Challenges in the Gas Infrastructure Industry

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Introduction to OGE

2004
Established as E.ON Gastransport
1 September 2010
Renamed Open Grid Europe

One of Europe’s **leading gas transmission system operators**

Some **1,450 employees** across Germany;
Head office: Essen / Germany

Sole responsibility for the **operation, control, expansion and marketing**
of the company’s pipeline network of 12,000 km
high pressure grid (TSO), Send-out ~650 TWh in 2018
Over 90 years of tradition and expertise

1926
Foundation of Ruhrgas for the transport of coke oven gas

2003
Ruhrgas is acquired by E.ON

2012
Sale of Open Grid Europe to its current shareholders

1964
Phased conversion of transmission networks, industrial furnaces and domestic appliances to natural gas

2010
Open Grid Europe (previously E.ON Gastransport) starts as independent Network operator in Sept. 2010

2013
In Dec. 2013 the Bundesnetzagentur certifies OGE as independent transmission system operator
Shareholder structure

32.15 %
British Columbia Investment Management Corporation

24.99 %
Abu Dhabi Investment Authority

18.73 %
MEAG Munich ERGO AssetManagement

24.13 %
MACQUARIE European Infrastructure Fund 4
Group structure and key figures

Simplified structure

Vier Gas Group (Group Financing)

Open Grid Europe Group

Different Joint Ventures with French/Belgium/German Gas TSOs

Other Regulated and Non-Regulated Businesses/Services

Overview OGE

Largest German gas transmission operator

— Natural gas transmission for > 400 BtB-customers
— Design, construction, operation and marketing of gas transmission
— Largest supra-regional pipeline network in Germany
— Providing services related to gas transmission

Key figures VGT Group (2020)

— Total Revenues: €1,152m
— EBITDA: €566m
— CAPEX: €447m
— Total Employees: 1,494
Organizational structure

CEO
Dr. Jörg Bergmann
Focus: Strategy, Network Planning, Customer Services and HR

CFO
Dr. Frank Reiners
Focus: Finance, Legal, Procurement and IT Management

CTO
Dr. Thomas Hüwener
Focus: Technical Projects, Operations and General Technical Functions
Goals and focus areas of OGE

- Shaping the future with hydrogen and green gases
- Enhancing sustainability (ESG)
- Maintaining and developing core business
- Continuously improving efficiency in the regulatory context
- Driving digitalization
- Developing OGE’s culture
Shaping the future with hydrogen and green gases

Maintaining and developing core business

Driving digitalization

Enhancing sustainability (ESG)

Continuously improving efficiency in the regulatory context

Developing OGE’s culture
OGE as key driver for the Hydrogen Economy

Projects
- WH2Connect
- HyDeal
- HyPipe
- Bavaria

National policy
- National Hydrogen Council

EU policy
- Round Tables on hydrogen

Asset management
- H₂-Suitability
- Artificial intelligence supports the analysis of materials
Project "GET H2": Business model development

Project aims to start a hydrogen economy with:

— production,
— transport,
— storage and
— industrial offtake of green hydrogen from renewable energy
Shaping the future with hydrogen and green gases

Enhancing sustainability (ESG)

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Developing OGE’s culture
Sustainability targets and ratings gain importance

Score: 52 of 100 in 11/2020 (from 22 in 2018)
Scale: The higher, the better

Score: 28.4 of 100 in 07/2020 (from 46.7 in 2019)
Scale: The lower, the better

Score: BBB in 12/2020 (from BB in 2019)
Scale: From CCC to AAA

Score: 86 of 100 in 10/2020 (from 78 in 2019)
Scale: The higher, the better

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Shaping the future with hydrogen and green gases
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Developing OGE’s culture
Large construction projects: Example ZEELINK pipeline

Energy Transport / Year will be sufficient to supply 10 Mio. Households/year

Route Length investigated: 615 km

216 km long

Public Interest Parties:

More than 4 years of Planning and Permitting
And 2 years of Construction

338

1 m diameter

1550 Right of Ways

Up to 1000 Employees are involved in the Project

3x 13 MW Compressor Capacity
Shaping the future with hydrogen and green gases

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Developing OGE’s culture
Some remarks on regulation…. 

**Cost base**
- Revenue cap results from costs in base year
- accepted OPEX as in P&L (HGB)
- Return on equity on regulatory return base (RAB)
- imputed trade tax
- imputed depreciation

**Regulatory period**
- BNetzA approves revenues
- based on a base year
- for regulatory periods of 5 years

**Benchmarking**
- BNetzA conducts an efficiency benchmark
- individual efficiency score
- min 60% / max. 100%
- inefficient costs must be cut over 5 years

**Incentives**
- Actual cost development vs accepted costs

**New investments**
- Separate remuneration as investments measure (IMA) without time lag
Unbundling of accounts as basis for regulatory audit

- Allocation of costs/revenues to segments
- Segment accounting obligatory for OGE (§ 6 EnWG)
- Part of Annual Accounts HGB
- Verified by auditor/ BNetzA

Gas transmission grid
Grid operations

Focus of (cost) regulation

Annual Accounts
HGB
OGE

Segment accounting
Costs and revenues

Other activities within gas sector
Activities outside gas sector
Services, e.g.
Grid steering
Engineering/technical IT/commercial services / renting
Participations

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Definition of the return base (Regulated Asset Base RAB)

- Starting point of the return calculation: Original acquisition and production costs, HGB
- The regulatory fixed assets are calculated with different valuation than the balance sheet assets:
  - Much longer usage periods (55 years for pipelines, 25 years for compressors)
  - Partly valuation of the assets based on current value (up to 40%)

Deriving RAB and imputed equity

Regulatory Asset Base as main value driver
Determination of equity return disputed

CAPM-Model

\[ r_{EK} = r_f + \beta \times (r_m - r_f) \]

Common interest rate for power and gas
Stable value in 1st and 2nd RP
Methodology confirmed by Fed. Court of Justice
3rd RP decrease by approx. 25%

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<tr>
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<tbody>
<tr>
<td>Risk-free interest</td>
<td>4.23%</td>
<td>3.80%</td>
<td>2.49%</td>
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<tr>
<td>Betafactor</td>
<td>0.79</td>
<td>0.79</td>
<td>0.83</td>
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<tr>
<td>Market risk premium</td>
<td>4.55</td>
<td>4.55</td>
<td>3.80</td>
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<tr>
<td>Risk allowance</td>
<td>3.59%</td>
<td>3.59%</td>
<td>3.15%</td>
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<tr>
<td>Tax factor</td>
<td>1.19</td>
<td>1.22</td>
<td>1.22</td>
</tr>
<tr>
<td>Return on Equity (new installations), nominal</td>
<td>9.29%</td>
<td>9.05%</td>
<td>6.91%</td>
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Shaping the future with hydrogen and green gases

Maintaining and developing core business

Driving digitalization

Enhancing sustainability (ESG)

Continuously improving efficiency in the regulatory context

Developing OGE’s culture
Driving digitalization forward

#digiwelle

#Test automatization

#AI based customer support

#GuidedBuying

AR in the lab

Bot for Long-term account withdrawal

AR on construction sites

AI for reports

AR: Augmented Reality; AI: Artificial Intelligence
OGE awarded with Germany‘s most important IT award for mid-sized companies

High profile jury
— Universities of St. Gallen & Munich
— Global companies, e.g. Accenture, Bosch
— Press & Media (IDG, CIO Magazin)

More than 100 cross industry competitors

OGE ahead of companies of consumer goods, automotive and publishing industries

OGE awarded for its Digital Strategy and Agile Execution

— Vision - Think big start small strongly aligned with OGE’s business strategy
— Validation of new Technologies in Minimum Viable Products across the entire company
— Allowing and fast reaction to failures and changing requirements
— Digital skill building “Digital Experts” in collaboration with other energy companies in a new ecosystem “Digital Campus Zollverein”
— Inspiring the entire company to embrace Digital Transformation
Shaping the future with hydrogen and green gases

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Developing OGE’s culture
Company culture to reflect challenges

**Appreciation & Team**
We work as a team: appreciative, supportive, aiming at our joint success

**Learning**
We learn, to grow personally and as a company: Together, from each other, courageous, open, with the market in sight

**Result oriented**
We measure ourselves through the company’s success. We set and follow clear, ambitious and joint targets

**Structure & Security**
Structure & security are the basis of our actions. We fulfill our tasks thoroughly, attentively and safely.
We enable energy supply. Today and in the energy mix of the future.