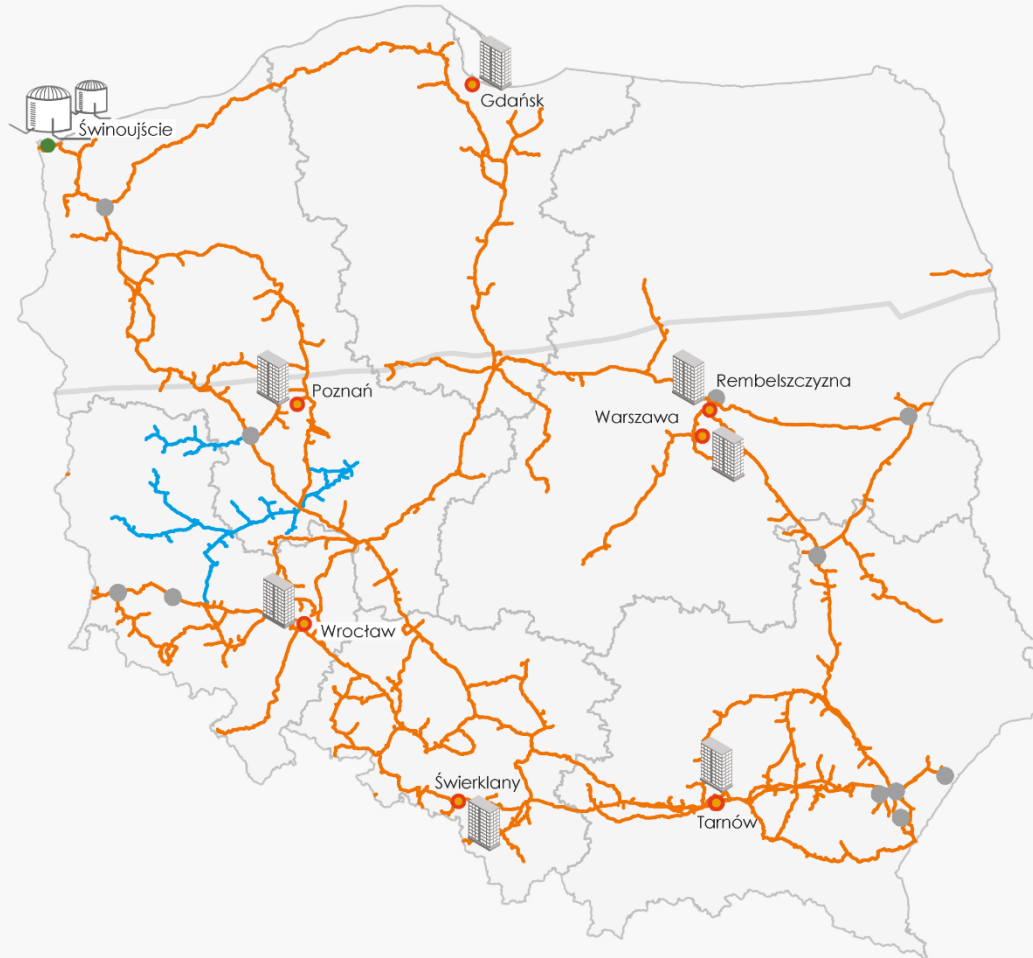


# BALANCING SYSTEM IN POLAND

Vienna, December 12<sup>th</sup> 2017



# GAZ-SYSTEM - INTRODUCTORY INFORMATION



**100%** SHARES HELD BY  
STATE TREASURY

**CERTIFIED TSO**  
FOR NATIONAL TRANSMISSION SYSTEM IN POLAND

**CERTIFIED ISO**  
FOR THE YAMAL-EUROPE PIPELINE IN PL

**LNG TERMINAL** IN ŚWINOUJŚCIE  
(OPERATED BY ITS SPV, POLSKIE LNG)

# POLISH GAS MARKET – CASE STUDY

## TIMELINE

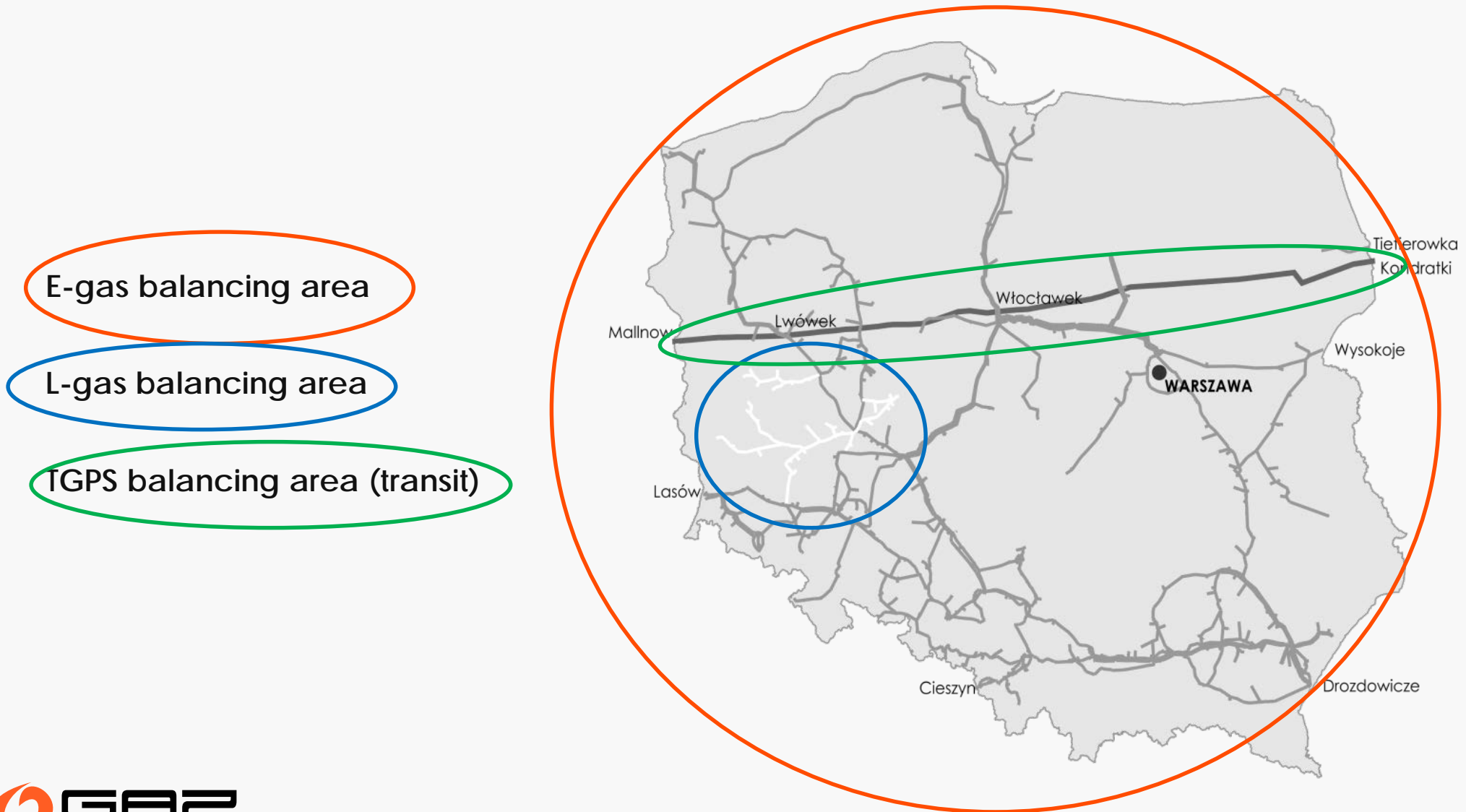
- 2006 August – 1<sup>st</sup> edition of Polish Transmission Network Code
- 2013 January – 4<sup>th</sup> edition
  - New Entry – Exit model and virtual trading point
  - nominations and allocations in Energy units, gas day 6/6
- *2014 March/April – publication of BAL NC*
- 2015 June – 1<sup>st</sup> Interim Measures Report approved by NRA
- *2015 October – BAL NC start of apply*
- 2016 March – current edition of Polish Transmission Network Code
- 2016 September – 2<sup>nd</sup> Interim Measures Report approved by NRA

# COOPERATION WITH GAS EXCHANGE



- ▶ TGE allows buying and selling gas on gas exchange based on market prices, transactions are anonymous.
- ▶ 2011 start of cooperation
- ▶ Net code (IRiESP) statements request of cooperation between Gas Exchange and TSO at VTP in areas::
  - ▶ transactions realized at Virtual Trading Point of Gas Exchange
  - ▶ Nominations at Virtual Trading Point of Gas Exchange (as shipper nominations)
- ▶ Transaction done at Gas Exchange is valid for contractors and realized by TSO

# BALANCING AREAS IN POLAND



# L-GAS SYSTEM

- **Typically local character**
  - (2 subsystems: Lw1 and Lw2)
- **No connection** with any other systems
- **8 entry** points (production)
- **80 exit** points
  - 4 exit points to end users
  - 3 DSOs connected
- **All gas sources belong to one Producer**
- Local Production meets end users' demand
- Only 3 active Shippers



# TGPS BALANCING ZONE - CHARACTERISTICS

**TGPS** – Polish part of Transit Gas Pipeline System Yamal - Europa

## ➤ Entry points:

- **Kondratki** (connection point, Belarus)
- **Mallnow** (connection point, GASPOOL - Gascade)
- **PWP reverse** (contractual connection point, H-gas balancing zone)

## ➤ Exit points:

- **Mallnow** (connection point, GASPOOL - Gascade)
- **PWP** (virtual interconnection point based on physical points between TGPS and H-gas balancing zone)



# H-GAS BALANCING ZONE – CHARACTERISTICS

## 62 entry points

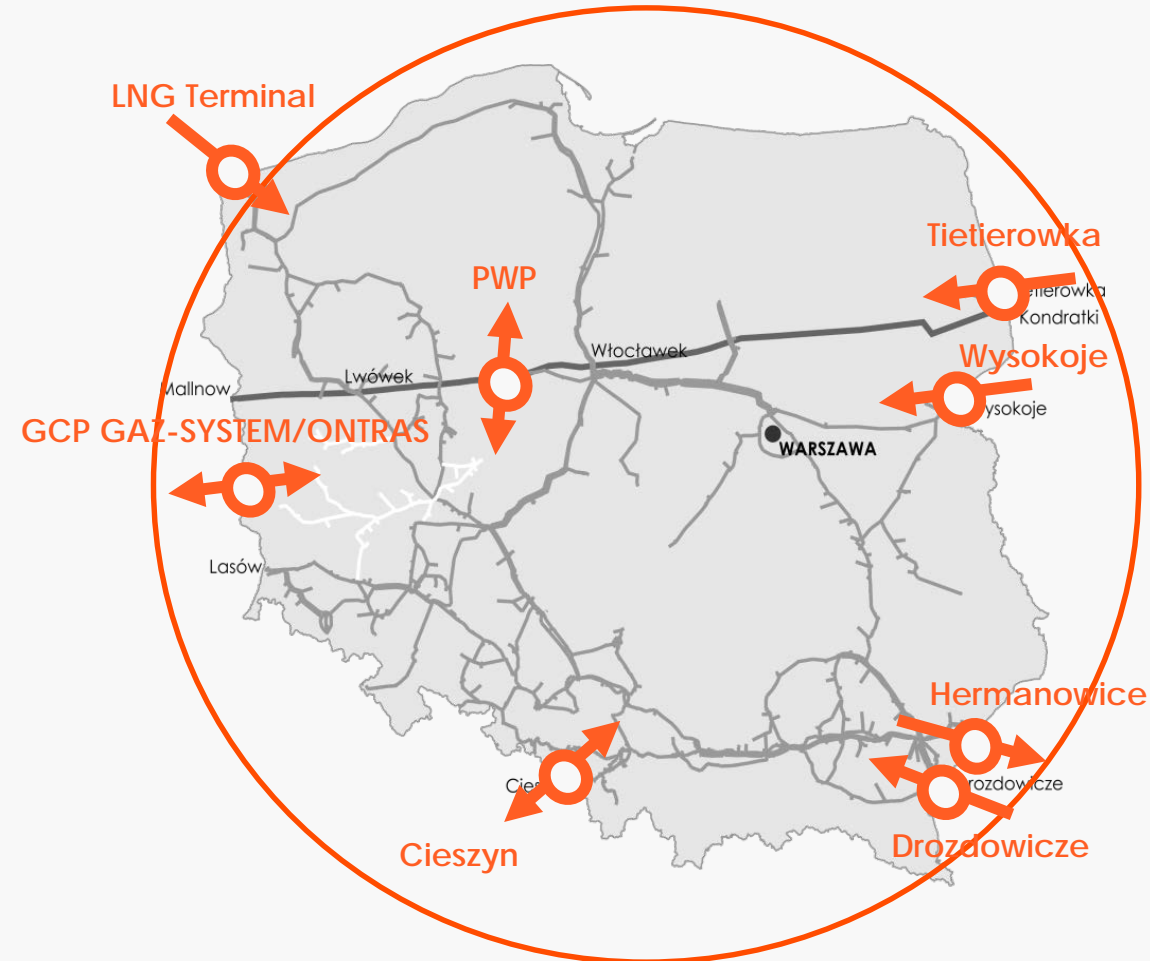
- IPs
- LNG Terminal
- Production

## 902 exit points

- IPs
- End users (industry)
- DSOs (23)

### ➤ Interconnection points:

- **BY → PL:** Tietierowka, Wysokoje
- **UA → PL:** Drozdowicze
- **PL → UA:** Hermanowice
- **PL ↔ CZ:** Cieszyn
- **PL ↔ DE (ONTRAS):** GCP GAZ-SYSTEM/ONTRAS
- **PL ↔ Yamal (transit):** PWP





# H-GAS BALANCING ZONE – BALANCING ACTIONS

## Platforms

TGE trading platform (Polish gas exchange)

### Balancing platform

- an interim measure in place since October 2015:
- implemented before entry into force of BAL NC in January 2014
- currently only locational products on the eastern boarder available

### Trade within adjacent balancing zone

- GASPOOL
- approved by NRA

## Merit order

- WD title product on TGE trading platform
- WD and DA locational product on the balancing platform
- WD and DA title product on the trading platform within the adjacent balancing zone
- balancing services

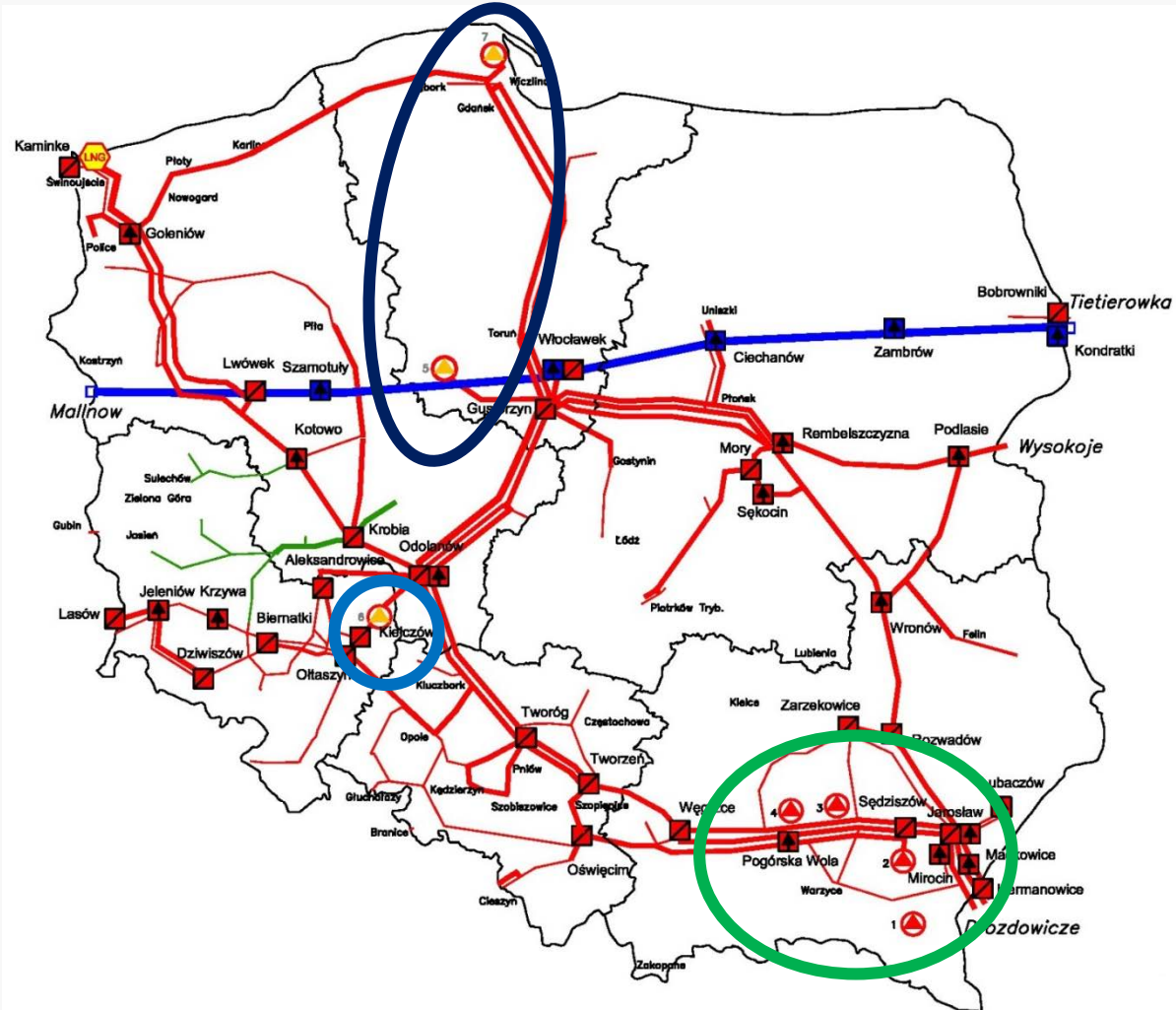
**Balancing actions undertaken by TSO so far:**  
**at TGE trading platform (WD title products):**

- after the end of a gas day
- based on net total Shippers' imbalance

**introduction of balancing services - 1st Jan 2016**



# TRANSMISSION SYSTEM – STORAGE COOPERATION



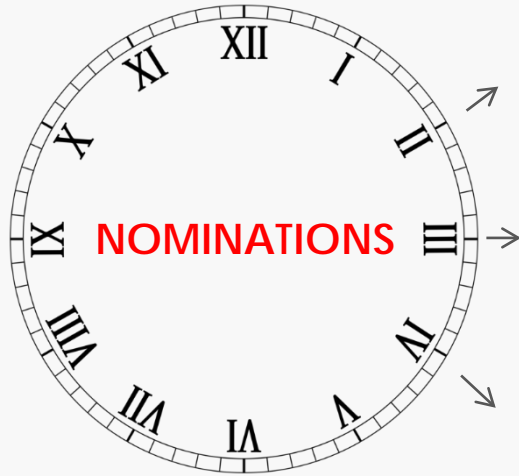
## Technical Facilities:

- 2 Salt cavern storages
- 4 storages based on depleted fields

## Contractual facilities:

- „GIM Kawerna”
- „GIM Sanok”
- „IM Wierchowice”

# NOMINATION/ RENOMINATION CYCLES (BAL NC)



**14:00 D-1**

Nomination deadline for gas day D (**NOMINT**)

**3:00 D**

Last possible renomination (**NOMINT**) for gas day D (quantity change for last hour of gas day)

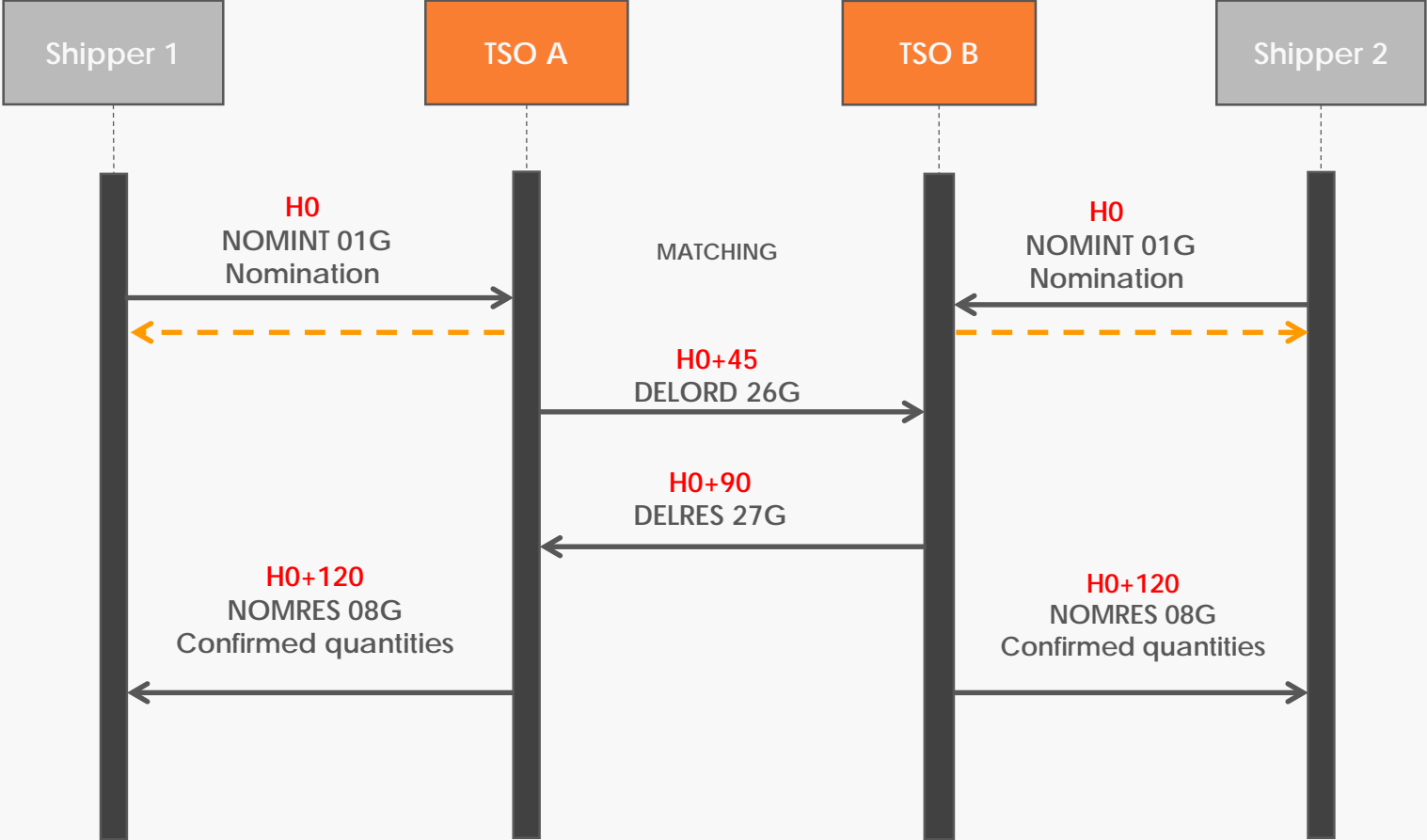
**16:00 D-1**

- Confirmation deadline (rejection / confirmation of nomination) for gas day D (**NOMRES**)
- Start of renomination procedure for gas day D (renomination cycle starts every hour)

❑ **Two hour lead time** is required for renominations

In case of not preserving that rule, **renomination is rejected**

# NOMINATION AND MATCHING PROCESS



# NOMINATIONS – DATA EXCHANGE (INT NC)

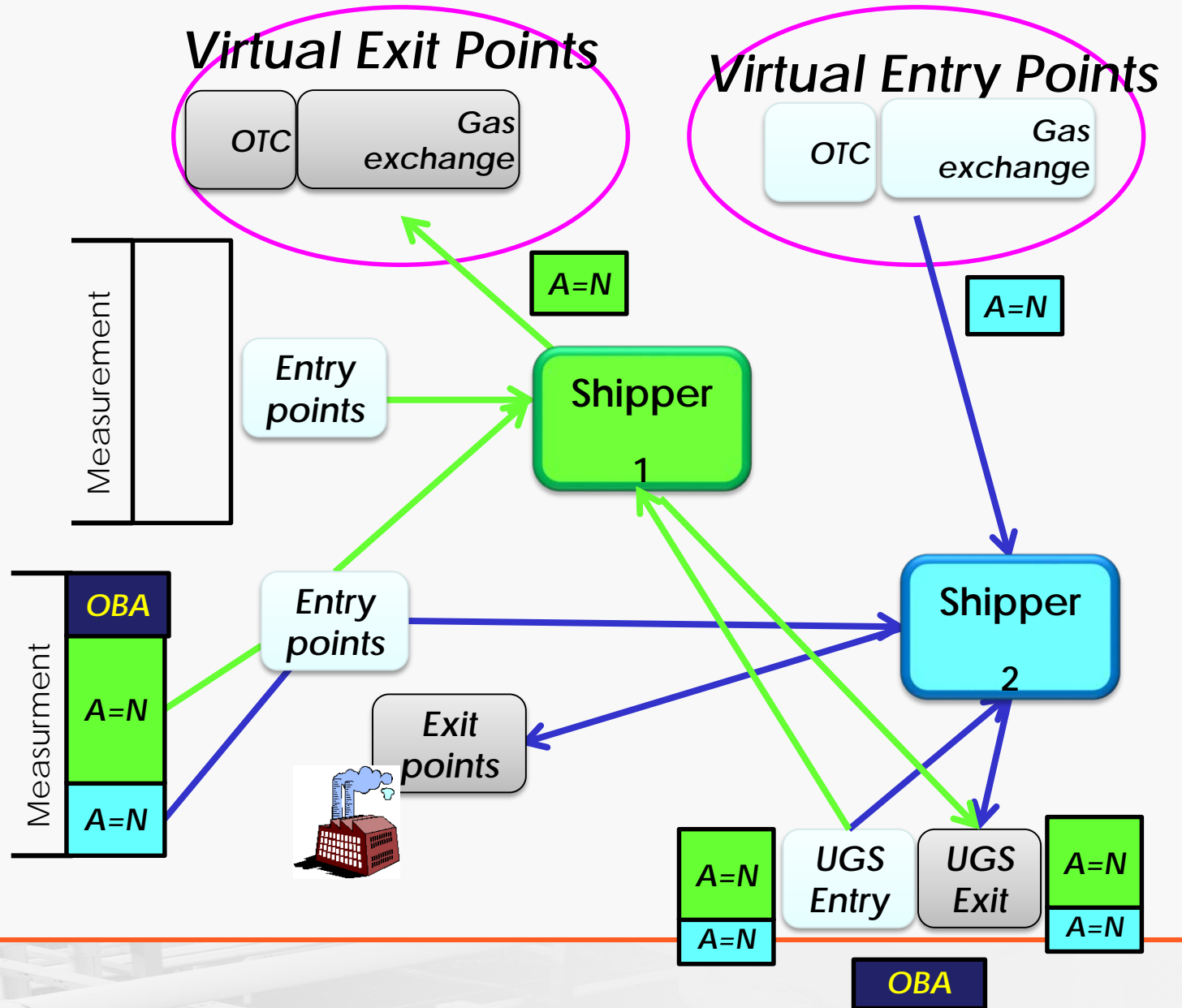
- Document based and interactive data exchange
- **Data exchange format: Edig@s – XML (4.0. or 5.1. version):**
  - Messages: NOMINT, ACKNOW, NOMRES
- **Data exchange protocol: AS4**



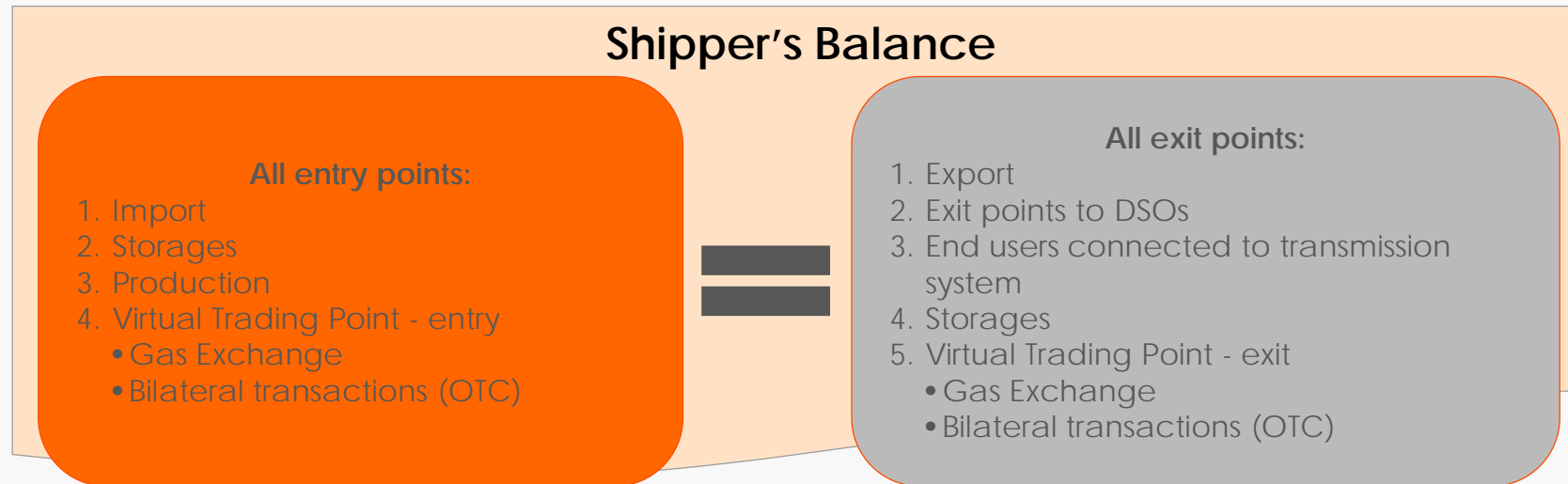
- Interactive data exchange - possibility to use web-portal – Information Exchange System IES - for submitting nomination (edig@s messages are automatically generated in Edig@s 5.1)



# ALLOCATIONS – METHODS OF ALLOCATION



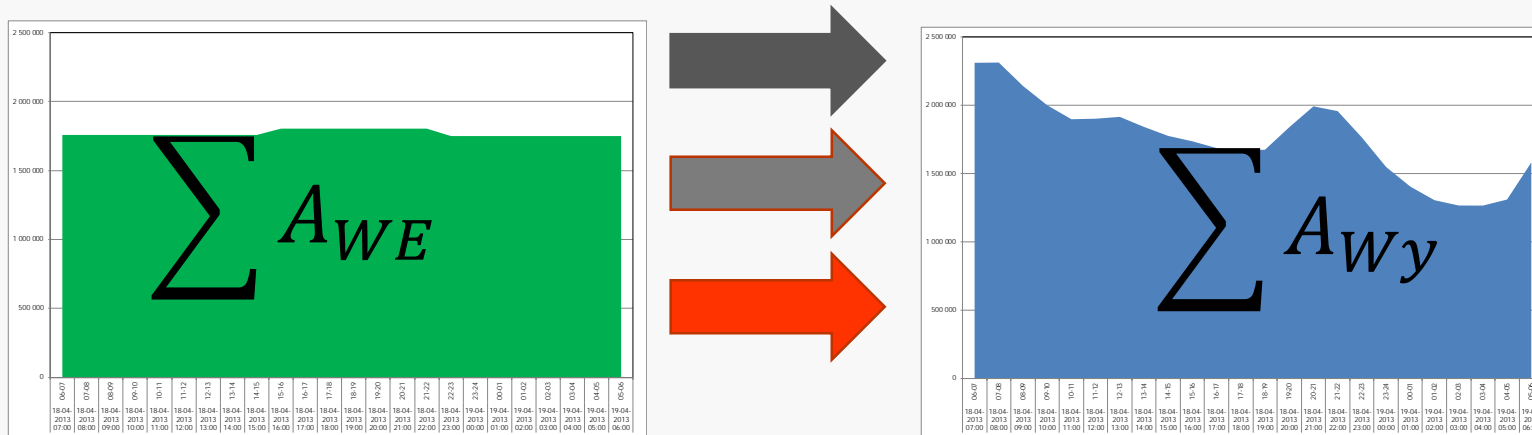
# COMMERCIAL BALANCING



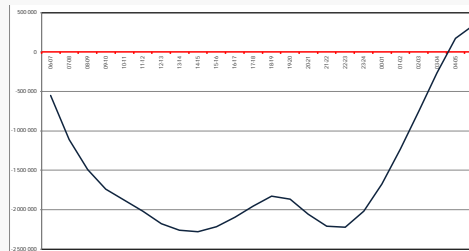
- Daily balancing regime
- Shipper's provisional imbalance is calculated after 4 hours, 8 hours of gas day and after gas day
- Final imbalance calculated after the end of the gas month, based on final allocations
- Imbalance settlement for each gas day (based on final allocations)

# DAILY BALANCING

TSO calculate **Shipper's Daily Imbalance** for each gas day as **difference between gas amount delivered at entries and withdraw at exits** from balancing area/zone by Shipper at each gas day .



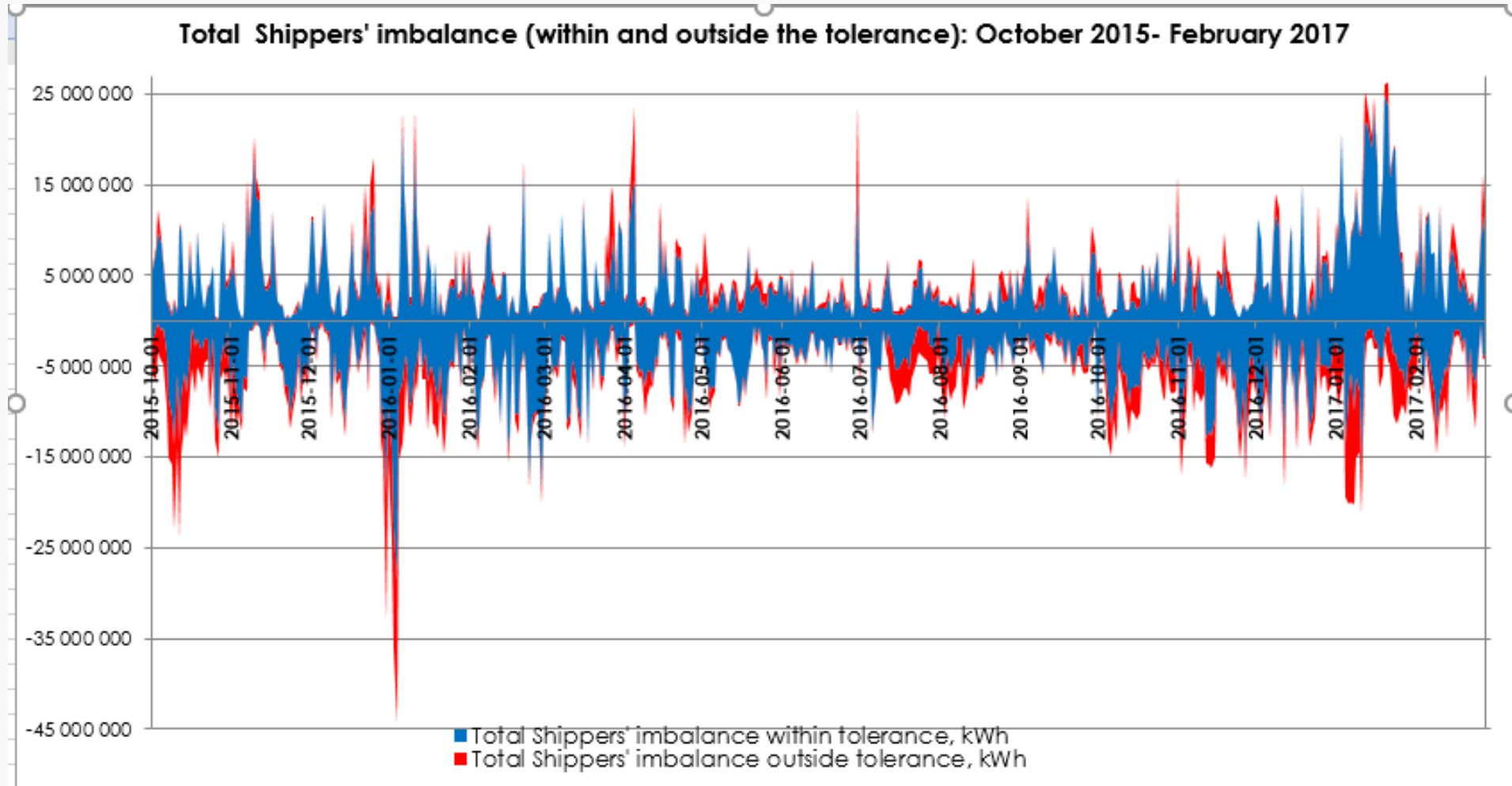
$$DIN = \Sigma A_{WE} - \Sigma A_{Wy}$$





# TOLERANCE

## TOTAL NETWORK USERS IMBALANCE WITHIN AND OUTSIDE TOLERANCE



# TOLERANCE

## E-gas Balancing area

Time of application: October 2015 – September 2017 – ?

Tolerance is determined according to the following method:

$$DLN = 5\% * \text{MAX} \left[ \frac{(R_{PWE} + R_{PWY})}{2}; R_{PWY} \right];$$

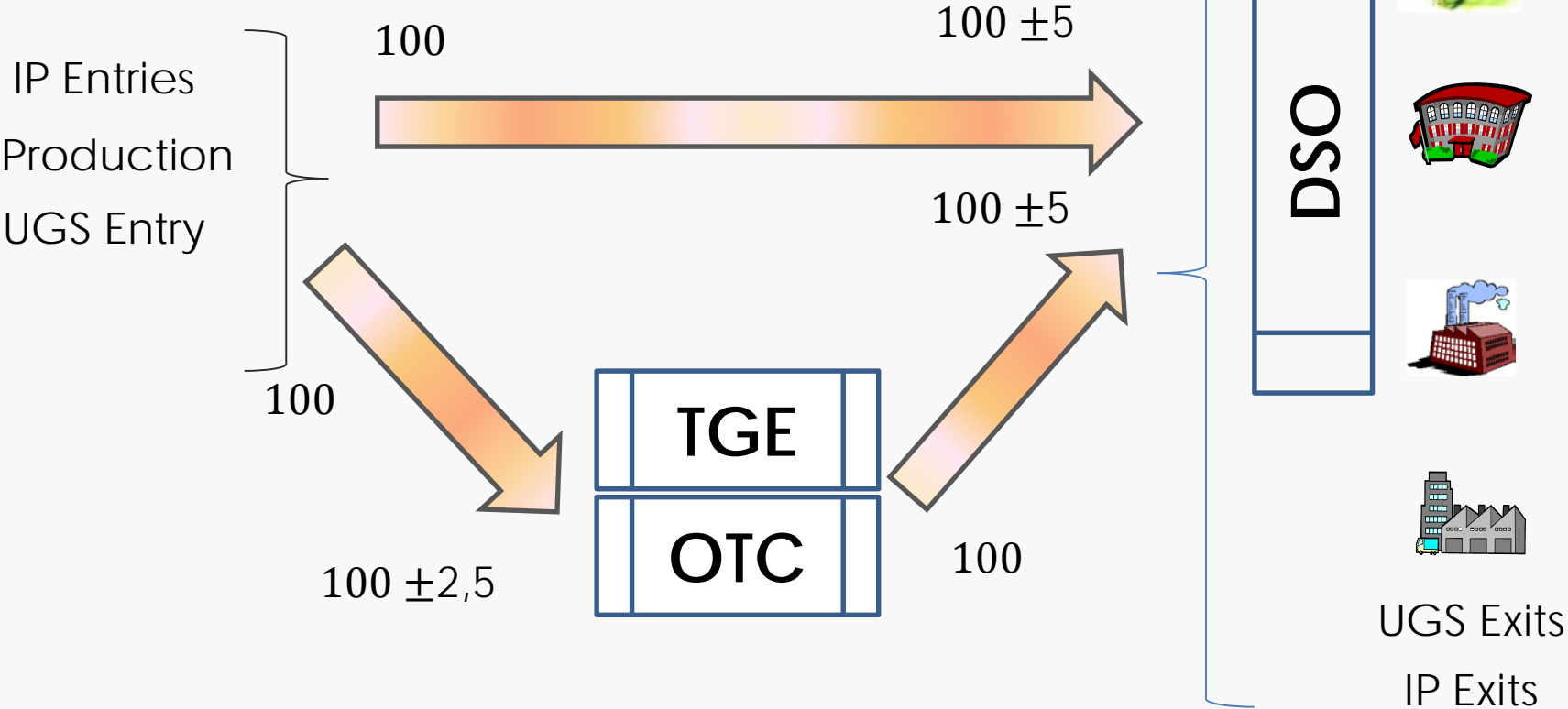
where

R – means the quantities of gas delivered/offtaken, as appropriate, at Entry/Exit Points (excluding virtual entry/exit points – Gas Exchange, OTC, Balancing Services Market)

5 % is the **current** level of tolerance

2,5 % will be the level of tolerance between April 1<sup>st</sup> 2018 – 2019

# TOLERANCE



$$DLN = 0,05 * \text{MAX} \left[ \frac{(R_{PWE} + R_{PWY})}{2}; R_{PWY} \right]$$

# IMBALANCE CHARGE – E-GAS BALANCING AREA

Marginal prices in accordance with BAL NC

**Marginal sell price** is equal to the lower of the two following prices:

- lowest price of any sales of title products, in which the TSO is involved in respect of the given gas day,
- CSRB in relation to this gas day, reduced by 10%.

**Marginal buy price** is equal to the higher of the two following prices:

- highest price of any purchases of title products , in which the TSO is involved in respect of the given gas day,
- CSRB in relation to this gas day, plus 10%.

where

CSRB is the volume-weighted average price from all transactions of TGE (Gas Exchange) session of the Intraday Market ( $RDB_G$ ), related to the present gas day (index TGEgasID).

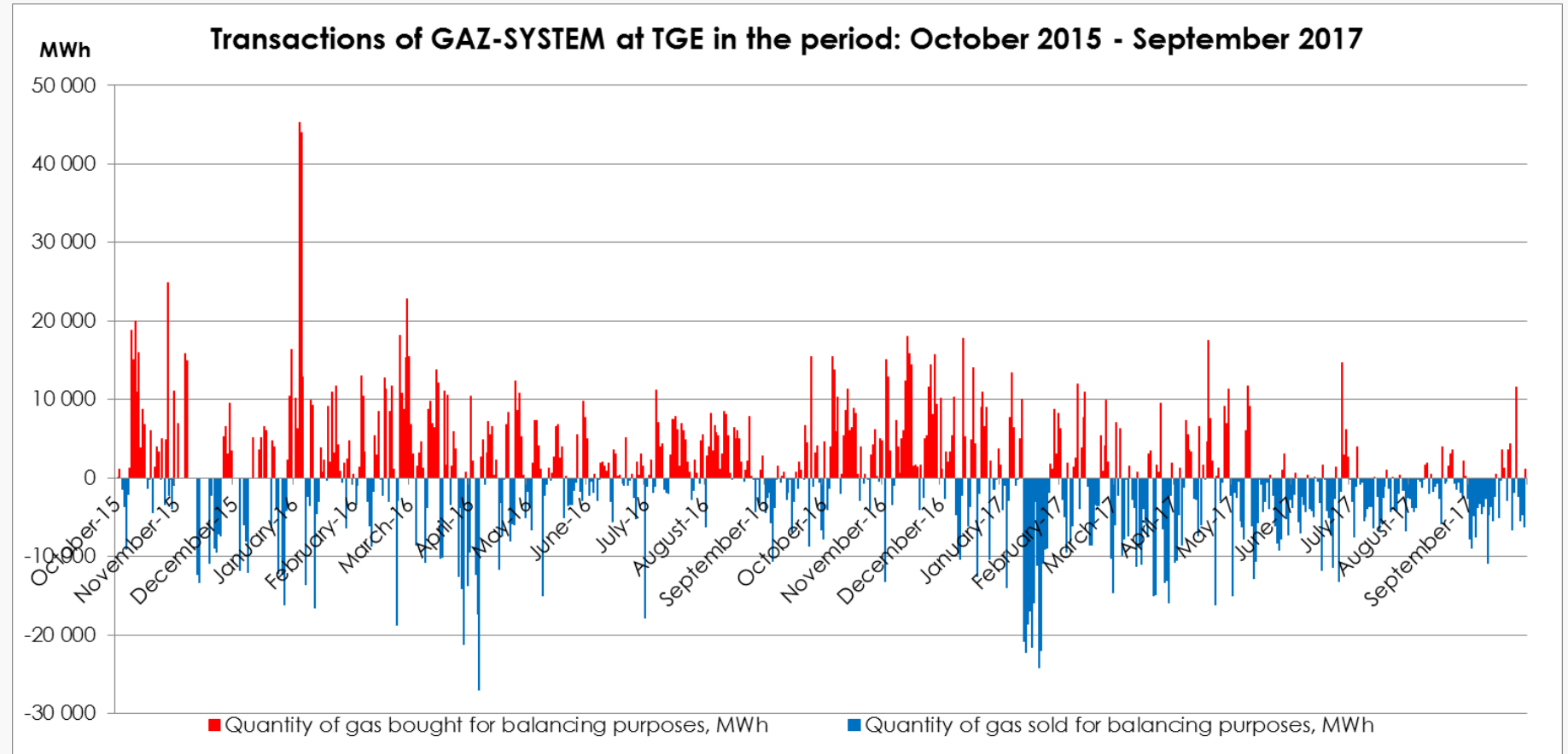
# H-GAS BALANCING ZONE – BALANCING ACTIONS AT TRADING PLATFORM

TGE trading platform (Polish gas exchange)

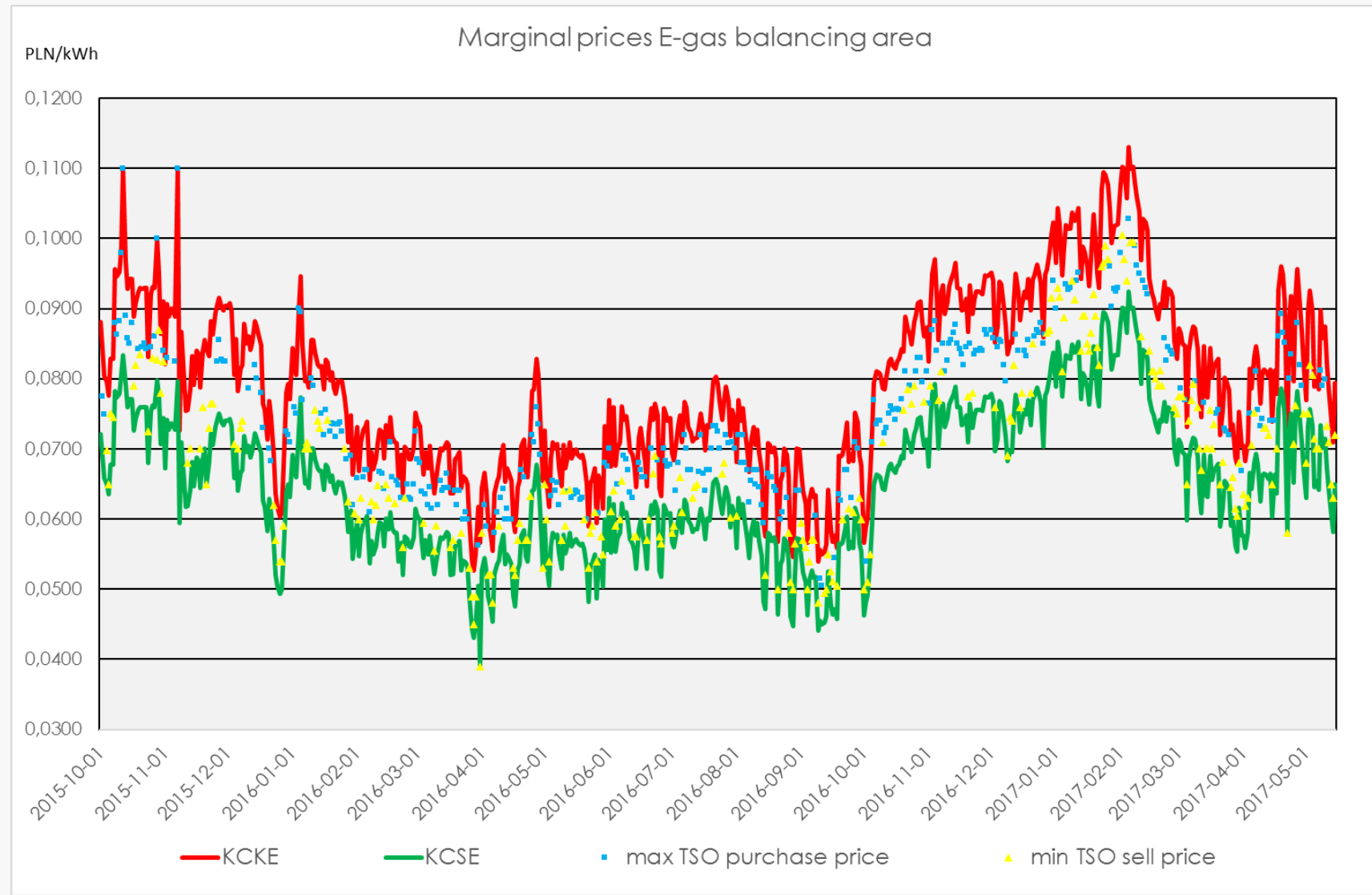
TSO undertakes balancing actions at TGE trading platform

(WD title products):

- after the end of gas day
- based on net total Shippers' imbalance



# IMBALANCE CHARGE - E-GAS BALANCING AREA



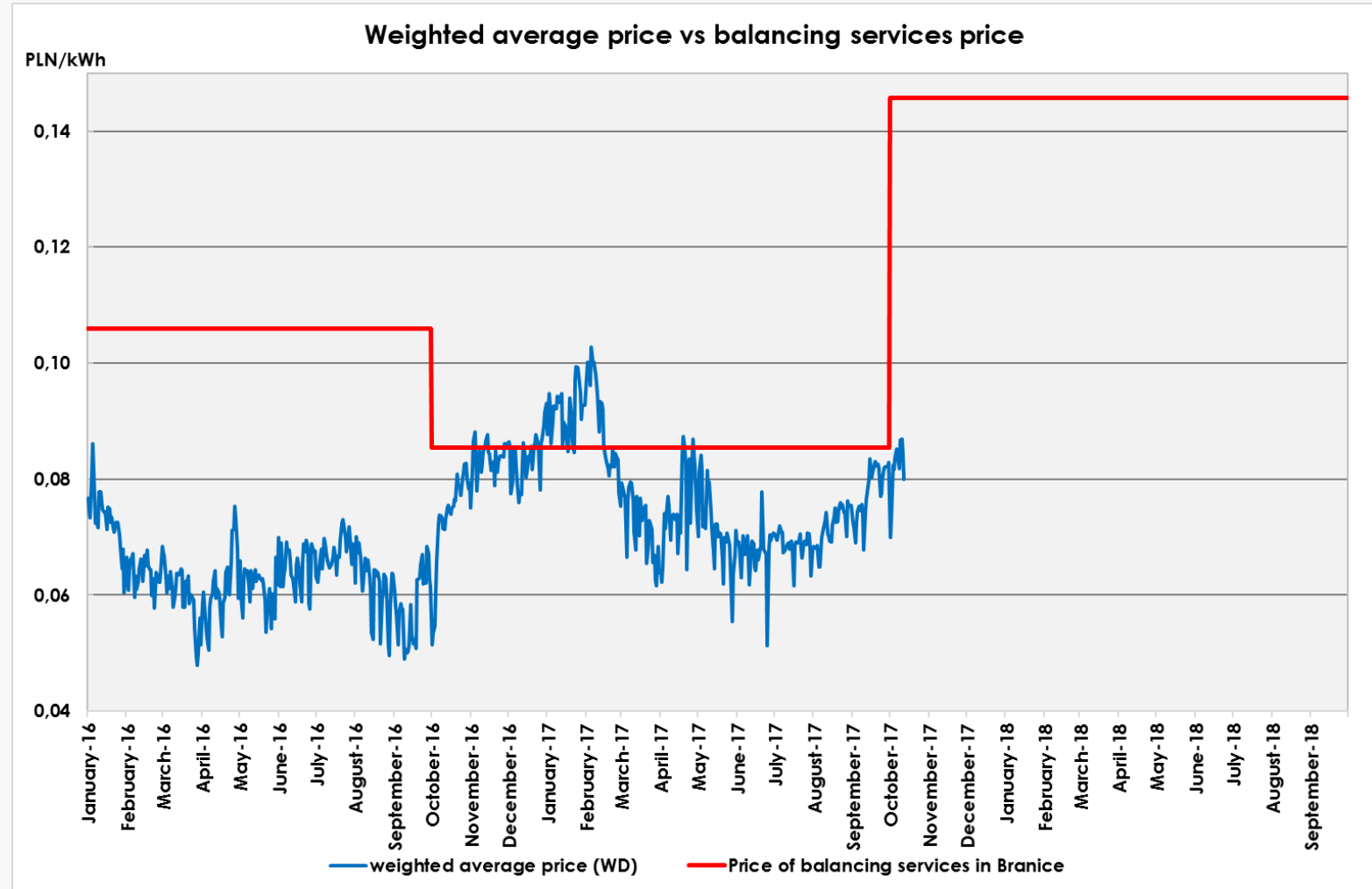
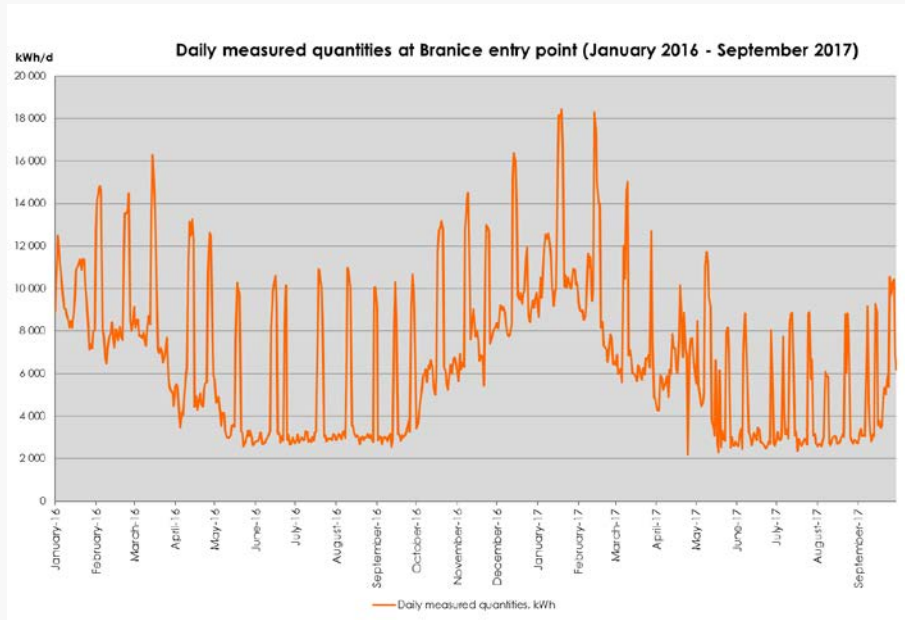
# H-GAS BALANCING ZONE – BALANCING SERVICES

- Balancing services procured in a market-based manner – non-discriminatory public tender procedure
- Details of procedure published at GAZ-SYSTEM website – portal dedicated to public procurement (public access, platform in Polish language only)
  - Description of Product/ Procurement criteria
  - Questions and answers
  - Results
- Tenders submitted via email or official correspondence
- Annual tender process:
  - 1st process in December 2015 – for the period January – September 2016 (till end of gas year)
  - 2nd process in September 2016 – for the period October 2016 – September 2017 (gas year)
  - 3rd process in September 2017 – for the period October 2017 – September 2018 (gas year)
- Description of Product/ Procurement criteria
  - Supply of gas at Branice entry point in quantities resulting from demand of end users supplied from this entry point
  - Balancing services used in case when no Shipper nominates Branice entry point
  - Price is determined by the tenderer



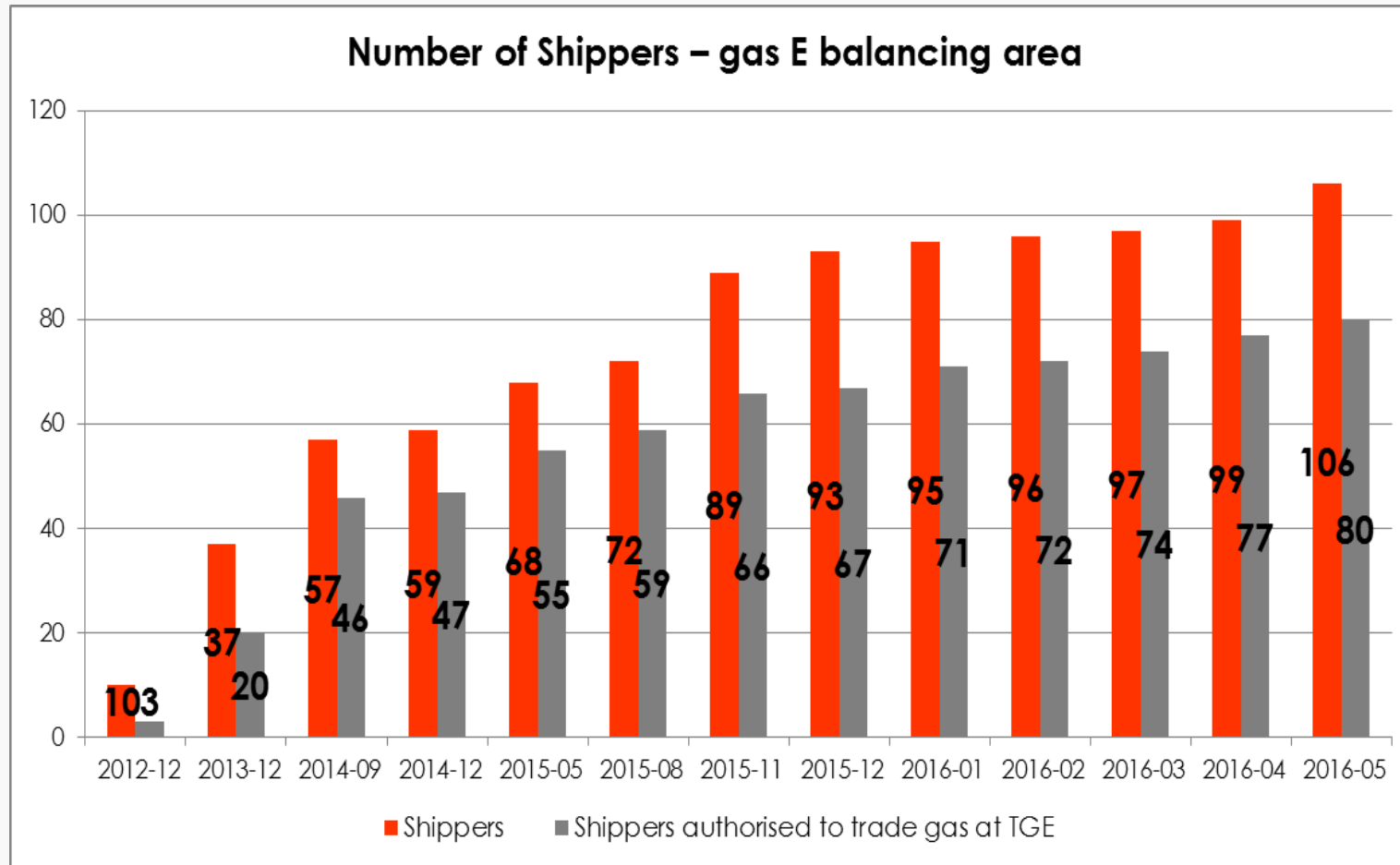
# H-GAS BALANCING ZONE – BALANCING SERVICES – QUANTITIES & PRICES

gas year	quantity [kWh]	price [PLN/kWh]	costs [PLN]
2015/2016	1 716 778	0,10593	181 858
2016/2017	2 533 424	0,08535	216 228
2017/2018	?	0,14578	?

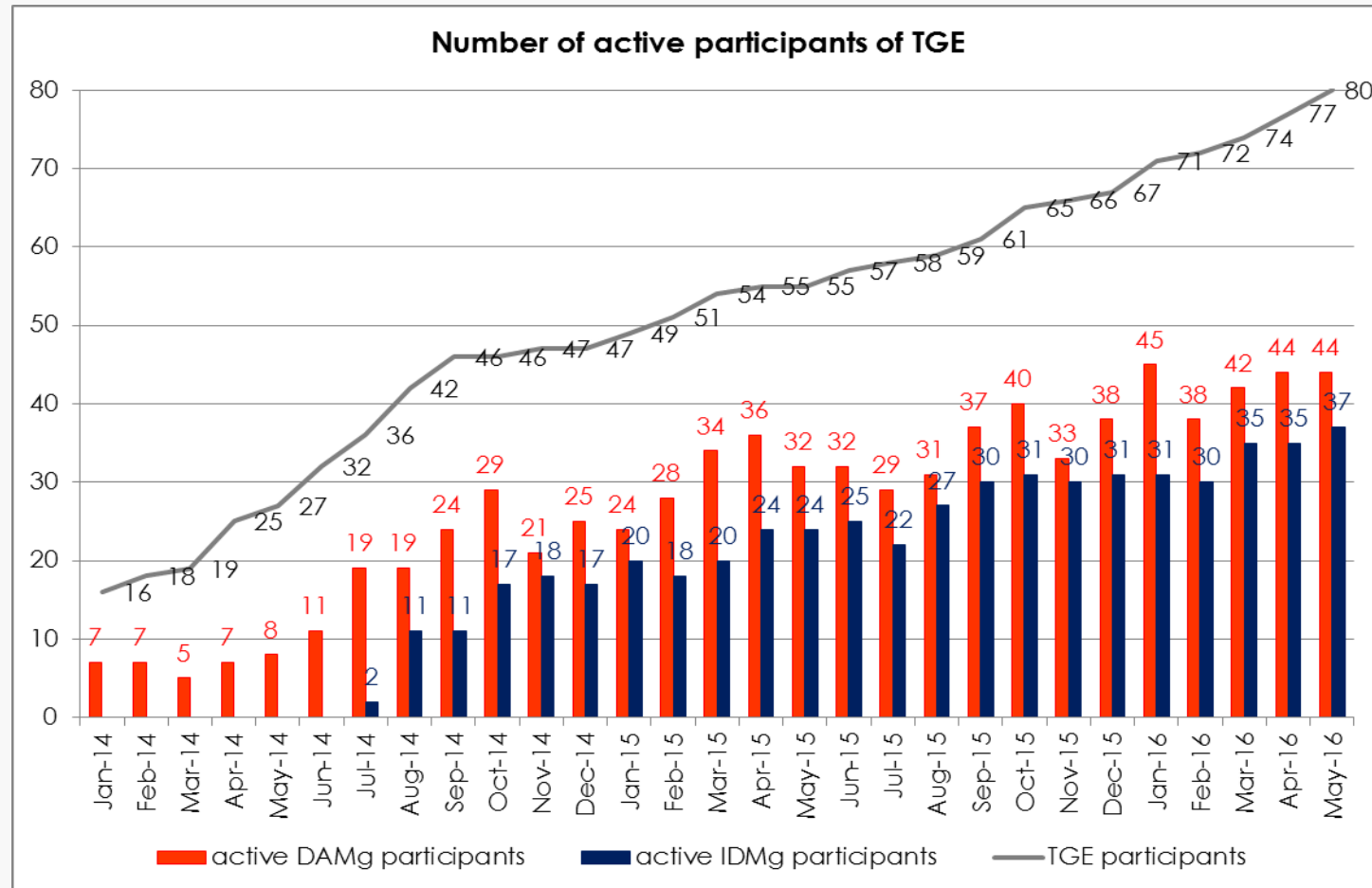




# POLISH GAS MARKET INCREASE IN THE NUMBER OF PARTICIPANTS



# SHORT TERM WHOLESALE GAS MARKET DEVELOPMENT



THANK YOU FOR YOUR ATTENTION



# TGPS BALANCING ZONE – BALANCING ACTIONS

## Platforms:

**TGE trading platform (Polish gas exchange)** implemented in March 2016 (DA title product available only), no transaction executed yet

**Balancing platform** (an interim measure) in place since March 2016

NRA approval to **trade within 2 adjacent balancing zones:**

- GASPOOL (Germany)
- H-gas balancing zone in Poland (TGE trading platform)

## Merit order:

DA title product **on TGE trading platform**

WD and DA title products on the **trading platform within the adjacent balancing zones**

WD and DA title and locational products on the **balancing platform**

## No balancing action taken by the TSO since 1st October 2015

**Shippers balance their own portfolio.** Reasons:

- Typically transit character of the balancing zone
- Allocation rule at all entry and exit points: „allocation equals nomination”
- Interim imbalance charge (interim measure) – encouragement for Shippers to be balanced in this balancing zone

