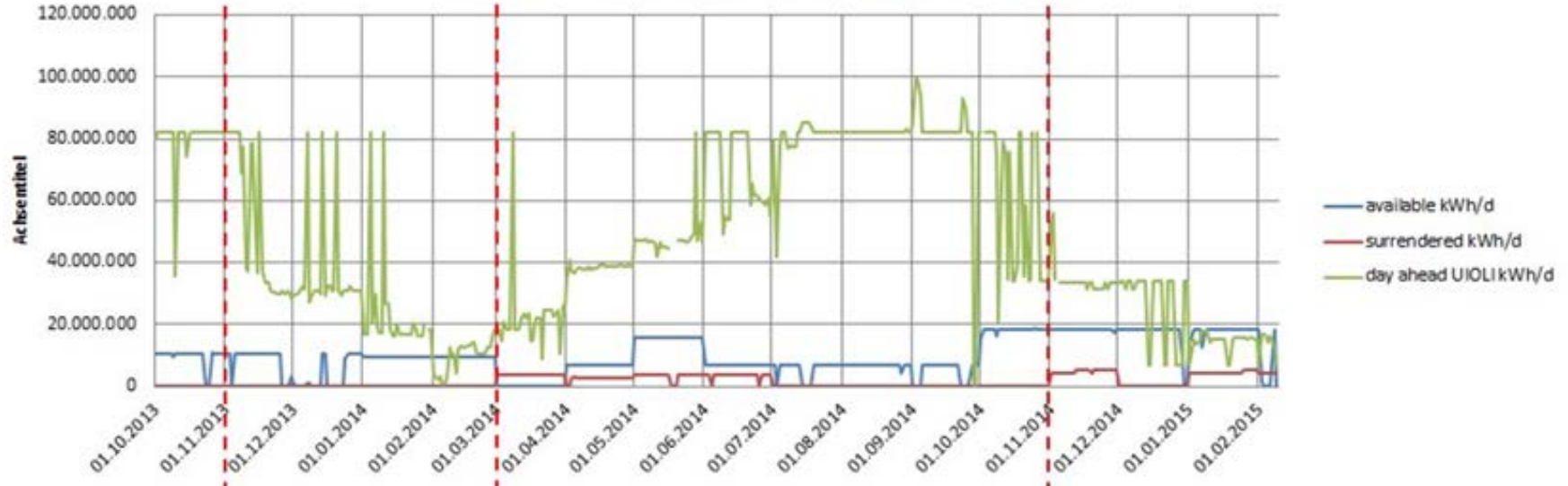
Start of Auction	FZK Firm	Interrupt	Interruptible Int	Capacity Category	TSO Exit	TSO Entry	Direction
31.01.2018 16:30	2.000			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
01.02.2018 16:30	0			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
02.02.2018 16:30	0			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
03.02.2018 16:30	0			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
04.02.2018 16:30	2.636.673			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
05.02.2018 16:30	3.559.000			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
06.02.2018 16:30	3.103.173			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
07.02.2018 16:30	1.472.000			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
08.02.2018 16:30	1.790.000			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
09.02.2018 16:30	0			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
10.02.2018 16:30	0			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
11.02.2018 16:30	942.000			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
12.02.2018 16:30	1.851.000			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
13.02.2018 16:30	4.013.673			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
13.02.2018 17:30			1.808.327	interruptible interruptible	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
14.02.2018 16:30	4.013.673			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
14.02.2018 17:30			4.313.000	interruptible interruptible	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
15.02.2018 16:30	4.013.673			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
15.02.2018 17:30			945.673	interruptible interruptible	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
16.02.2018 16:30	0			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
17.02.2018 16:30	0			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
18.02.2018 16:30	4.013.673			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
18.02.2018 17:30			1.754.433	interruptible interruptible	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
19.02.2018 16:30	3.948.822			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
19.02.2018 17:30		1.000.000		interruptible	Trans Austria Gasleitung GmbH		Exit
19.02.2018 17:30			1.698.000	interruptible interruptible	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
20.02.2018 16:30	4.013.673			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
20.02.2018 17:30			773.000	interruptible interruptible	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
21.02.2018 16:30	4.013.673			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
21.02.2018 17:30			2.003.000	interruptible interruptible	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
22.02.2018 16:30	4.013.673			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
22.02.2018 17:30			2.399.000	interruptible interruptible	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
23.02.2018 16:30	60.000			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
24.02.2018 16:30	60.000			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
25.02.2018 16:30	2.097.762			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
25.02.2018 17:30			6.653.000	interruptible interruptible	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
26.02.2018 16:30	2.782.061			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
26.02.2018 17:30			5.413.000	interruptible interruptible	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
27.02.2018 16:30	4.013.673			FZK firm	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry
27.02.2018 17:30			3.248.000	interruptible interruptible	Trans Austria Gasleitung GmbH	SNAM RETE GAS S.P.A.	Exit/Entry

- FDA UIOLI freed up 10% of technical capacity
- Capacity successfully allocated in DA auction



# Day-ahead UIOLI vs surrendered

## DA UIOLI - SURRENDERED - Arnoldstein Exit



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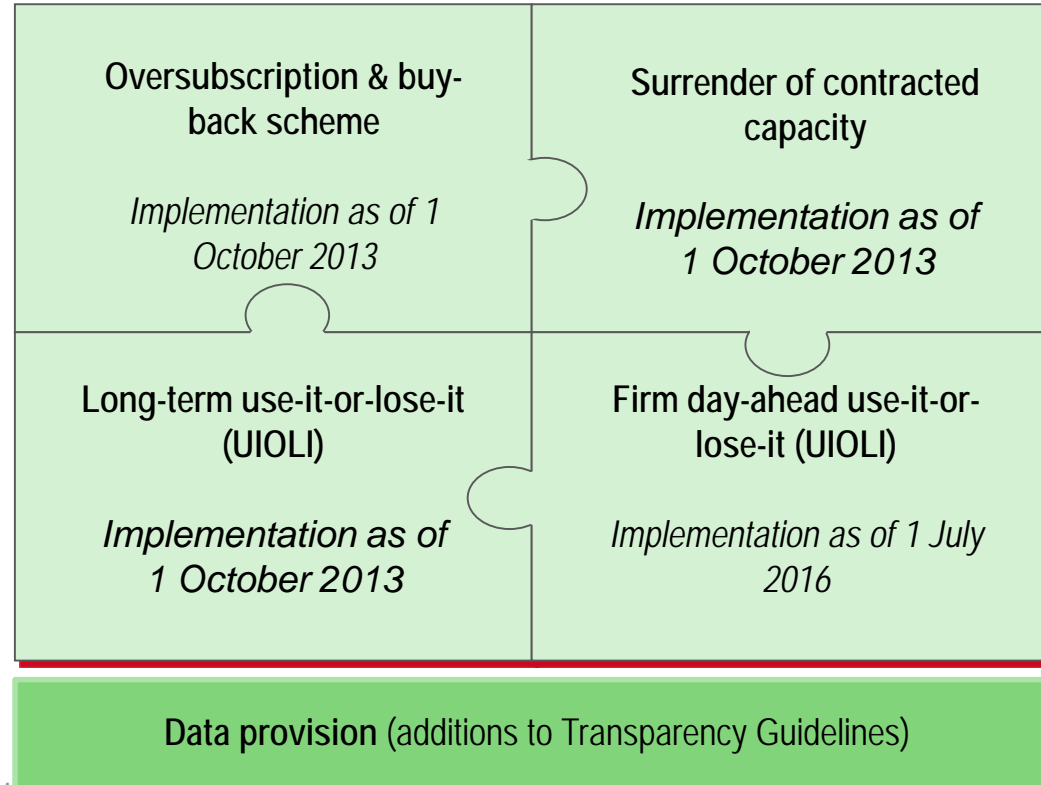
E-Mail: [office@e-control.at](mailto:office@e-control.at)

[www.e-control.at](http://www.e-control.at)

Twitter: [www.twitter.com/energiecontrol](https://www.twitter.com/energiecontrol)

Facebook: [www.facebook.com/energie.control](https://www.facebook.com/energie.control)

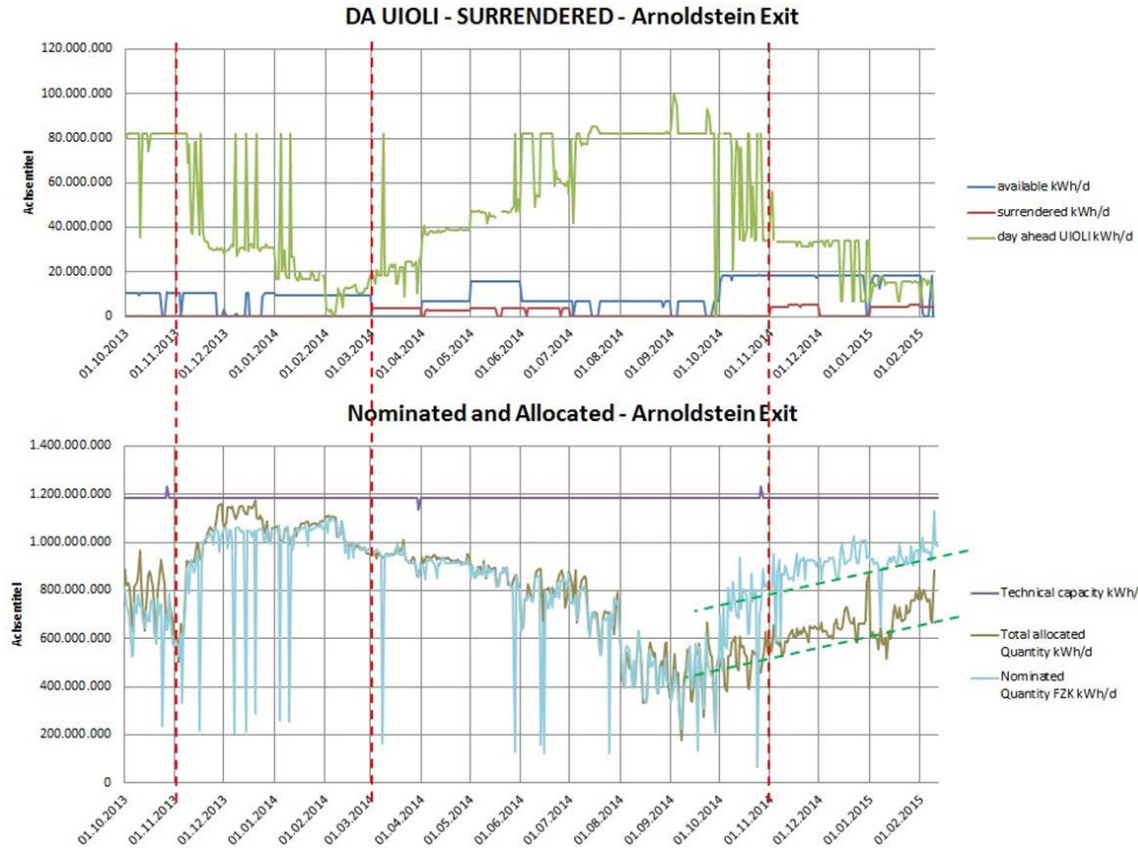




**Problem:** at most European IPs capacities are fully booked (long-term), but the physical flows are much lower.

**Objective:** measures to free up unused capacities

# Day-ahead UIOLI vs surrendered



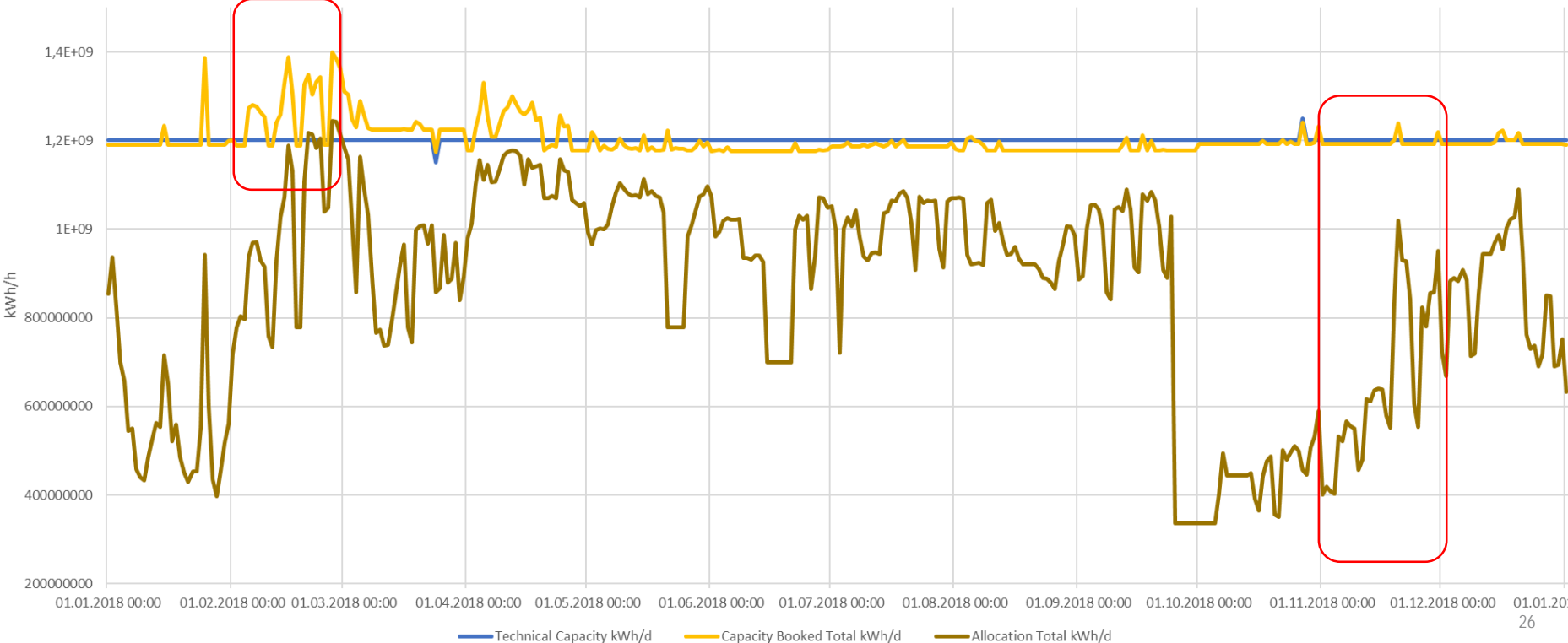


## ▼ CMP Capacities Made Available

Point ▼▲	Operator ▼▲	TSO Point Identifier ▼▲	Direction ▼▲	Period From ▼▲	Period To ▼▲	Indicator ▲	Value ▼▲	Last update date ▼▲
Point	Operator	TSO Point Identifier	Direction	Period From	Period To	Indicator	Value	Last update date
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	13/10/2018 06:00	14/10/2018 06:00	Available through UIOLI short-term	49,189,253	05/11/2018 20:29
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	14/10/2018 06:00	15/10/2018 06:00	Available through UIOLI short-term	49,189,253	05/11/2018 20:29
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	15/10/2018 06:00	16/10/2018 06:00	Available through UIOLI short-term	91,147,800	05/11/2018 20:29
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	16/10/2018 06:00	17/10/2018 06:00	Available through UIOLI short-term	49,597,607	05/11/2018 20:29
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	17/10/2018 06:00	18/10/2018 06:00	Available through UIOLI short-term	85,086,312	05/11/2018 20:29
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	12/08/2018 06:00	13/08/2018 06:00	Available through Surrender	6,510,168	17/08/2018 09:36
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	13/08/2018 06:00	14/08/2018 06:00	Available through Surrender	6,510,168	17/08/2018 09:36
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	14/08/2018 06:00	15/08/2018 06:00	Available through Surrender	6,510,168	17/08/2018 09:36
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	12/09/2018 06:00	13/09/2018 06:00	Available through Oversubscription	0	14/09/2018 18:32
Tarvisio (IT) / Arnoldstein (AT)	TAG	21Z000000000004A	exit	13/09/2018 06:00	14/09/2018 06:00	Available through Oversubscription	0	15/09/2018 18:33

# Arnoldstein Exit

Arnoldstein Exit AT



- Entry-exit systems do not distinguish between transit and domestic shippers
- Auctions as market-based and non-discriminatory allocation mechanism
- Congestion management to ensure efficient use of the existing infrastructure