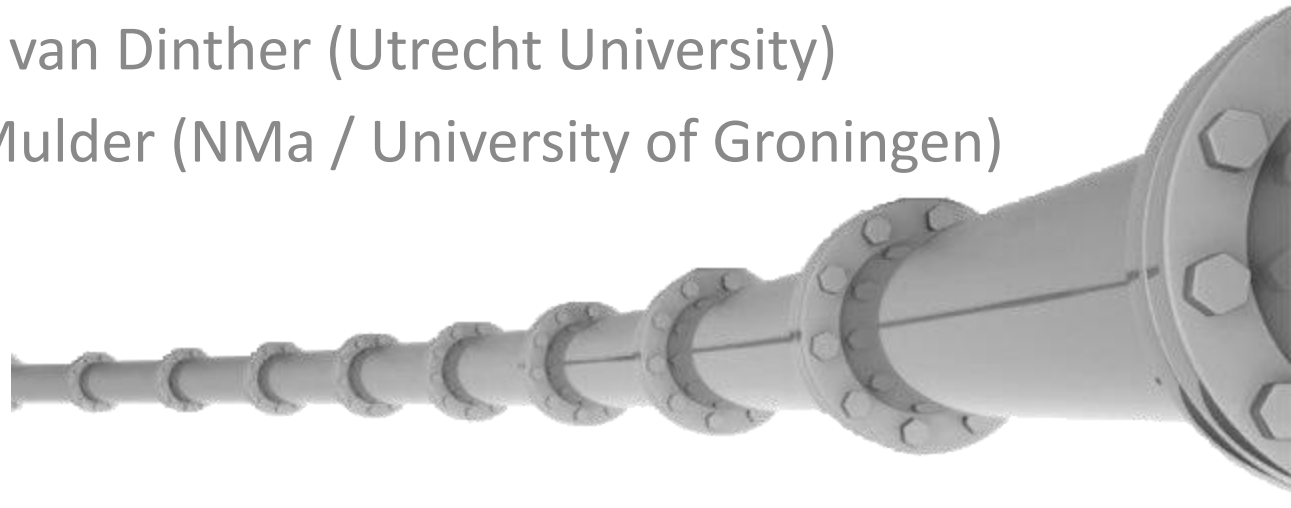


# THE NEW DUTCH GAS-BALANCING REGIME: AN ECONOMIC ASSESSMENT

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# The concept: Gas Balancing

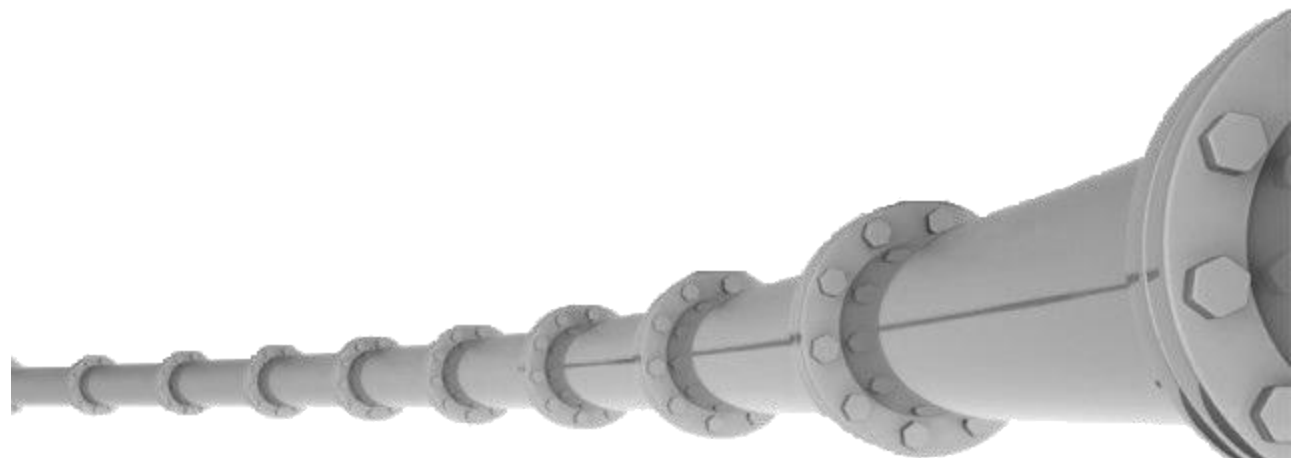
- What is gas balancing?
- New Dutch market-based gas balancing regime introduced on April 1<sup>st</sup> 2011
- Main question:
  - *Is the design of the new balancing regime efficient and has there been a trade-off between network stability and efficiency?*

**General conclusion: Efficiency of the new regime can be improved further without jeopardizing network stability**



# Outline

1. Introduction
2. The design of the new Dutch gas balancing regime
3. Economic assessment
4. Conclusions



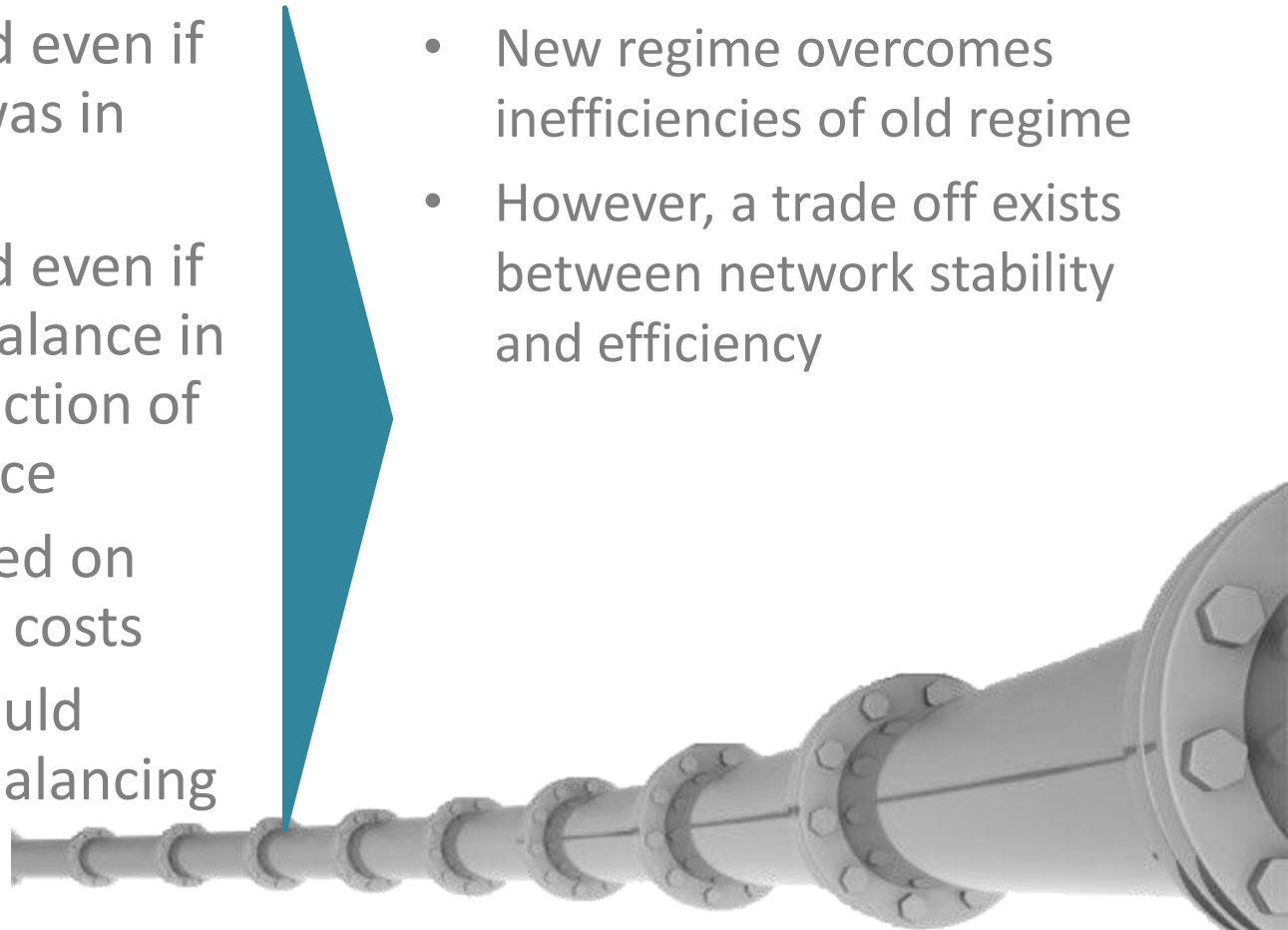
# 1. Introduction (1)

## Old balancing regime was inefficient...

- Actors were fined even if whole network was in balance
- Actors were fined even if they were in imbalance in the opposite direction of network imbalance
- Fine was not based on actual imbalance costs
- Not all players could participate in rebalancing

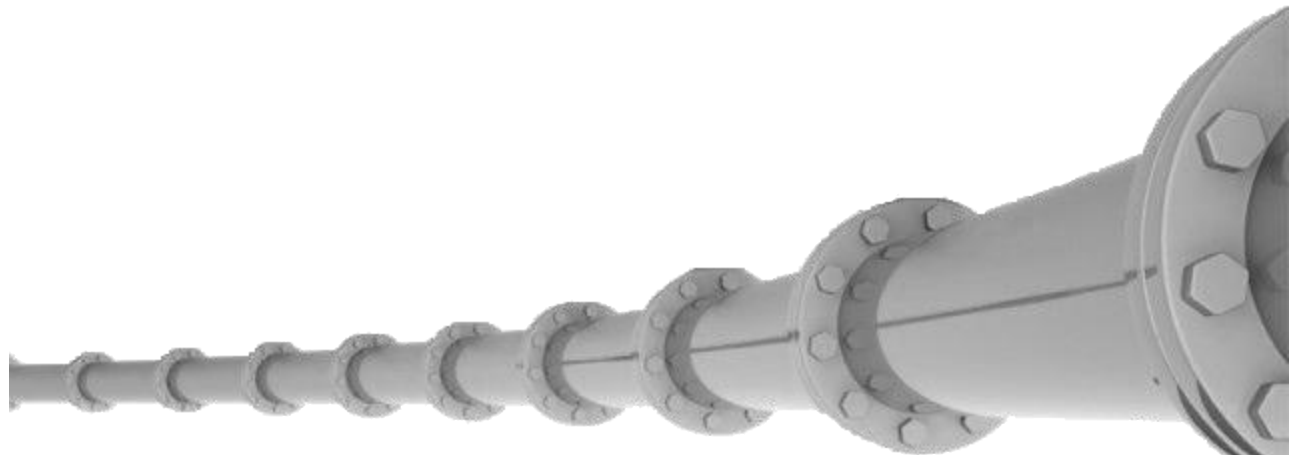
## ... thus a new regime was introduced

- New regime overcomes inefficiencies of old regime
- However, a trade off exists between network stability and efficiency

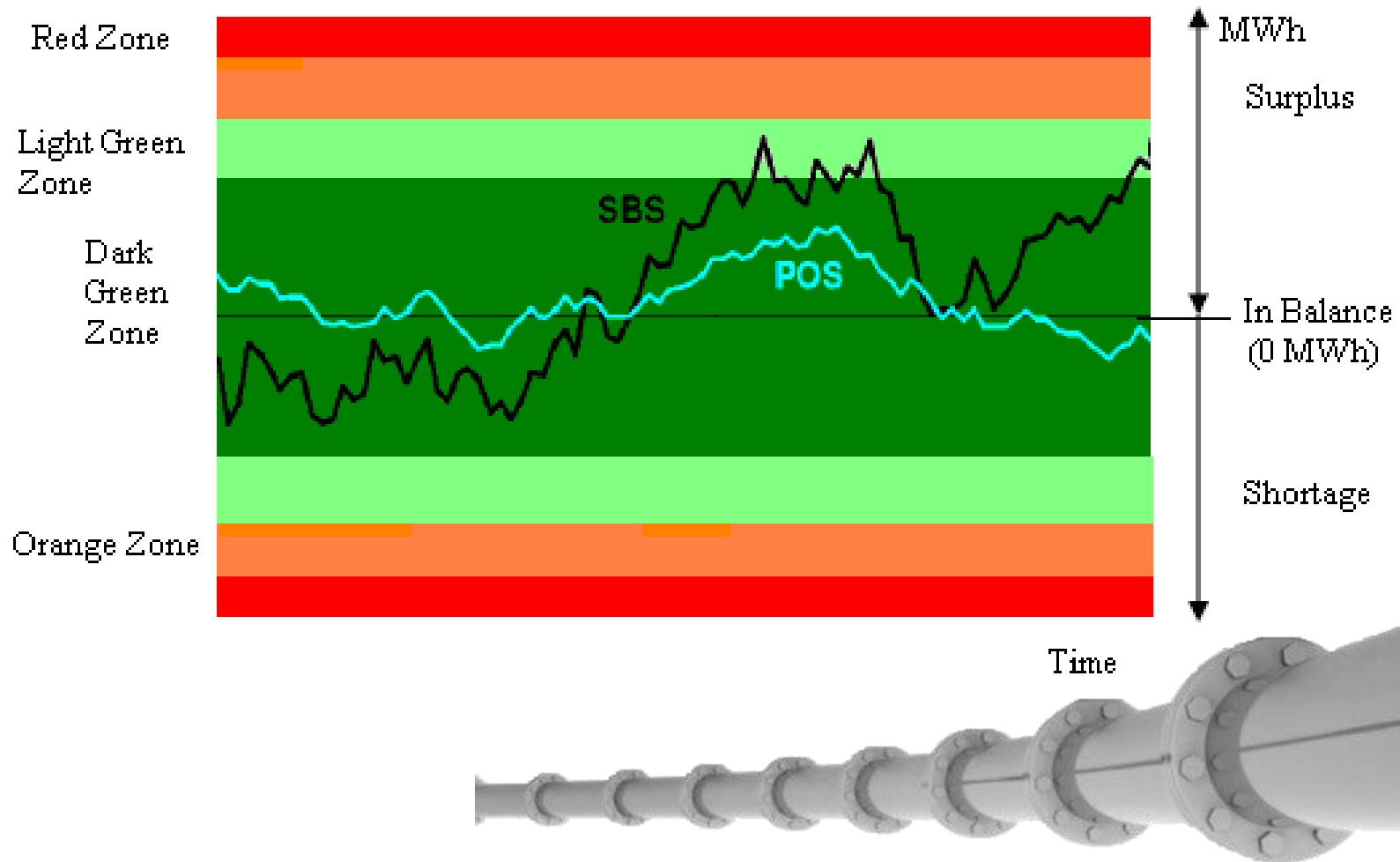


# 1. Introduction (2)

- The main design aspects analysed
  1. Reservation of gas for the bid-price-ladder
  2. Use of price constraints for reserved bid-price-ladder gas
  3. Bid-price-ladder procedure during orange zone imbalances
  4. ...

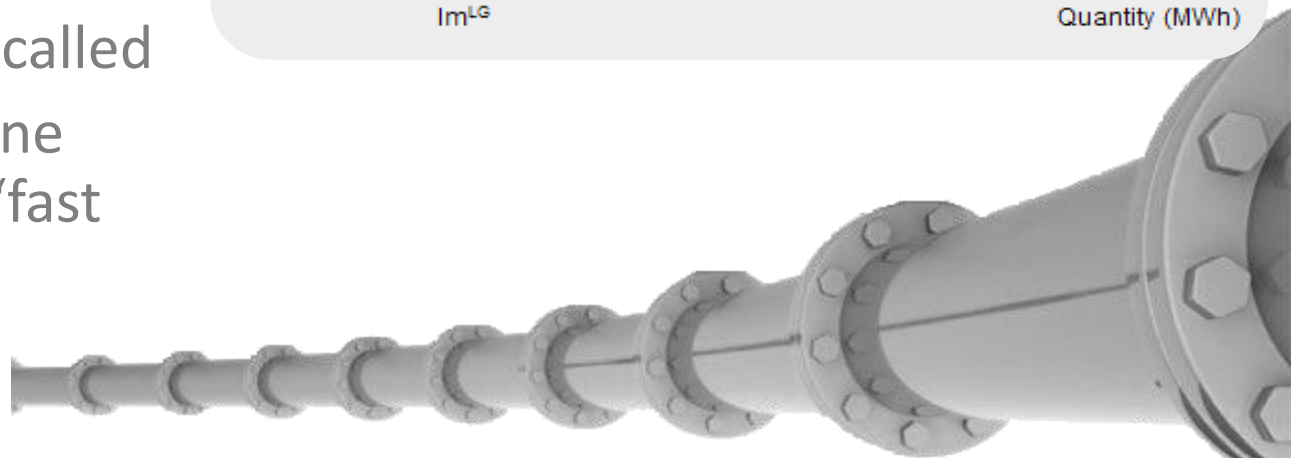
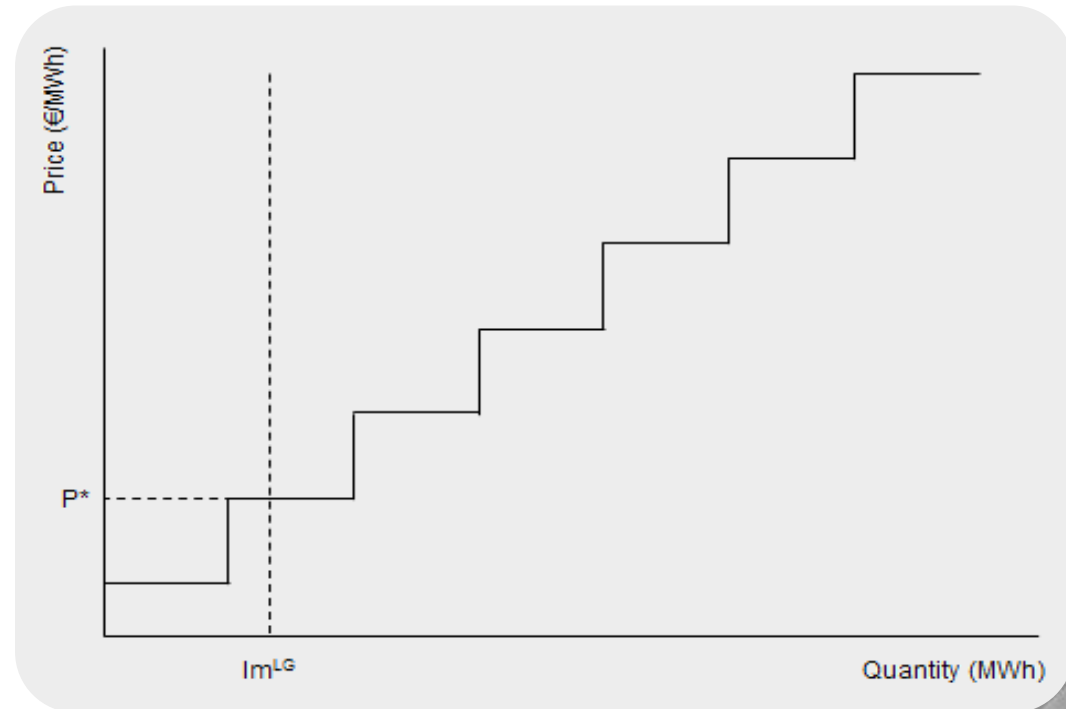


## 2. The new Dutch gas balancing regime



# 2.1 Bid-price ladder

- The bid-price ladder is a separate market for balancing gas
- All PRPs can participate
- The relatively high bid ladder gas price gives an incentive to be in balance
- Marginal price is called
- During orange zone imbalances only 'fast means' are used

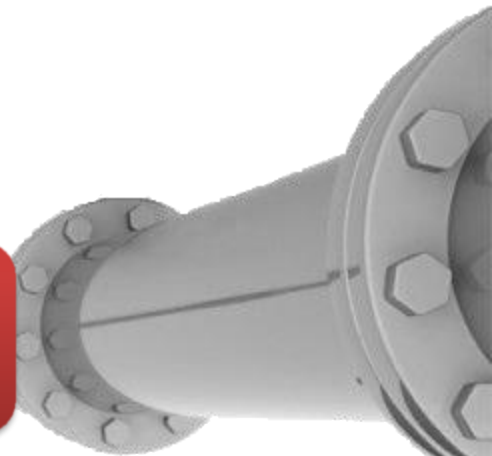


## 2.2 Reservation fee

A tender is organized to assure that in every hour 2,100 MWh of gas is reserved for the bid-price ladder

- The ‘winning’ PRPs are rewarded with a reservation fee
- The price these PRPs can charge is constrained

**But, can these components of the new balancing regime be considered efficient?**





# 3. Economic assessment (1)

1. Reservation of gas (2,100 MWh)
  - On average 24,921 MWh is reserved while only 2,520 MWh was called during imbalances
  - We compared the costs and benefits of this measure with the *break-even-frequency method*
    - Only if the doom scenario occurs at least **38 times a year**, this measure can be considered efficient

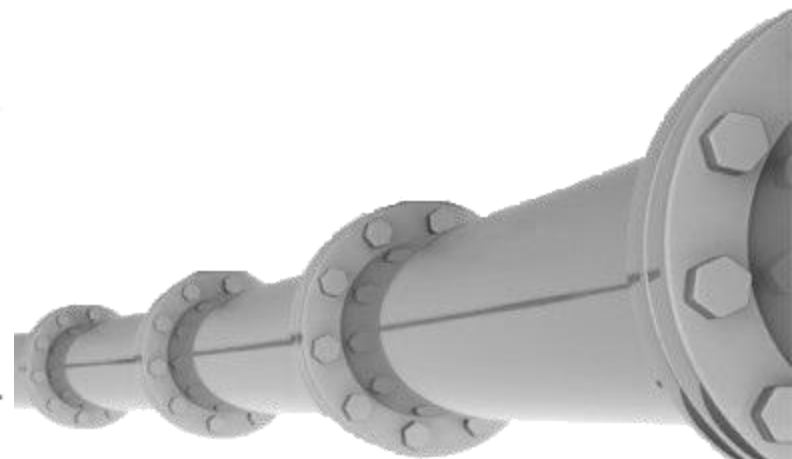
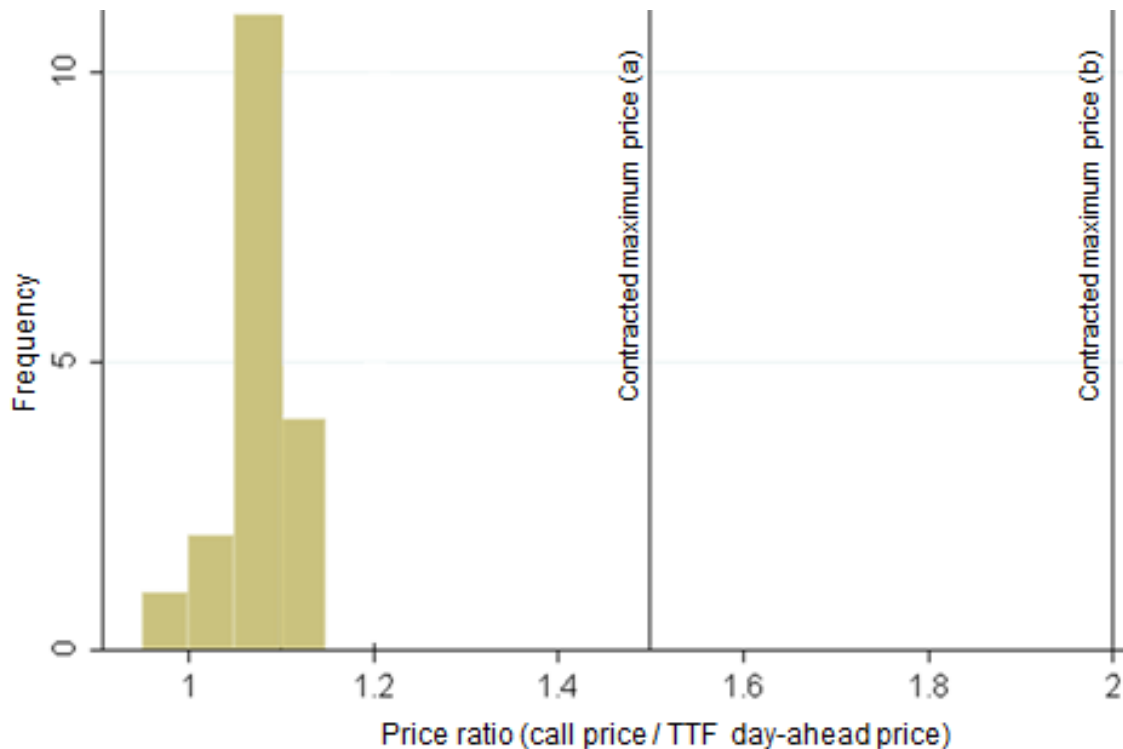
The reservation of gas for the bid-price ladder is inefficient as the benefits do not outweigh the costs



# 3. Economic assessment (2)

2. Maximum prices for reserved bid-price ladder gas are unnecessary

- Tendered maximum prices were 150% and 200%



# 3. Economic assessment (3)

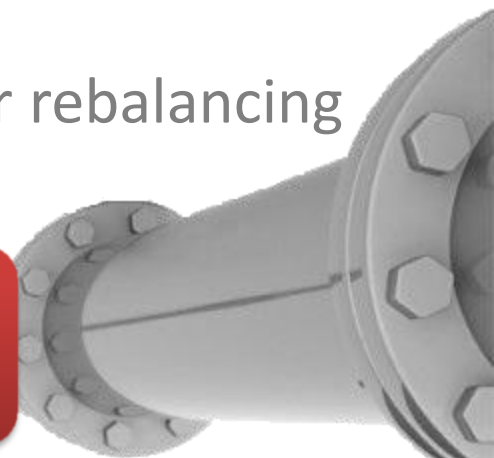
## 3. Efficiency of only using 'fast means' during orange zone imbalances

- Procedure is introduced to ensure quick rebalancing

However:

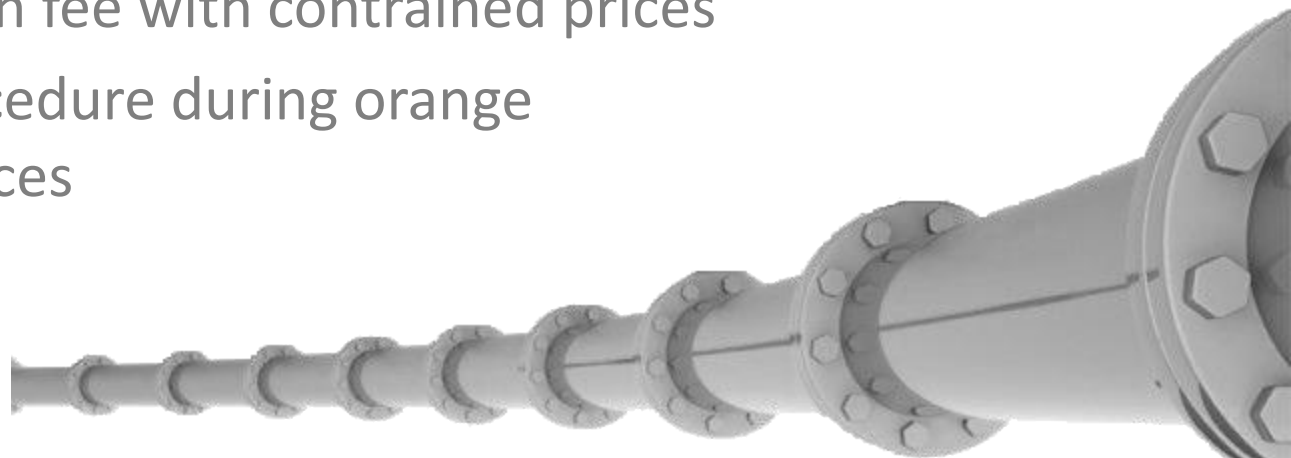
- In first year too less 'fast means' were available, resulting in the bid ladder being called multiple hours in a row
- Also using 'slower means' results in quicker rebalancing

**Measure was introduced to ensure fast rebalancing, but in reality it results in slower rebalancing**



# 4. Conclusions

- General conclusion:
  - The efficiency improved compared to the 'old' balancing regime
  - The efficiency could be improved even more without a downward shift in network stability
- How to increase the efficiency of the new regime?
  - No reservation fee with constrained prices
  - Different procedure during orange zone imbalances
  - ...





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