



2G. Company Presentation.

2G. Cogeneration.

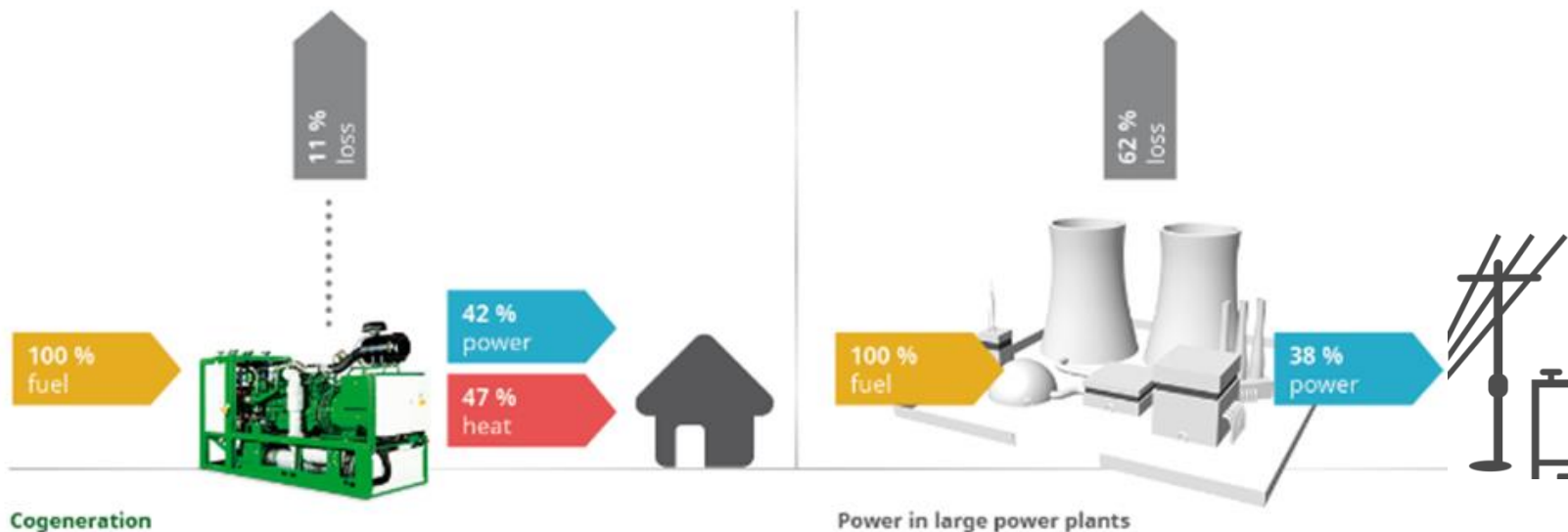
Deutsches Eigenkapitalforum
27/11/2017- 28/11/2017



Agenda

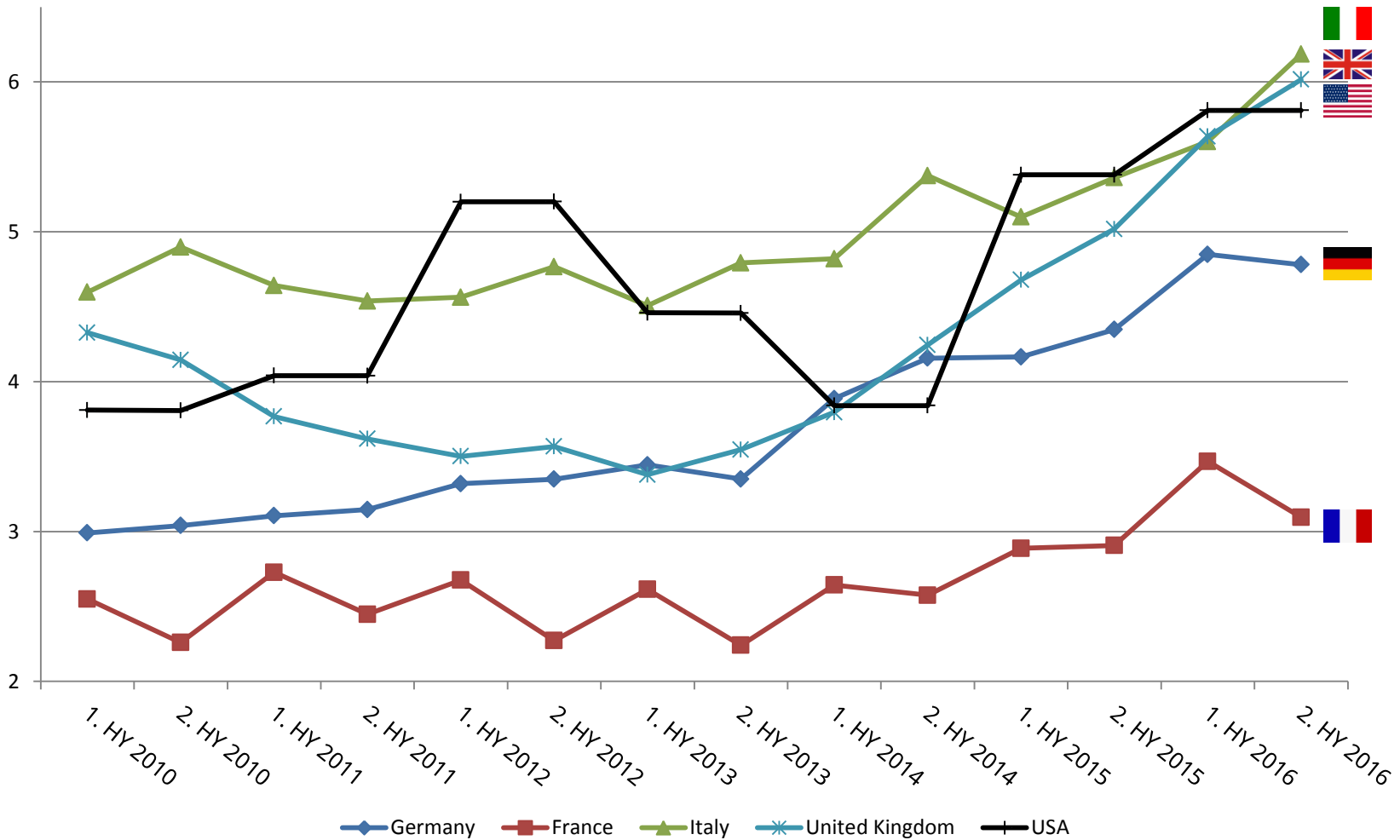
1. Combined Heat & Power
2. 2G Energy AG
3. Finances
4. Potentials

Comparison of distributed and centralized power generation.



- Primary energy savings up to 40 %
- up to 60 % CO₂-savings when using natural gas; almost CO₂ neutral when using renewable fuels

Spark Spread: electricity - vs. gas price.



Source: Eurostat, energy statistic prices (new method as of 2007)

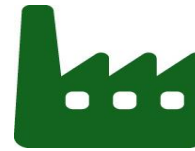
Fields of application.



Schools and universities



Food



Industrial companies



Sewage plants



Hospitals



Retirement homes



Hotels



Landfills



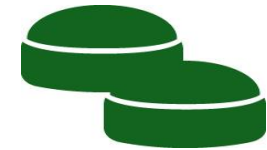
Residential buildings



Swimming pools



Heating grids



Biogas plants

Key facts.

- Founded 1995 - Headquarters in Heek in North West of Germany
- Among leading providers of gas driven CHP plants
- Solution provider: development, project engineering, production, service, financing)
- Plants for biogas and natural gas applications with 20 – 2,000 kW electrical power
- Net sales 2016: 174.3 Mio. Euro
- 10 national and international subsidiaries
- Listed at the German stock market since 2007
- 600 employees worldwide
- More than 5,000 CHP plants in 43 countries worldwide



Portfolio.

Product Group	Power Range	Type of fuel
g-box.	20 to 50 kW	Natural Gas / Liquid Gas
patruus.	50 to 400 kW	Natural Gas / Biogas/ Landfill and Sewage Gas
aura.	100 to 150 kW	Natural Gas
agenitor.	75 to 450 kW	Natural Gas / Biogas/ Landfill and Sewage Gas
avus.	500 to 2.000 kW	Natural Gas / Biogas/ Landfill and Sewage Gas



Unique Selling Points.



Large product portfolio:
20 - 2,000 kW



R&D for highly efficient gas engines



Large international service network



Digitalisation



2G – Leading Gas Engine Technology.

- R&D-subsiidiary 2G Drives GmbH with 40 engineers and technicians
- Improved efficiencies by development of own engine components and CHP periphery
- Digital control of CHP plants and digitalised service features
- Development of a gas mixing system for a continuous operation of CHP plants with different gas types
- Development of new product line „aura“ with low emission values and high thermal efficiency
- Commissioning of a Biogas driven CHP plant with a downstream ORC cycle in November 2016



References.

national				international	
					
					
					
					
					

CHP Ranking 2016.

(installed electrical capacity installed in Germany in kW)

Rank 2016*	Company	2015	2016	Diff. (in %)
1 (1)	GE Jenbacher	222,058	522,250	135%
2 (2)	Caterpillar Energy Solutions	116,039	103,094	-11%
3 (3)	2G Energy	75,771	100,653	33%
4 (5)	MTU Onsite Energy	61,290	87,830	43%
5 (4)	Schnell	67,409	81,890	21%
6 (6)	Elektro Hagl	42,125	53,520	27%
7 (7)	Zeppelin	34,920	34,230	-2%
8 (17)	AB Energy Deutschland	10,730	26,900	151%
9 (9)	Viessmann	26,107	26,467	1%
10 (8)	ETW Energietechnik	28,948	23,838	-18%

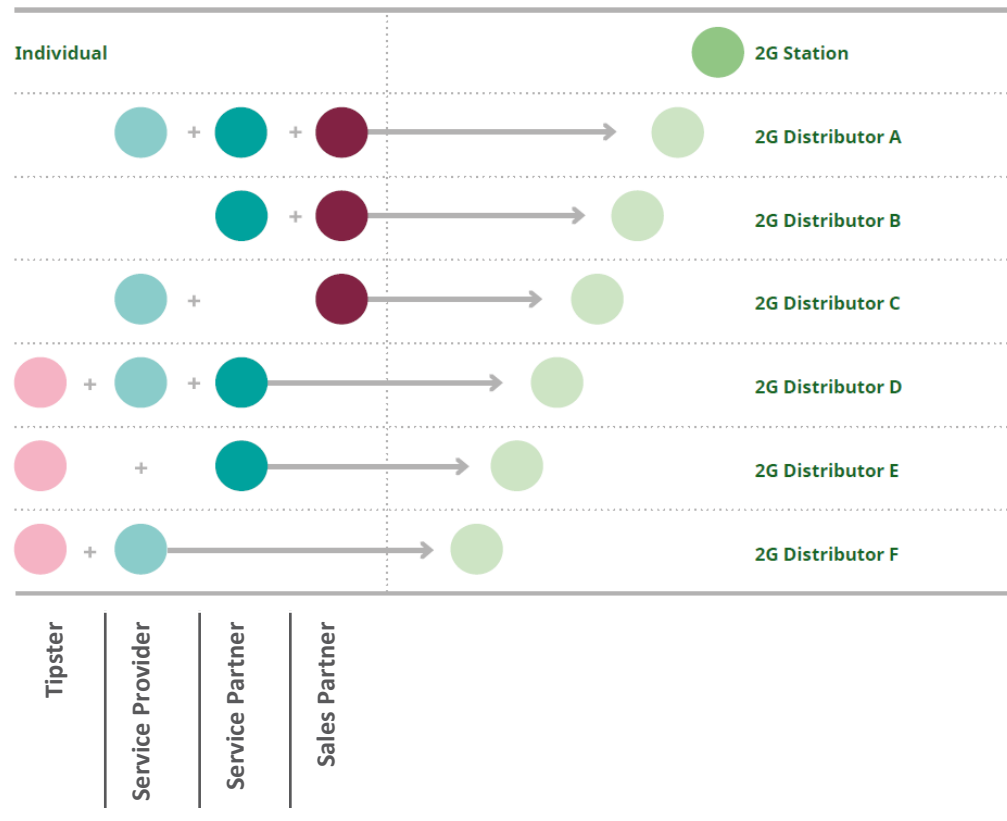
*Rank in previous year in brackets



The 2G partner concept.

- Partnerships in Germany and abroad as a centralised sales and service model
- 2G supports its partners' sales and service staff with already existing training concept
- 2G develops a factory customer service with own 2G experts
- my.2-g.com as digital interface between 2G and its partners
- classification of different partner levels – from 2G Tipsters to 2G Stations
- foreign share of CHP sales in 1. HY 2017 : 55 %

Diverse opportunities from an active partnership.



„my.2-g.com“ – digital added value for customers and partners



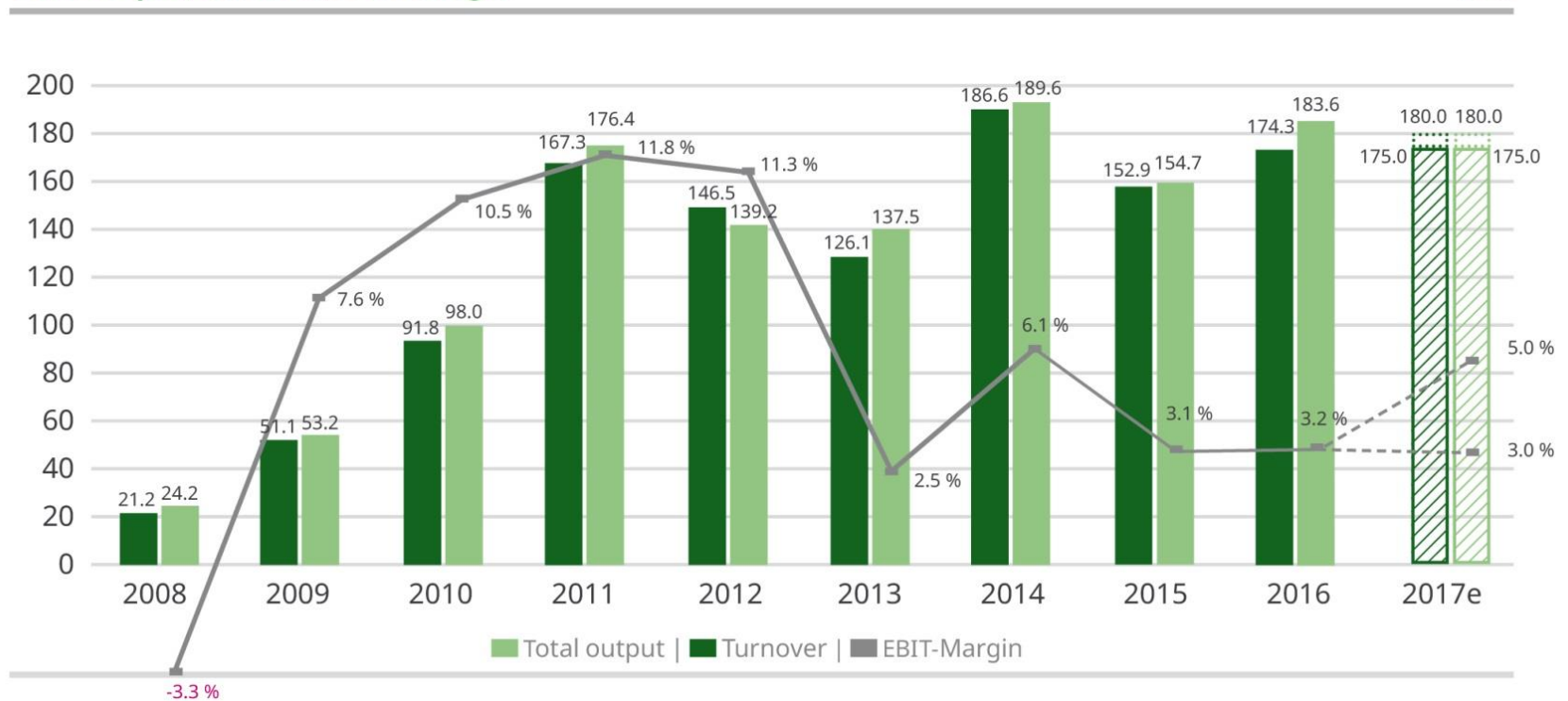
my.2-g.com

- customer - and partner portal for transparent and efficient plant management
- Networking of technical, commercial and administrative data and processes within one application
- available as service package or combination of different tools and services

Development of turnover, total output and EBIT.

2G Group
Total output, turnover, EBIT margin

EUR millions
 in %



Key figures.

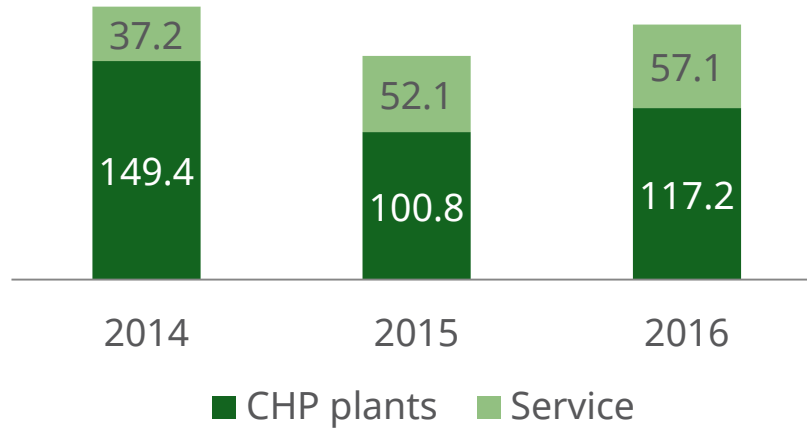
in million Euro	31/12/2014	31/12/2015	31/12/2016
Net sales	186,605	152,884	174,299
Total operating revenue	189,556	154,713	183,622
EBIT	11,287	4,772	5,649
<i>Margin%</i>	<i>6.1</i>	<i>3.1</i>	<i>3.2</i>
Materials intensity	70.7 %	65.0 %	70.1 %
Labour intensity	13.4 %	18.9 %	16.3 %
Equity ratio	56.2 %	54.9 %	47.5 %
Operative Cashflow	8,262	2,061	6,382
Net debt	-5.7	-4.2	-3.9

Order intake as of 30/09/2017

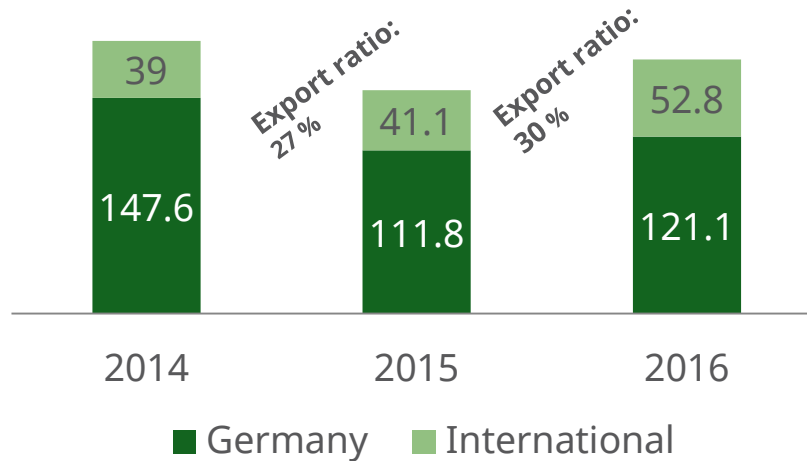
in million Euro	30/09/2015	30/09/2016	30/09/2017
Germany	52.5	59.1	65.0
Great Britain	12.8	9.8	2.8
France	1.3	2.8	5.2
Rest of Europe	8.2	3.7	6.0
USA	5.5	7.3	13.3
Japan	2.3	5.5	5.0
Rest of World	0.6	1.9	5.9
total	83.2	90.1	103.2

Sales development.

Business areas



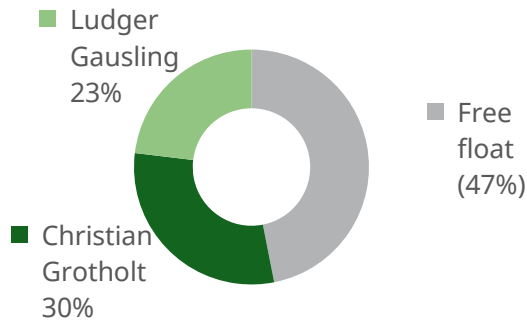
Markets



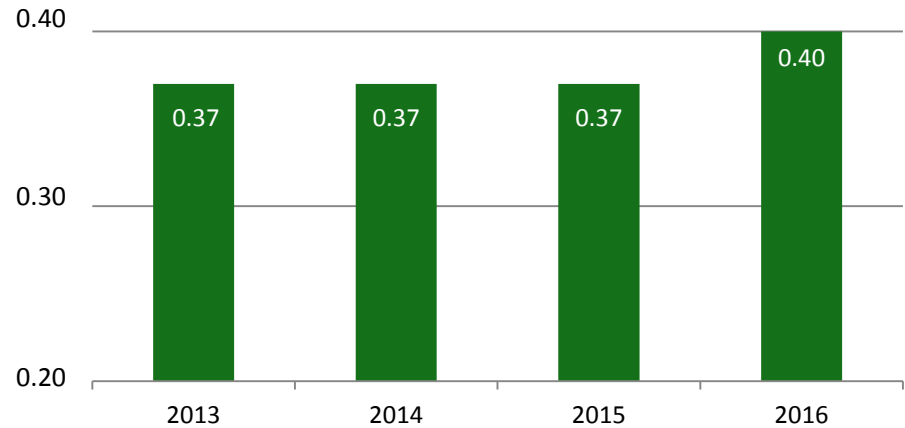


2G share.

Shareholder structure 2G Energy AG



Dividends in € for FY 2013 -2016



Price Data	Price (Euro)	Date
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All-Time-High	41.18	27/05/2013
All-Time-Low	2.60	10/03/2009
Year's high 2017	24.87	12/04/2017
Year's low 2017	18.48	02/01/2017
Current Price	20.40	15/11/2017

Analyst	Recommendation	Date
First Berlin	24.60 Buy	05/10/2017
SMC Research	29.30 Buy	02/10/2017
equinet	22.50 Neutral	29/09/2017



2G share.



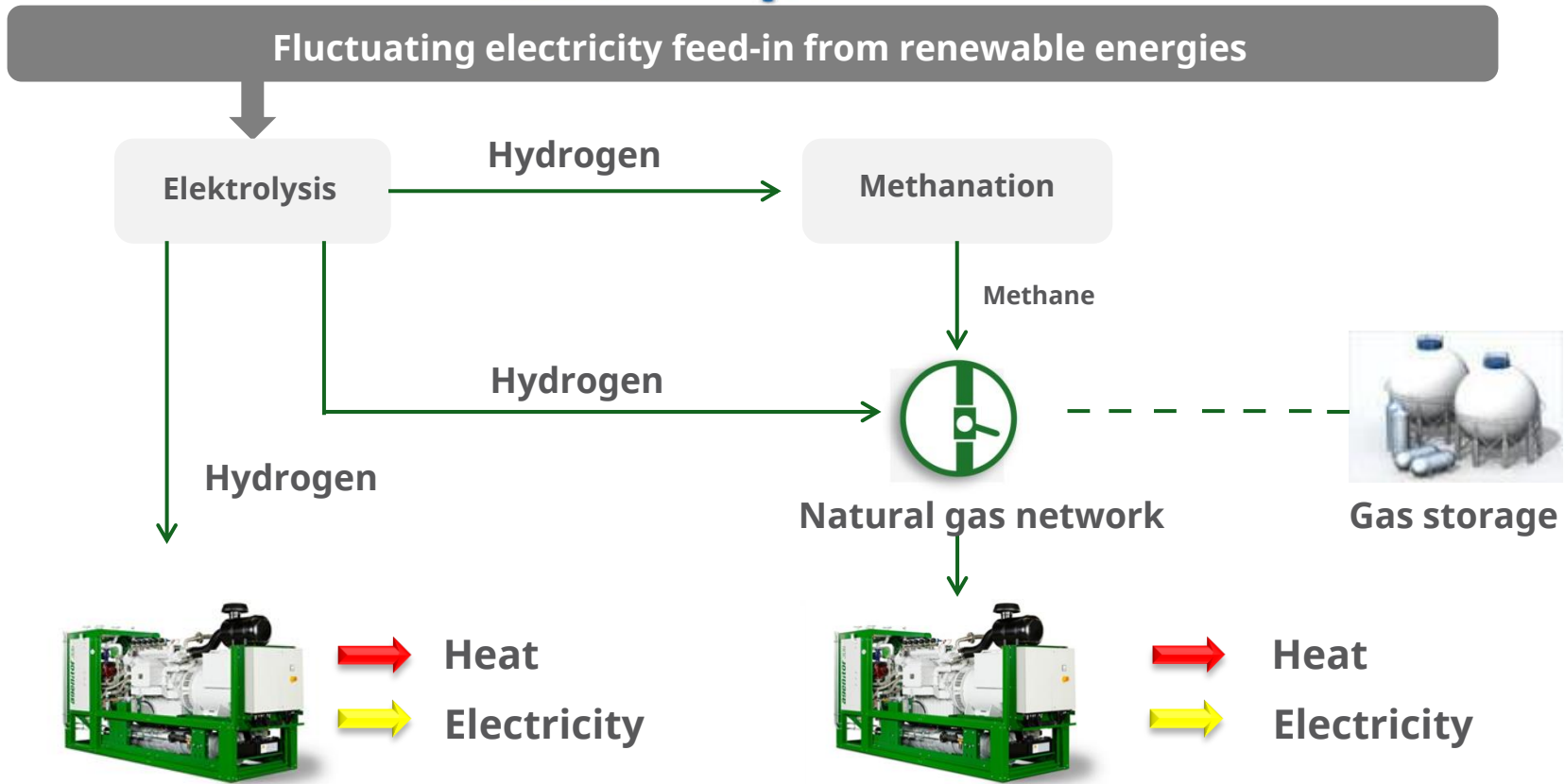
Performance of 2G share compared with DAX since IPO in % (indexed)



Outlook.

- Continuing internationalisation of sales markets by extending the partner network
 - foreign share of order intake as of 30/09/2017: 37 %
 - foreign share of CHP sales in 1. HY 2017: 55 %
- Digitalisation as value and growth driver
 - Integration of CHP plants in virtual power plants
 - „my.2-g.com“ as digital added value for customers and partners
- Cost reductions and efficiency improvements in production by project „Lead to Lean“

Power to Gas / Hydrogen applications.



CHP as backbone of energy transition

Decarbonization	
national, european and global climate protection targets increase pressure on reduction of CO2 emissions	
Challenges	Solutions by CHP plants
<ul style="list-style-type: none"> • Brown, coal and nuclear power plants are being shut down, but currently still account for 52% of generation capacity • Existing expansion caps for wind and solar power as well as for biogas • Security of supply requires rapid expansion of generation capacities with low CO2 emissions 	<ul style="list-style-type: none"> ✓ Highly efficient and industrial energy production based on renewable fuels and synthetic natural gases – very good carbon footprint ✓ Natural gas has a clear carbon advantage over coal ✓ Range of systems: 20 kW – 100 MW

CHP as backbone of energy transition

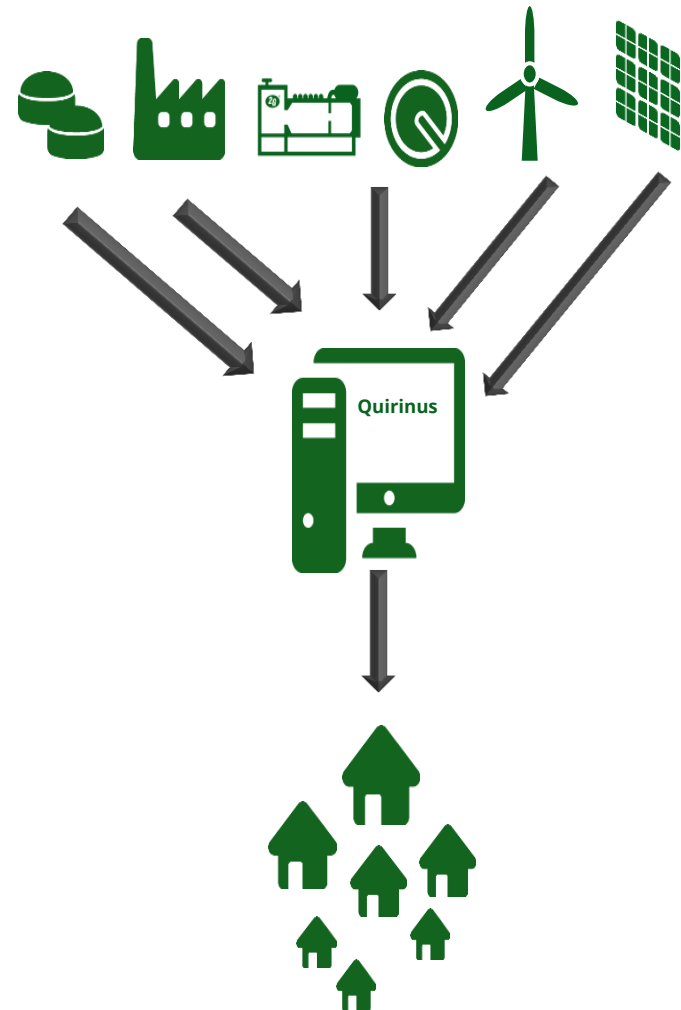
Change of electricity supply	
Wind and solar power will become the main electricity producer in the long term	
Challenges	Solutions by CHP plants
<ul style="list-style-type: none"> • Wind and solar energy is exposed to strong generation fluctuations; expensive network interventions for grid stabilisation are necessary • Storage of electricity in pumped-storage plants is only possible with high efficiency losses • Expensive grid expansion is necessary to distribute offshore wind power "across the country" • Economic efficiency: Electricity must remain affordable 	<ul style="list-style-type: none"> ✓ CHP plants are flexible and can be operated depending on the demand ✓ Full integrability („Virtual Power Plants“) ✓ Production of synthetic natural gas from surplus wind and solar power and subsequent use in CHP plants („Power-to-Gas“) ✓ Decentralized energy generation at the place of consumption and on the basis of existing infrastructures ✓ CHP plants are highly efficient

CHP as backbone of energy transition

Change of heat supply	
is just at the beginning; doctrine of electricity -led energy transition	
Challenges	Solutions by CHP plants
<ul style="list-style-type: none"> • 43 % of final energy consumption is due to heat- generated by conventional energy sources with high CO2 emissions • Electrification of heat would lead to a gigantic expansion requirement of the power grids (for example: 3 to 4 billion euros investment costs for the power grid of Frankfurt) • Cost effectiveness: electricity -led energy transition leads to a cost explosion – heat must remain affordable 	<ul style="list-style-type: none"> ✓ Decentralized energy generation at the place of consumption ✓ Fully integrable into the existing infrastructure of the housing industry and the companies (for processes and heating applications) ✓ Production of synthetic natural gas from surplus wind and solar power and subsequent use in CHP plants („Power-to-Gas“) ✓ CHP plants are highly efficient

Quirinus-Project.

- Research on „Virtual Power Plants“
- Goal: long-term assurance of system stability, security of supply, efficiency and sustainable energy infrastructures
- Approach: Bundling of various renewable energy plants into one power plant by using IT and communication networks
- Regional association of network operators, energy suppliers, industry and research institutes
- Funded by the European Union and the state of North Rine-Westphalia





Thank you for your attention!

Our Vision:

With regards to a better future to become THE customer oriented provider of CHP plants and solutions in the power range of 20 to 2,000 kW for distributed energy supply.