



Gas system & actor description: The case of  
the Dutch gas system

SPM 9541  
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Aad Correljé

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# The Natural Gas Market

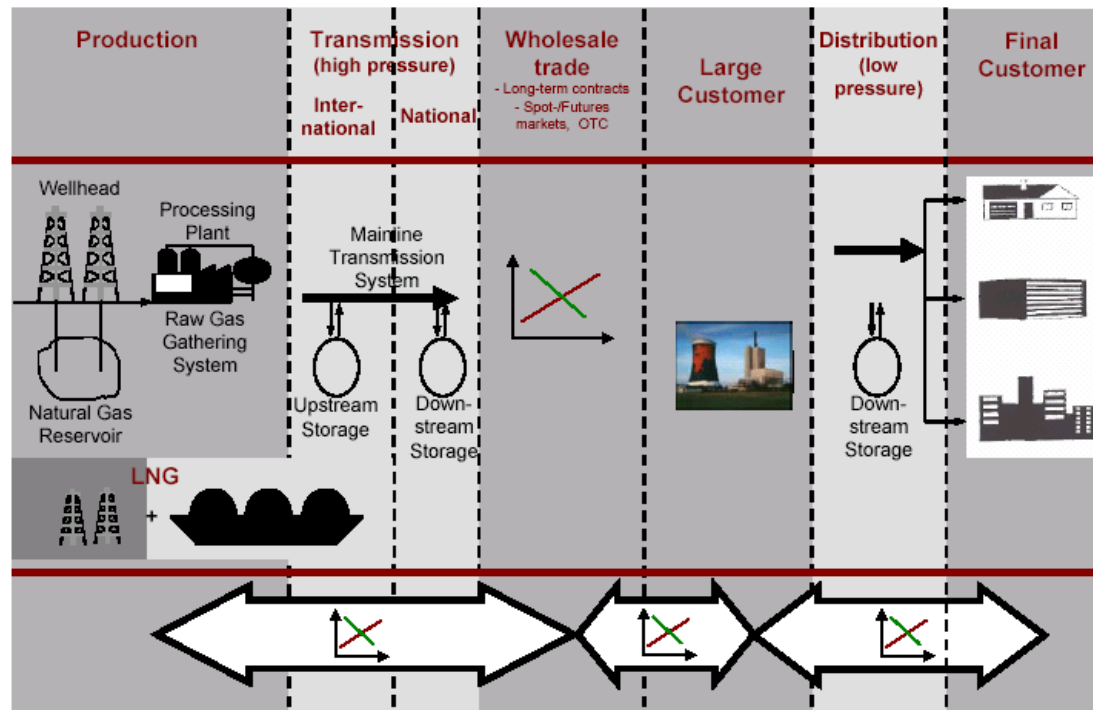
- Value chain
- Set up of regulatory and market system in the Netherlands
- Changes under market development
- Liberalization
- Dutch interests



NAM

# A value chain

## The Value-Added Chain in the Gas Sector: Areas of Potential Competition



Folie 2

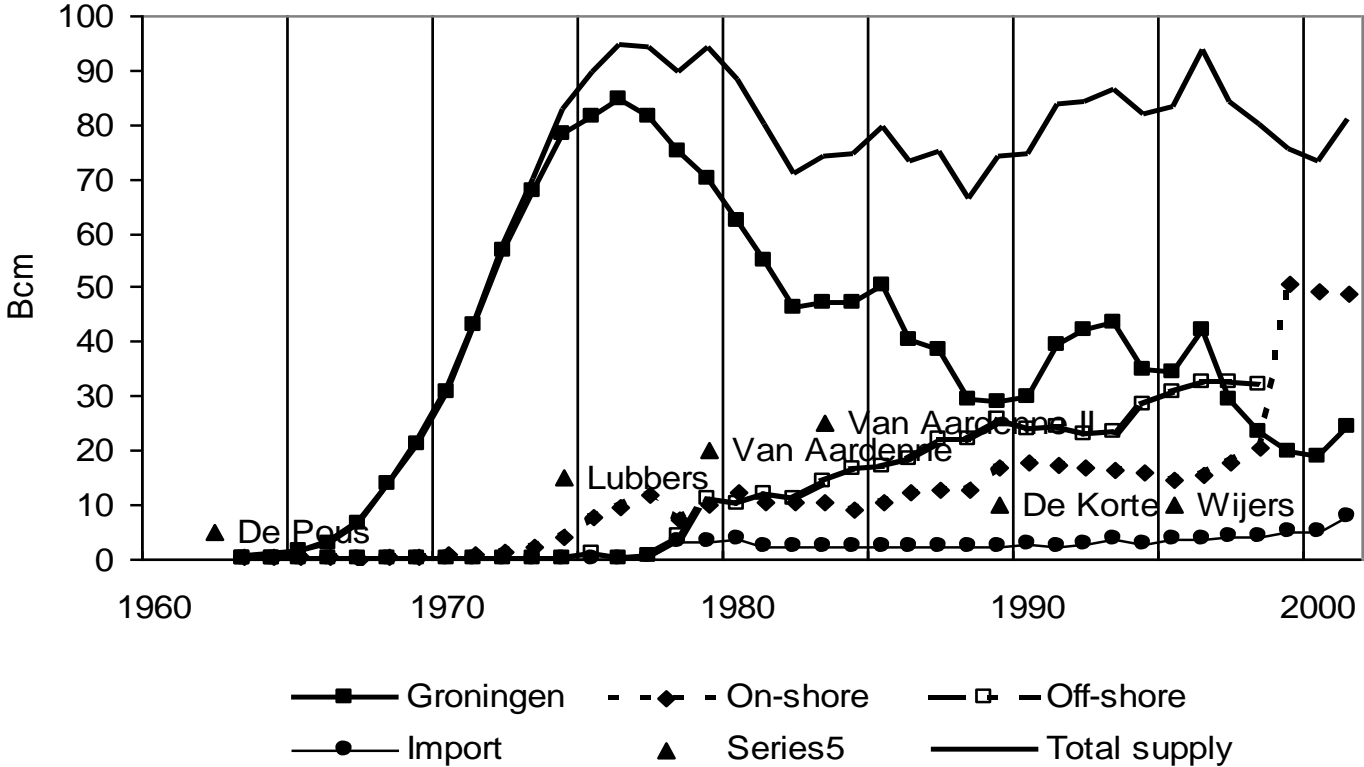
# Characteristics of the value chain.....

- Specific Lumpy Investment, Long lead times, high up-front cost
- Fixed v. variable cost
- Seasonal and daily patterns
- Long distance
- Scale Economies
- Capacity utilization
- Volume Risk
- Price Risk
- Essential facilities

# Integration and coordination of the gas value chain in the past

- Production: Oil Companies Long term TOP/DC Net Back contracts
- Transmission: National Joint Venture Operators Cost plus
- Storage: National Joint Ventures Cost plus
- Distribution: Public Local Municipal Firms Cost plus
- Retail trade: Oil parity pricing, market segmentation
- Long term planning and supply/demand coordination

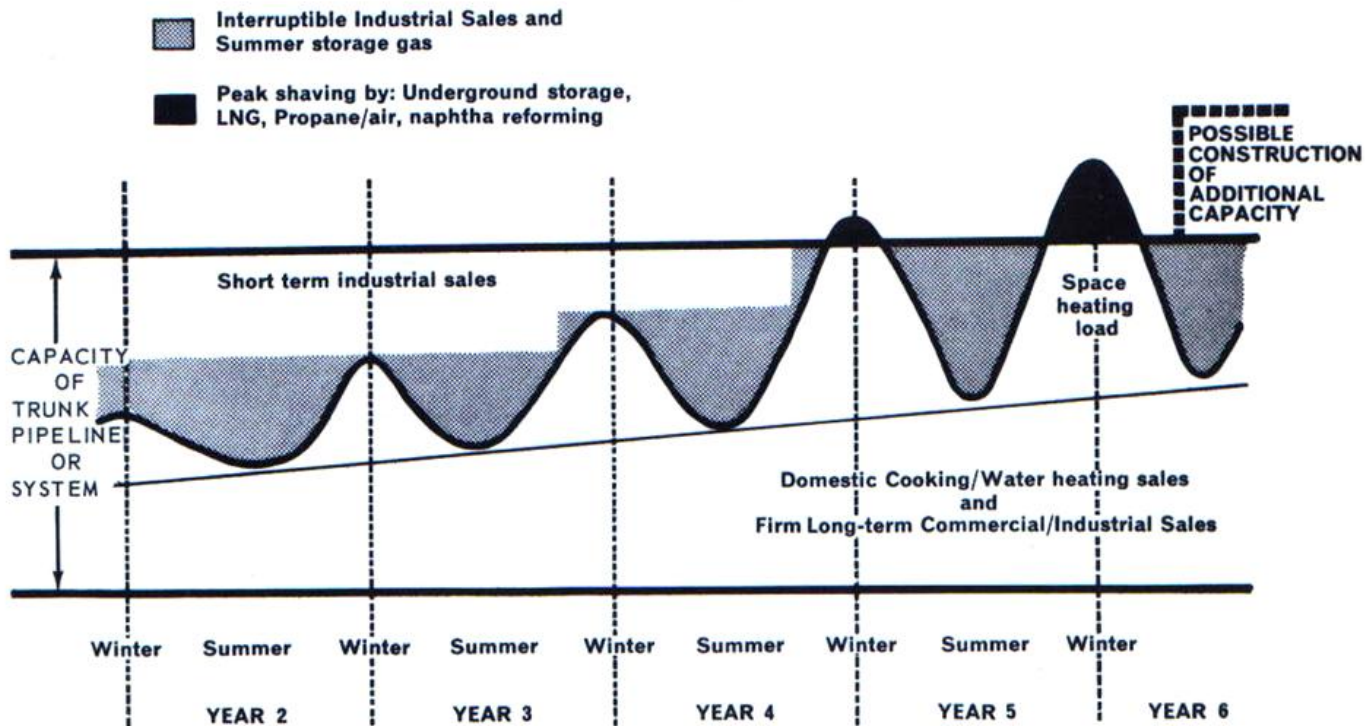
# Natural gas in Netherlands



# Transition: The 1960s

- Competing sources of energy
- Who gets what.....
- Role of the State (sheik-effect)
- Winners and losers

## TYPICAL DEVELOPMENT OF A NATURAL GAS MARKET

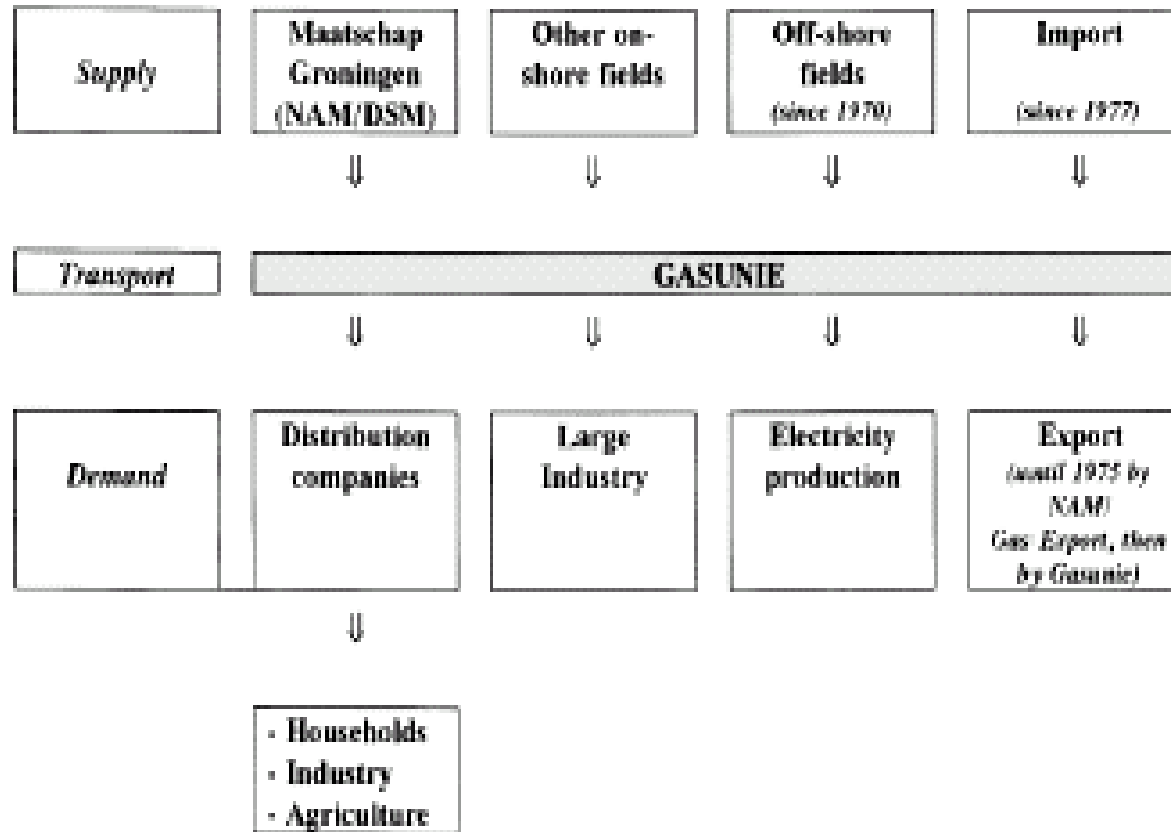




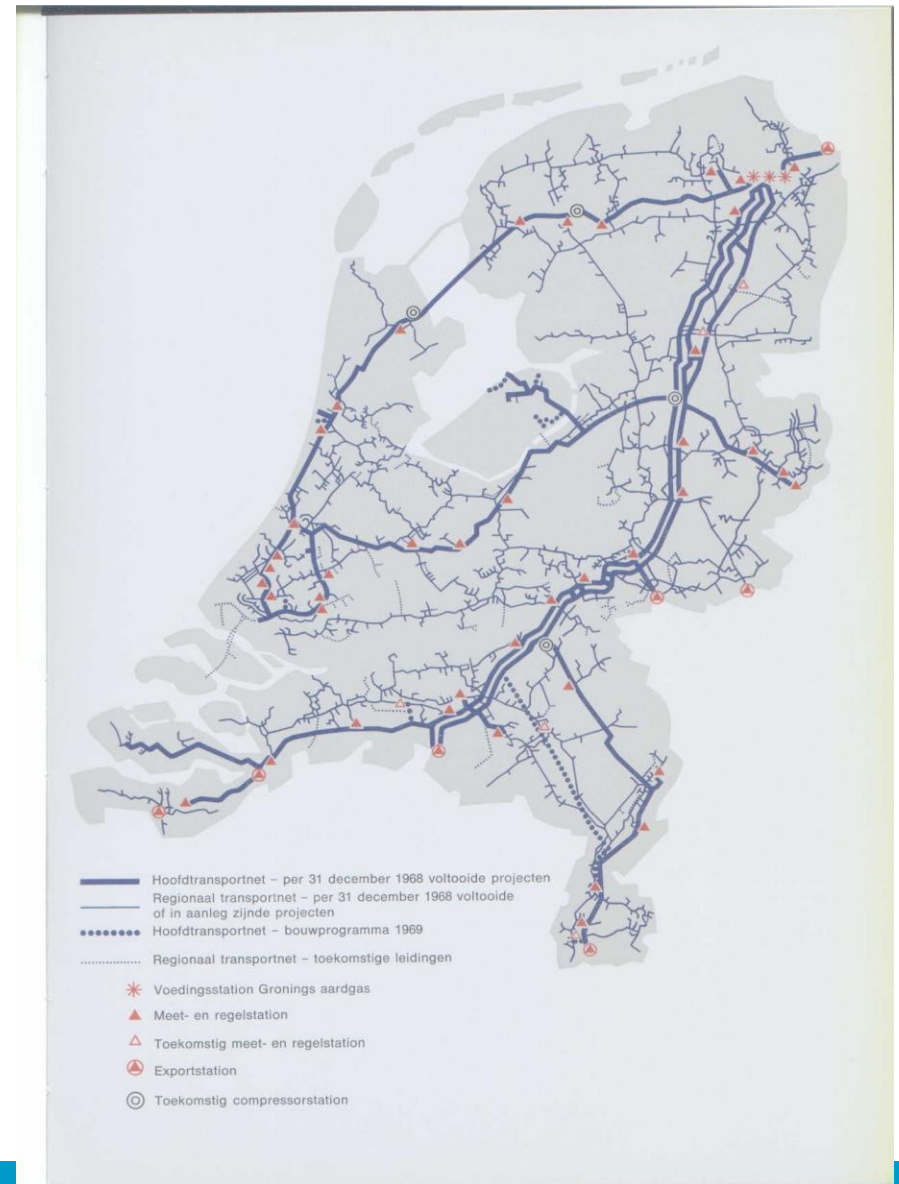
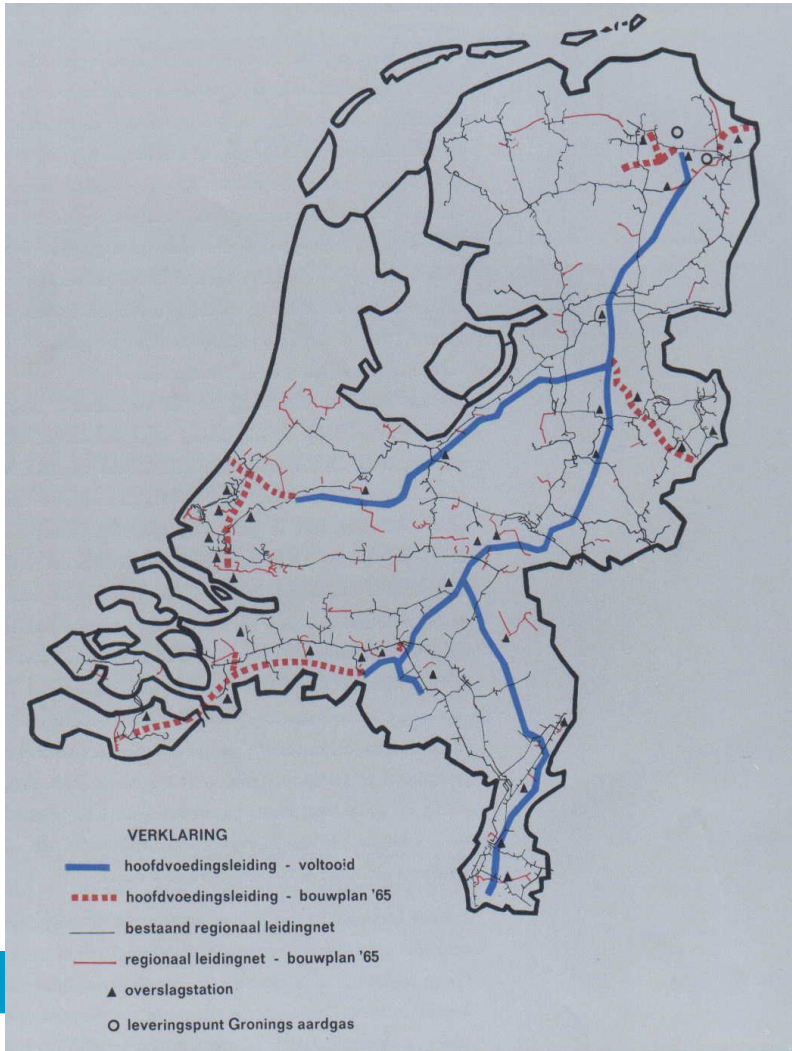
# Shell *versus* Exxon: Segmented markets

- Gas for all domestic users (heating & cooking)
- Industrial premium markets (chemical, metallurgical, ceramic)
- Market value (heating oil, fuel oil, coal)
- Progressively declining prices
- Control over production
- 70-90% state share

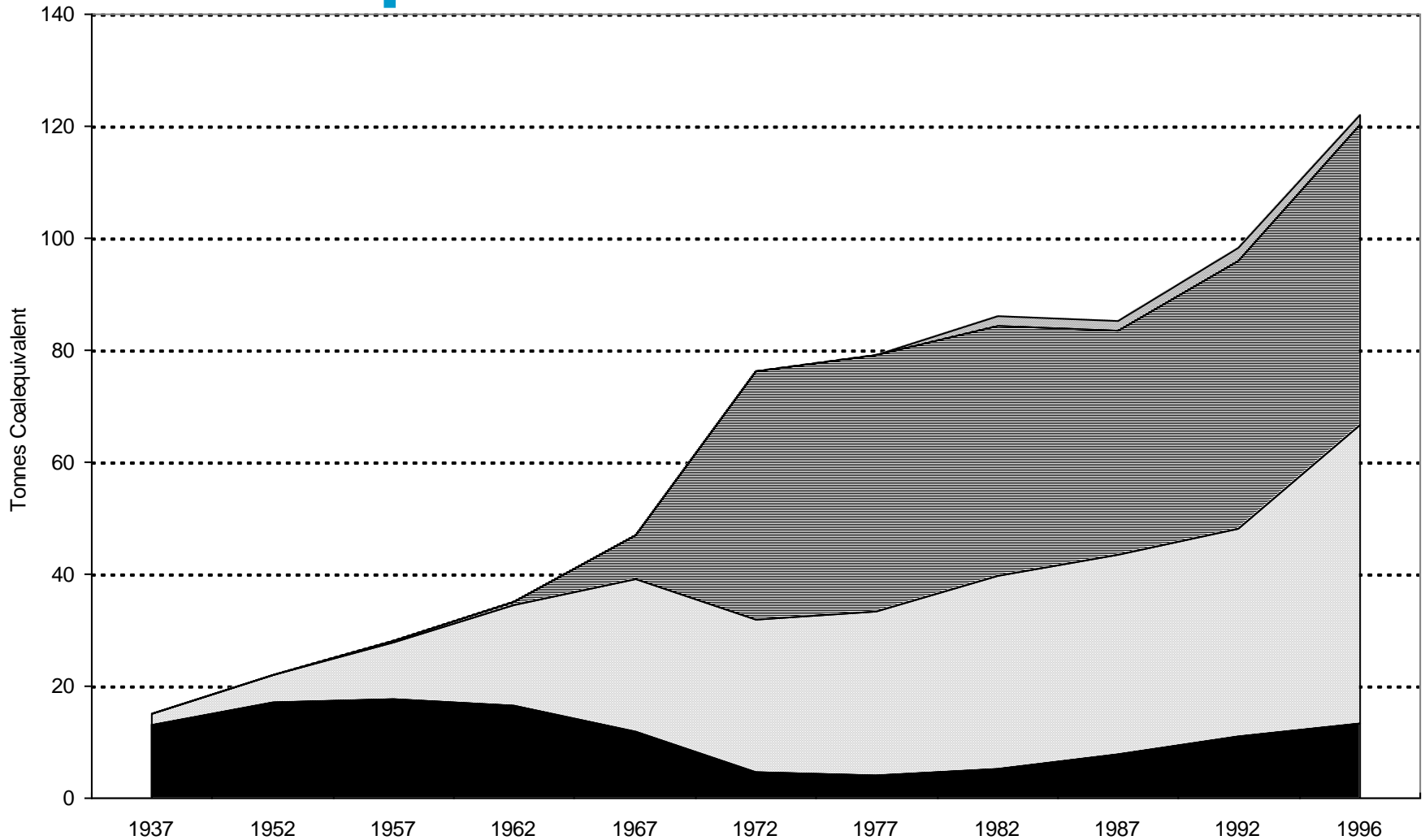
# Sector structure



# Gasnet '64 en '68



# Consumption



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■ Coal □ Oil ■ Natural Gas □ Other

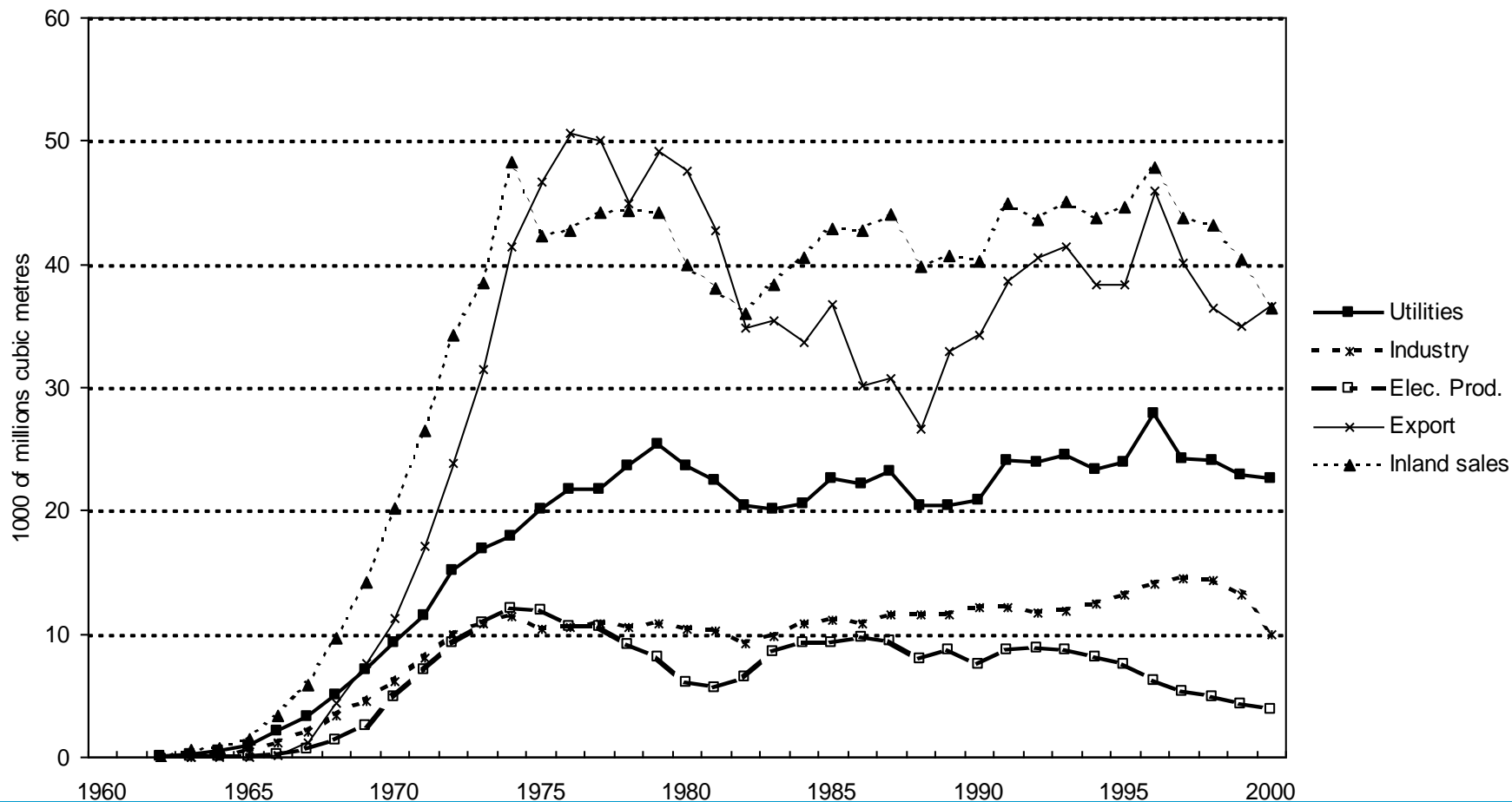
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A. Correlje

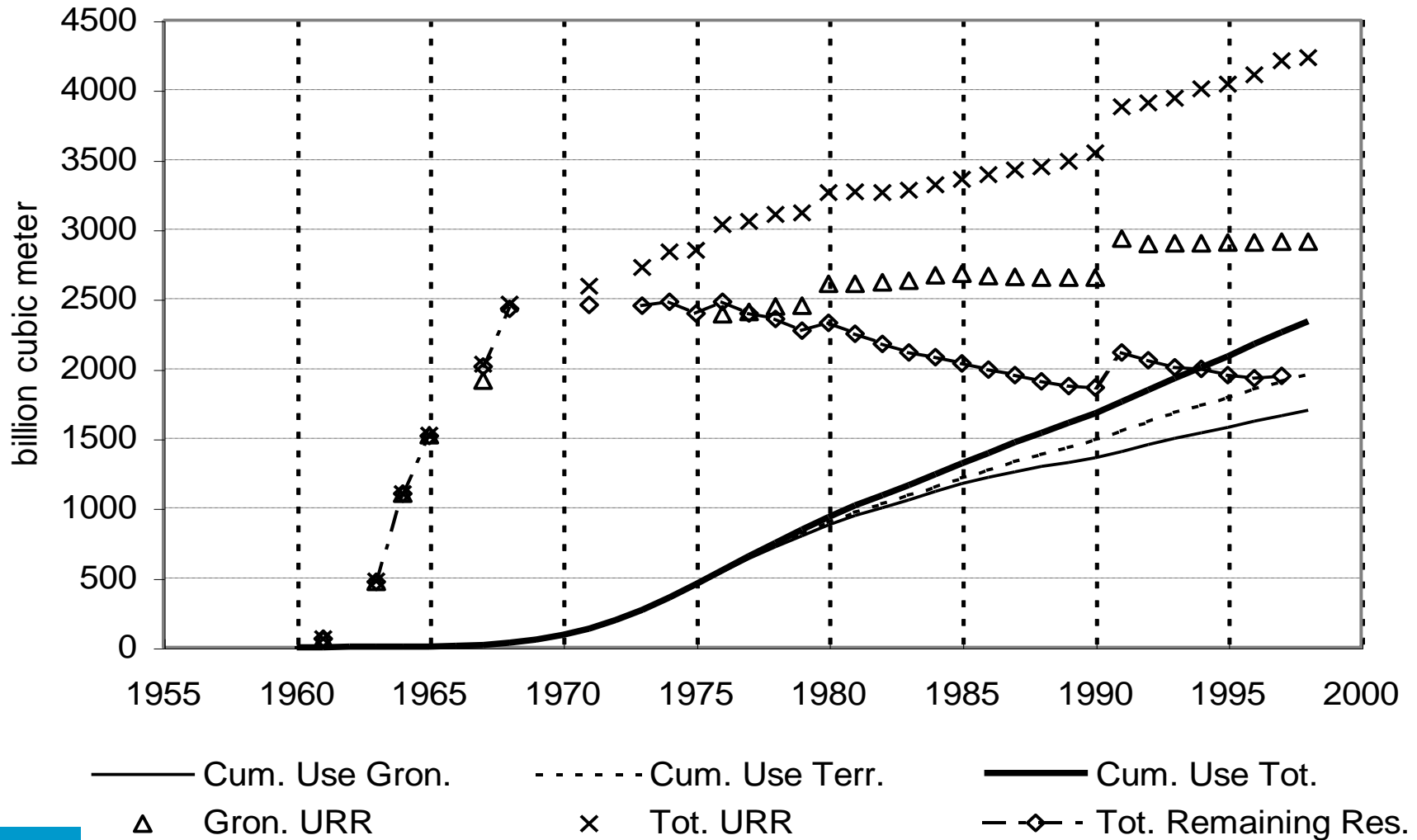
# Advantages

- No storage, no handling, nor dirt
- Easy control
- Wheater independent
- Production: < 1ct cm; utility: 6 ct; Consumer < 300 cubic: 25 ct: > 300: 20 ct > 600 cm. : 10 ct.
- Growth in Income, GDP and industry and housing boom

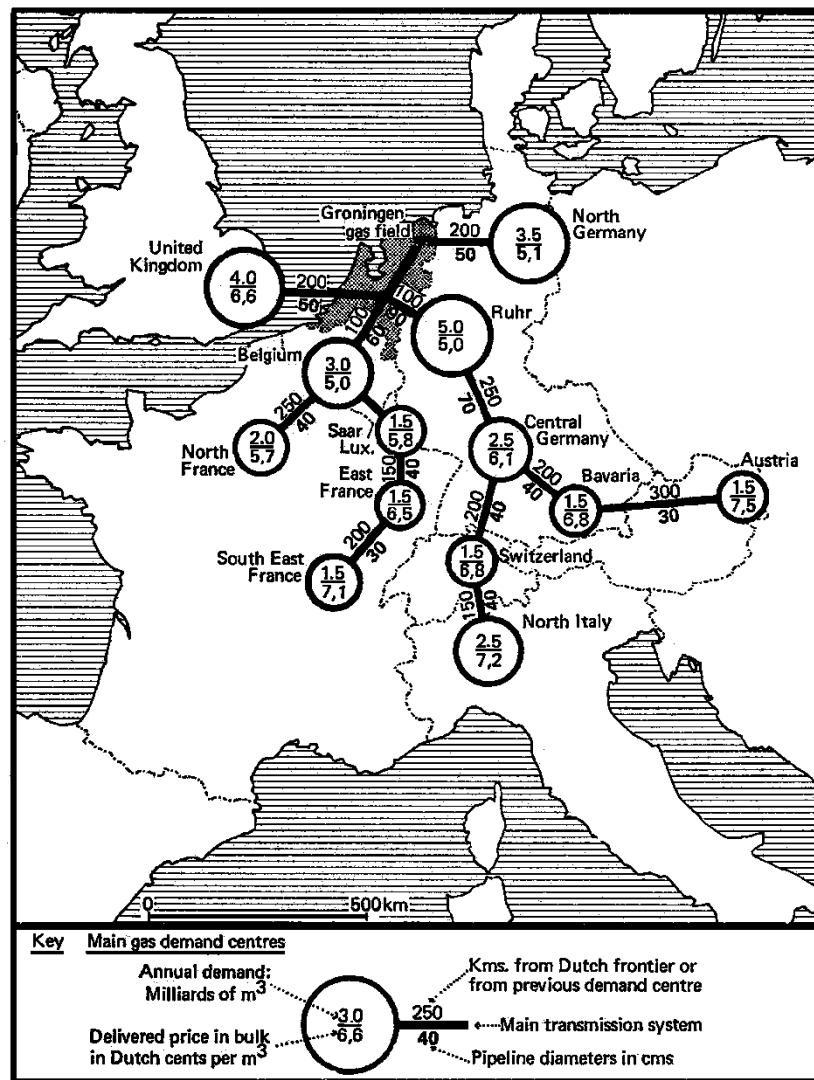
# Gas use



# Reserves Growth



# Export



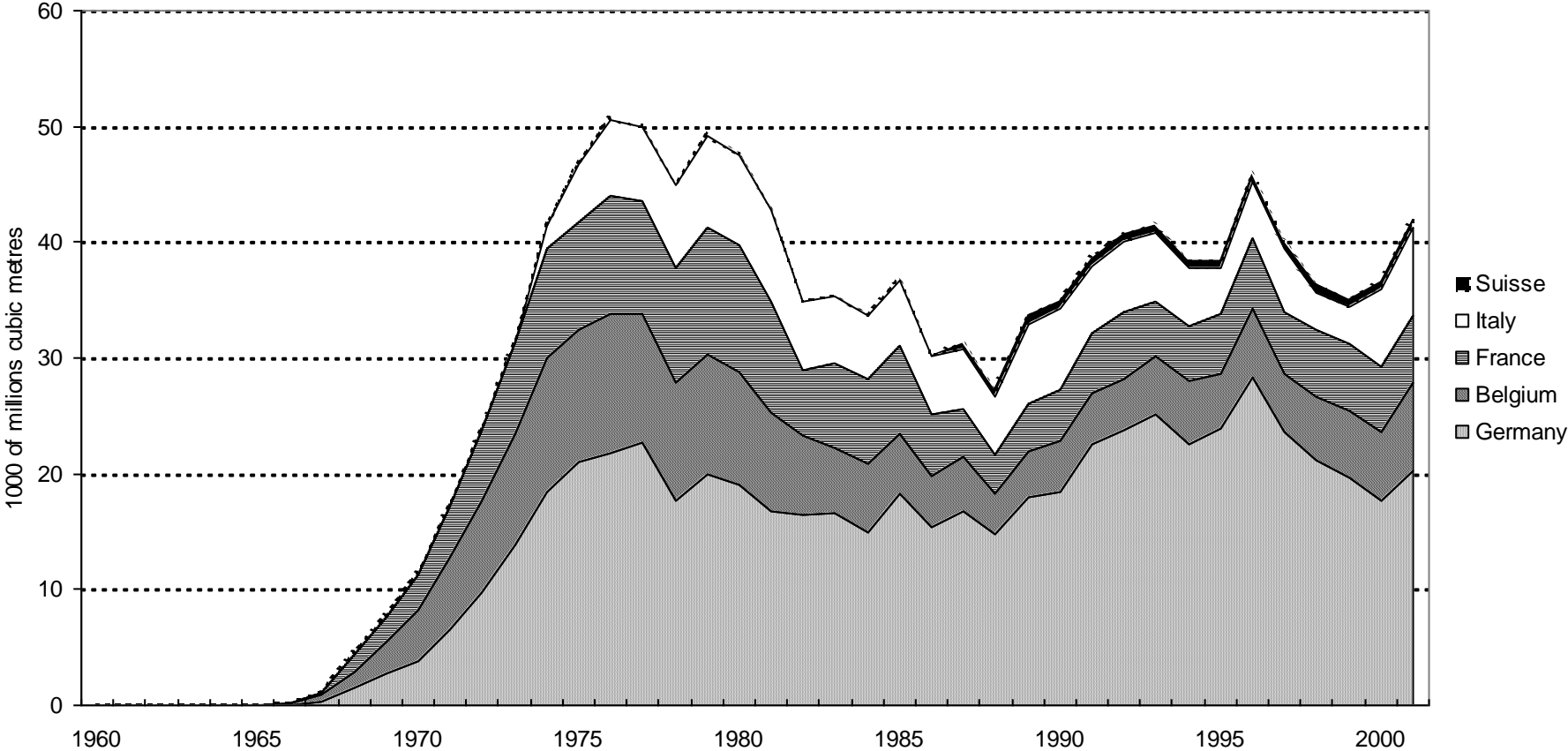
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Odell, P.R ,1969 Natural gas in Western Europe; a case study in the economic geography of resources



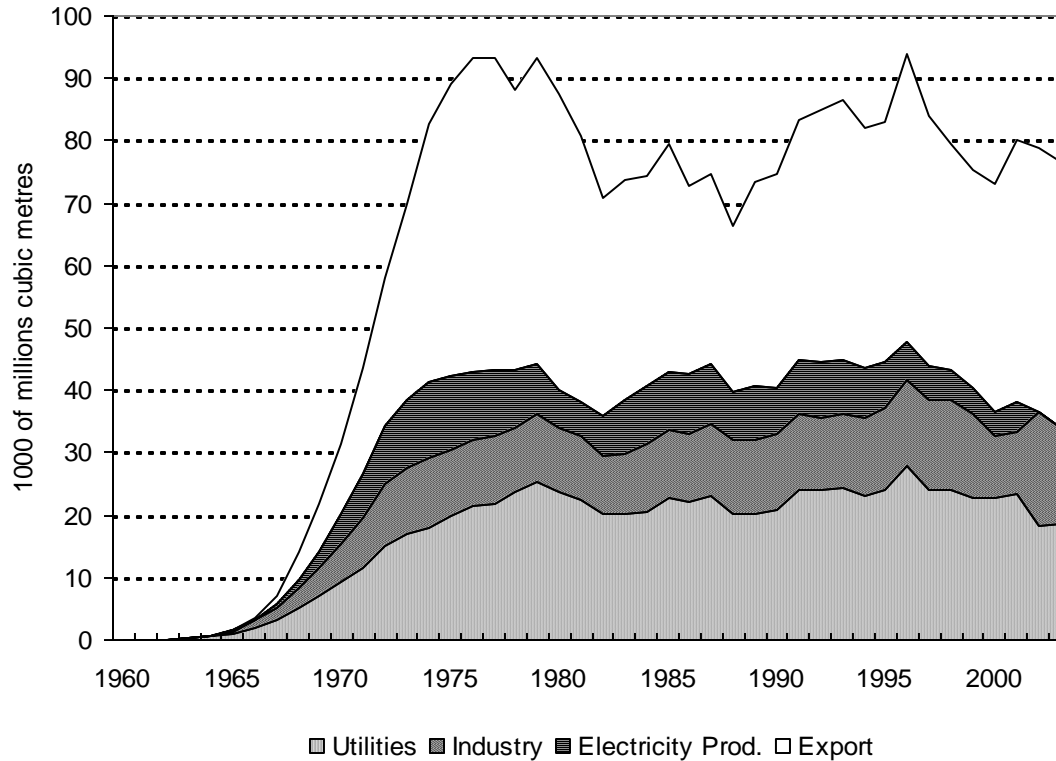
# Export



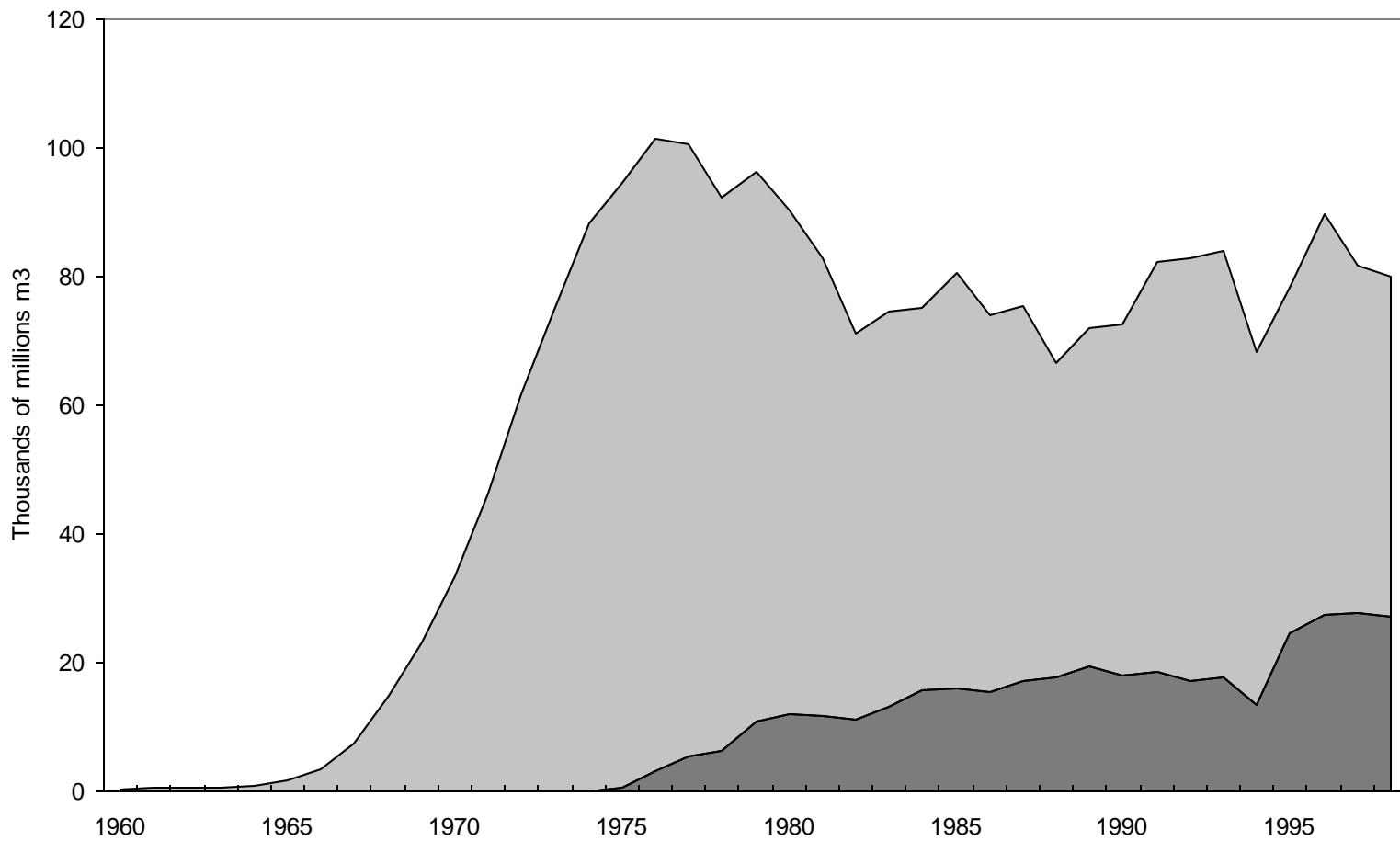
# 1973/1974 oil crisis

- Security of supply, Club of Rome
- Reduction in consumption
- Stimulating small fields on-/off-shore
- Low cost Groningen marginal
- H- and L Gas: conversion, transmission, mix

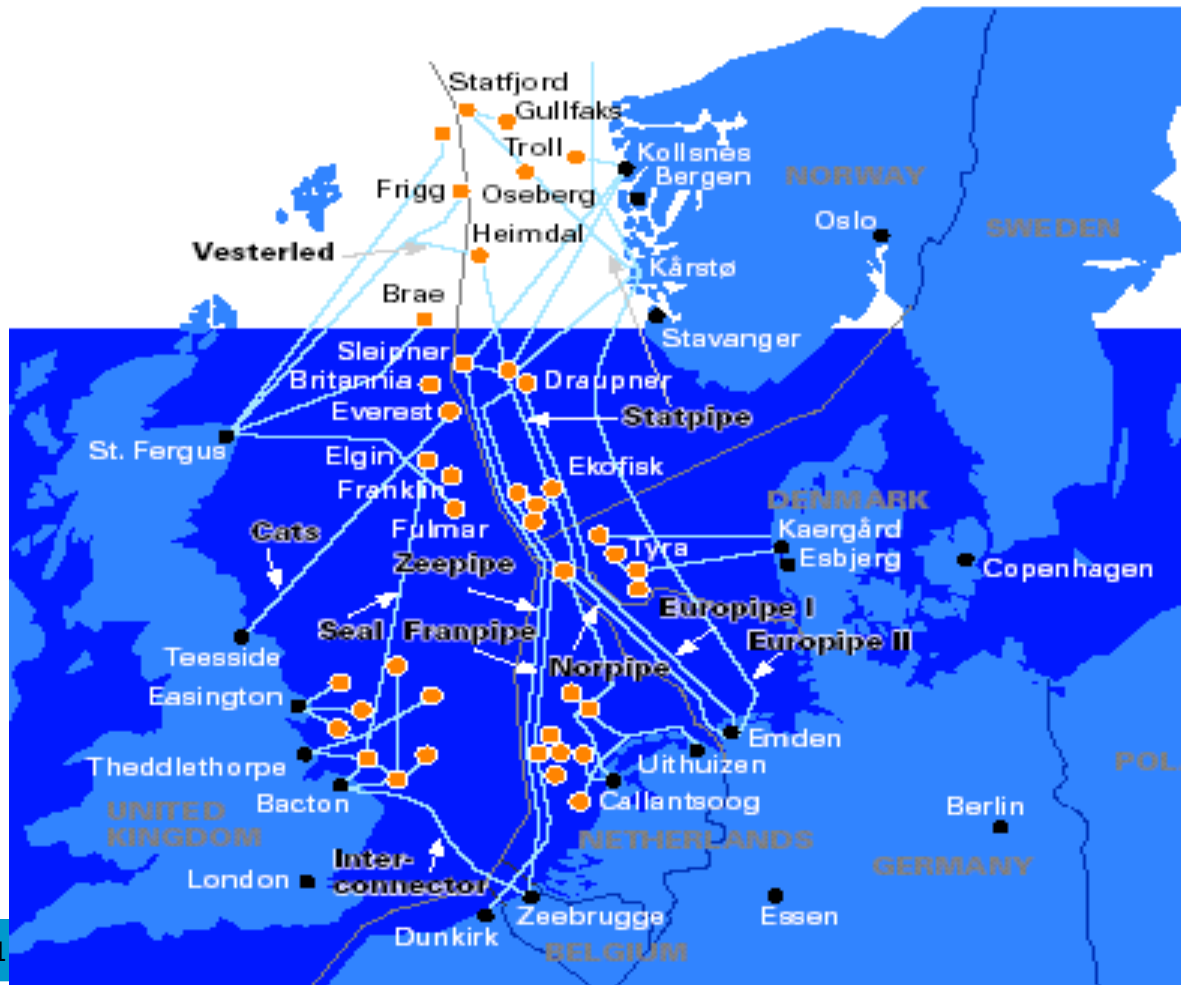
# Reduction in Consumption



### Natural Gas Production



# Stimulating small fields on-/off-shore

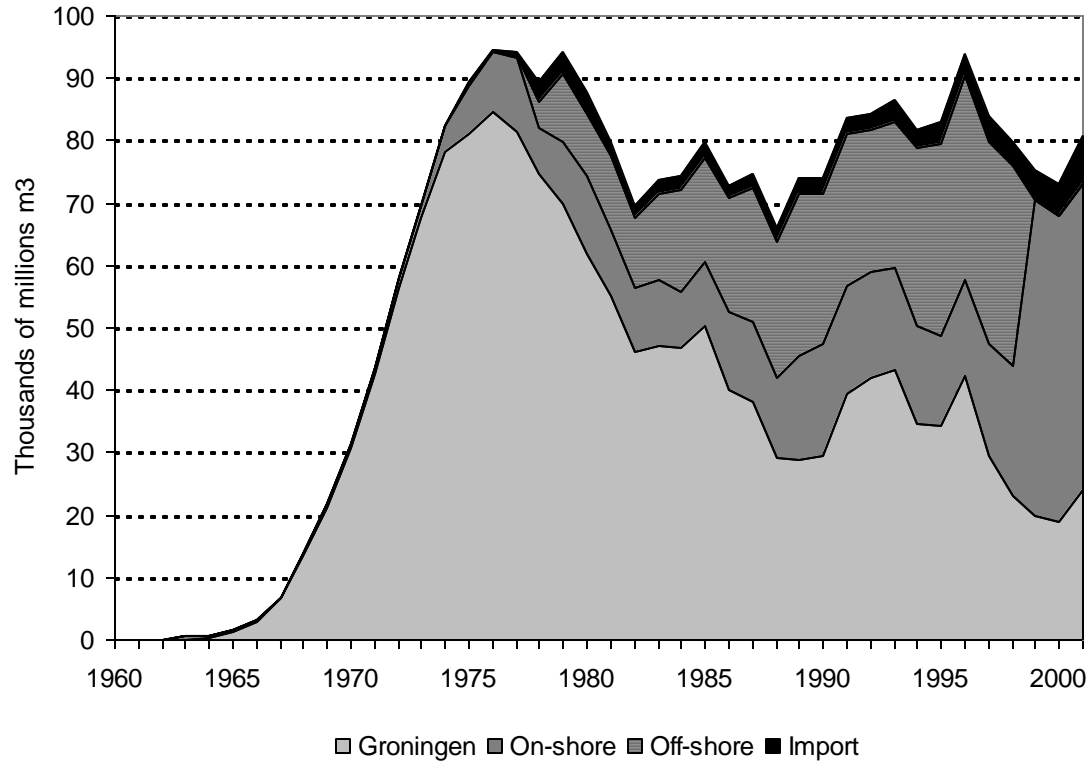


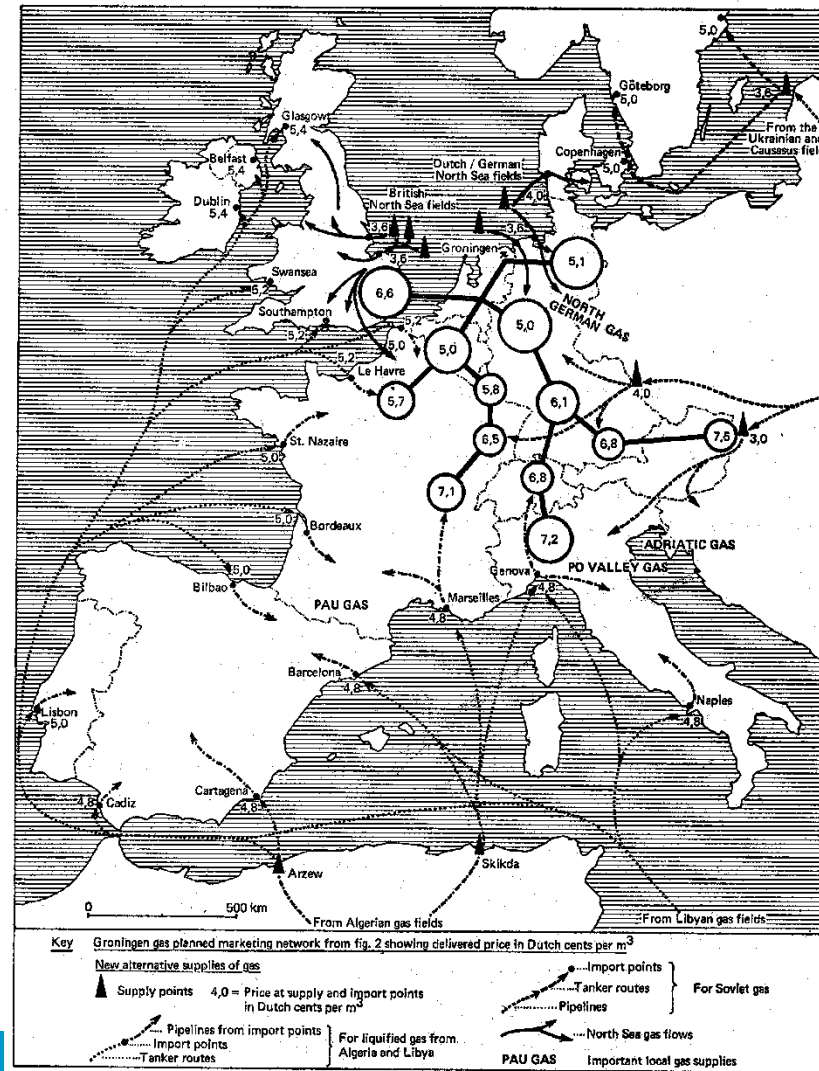
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Ruhrgas, 2005

# Low cost Groningen marginal

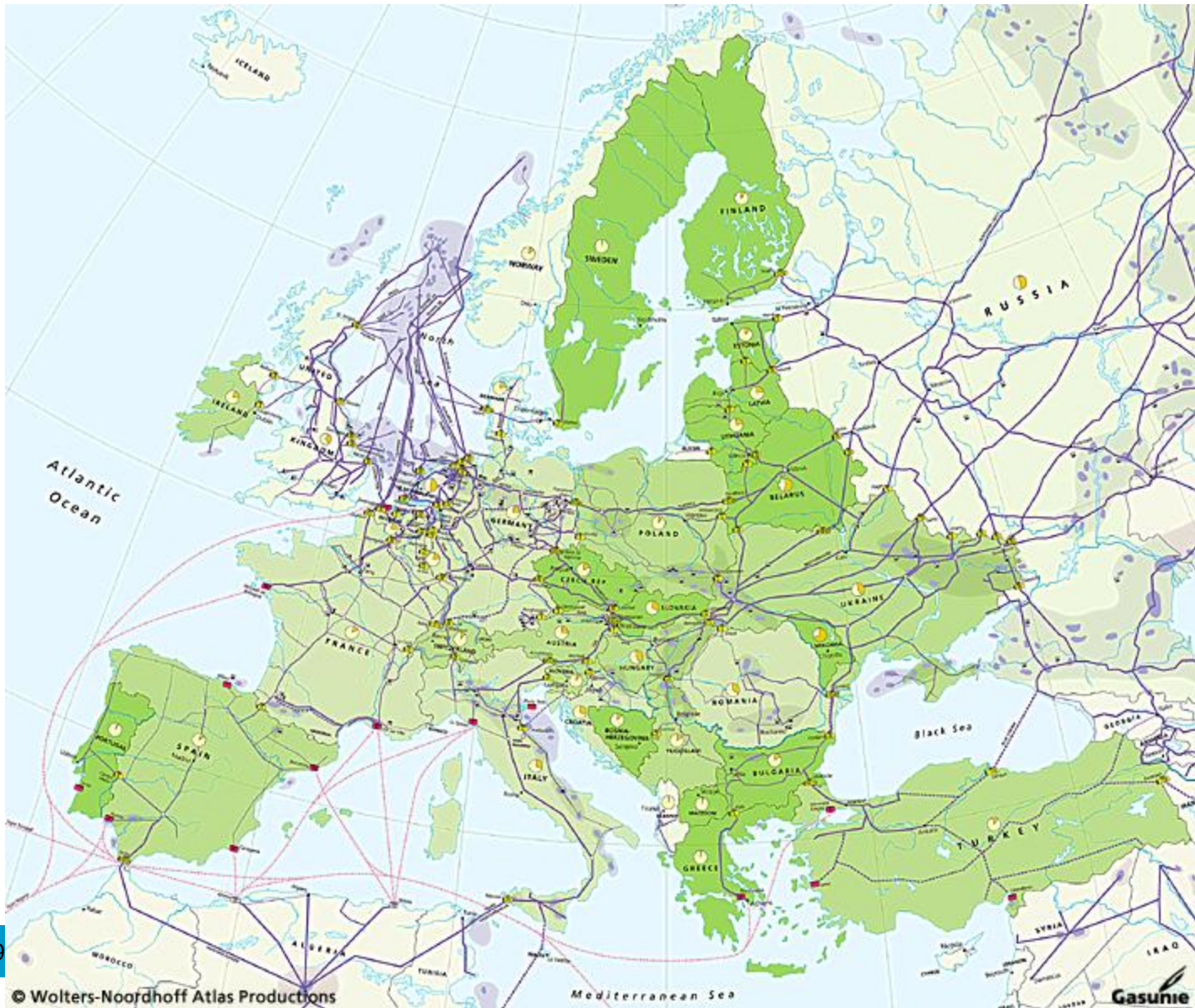




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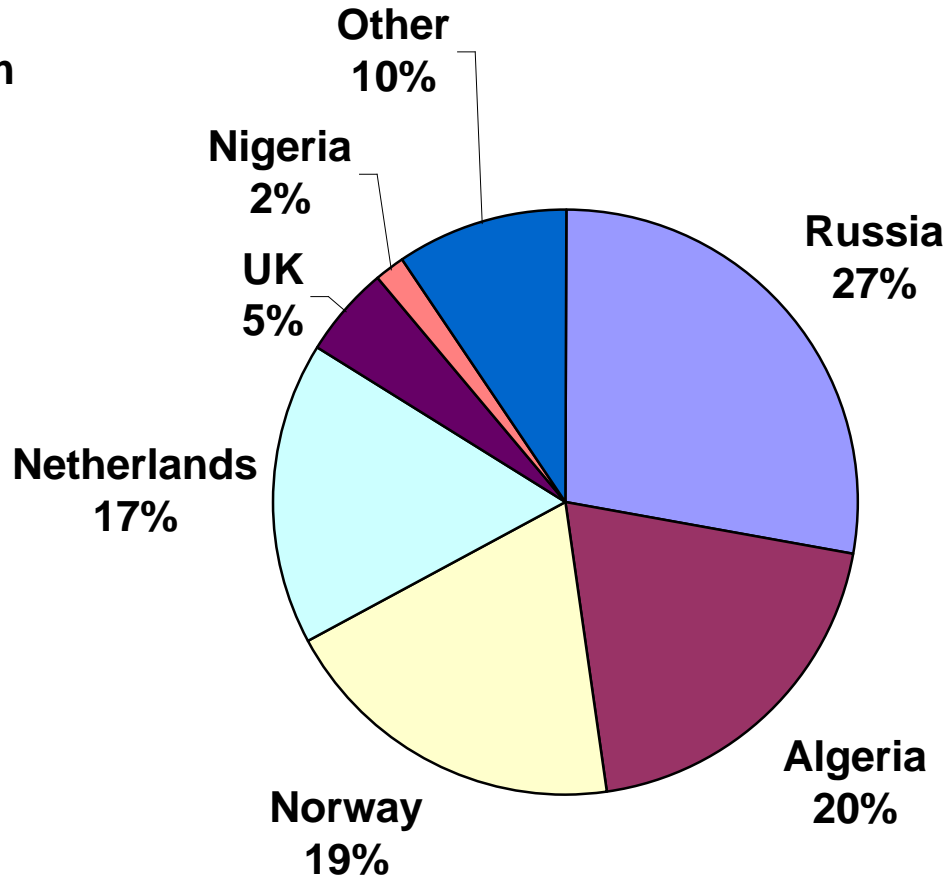
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Gasunie, 2001



# EU Gas Imports, 2001

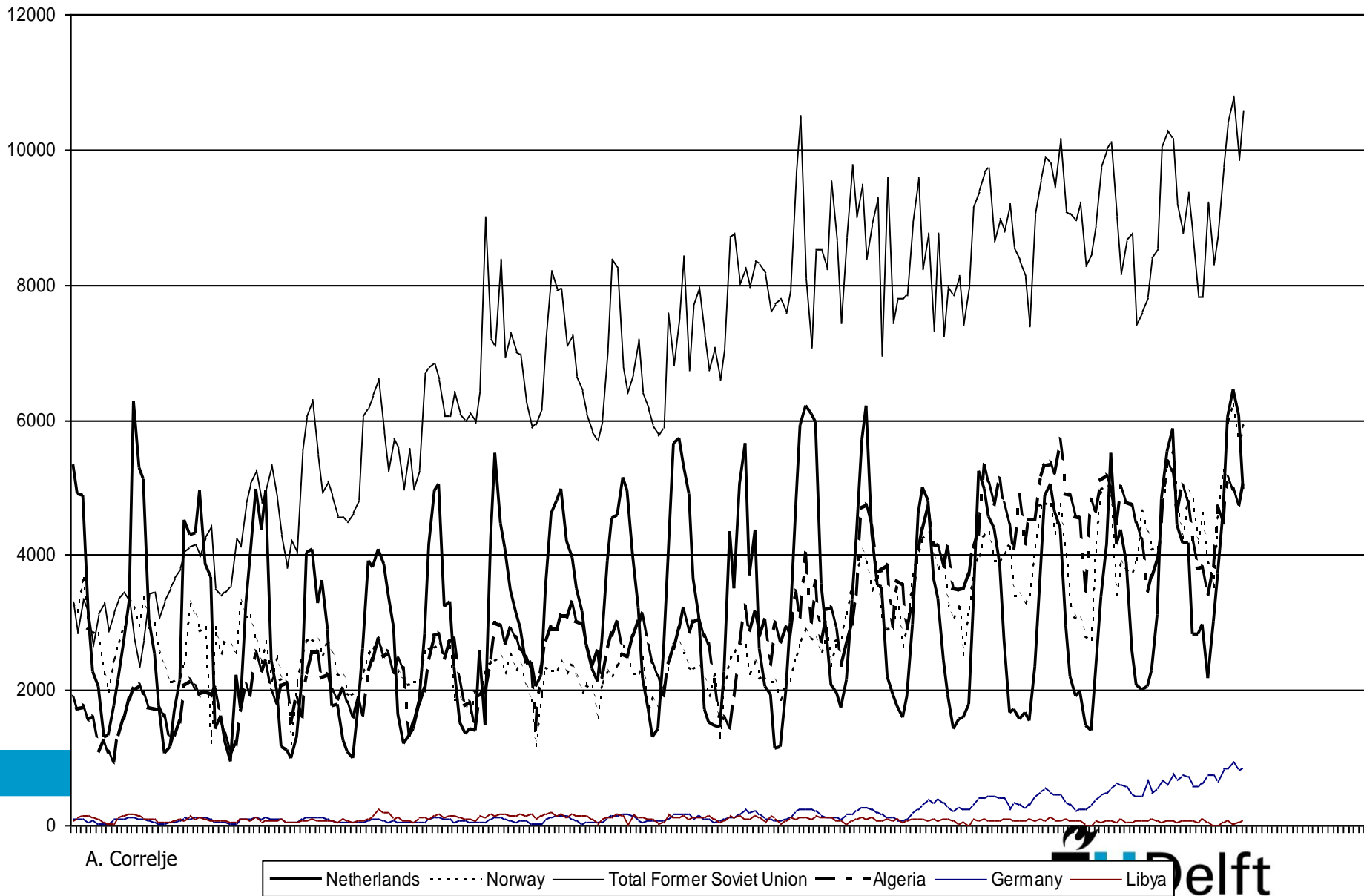
Total: 250,3 bcm



Source: IEA

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# Seasonal Variation



# Summary: 1959-2000

- Gasunie, NAM and the others
- Marketvalue = price alternatives (heating and fuel oil)
- Users do not pay more – but certainly not less!
- State secures production in coordination with sales to avoid shortages and excesses
- State receives +/- 70% of the profits
- Market segmentation
- Sectoral and regional policy
- Small fields policy