



25th world gas conference  
"Gas: Sustaining Future Global Growth"

# Lessons learned from unbundling

perspective of a transmission company

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Venue: Kuala Lumpur



Patron



Host



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# Aim of this presentation

- Lessons learned from unbundling
- Transition from an integrated company to a separate transmission company
- Point of View: Gasunie in the Netherlands
- New roles and responsibilities
- Challenge v.s. range of rules from the regulator and expectations of the market
- Needs from integrated world cannot be fulfilled in new world
- Positive as well as negative experiences
- Awareness of these phenomena

# Background

- European Natural Gas network started early 1960s
- Basis: Groningen Gas Field, 3000 Bcm
- Market: Netherlands, Germany, Belgium, France, Italy, Switzerland
- Transmission network owned by monopolistic midstream companies
- From 1980s import from Norway and Russia
- Long Term Take or Pay Contracts (20-25 yrs.)
- End of 1990s: EU Directives to start liberalisation EU energy markets
- Foundation of Transmission System Operators (TSO)
- Last decade: TSOs are independent from trading companies



**IGU**  
INTERNATIONAL GAS UNION  
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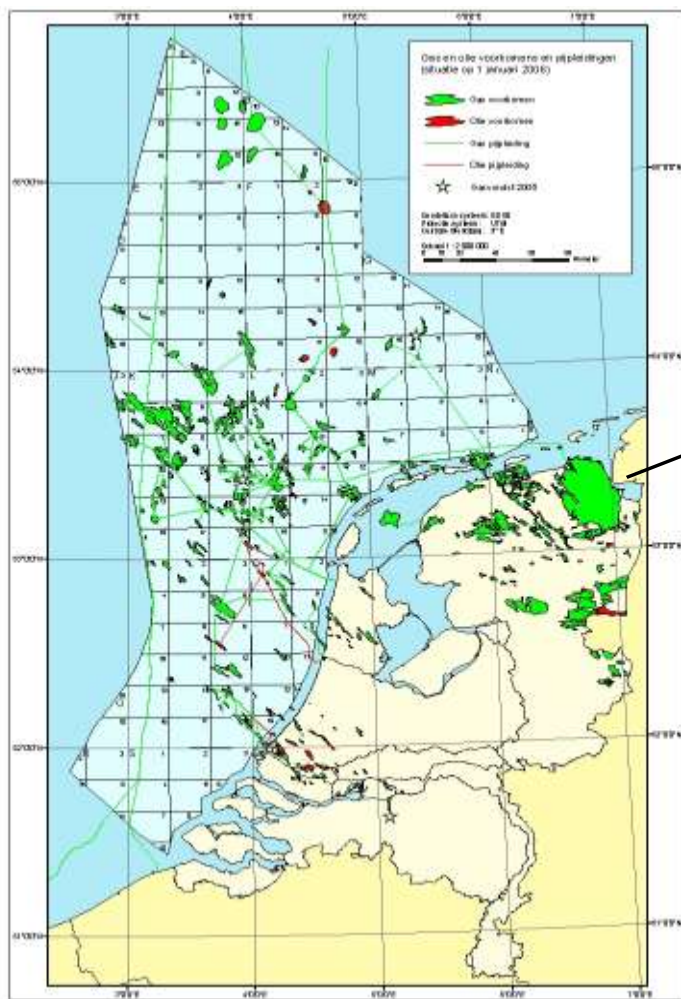
# 50 years ago: Start of Dutch Gas Story



# History of Gas Business in Western Europe

- 1959: Groningen gas field discovered (3000 bcm)
- 1963: Gasunie was formed to purchase, transmit and market natural gas
  - Marketing plan for 25 years
- 1963-1968: Ambitious construction project resulted in 12000 km pipeline
  - Conversion households: penetration almost 100%
  - Export contracts with Germany, Belgium, France, Italy and Switzerland
  - Yearly production: 80 bcm
- 1973: First oil crisis
  - Result: Groningen considered as a strategic reserve
- Development of small fields in North Sea
  - Quality differences from Groningen
    - Solution: mixing and addition of Nitrogen
- Matching demand and supply

# Gasfields in The Netherlands



 = natural gas fields

Slochteren field (1959):  
approx. 3,000 billion m<sup>3</sup>,  
and approx. 100 other gas fields

Produced mainly by NAM,  
marketed by GasTerra,  
and transported by



gasTerra

# History of Gas Business in Western Europe

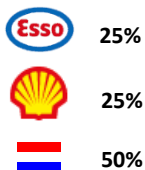


- 1998: First Gas Directive by the EU's
- 2003: Second Gas Directive by the EU's
- Fundamental change!
- EU Directives led to Gas Act in the Netherlands
- Full ownership unbundling of trading and transport activities of Gasunie
- 2005: split in infrastructure company Gasunie and Trade and Supply company GasTerra

# July 2005: Ownership Unbundling Gasunie

**Prior to 1 July 2005**  
Integrated company

**N.V. Nederlandse Gasunie**



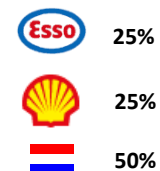
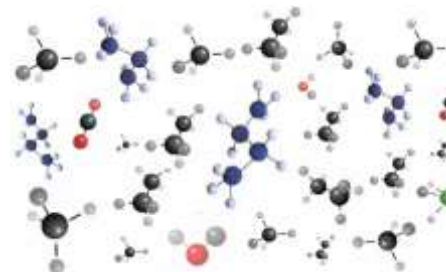
**After 1 July 2005**

Two companies

**gasunie** Infrastructure and transport

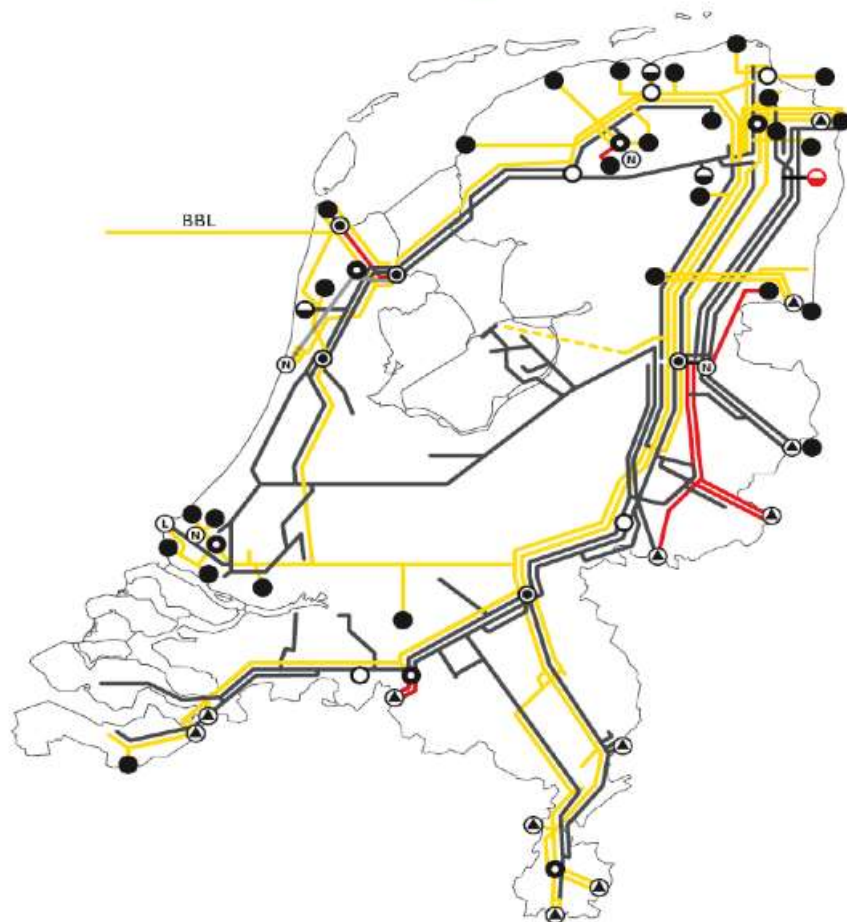


**GasTerra** Natural gas trading





# Transmission System Throughput



<b>Transported volume (2010)</b>	<b>111 mrd m<sup>3</sup></b>
<b>Turnover (2010)</b>	<b>€ 1,2 mrd</b>
<b>Total exit capacity</b>	<b>~ 35 mln m<sup>3</sup>/h ~ 350 GW</b>
<b>Domestic peak gas demand</b>	<b>~ 20 mln m<sup>3</sup>/h ~ 200 GW</b>
<b>Domestic peak power demand</b>	<b>~ 20 GW</b>

# Experiences after Unbundling (1)

## ■ Availability of Transmission Capacity

- Integrated Company: Transmission grid was Tailor Made
  - No capacity available for new players
- New market approach: Open Seasons
  - Combining and aggregating of bookings for the entire system
  - Synchronised approach with Neighbouring Network Operators
  - No upfront limitations
- Three Open Seasons organised
  - Additional firm additional entry/exit bookings 20%
  - Total investments about 2.5 bln Euro

## ■ Need for investments

- Decline of European Gas Production
- Replacement by LNG, Natural gas from Norway or Russia, Green Gas
- New players

## Experiences after Unbundling (2)

### ■ **Need for enhanced Planning Methodology**

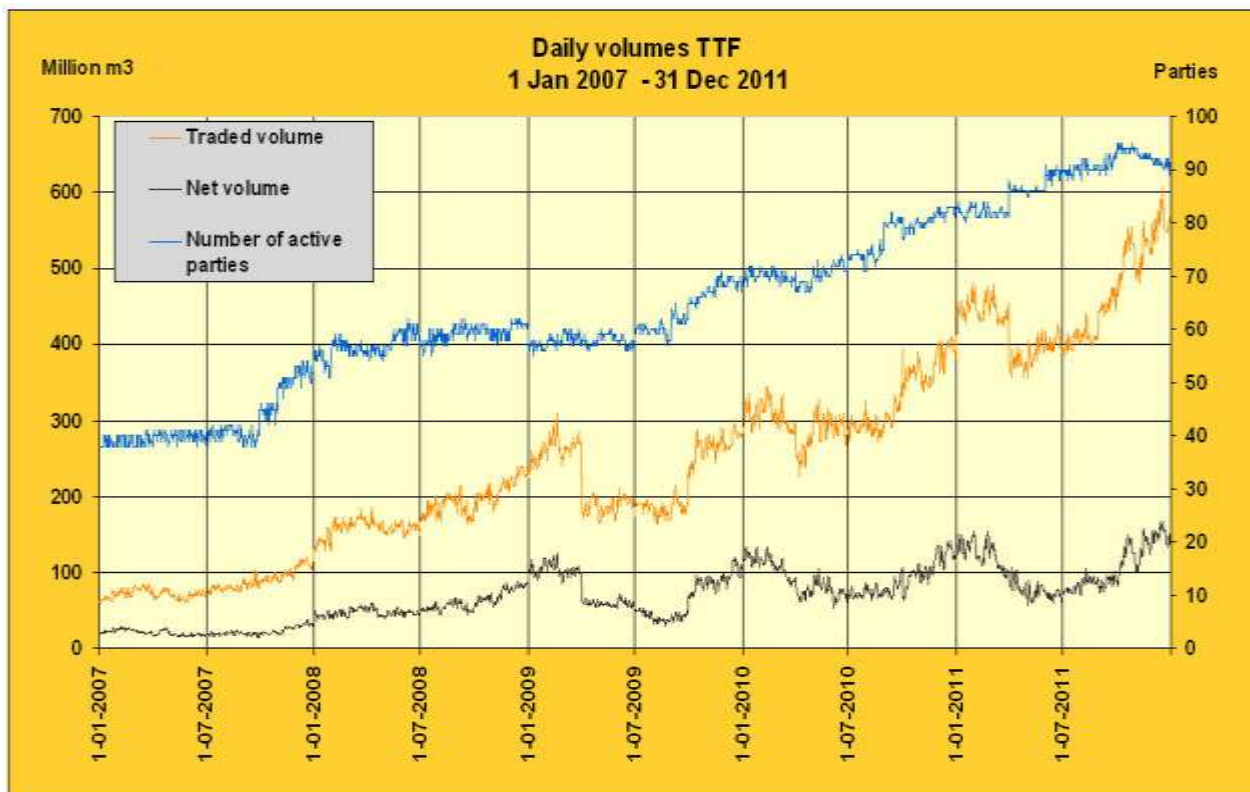
- Previously: point-to-point connections between suppliers and consumers
- Liberalisation: decoupled entry/exit system with virtual hubs
- Previously:
  - Integrated company owned all the contracts
  - Flows dependent of gas demand
- Nowadays
  - More than 80 shippers
  - Flows dependent on price differences
  - TSO has no influence on how or when capacity is used

### ■ **Need to change the Planning Methodology fundamentally**

- Combine all possible entry/exit combinations because shippers have complete freedom (50 entry and 1100 exit points)
- Development of new methodology and new computer model

## Experiences after Unbundling (3)

- Development of Trading by a virtual market place (TTF)
- TTF can serve as virtual entry and exit points



## Experiences after Unbundling (4)

### CHALLENGES:

- **Excessive focus on tariffs**
  - Goal liberalisation: lower gas prices for consumers
  - Focus regulators: lowering tariffs set by TSO's + standard conditions
  - Pipeline business: 80% of costs are fixed (capital costs, depreciation and fuel)
  - Underutilisation of network: investments not recovered
  
- **From Long-Term to Short-Term contracts**
  - Previously: Long Term Contract basis for Security of Supply
  - Mostly take or pay contracts for secure demand and steady supply
  - Nowadays increasing flexibility by LNG, spot markets, unconventional
  - Change to more short-term contracts: risk of stranded assets

## Experiences after Unbundling (5)

### CHALLENGES:

#### ▪ **Capital-intensive Assets**

- Earlier: investments in infrastructure based on sales of commodity
- Nowadays: infrastructure is core business
- Decisions for capital-intensive investments based on LT-contracts
- Regulatory methods and European & National Gas Laws change rapidly
- Avoiding stranded assets is challenge in unbundled transmission companies

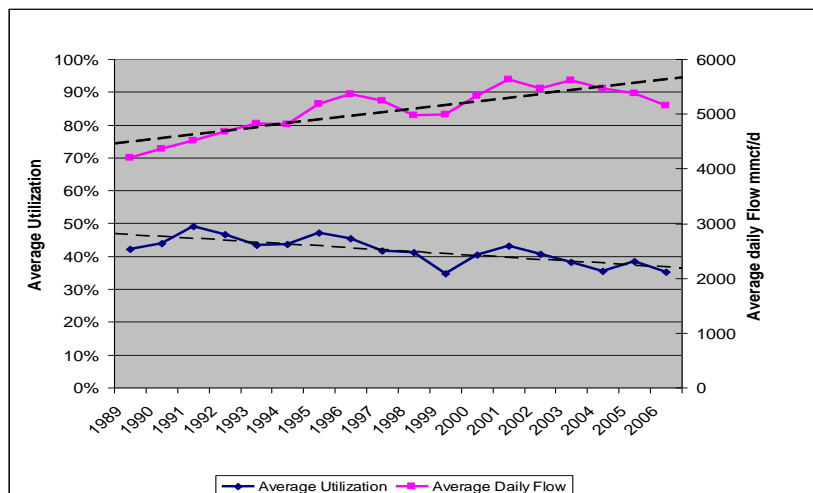
#### ▪ **Lack of information**

- Integrated company: all essential information available
  - Very efficient network planning and operation
- Nowadays: lot of information for LT planning not available
  - Hampers efficient LT planning

## Experiences after Unbundling (6)

### ■ Utilisation of network is decreasing

- Decoupled entry/exit system and virtual hub
- Shippers tend to book more rather than less capacity: transactions
- Tariffs a relatively low



### ■ Unclear responsibility security of supply

- EU Regulation Security of Supply
- Common indicator for gas security: N-1

# Conclusions

- Unbundling key element in enforcing liberalisation
- Synergy, efficiency, security of supply is lost
- More regulation and more responsibilities for transmission companies
- Focus more on short term
- Fundamental changes in responsibilities
  
- Call for increased transport capacity: investments
- New business strategy: Open Seasons
- More trading; tendency less LT commitments
- Liberalisation is still evolving and has continuous impact on business of transmission companies



Thank you for your attention