



2G. Company Presentation.

Eigenkapitalforum 2020
Frankfurt, 16.11.2020 – 18.11.2020



Speaker:
Friedrich Pehle, CFO

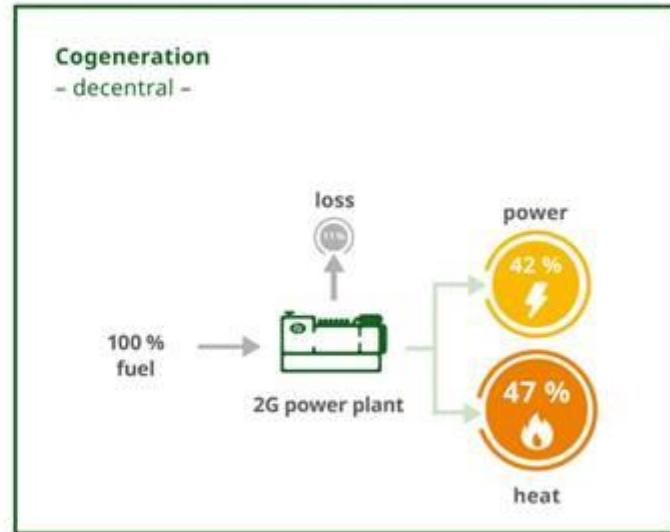
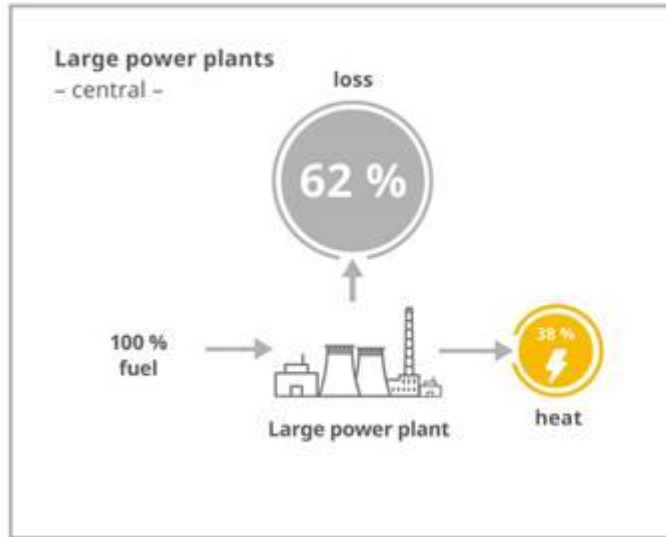
2G. Kraft-Wärme-Kopplung.



2G – Worldwide success with combined heat and power generation.

- **Foundation:** 1995 – HQ in North West of Germany
- **Stock listing:** Scale-Segment, Market Cap > 300 Mio. Euro, Freeflow: app. 47%
- **Product:** Combined heat and power plant (CHP)
 - natural gas, biogas, lean gases (incl. [H₂](#))
 - 20 – 4,500 kW el. Power
- **Net sales:** 236.4 Mio. Euro in 2019; app. 35% Export; app. 38% Service
- **Growth:** Ø 10% annually since 2013
- **Employees:** app. 650-700 worldwide
- **Internationalisation:**
 - 7 international subsidiaries (USA, CA, UK, F, I, E, Pol)
 - above 6'500 CHP plants in more than 50 countries
- **Importance to the (European) energy supply:**
 - ca. 1.8 GW act. capacity (compared to Flamanville 3 = app. 1.6 GW)
- **Competitive situation:**
 - [H₂](#): Technological leader (ww); Germany: general market leader

Distributed vs. centralized power generation.



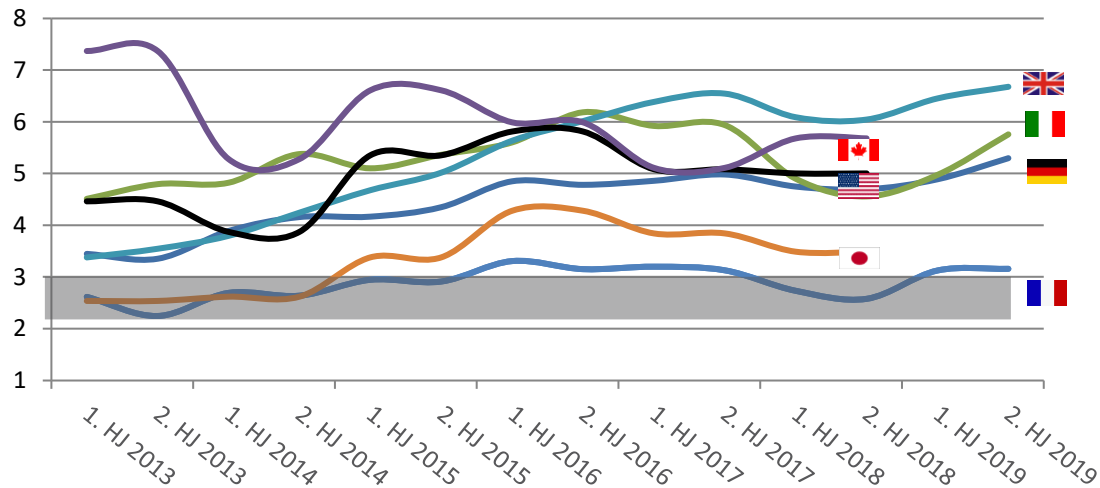
- primary energy savings up to 40 % through simultaneous use of heat
- up to 60 % CO₂/NO_x-savings when using natural gas
- almost CO₂/NO_x neutral when using renewable fuels (H₂)

Framework conditions for CHP

Profitable

CHP are always profitable, provided that :

- Extensive use of thermal energy
- Electricity price min. 3x as high as fuel costs (given in all G7 countries)



* As soon as the electricity price is three times higher than the gas price, CHP plants are generally economical.

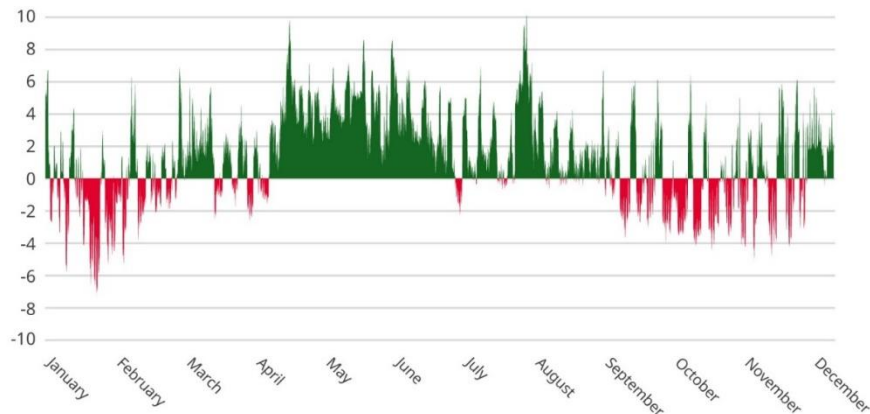
- ### Stand der Vorhaben aus dem Bundesbedarfsplangesetz (BBPlG) und dem Energieleitungsausbaugesetz (EnLAG) nach dem zweiten Quartal 2020
-
- Offener Vorhaben
Punkt 2 (BBPlG)
- Offener Vorhaben
Seite 2 (GGSt)
- 50 Hertz
- Amprion
- TransnetBW
- Zeichenerklärung
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 - gelb: genehmigt, liegt in der Auswertung
 - orange: genehmigt, liegt in der Auswertung (ggf. Auflagen)
 - rot: genehmigt, liegt in der Auswertung (ggf. Auflagen)
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 - grün: genehmigt
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1. In das BBPlG-Vorhaben
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40. In das BBPlG-Vorhaben

Framework conditions for CHP

Baseload-capable

CHP plants are the backbone for the energy turnaround:

- Nuclear and coal phase-out in Germany (app. -20GW; Jan. 2023)
- Strongly fluctuating energy sources require mandatory supplements

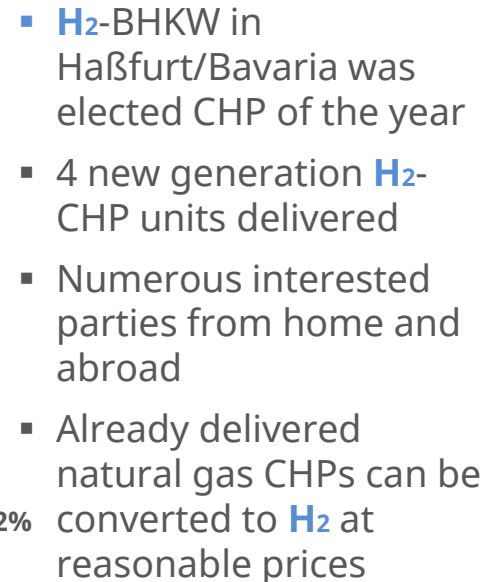


- Germany: With the loss of almost 20 GW, dangerous power shortfalls will arise from 2023 (=> 500 working days)
- Additional wind and solar power plants do not help in (regular) misty autumn and winter weather
- Rest of Europe: A further almost 50 GW of conventional power plant capacity will be reduced by 2023

Only (medium-sized) CHP can be connected to the grid in the remaining time !

H₂

- H₂-CHP units are ready for series production since 2019
- Supplied natural gas CHPs can be converted to H₂ at reasonable prices



Framework conditions for CHP

Profitabel

CHP are always profitable, provided that :

- Extensive use of thermal energy
- Electricity price min. 3x as high as fuel costs (given in all G7 countries)

Decentral

CHP are always (close) to the place of consumption :

- Completely independent of the delayed expansion of high capacity grid
- Are built without any social resistance

Baseload-capable

CHP plants are the backbone for the energy turnaround:

- Nuclear and coal phase-out in app. 500 working days (app. -20GW)
- Strongly fluctuating energy sources require mandatory supplements

H₂

CHP (only from 2G) are already H₂-ready:

- H₂-CHP units are ready for series production since 2019
- Supplied natural gas CHPs can be converted to H₂ at reasonable prices

Unique selling points.

Large product portfolio:
20 - 2,000 kW



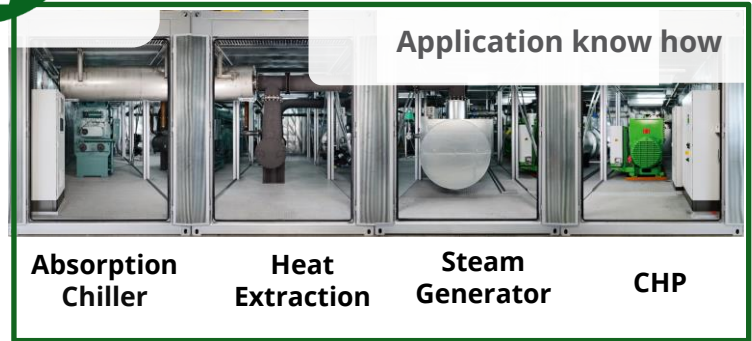
Technological leadership
through own R&D



Large international
service network



Application know how





Competitive landscape.

Name	Land	Umsatz	Mitarbeiter	Ø Anlagen- größe
Jennbacher 		ca. 1.200 M€	ca. 1.700 MA	> 1.000 kW
MWM 		ca. 500 M€	ca. 1.300 MA	
Clarke Energy 		ca. 400 M€	ca. 1.200 MA	
2G Energy AG 		236 M€	ca. 650 MA	250 - 500 kW
AB Energy 		ca. 200 M€	ca. 1.000 MA	
TEDOM SCHNELL 		ca. 200 M€	ca. 900 MA	
Storm 		ca. 65 M€	ca. 350 MA	< 100 kW
Sokratherm 		ca. 25 M€	ca. 100 MA	

Competitive landscape.

Tabelle 1: BHKW-Ranking 2019 nach elektrischer Leistung in kW

Rang Absatz 2019	Rang Absatz 2018	Unternehmen	2019	2018	Differenz
1	1	INNIO Jenbacher	300.567	412.965	-27 %
2	2	Caterpillar Energy Solutions (MWM)	187.625	219.768	-15 %
3	3	2G Energy	120.994	109.662	10 %
4	5	Wärtsilä	105.000	90.000	17 %
5	6	TEDOM-SCHNELL	94.885	87.963	8 %
6	4	MTU Onsite Energy	70.660	108.216	-35 %
7	10	AB Energy Deutschland	36.500	21.800	67 %
8	8	ETW Energietechnik	30.633	35.592	-14 %
9	18	Sommer energy	25.680	7.290	252 %
10	9	Zeppelin Power Systems	22.650	30.971	-27 %
11	14	Viessmann	20.609	14.770	40 %
12	11	EC Power	18.000	18.000	0 %
13	15	agriKomp	17.250	13.820	25 %
14	13	Sokratherm	15.355	15.120	2 %
15	12	SES Energiesysteme	12.740	15.530	-18 %
16	17	Bayern BHKW	10.990	8.725	26 %
17	16	KW Energie	9.653	8.906	8 %
18	28	AGO ●	6.832	0	
19	21	Kraftwerk	6.060	4.178	45 %

Tabelle 5: BHKW-Ranking Prognose 2020 nach elektrischer Leistung in kW

Rang Prognose 2020	Rang Absatz 2019	Unternehmen	2020 (Prognose)	2019 (realer Absatz)	Differenz
1	1	Innio Jenbacher	203.000	300.567	-32 %
2	2	Caterpillar Energy Solutions (MWM)	180.654	187.625	-4 %
3	6	MTU Onsite Energy	118.000	70.660	67 %
4	5	Tedom-Schnell	103.350	94.885	9 %
5	4	Wärtsilä	90.000	105.000	-14 %
6	3	2G Energy	70.000	120.994	-42 %
7	9	Sommer energy	36.960	25.680	44 %
8	7	AB Energy Deutschland	30.200	36.500	-17 %
9	8	ETW Energietechnik	28.750	30.633	-6 %
10	11	Viessmann	25.050	20.609	22 %
11	18	AGO ●	20.000	6.832	193 %
12	15	SES Energiesysteme	18.800	12.740	48 %
13	14	Sokratherm	18.350	15.355	20 %

Net sales.

		2019	2018	2017	2016	2015
BHKW	Germany	90,3	79,4	72,3	77,9	59,7
	Abroad	56,8	52,3	52,6	52,8	32,6
Service	Germany	63,3	57,6	50,4	43,6	43,9
	Abroad	26,1	20,4	14,1	13,5	8,2
Total sales		236,4	209,8	189,4	174,3	152,9
EBIT		15,5	11,5	7,3	5,6	4,8
EBIT in %		6,5 %	5,5 %	3,9 %	3,2%	3,1%

Application portfolio.

Resistance to corona shock.

Industry and Trade 26%	 17% Industrial companies ✓	 7% Chemical industry ✓	 2% Food industrie ✓
Service 10%	 3% Hospitals ✓	 3% Sport and Event centers ?	 4% Schools and Public facilities ✓
Energy 65%	 5% Utiles ✓	 5% Landfills and Sewage plants ✓	 55% Biogas Plants ✓ Germany: 39% Abroad: 16%

Order intake 10/2020 (w/o Service).

		2020	2019	2018	2017	2016	2015
CHP	Germany	80,7	61,0	91,2	65,7	63,5	52,1
	Abroad	42,3	57,9	52,6	43,4	32,2	37,3
Total		123,0	118,9	143,8	109,0	95,7	89,4

Order intake is good and well above long-term average despite Corona.

Development of Net Sales and EBIT 2020.

		2020e	2019	2018	2017	2016	2015
CHP	Germany	145,5*	90,3	79,4	72,3	77,9	59,7
	Abroad		56,8	52,3	52,6	52,8	32,6
Service	Germany	97,0*	63,3	57,6	50,4	43,6	43,9
	Abroad		26,1	20,4	14,1	13,5	8,2
Total		235,0 - 250,0	236,4	209,8	189,4	174,3	152,9
EBIT		13,0 - 17,0	15,5	11,5	7,3	5,6	4,8
EBIT in %		5,5 % - 7,0 %	6,5 %	5,5 %	3,9 %	3,2%	3,1%

*) arithmetical assumptions; no limitation of forecast

Order book Q3/2020.

		2020e	2019	2018	2017	2016	2015
CHP	Germany	145,5*	90,3	79,4	72,3	77,9	59,7
	Abroad		56,8	52,3	52,6	52,8	32,6
Service	Germany	97,0*	63,3	57,6	50,4	43,6	43,9
	Abroad		26,1	20,4	14,1	13,5	8,2
Total		235,0 – 250,0	236,4	209,8	189,4	174,3	152,9
Order book Q3		145,8 ✓	154,3	157,0	132,8	111,2	86,1

*) arithmetical assumptions; no limitation of forecast

Guidance 2021.

	2021p	2020e	2019	2018	2017	2016	2015
CHP	150,0* ✓	145,5*	90,3	79,4	72,3	77,9	59,7
			56,8	52,3	52,6	52,8	32,6
Service	100,0*	97,0*	63,3	57,6	50,4	43,6	43,9
			26,1	20,4	14,1	13,5	8,2
Total	240–260	242,5*	236,4	209,8	189,4	174,3	152,9
Order book Q3	145,8 ✓		154,3	157,0	132,8	111,2	86,1

*) arithmetical assumptions; no limitation of forecast

Development of Net Sales and EBIT 2024.

	2024e	2020e	2019	2018	2017	2016	2015
CHP	180,0*	145,5*	90,3	79,4	72,3	77,9	59,7
			56,8	52,3	52,6	52,8	32,6
Service	120,0*	97,0*	63,3	57,6	50,4	43,6	43,9
			26,1	20,4	14,1	13,5	8,2
Total	300,0	242,5*	236,4	209,8	189,4	174,3	152,9
EBIT	30,0	15,3*	15,5	11,5	7,3	5,6	4,8
EBIT in %	10,0 %	6,25 %*	6,5 %	5,5 %	3,9 %	3,2%	3,1%

*) arithmetical assumptions; no limitation of forecast

Development of Net Sales and EBIT 2024.

	2024e	2020e	2019	2018	2017	2016	2015
Total	300,0	242,5*	236,4	209,8	189,4	174,3	152,9
EBIT	30,0	15,3*	15,5	11,5	7,3	5,6	4,8
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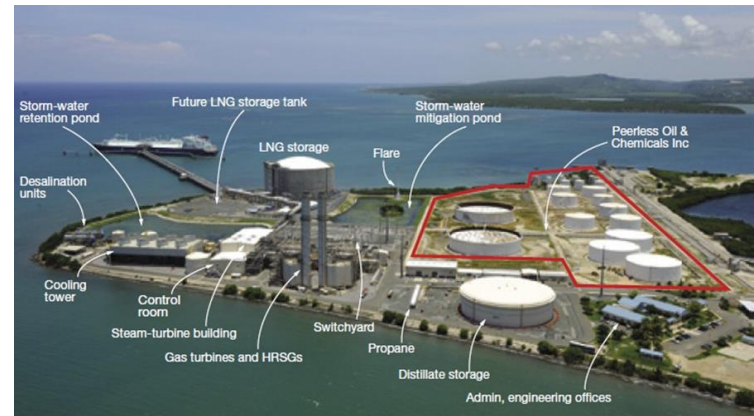
Development of Net Sales and EBIT 2024.

	2024e	2020e	2019	2018	2017	2016	2015
Total	300,0	242,5*	236,4	209,8	189,4	174,3	152,9
EBIT	30,0	15,3*	15,5	11,5	7,3	5,6	4,8
EBIT in %	10,0 %	6,25 %*	6,5 %	5,5 %	3,9 %	3,2%	3,1%
Lead project 1	+ 1,50 %		Internationalisation / Partner concept				
Lead project 2	+ 0,50 %		Digitalisation				
Lead project 3	+ 1,75 %		Lead to Lean/ Industrial Processes				

*) arithmetical assumptions; no limitation of forecast

Internationalisation / Partner concept.

- CHP plants sold in 50 countries of the world
- **Increasing availability of LNG opens up new sales markets**
- Net Sales abroad in 2019: + 14%
- Ø annual growth since 2015: > 21.4 %



LNG Terminal „Penuelas“, Puerto Rico
(Order intake Puerto Rico so far: 7,4 Mio. USD)

Digitalisation.



- Launch of the 2G online store in Germany, France and Italy (sales so far: app. 2.5 million EUR)
- my.2-g.com: 12 digital tools for plant operators to optimize plant management
- Predictive maintenance platform I.R.I.S. as digital and intelligent service assistance
- >70% of the fault messages are already solved online
- Introduction of a web-based configurator

Lead to Lean / Implementation of industrial processes.

■ Production

- Implementation of industrial process model according to the "Lean" philosophy (project goal: 300 M. € output at the same location)
- Rolling out the "Shop Floor Management" (started in 2018)
- Development of a material supply concept (started in Q4 2018)



■ Service

- Decentralized organization with results responsibility for area managers (reorganization completed in 2018)
- Development of marketing tools: especially graduated service packages
- Increasing digitalization of service and maintenance services (predictive maintenance, remote dial-in, digital documentation, ...)

■ Purchasing/engine procurement

- Professionalization of engine purchasing (started in 2017)
- Reorganization of the incoming goods process under quality aspects (since 2018)



Investment Case.

▪ **Goals until 2024:**

- 300 Mio. Euro net sales (around 10 % organic sales growth per year)
- 10 % EBIT Margin
(around 3.5%-points growth, thereof 1.5% Topline, 1.5% Lean, 0.5 % Procurement)

▪ **Strong balance sheet:**

- Equity ratio of almost 50%

▪ **Stable and long-term predictable Cash Flows**

- Service business
- Down payments

▪ **Turnover of 300 Mio. Euro achievable without additional CAPEX**

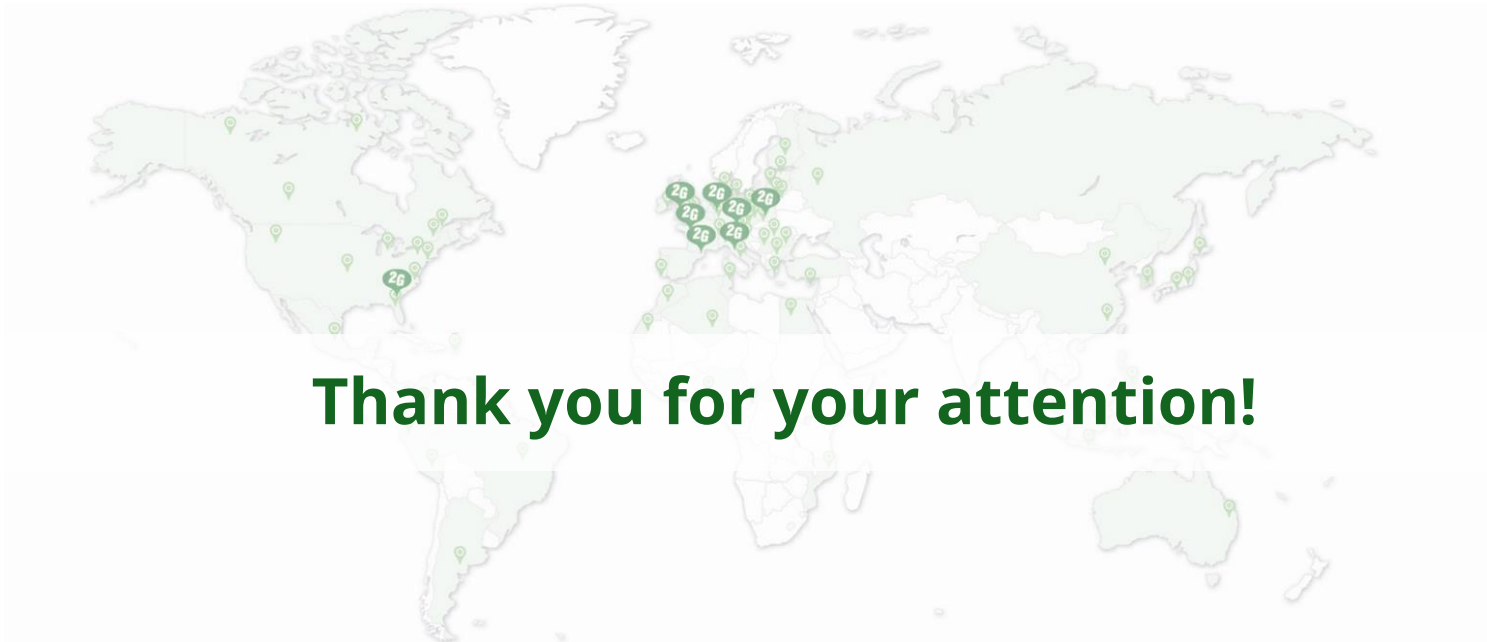
▪ **Increasing diversification of sales revenues:**

- Service business accounts for one third of group revenues

▪ **Competitive advantage through R&D**

▪ **Strong tailwind by**

- Strong reduction of coal-fired power generation and nuclear power in Germany (20 GW by 2022) and in Rest of Europe (50,3 GW by 2023)
- Permanently low gas prices and increasing availability of LNG worldwide
- Increasing demand for energy (E-mobility, heat pumps, growing world population)



Thank you for your attention!

In the 20 to 4,500 kW performance range, 2G will become a fully globalized provider of gas operated CHP systems and solutions.



2G Standorte



2G Partner

Contact



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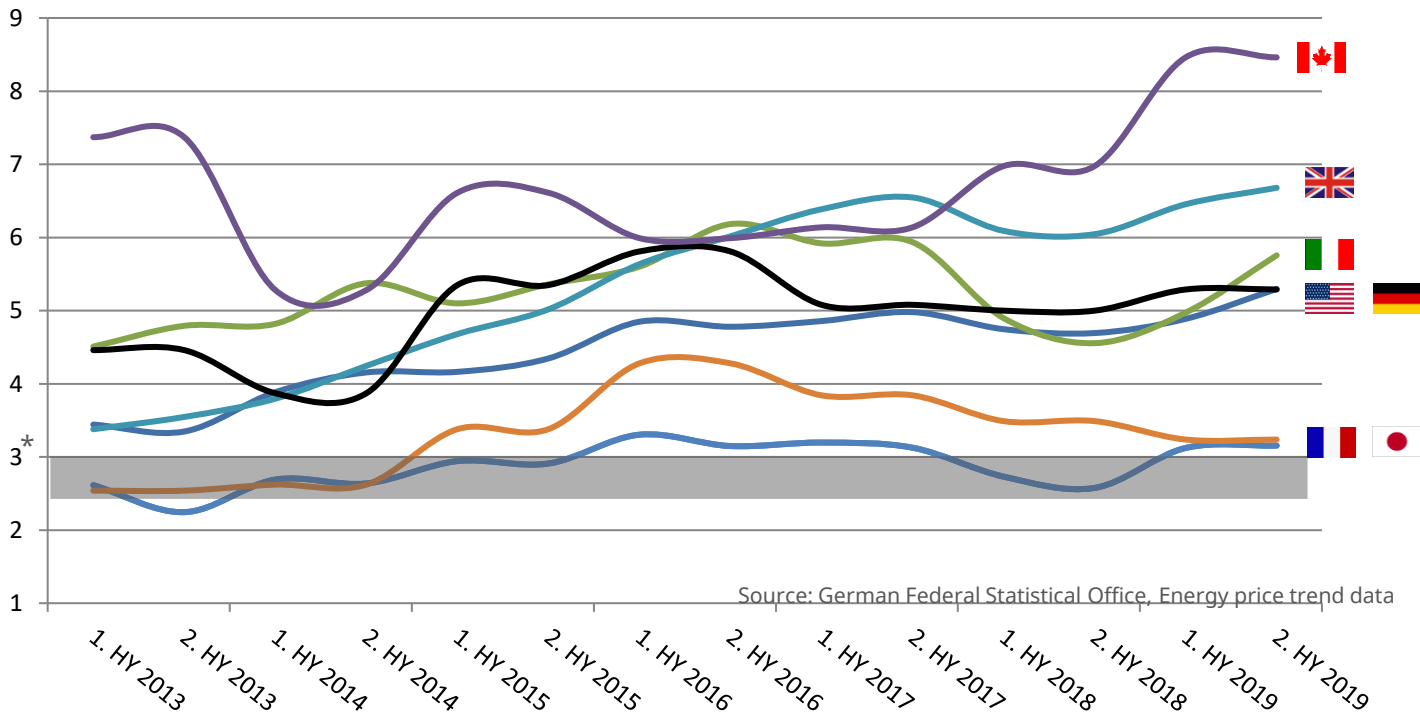
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Financial Calendar

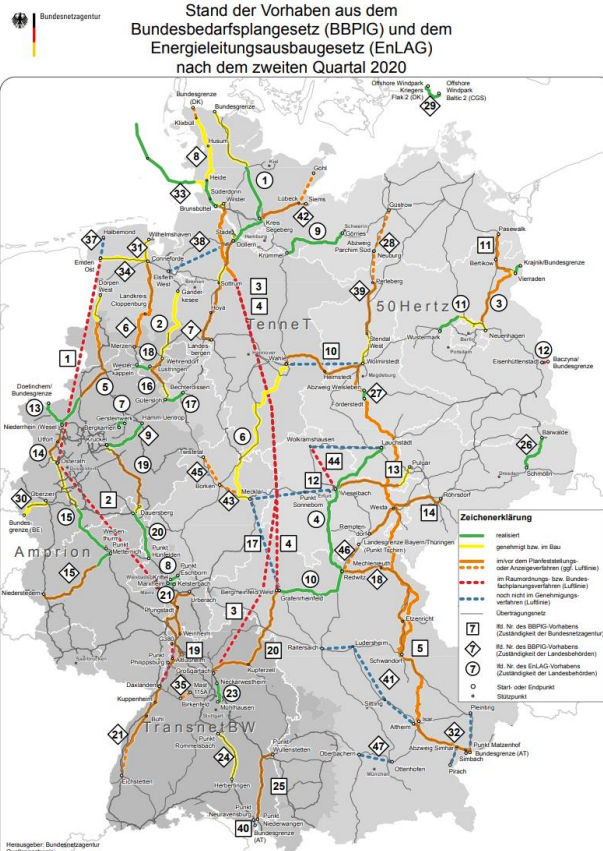
November 16, 2020	Q3 key figures and business trends
November 16-18	German Equity Forum, Online Conference
February 25, 2021	Preliminary sales figures 2020
March 25, 2021	Preliminary key figures 2020 as web cast
May 17, 2021	Q1 key figures and business trends
May 17-18, 2021	German Fall Conference
June 15, 2021	General Assembly

Economical. Electricity – vs. Gas price in G7 - countries.



* As soon as the electricity price is three times higher than the gas price, CHP plants are generally economical.

Decentral. Low economic investment expenditure.



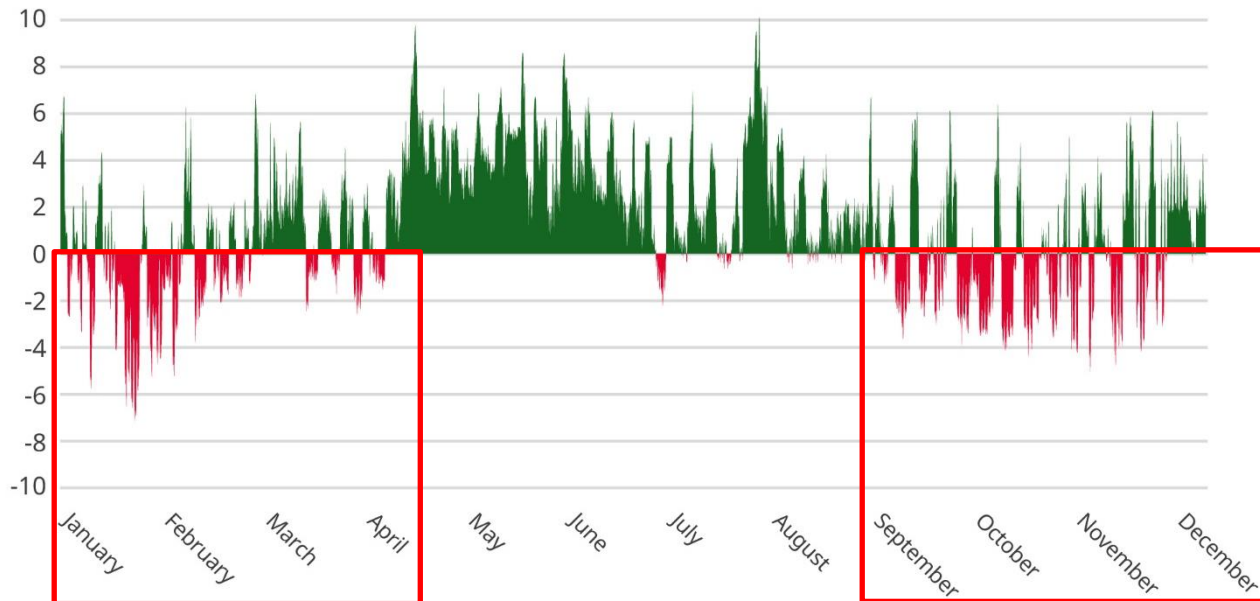
- Construction of transmission grids does not keep pace with expansion of green electricity generation
 - only 19 % of 7,661 km already built
 - another 10 % of 7,661 km approved
 - Progress in H1 2020: less than 200 km
- Costs of „North-South“ grid (for underground cabling): 8,000,000 € / km
- CHP plants are installed at the place of use
- A CHP plant needs less than one year from the start of planning to the feed-in of the first kWh electricity

Grid extension plans in Germany as of 03/2020

Source: <https://www.netzausbau.de/leitungsvorhaben/de>

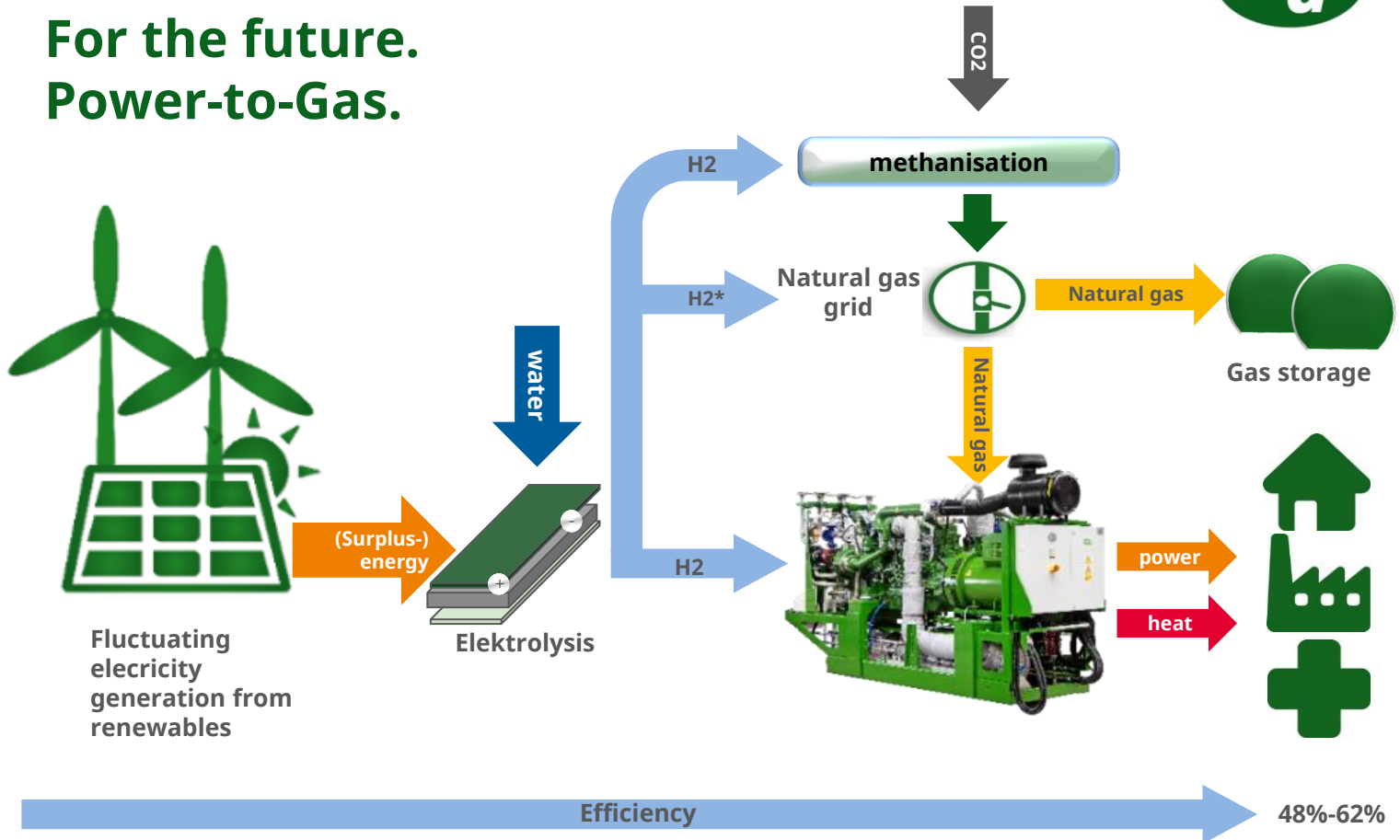


Flexible. CHP plants contribute to security of supply.



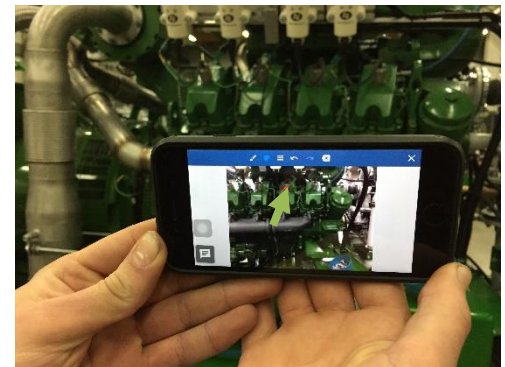
Calculated surplus capacity and capacity shortages in 2019 based on supply situation in 2023 (model calculation)

For the future. Power-to-Gas.



First class service.

- Professional plant service via 2G factory service or licensed partner companies
- Support through digital processes such as
 - 2G Power Plant
 - Remote diagnostics, - control and maintenance
 - 70 % of fault messages are already triggered online
 - Airform
 - Digitized Document Management increases efficiency
 - I.R.I.S. platform
 - Predictive Maintenance reduces TCO
 - Augmented reality
 - Work acceleration
 - Worldwide integration of service partners



Product Portfolio.

Product group	g-box.	patruus.	aura.	agenitor.	avus.
Power range	20 – 50 kW	50 – 400 kW	100 – 150 kW	75 – 450 kW	500 – 2000 kW
Type of fuel	Natural gas / Liquid gas	Natural gas / Biogas / Landfill and Sewage gas	Natrual gas	Natural gas / Biogas / Landfill and Sewage gas	Natural gas / Biogas / Landfill and Sewage gas
Share of sales (2019)	6 % (181 plants)	2 % (11 plants)	1 % (6 plants)	32 % (167 plants)	59 % (145 plants)
Electrical capacity	3.7 MW	8.0 MW	0.3 MW	43.6 MW	144.2 MW



Based on own engine concept

2G – Leading Gas Engine Technology. Own R&D sets standards in the industry.

- R&D-subsidiary 2G Drives GmbH with 40 engineers and technicians
- R&D goals:
 - Reduction of total cost of ownership
 - Increases in efficiency
 - Extension of maintenance intervals
 - Digital control
 - Development of new applications
 - Development of peripherals





2G – Leading Gas Engine Technology. Achievements 2018 / 2019

- Conclusion of framework agreements for the supply of modified core components to well-known (CHP) manufacturers like Rolls- Royce
- Cooperation with Siemens in the field of hydrogen CHPs
- Construction of a pure hydrogen-driven CHP plant in 2018
– winner of Handelsblatt Energy Awards 2018/2019
- Proprietary development to convert waste heat into electricity taken to the pre-series stage in 2017
(ORC-process)



SIEMENS

Comprehensive Know-How. In all fields of application.

Industry



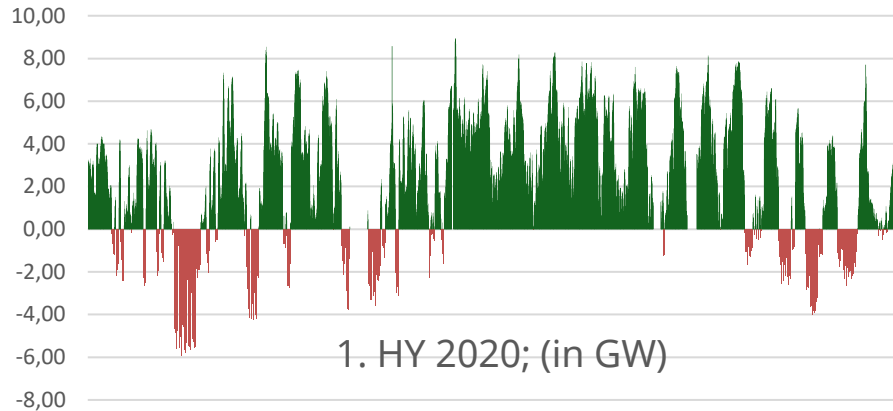
Services



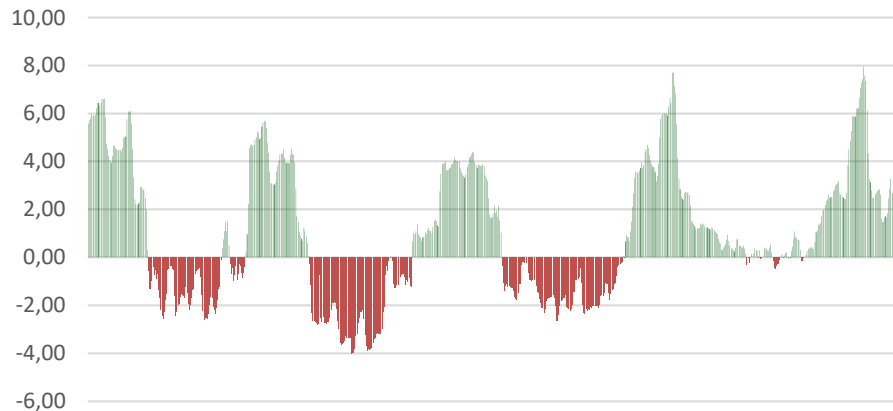
Energy



Capacities of remaining power plants

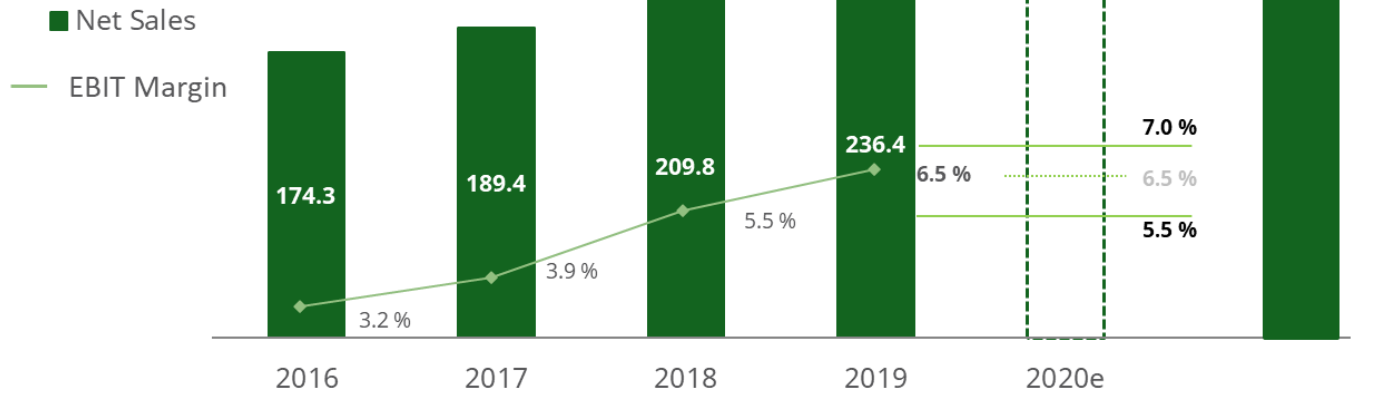
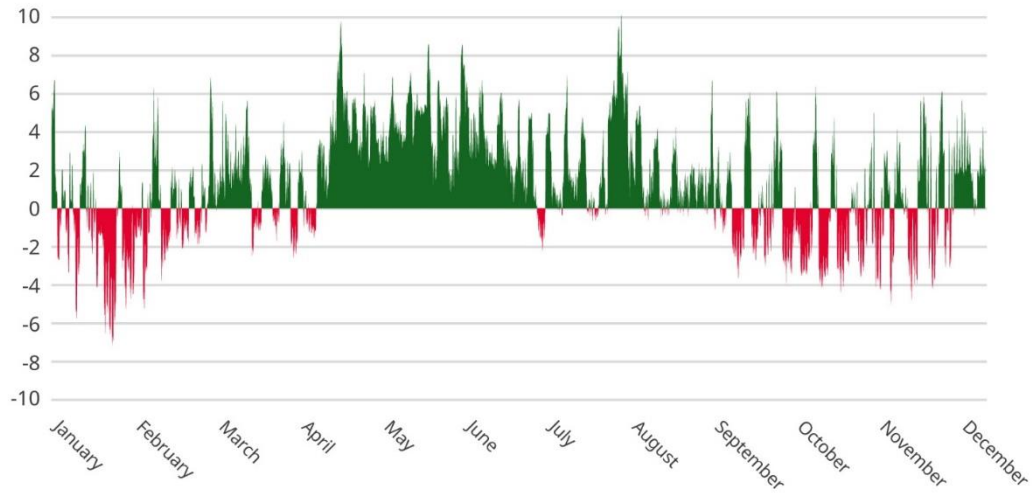


June 2020; (in GW)



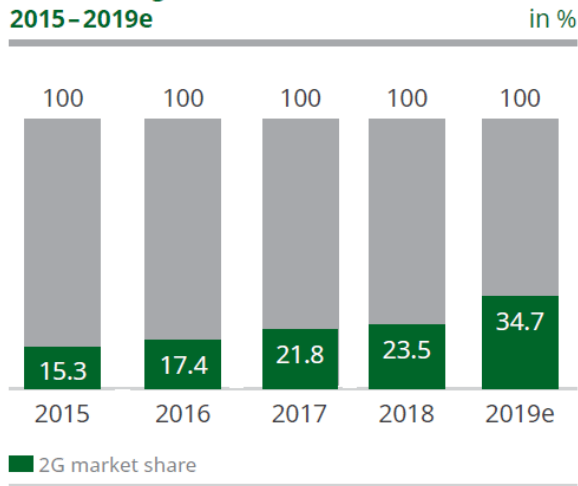
This is a combination of:

- Actual weather conditions in 2019
- Actual consumption of electricity in 2019
- Remaining power plant capacities in 2023



Biogas market in Germany.

Trend in 2G's market share in
German biogas CHP market
2015 – 2019e



Source: 2G, own calculations, German Biogas Association, July 2020

* 2019 value will level off as soon as final figures for total market are available

- End of subsidy programm for more flexibilisation was postponed to July 2021 (instead of November 2020)
 - Annual tender volume 2020 – 2022: 100 MW / 75 Mio. Euro
 - Ø 2G market share: approx. 25 - 30 %
- Annual sales potential for 2G:
approx. 20 Mio. Euro (after expiration of flexibility premium)
- Annual loss in German Biogas:
approx. 20 Mio. Euro, which will be overcompensated by a growing business with natural gas

National hydrogen strategy by German government.

Page 6:

„For example, it is estimated that more than 80 TWh of hydrogen would be needed to make German steel production GHG-neutral by 2050.“

⇒ 80 TWh H₂ require app. 120 TWh of electricity

⇒ German consumption of electricity 2019: app. 500 – 600 TWh

Nationale Wasserstoff-Strategie.

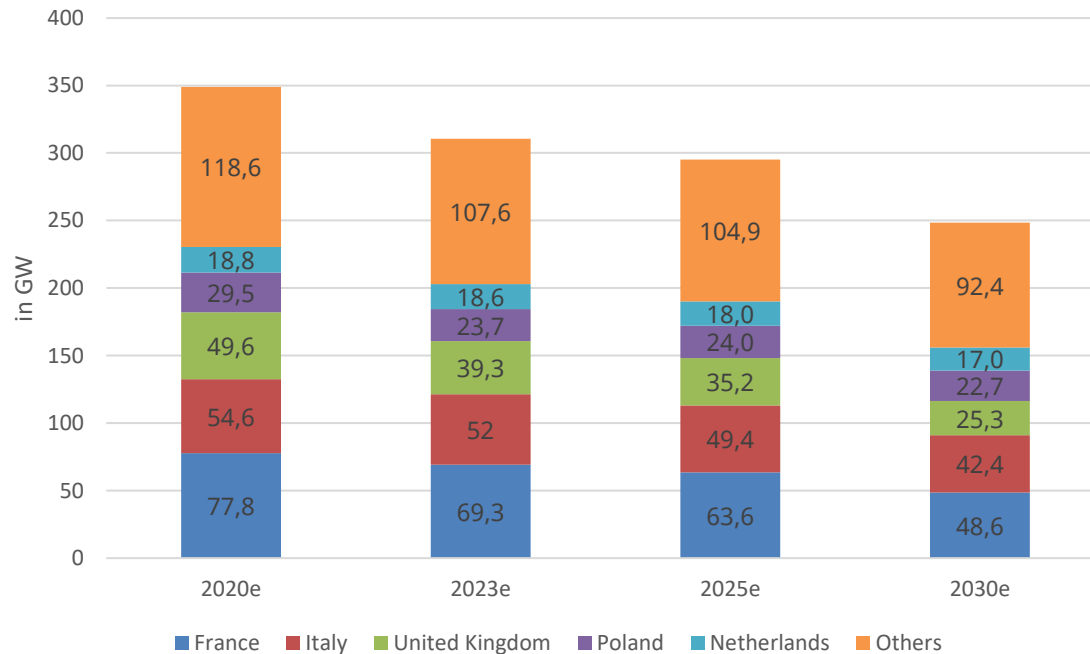
Page 23:

„Measure 19

... the Federal Government is looking at ways of providing funding for ‘hydrogen readiness’ installations under the Combined Heat and Power Act.“

⇒ Only moderate commitment towards H₂ in connection with CHP

Reduction of conventional power plants in Europe.



Quelle: Fraunhofer, TEP, consentec, r2b: Definition und Monitoring der Versorgungssicherheit an europäischen Strommärkten, S. 97; 23. Januar 2019

Bayern plant mit 3.000 zus. KWK-Anlagen.



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2. Was wollen wir in Bayern erreichen? Bayerisches Aktionsprogramm Energie – Stromziele bis 2022:

- Erreichung eines Zubaus von 3.200 MW_p PV-Leistung
- Initiierung von 300 neuen Windkraftanlagen in Bayern
- Initiierung von 3.000 zusätzlichen KWK-Anlagen mit einer Leistung von insgesamt mind. 500 MW_{el}
- Bioenergie: Erhöhung der Stromerzeugung durch Biomasseanlagen auf 10 TWh (+10%)
- Steigerung der Stromerzeugung aus Wasserkraft um 1 TWh

05.03.2020

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