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**Annual Report**

# Multi-year overview of Group key figures

## Results of operations

	2022	2021	2020	2019	2018
	EUR'000	EUR'000	EUR'000	EUR'000	EUR'000
Net sales	312,627	266,348	246,729	236,396	209,783
Change vs. previous year in %	17.4	8.0	4.4	12.7	10.8
Total operating revenue	338,838	268,926	254,206	226,119	221,149
Earnings before interest, tax, depreciation and amortization (EBITDA)	26,634	21,868	20,110	19,168	15,371
Earnings before interest and tax (EBIT)	21,962	17,927	16,446	15,453	11,453
Financial result	-393	-206	-169	-361	-525
Operating result (EBT)	21,657	17,843	16,477	15,277	11,233
<b>Consolidated net income</b>	<b>16,372</b>	<b>12,640</b>	<b>11,957</b>	<b>10,302</b>	<b>7,608</b>
<b>Sales distribution</b>					
Net sales international in %	40	39	38	35	35
Service ratio in %	47	43	38	38	37
<b>Profitability</b>					
EBITDA margin in %	8.5	8.2	8.2	8.1	7.3
EBIT margin in %	7.0	6.7	6.7	6.5	5.5
Return on equity in %	15.1	13.4	15.3	15.0	12.4
Return on total assets in %	10.4	10.6	11.2	11.0	9.2
ROCE <sup>1</sup> in %	20.2	18.9	20.6	21.8	17.9
<b>Order and revenue situation</b>					
Order backlog as of December 31	177,330	152,724	111,249	116,773	131,497
Book-to-bill ratio <sup>2</sup> as of December 31	1.14	1.25	0.97	0.96	1.22
<b>Expense structure</b>					
Cost of materials	224,130	171,265	167,255	146,763	148,739
Materials intensity in %*	66.1	63.7	65.8	64.9	67.3
Personnel costs	57,026	49,357	44,277	38,965	35,310
Average number of employees	842	763	723	649	627
Labor intensity in %*	16.8	18.4	17.4	17.2	16.0
Other operating expenses	35,264	29,738	24,627	23,055	23,190
Cost intensity in %*	10.4	11.1	9.7	10.2	10.5
Depreciation and amortization	4,672	3,941	3,664	3,715	3,918
Income tax	7,083	5,080	4,305	4,802	3,450
Tax ratio <sup>3</sup> in %	32.7	28.5	26.1	31.4	30.7

## Financial position

	2022	2021	2020	2019	2018
	EUR'000	EUR'000	EUR'000	EUR'000	EUR'000
<b>Total assets</b>	<b>211,595</b>	<b>169,702</b>	<b>146,559</b>	<b>140,921</b>	<b>124,796</b>
<b>Asset structure</b>					
Fixed assets	31,893	27,118	26,718	28,182	27,527
Tangible fixed assets to total assets ratio in in %**	12.7	13.3	15.6	17.1	18.3
Current assets	176,227	139,620	117,256	109,921	93,656
Inventory turnover ratio					
Inventories	3.0	3.7	4.1	3.9	4.5
Receivables	5.5	6.1	5.9	6.4	6.6
<b>Capital structure</b>					
Equity	108,615	94,540	78,312	68,522	61,556
Equity ratio in %	51.3	55.7	53.4	48.6	49.3
Share capital	17,940	4,485	4,430	4,430	4,430
Provisions	21,440	17,661	13,387	15,394	17,170
Bank borrowings	6,333	5,316	5,465	10,553	7,290
<b>Working capital<sup>4</sup></b>	<b>77,035</b>	<b>67,858</b>	<b>53,176</b>	<b>42,669</b>	<b>36,487</b>
<b>Net working capital</b>	<b>94,556</b>	<b>72,297</b>	<b>62,883</b>	<b>57,321</b>	<b>45,949</b>
<b>Financing</b>					
Cash inflow/cash outflow from					
operating activities	4,982	8,863	9,785	1,921	4,875
as % of sales	1.6	3.3	4.0	0.8	2.3
investing activities	-9,472	-1,856	-2,104	-5,677	-5,936
financing activities	-1,617	1,617	-7,372	733	-1,382
Investments in plants	9,551	4,851	2,731	4,520	8,255
Free cash flow <sup>5</sup>	-4,569	4,011	7,054	-2,599	-3,380
in % of net sales	-1.5	1.5	2.9	-1.1	-1.6
Dividends	2,243	2,018	1,994	1,994	1,861
Change in liquid assets	-6,107	8,624	309	-3,022	-2,443
Liquidity as of December 31	13,252	19,677	10,992	10,556	13,615

## 2G share

	2022	2021	2020	2019	2018
	EUR	EUR	EUR	EUR	EUR
Number of shares ( $\triangleq$ share capital in EUR)	17,940,000	4,485,000	4,430,000	4,430,000	4,430,000
Share price <sup>6</sup>	23.45	103.2	89.8	44.9	21.9
Earnings per share <sup>9</sup>	0.91	2.82	2.70	2.33	1.72
Dividend per share <sup>9</sup>	0.14 <sup>7</sup>	0.5	0.45	0.45	0.45
Dividend yield in % <sup>6</sup>	0.6	0.5	0.5	1.0	2.1
Payout ratio in % <sup>8</sup>	15.3	17.7	16.7	19.4	26.2
Price-earnings ratio <sup>6</sup>	25.7	36.6	33.3	19.3	12.8
Price-cashflow ratio <sup>6</sup>	84.4	52.2	40.7	103.5	19.9

\* Related to total output | \*\* Related to total assets | <sup>1</sup> EBIT/(Fixed assets + Working capital) | <sup>2</sup> CHP order intake/CHP net sales

<sup>3</sup> Income tax/EBT | <sup>4</sup> Current assets - Current liabilities | <sup>5</sup> Cashflow from operating activities - investments in plants

<sup>6</sup> Based on year-end Xetra closing price | <sup>7</sup> Proposal to the Annual General Meeting | <sup>8</sup> Dividends/Net income | <sup>9</sup> No comparability with previous years' figures due to stock split



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Management Board of 2G Energy AG (from left): Ludger Holtkamp, Christian Grotholt (Chairman), Frank Grewe and Friedrich Pehle.

# Foreword of the Management Board

Dear shareholders,

In the year under review, we generated sales of EUR 312.6 million, representing an increase of more than 17%. Business outside Germany advanced by more than 20%, accounting for a 40% share of sales. We lifted our service business by 28% to around EUR 148 million – meaning that service, which is largely independent of economic cycles and has a strong cash flow, delivers a good 47% of our sales. Thanks to a forward-looking procurement and inventory policy, we have succeeded in ensuring a consistent supply to the production and service business areas. This was one of the main reasons for the significant increase in sales. Overall, this is the seventh consecutive year of higher sales, with an average growth rate since 2015 of just under 11%. We lifted earnings before interest and taxes (EBIT) disproportionately by 23% to EUR 22.0 million. These two key figures are a sustainable indicator of the success of our business model. They reflect resilience from technical and sales diversification, our cost efficiency in production and service, and the contributions of our highly committed employees and partners across the globe. We will continue to work on these strengths with conviction and determination.

In the past year, we expanded our foundation for continuing profitable growth. In a dynamically changing energy industry market, we are focusing on expanding our technology expertise, broadening our service offerings, and building on our production know-how. Our value creation opportunities are designed to be broad-based and sustainable. The essential building blocks are

- the Lead-to-Lean project, through which we are constantly improving cost efficiency in production and increasing output in a cost-degressive manner,
- significant investments in a new, integrated Group IT infrastructure,
- our own engine drive concept in cooperation with Liebherr,
- a decidedly growing partner network – both nationally and internationally – with an increasing share of experienced CHP packagers,
- a spare parts business providing 2G's own premium parts as well as parts for MAN and Liebherr engines, which results in
- an increasing number of third-party systems in service, controlled by 2G's own operating system and last but not least
- a further reduction in our carbon footprint and maintenance of the ISS Prime rating on sustainability of this company.

Technology openness is an integral part of our business strategy. With this understanding, we have been able to successfully position ourselves broadly in the past with our products and service offerings for various gas types – all the way through to hydrogen CHP power plants. In connection with the changes in the utilization profile of CHP plants in some regions, shifting away from baseload operation to flexibly producing plants that predominantly cover the residual load according to demand, other

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technologies for baseload operation are also sparking our interest, such as fuel cell powered CHP plants. In strategic terms, it is important for us to be able to offer our customers adequate, future-proof energy solutions. They should closely accommodate their use cases and guarantee cost-efficient and secure energy supply, while further securing and expanding jobs in production and service for 2G.

With regard to our industrial partners, what counts – apart from our proven technology expertise – is also 2G's production know-how for compact, low-emission electrical systems for power and heat generation. We have developed these capabilities in the course of more than 25 years and have meanwhile achieved sophisticated industrial manufacturing levels. Moreover, together with our partner network, we have established a sales and service system that has anchored the 2G brand worldwide and provides direct access to customers in the energy supply, industrial, commercial, housing, municipal and agricultural sectors. Our service is the constant companion of the sold plant equipment and facilities – whether as digital monitoring instance by way of our I.R.I.S. online platform, or as physical (factory) customer service. Consequently, CHP power plants from 2G are accompanied throughout their life cycle by a coordinated, fine-tuned system with the aim of continuously reducing the total cost of ownership for operators and maintaining exceptionally high availability.

With all due modesty, we may assume that these qualities help to convince our industrial partners to forge long-term business relationships with us. In 2021, we concluded a cooperation

agreement with Liebherr under which 2G will be the exclusive distributor of Liebherr's gas engines for the generation of electricity. In the reporting year, we signed a framework supply agreement with the British company Centrica Solutions. The partnership also extends to Ireland, the Netherlands and Italy. We have concluded a similar agreement with the company Prodeval, the aim of which is to make biomethane production worldwide more efficient and economically attractive harnessing the respective technologies. Thanks to highly efficient biogas CHP plants from 2G, operators are succeeding in meeting the electricity and heat requirements at the respective locations at low costs and reducing CO<sub>2</sub> emissions at the same time.

These examples also illustrate the growing importance of renewable gases as the backbone of the energy transition in combination with CHP plants. In our estimation, hydrogen, biomethane, and biogas are becoming the green fuels of the future for the residual load. The USA, Great Britain, France and Canada have already revised their energy policies significantly in this direction in recent quarters – in connection with subsidy programs and investment aid. We believe that natural gas will nevertheless remain a preferred fuel internationally for a transitional period of time. By comparison with coal, it delivers significant reductions in greenhouse gas emissions as well as high availability. And most importantly, existing and emerging gas infrastructures can also be used for green gases, while at the same time, these infrastructures provide seasonal storage. Hydrogen and biomethane can be fed into the grid and are available days, weeks, or

even months later to be converted back into electricity and heat highly efficiently by CHP plants as required, such as during periods of hazy autumn and winter weather.

In this context, we would like to take a critical look at German politics: it is counterproductive when the Federal Ministry of Economics says that grids should be mothballed because gas would become obsolete. Quite the opposite holds true: the gas networks are the lifelines for a secure energy supply that can be rapidly further decarbonized. After all, it is not at all clear where exactly the secure power plant capacity will come from in the future under windless and cloudy conditions. The Federal Ministry of Economics itself communicated only recently the figures of 17 to 21 GW of new gas-fired power plant capacity that must be connected to the grid by 2031. This will be the only course to maintain the stability of the power system at all times during the planned expansion of renewables. The goal should be the decentralized, highly efficient implementation of this addition of H<sub>2</sub>-ready power plants by way of CHP systems installed where people live and work.

The Federal Ministry (BMWK) should show some courage and commit to innovative, regional structures instead of falling back into the old energy world of large central power plants. And who else will still be wanting to build these megablocks involving lengthy hearing and approval processes? After all, the task of securing the energy supply without nuclear and coal-fired power plants is zooming in on us at a rapid pace. 2G is capable of producing and installing an ordered CHP plant within a six to eight months

period. The CHP industry can manufacture and connect a capacity of six gigawatts of gas-fired power plants to the grid annually. So the right options are already on the table.

We are decidedly open in terms of technology. Within the context of a decentralized, decarbonized energy supply, we apply this equally to the coexistence of cogeneration with photovoltaics, heat pumps and fuel cells. Each technology can contribute its comparative advantages to the particular application in the course of the day and year. It is a well-known fact that the demand for heat is particularly high in the winter months, when heat pumps often provide energy-intensive heat and, at the same time, wind and sun will only provide sufficient power over longer periods of time as an exception. Aggravating this situation, the ever-growing fleet of electric cars will also need to be charged during winter nights.

2G is well positioned to make significant contributions to the approximately 2.5 GW of new gas-fired power plant capacity to be created annually in Germany over the next years. Sufficient production capacities are available at our headquarters in Heek. In parallel, we will be able to serve the expected growing order intake from Germany and abroad across all gas types. We are convinced that we are offering the right solutions for the dynamically changing energy market in the form of efficiently linked and networked technologies. This is because we gear the development of our product portfolio so as to ensure that the technologies are 100% powered by renewable energies and that we can integrate related technologies into

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CHP projects. True to the adage: "The market demands solutions – not individual products".

Our employees in Germany and abroad stand wholeheartedly behind our strategy. With their strong commitment, they are driving CHP technology and our solution offerings forward for our customers under the new slogan of "2G. Better together.". This is crucial for the sustainable and long-term success of the company. In the year under review, all of our teams put in an impressive performance once again, and we would like to thank them most warmly for their exceptional commitment. We

would also like to thank our customers, partners and shareholders, who have accompanied and supported us on our path to further growth in a spirit of trust – and with their constructive criticism. With confidence in our own strength, we will continue to navigate and steer the course of the corporation in a far-sighted, prudent and targeted manner.

Heek, in April 2023

2G Energy AG

Yours sincerely



Christian Grotholt  
Management Board Chairman  
(CEO)



Ludger Holtkamp  
Management Board  
Member



Friedrich Pehle  
Management Board  
Member



Frank Grewe  
Management Board  
Member

# Report by the Supervisory Board

Dear shareholders,

The Supervisory Board of 2G Energy AG undertook the supervisory and advisory duties incumbent upon it under the law, the Articles of Association and the company's rules of procedure with the utmost care in fiscal 2022. It supported the Management Board in an advisory capacity throughout this challenging year in its management of the company and the 2G Group, and monitored its managerial activities. The Supervisory Board is kept regularly, promptly and comprehensively informed by the Management Board, in compliance with its duties of information, both verbally and in writing, on the company's position and performance as well as that of its subsidiaries. The same applies to the key economic, technological, personnel-related and strategic decisions and measures facing the company. To this end, the Supervisory Board received detailed information on relevant transactions from the Management Board. The Management Board also provided documentary material on the net assets, financial position and results of operations on a quarterly basis. The members of the Supervisory Board always had sufficient opportunity to critically examine the reports, as well as the Management Board's proposals for resolutions on a regular basis, debate individual points and make their own suggestions. In this way, the Supervisory Board was involved in key questions of business policy as well as relevant, pending decisions and was able to support the Management Board in its work. This did not require the formation of any committees.

The Supervisory Board Chairman was also in contact with the Management Board outside

the scope of meetings. In addition to current business trends, questions concerning the company's organization, the further development of products and services as well as foreign sales markets were discussed.

## Organization of the Supervisory Board

The members of the Supervisory Board in the year under review included Dr. Lukas Lenz (Chairman), Dr. Jürgen Vutz (Deputy Chairman) and Prof. Dr. Christof Wetter. The Supervisory Board of 2G Energy AG comprises three members – it therefore serves little purpose to form separate committees within the Board. This also applies to an audit committee whose duties the plenary Supervisory Board continues to perform.

## Supervisory Board consultations and resolutions

The Supervisory Board held five meetings in fiscal 2022, on February 22, April 21, June 2, September 21 and December 13. All the meetings were held in the form of physical meetings and they were attended by all members of the Board.

The Supervisory Board discussed with the Management Board all transactions requiring its approval pursuant to the law and the company's bylaws, and reviewed and approved them unanimously in all cases. At the meetings, the Supervisory Board utilized the reports and documents submitted by the Management Board, including those pursuant to Section 90 (1) Nos. 1 to 4 of the German Stock Corporation Act (AktG), to examine the company's business and financial position, its profitability,

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operational and strategic development, its business divisions and its subsidiaries both in Germany and abroad as well as its human resources policy. The Supervisory Board also asked to be briefed on action taken to defend against hacker attacks and certification of the company's IT systems in this regard to the ISO 27001 standard (IT basic protection). The Supervisory Board also discussed the further development of sales and distribution abroad, the Lead-to-Lean project, the digitization of CHP systems as well as service activities, technological developments and innovations as well as the achievement of targets in relation to the annual budget. The Supervisory Board requested reports on important specific questions relating to the company, its risk position as well as its investment and expansion plans at its Heek facility, which it proceeded to discuss. The Supervisory Board also received ongoing information on the further handling of the COVID-19 pandemic and the potential impact of the Russian invasion of Ukraine on the course of business.

The following topics were discussed in detail at the individual meetings:

At the Supervisory Board meeting on February 22, 2022, the Board discussed strategic questions regarding sales and distribution at home and abroad.

At the Supervisory Board meeting on April 21, 2022, the Board discussed the annual financial statements, the Group management report and the auditor's reports. Two representatives of the auditors and the Management Board were available to the Supervisory Board to respond

to questions. All questions from the Supervisory Board were answered comprehensively and to its satisfaction. After diligently examining the above-mentioned documentation submitted to it, the Supervisory Board raised no objections and therefore unanimously approved the 2021 annual financial statements as well as the consolidated financial statements for the 2021 financial year. The annual financial statements were thus adopted. After a short discussion, the Supervisory Board concurred with the Management Board's proposal for the appropriation of profits for submission to the Annual General Meeting.

Further items on the agenda of the Supervisory Board meeting concerned proposals for resolutions to be presented to the 2022 Annual General Meeting to be held as a physical event again for the first time since 2019. The Supervisory Board granted the Management Board its unanimous approval for transactions that required its approval. Furthermore, the Supervisory Board approved the declaration of compliance with the German Corporate Governance Code voluntarily submitted by the Management and Supervisory Boards. The Supervisory Board also deliberated without the attendance of the Management Board on its own work, the imminent extension of Management Board mandates, Management Board compensation as well as the quality of the audit.

On June 2, 2022, the Management Board reported to the Supervisory Board on the course of business and on new order intake trends in the first half of the year, and provided an outlook on the expected developments for

the year as a whole, including in relation to price movements for the most important input factors and the sales situation. The Board also agreed to the acquisition of a plot of land in the Heek industrial estate.

At the Supervisory Board meeting on September 21, 2022, the Management Board explained the results of the half-year financial statements, business progress in the third and fourth quarters, and the company's liquidity trends. The boards also discussed the planning for the coming years relating to investments, profit and loss, sales revenue and earnings. The agenda also covered reports on international sales and marketing, audit planning and plant structure planning.

On December 13, 2022, the Supervisory Board discussed setting up a sales and service company in the Netherlands with the Management Board. The Supervisory Board agreed unanimously to setting up the company. The Board also discussed the implementation of a new software architecture for the 2G Group and requested information from the Management Board on various M&A options in the sales and service area. The Supervisory Board and Management Board inspected various stations in production at the Heek facility, focusing on the implementation of industrial processes. Without the Management Board, the Supervisory Board subsequently discussed the remuneration structure for members of the Management Board among other topics.

The Supervisory Board decided unanimously to once again extend the contracts of Management Board members, Christian Grotholt and Ludger

Holtkamp, for three years up to July 31, 2025. The Board also voted unanimously on December 20, 2022 to extend the tenure of Frank Grewe, which expires on June 30, 2023, by a further three years until June 30, 2026. At the start of 2023, the Board also came to the unanimous decision to extend the tenure of Friedrich Pehle, which expires on November 30, 2023, until December 31, 2027. In this context, the employment contracts of Mr Grewe and Mr Pehle were revised and the variable portion of their management board compensation split between short-term and long-term components. The aim is to adjust the employment contracts of Mr Grotholt and Mr Holtkamp along similar lines.

No conflicts of interest arose among members of the Supervisory Board during the year under review.

### **Annual financial statements and consolidated financial statements for fiscal 2022**

In accordance with statutory provisions, PricewaterhouseCoopers AG, Wirtschaftsprüfungsgesellschaft, Osnabrück, was elected as the auditor by the Annual General Meeting on June 3, 2022.

The Management Board prepared the annual financial statements, the consolidated statements and the Group management report for 2G Energy AG for the financial year from January 1 to December 31, 2022, in accordance with the provisions of the German Commercial Code (HGB). The auditor audited the annual financial statements, the consolidated financial statements and Group management report of 2G Energy AG for the 2022 financial year,

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including the financial accounting, awarding them unqualified audit certificates. With regard to the 2022 financial year, the audit focused on the measurement of participations and inventories, the accounting and measurement of inventories and provisions as well as the accrual of sales revenues as of the reporting date.

The separate financial statements, consolidated financial statements and the Group management report, as well as the related auditors' reports, were submitted to all Supervisory Board members in good time before the financial accounts meeting. At the Supervisory Board meeting on April 27, 2023, the auditor reported on the main audit findings and explained them to the Supervisory Board, providing comprehensive answers to the Supervisory Board.

The Supervisory Board concurred with the audit reports. Following the conclusive result of its own mandatory review, the Supervisory Board approved the annual financial statements, the consolidated financial statements and the Group management report. The separate annual financial statements of 2G Energy AG pursuant to Section 172 of the German Stock Corporation Act (AktG) have thus been adopted.

The Supervisory Board concurs with the Management Board's proposal concerning the appropriation of net income to distribute a dividend in an amount of EUR 2,511,600.00, equivalent to EUR 0.14 per share from the unappropriated profit of EUR 12,434,835.77, and to transfer the remaining unappropriated profit of EUR 9,923,235.77 to other retained earnings.

The Supervisory Board would like to thank the Management Board, the managing directors of the subsidiaries and all employees of the 2G Group for their loyalty, vigorous commitment and constructive collaboration. Supported and advanced by this dedicated teamwork, 2G met the exceptional challenges of the reporting year with great self-assurance and maintained the company's further successful progress.

Heek, April 27, 2023

Supervisory Board



Dr. Lukas Lenz  
Supervisory Board Chairman

# 2G stock shows relative strength in weak market environment

In a capital market environment marked by economic and geopolitical uncertainty, the 2G Energy AG stock was only partially able to decouple from the prevailing downward trend on the markets in the reporting year. By contrast, the stock outperformed the key indices.

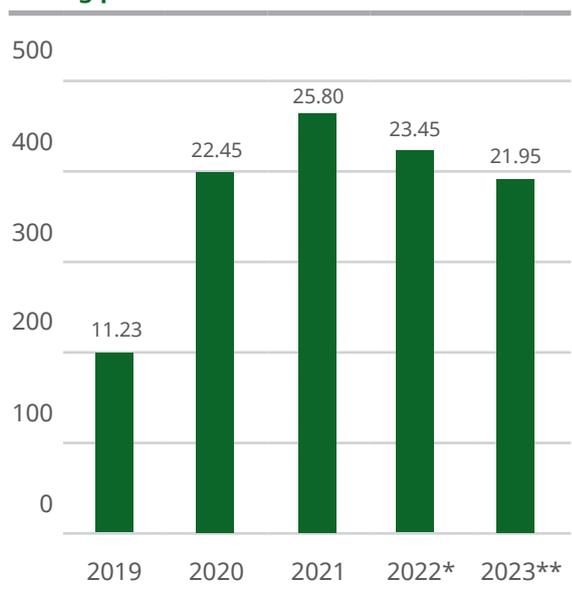
2G shares started the 2022 trading year at a price of EUR 27.15. They reached their high for the year at the beginning of April at a price of EUR 32.15. The price then dropped steadily, reaching its low for the year at EUR 18.80 by the end of the third quarter, in a generally weak market environment. Subsequently, the bulls reasserted themselves and the 2G stock climbed continuously in the fourth quarter, finishing the year on December 30 at a price of EUR 23.45. Overall, therefore, the 2G Energy AG stock fell by 13.6% in the reporting year (previous year: +10.5%).

And this depreciation in spite of the fact that the news communicated with regard to the company's short-term and medium-term profit and growth targets offered genuine grounds for optimism. For example, 2G repeatedly confirmed its earnings forecast in spite of price rises on the procurement front. The same applied to sales expectations that were buoyed by a high order intake and consistently strong order book. Not least, 2G's service business continued to show very positive developments – regardless of market volatility.

However, the markets gave up ground across the board in 2022, driven by economic concerns, the effects of stubbornly high inflation, rising interest rates, high energy prices, China's zero-COVID policy and Russia's war on Ukraine. Technology

stocks, in particular, previously so highly valued, were crushed on a global scale. The Nasdaq 100 lost 33.0% (previous year: +26.6%), the MSCI World Index relinquished 17.7% (+22.4%). In Germany, the DAX40 fell 13.8% (+15.7%). The Scale30, to which 2G belongs, tumbled by a total of 31.9% (+4.3%). The specific index for 2G's sector, the DAXsector All Industrial, was down by 14.6% (+20.0%) while the DAXsubsector All Renewable Energies advanced by 12.7% (+4.7%).

**Market capitalization and closing price in EUR** EUR millions



\* Weighted share capital 2021: EUR 17,915,892  
 \*\* XETRA closing price March 16, 2023, stock capital 17,940,000 Euro

Market capitalization 2019 to 2022 to December 31, 2023 as of March 16, XETRA closing prices

With share capital of EUR 17,940,000.00, 2G Energy AG's market capitalization dropped from EUR 487.1 million to EUR 420.7 million as of the end of 2022. In mid-2022, the share capital was increased by EUR 13,455,000.00 from EUR 4,485,000.00 to EUR 17,940,000.00 as part of a

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capital increase from company funds and a share split at a ratio of 1:3 was carried out. All details of the 2G stock price and any metrics relating to it, which are mentioned both in the text and in the diagrams, have been adjusted for previous years to take account of the share split. We have provided further information on this on page 7 of our 2022 half-year report. 2G did not implement any further capital measures in the reporting period.

### 2G stock liquidity at a good level

In connection with the weak markets in the reporting year, the trading liquidity of the 2G stock declined compared with the previous year. Average daily volumes on the XETRA and Tradedate trading platforms as well as on German regional stock exchanges totaled around 38,000 shares (previous year: around 55,500 shares).

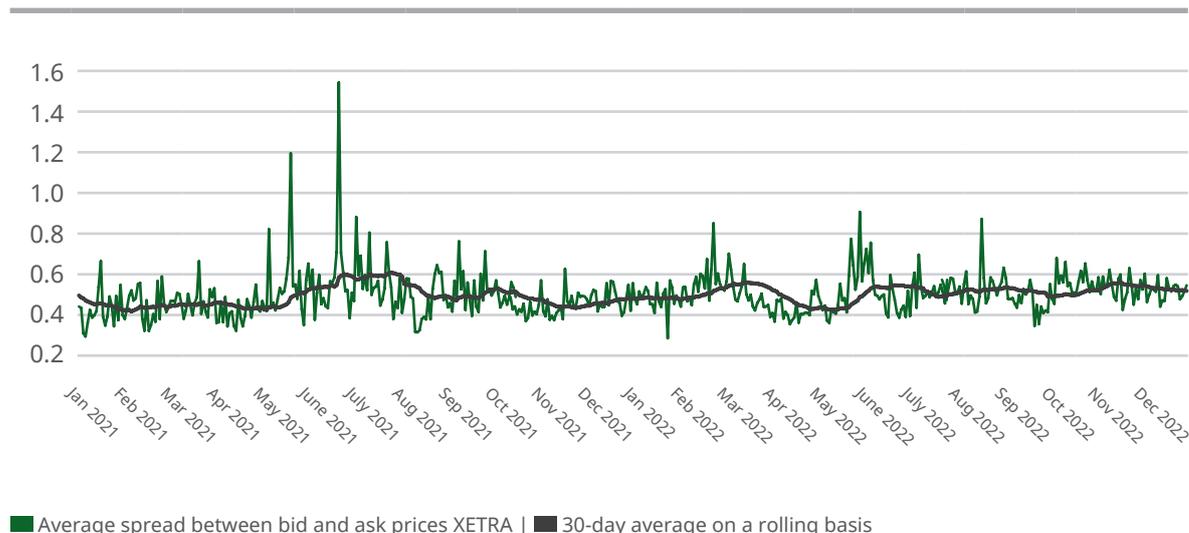
Around 68% (64%) of 2G share turnover was traded on XETRA. The average spread between bid and ask prices, as illustrated in the diagram below for 2021 to 2022, stabilized at a figure of about 0.5%. This consistently positive trading environment continues to make the 2G stock attractive for investors.

### Intensive Investor Relations work

Dialog with the capital market and continuous, transparent reporting on relevant corporate events and developments remained important guiding principles for the investor relations work of 2G Energy AG in 2022. The aim is not only to further strengthen trust and confidence in the company's financial and technological profile, but also to create the transparency required to enable analysts, shareholders and potential investors to appraise and evaluate the company

### Trend in average spreads between bid and ask prices 2021 to 2022

in %



Trend in average spreads between bid and ask prices 2021 to 2022 in %.  
Source: Pareto Securities, 2G calculations, January 2023

on an understandable and adequate basis. 2G endeavors to explain its business model, the international CHP market as well as the company's growth and earnings potential within a dynamically evolving energy market to capital market participants in a comprehensible manner.

Management took the opportunity afforded by investor roadshows and conferences – frequently conducted as physical events again as the coronavirus pandemic subsided – to conduct individual conversations or group discussions and respond to questions from investors and financial analysts on 2G Energy AG's business strategy and growth. The number of conversations held with investors increased significantly again in 2022 with the multifaceted changes in the energy markets matched by 2G's product and service solutions that we believe constitute an appropriate response. The main topics of conversation with institutional and private investors centered on the effects of the significant rises in energy prices and the gas supply situation as well as the role of CHP systems for the security of supply. The Management Board presented the 2G business model and its products and services, explaining its technological development services such as hydrogen technology and outlining the relevant markets and sales strategies for Germany and abroad.

### Analysts optimistic for business model and price target

Warburg, Metzler, First Berlin und SMC Research are four institutes that continuously monitor and evaluate 2G's development and performance. All of their analysts identified further upside

potential for the 2G stock on the basis of their valuation models, with all four institutes issuing "Buy" recommendations with price targets above EUR 30.

### Dividend increase to 14 cents per share proposed

2G Energy AG's aim is to allow its shareholders to participate continuously in the company's success and profitability through a stable dividend over the long term. At the same time, the company's financial and innovative strength is to be maintained and strengthened for further growth. Value and growth-oriented investors are thereby set to benefit in the long term from the continuous appreciation of the company's value.

Based on the unappropriated profit generated in the 2022 financial year, the Management Board and Supervisory Board have authorized a proposal to the Ordinary AGM to be held on June 13, 2023 to approve a dividend of 14 euro cents per share for the past financial year, an increase of 12% over the previous year.

### Dividends for the financial years 2018 to 2022\*



\* Proposal to the Annual General Meeting

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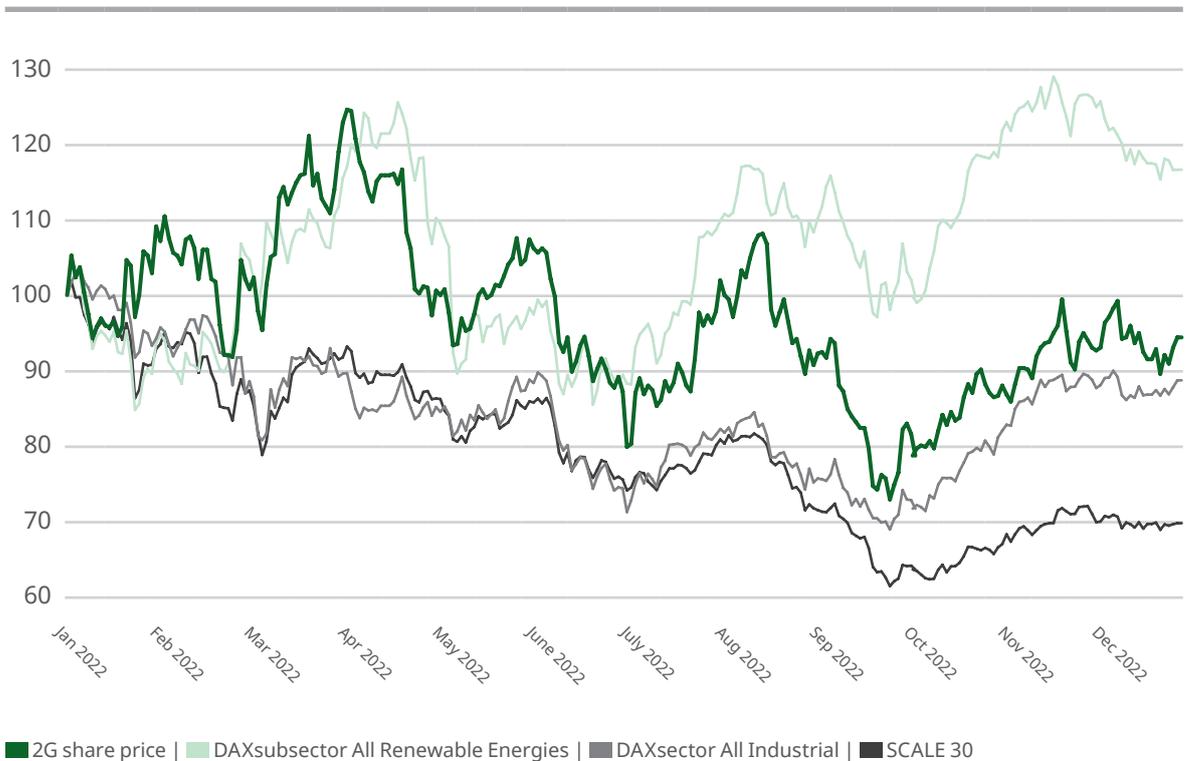
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Based on the 2022 year-end closing price of EUR 23.45, this dividend would correspond to a yield of 0.6% (previous year: 0.48%) and a payout ratio of 15.3% (previous year: 17.7%).

**2G share price performance and comparative indexes**  
**January 1, 2020 to December 31, 2022 (indexed)**

in %



2G share price performance and comparative indexes from January 1, 2022 to December 31, 2022 (indexed) in %.  
 Source: Pareto Securities, 2G calculations, January 2023

# Sustainability report

At 2G, we regard sustainability as responsible corporate action encompassing a long-term perspective. This includes the dimensions of environment and climate, the principles of good corporate governance, social responsibility, as well as taking account of the interests of the public, shareholders and customers. Our actions today are geared to unfold a lasting positive impact in the future.

We are aware that sustainable action strengthens the economic value of our company, promotes technological innovations and product developments, enhances the quality and reliability of our products, promotes the motivation of all employees and enables our customers to contribute to improved resource conservation and more climate protection.

Our ambition is to harness such an approach in order to generate growing demand for our products, with potential customers being convinced of the quality and future viability of 2G as a company and its products in relation to other suppliers' products. This can translate into market share gains and rising profit margins for 2G. Consequently, we endeavor to incorporate sustainability into all our business decisions, while weighing up the related risks and opportunities. Sustainability forms as much a part of the 2G brand as our claim to be the global technology leader for gas-operated CHP systems and (energy) solutions. Consequently, 2G aims to be an industry leader in terms of sustainability and new technologies. We will not rest on our laurels simply because the technological standard of our products and services is already very high and our power plants are highly efficient, achieving rates of 90%.

2G recognizes the need for global climate action and is committed to the 2015 Paris Agreement target of limiting temperature increases to 1.5 °C in relation to pre-industrial levels as far as possible. As a company, we have a responsibility to further develop our products by enhancing efficiency, reducing greenhouse gas emissions and lowering the total cost of ownership in such a manner that our products are able to make an increasing contribution to such ambitions. From a customer perspective, it is already true today that protecting the climate with 2G's CHP plants pays off as the systems are economically highly attractive. The higher energy prices rise, the more this holds true.

Equally, in the production process and in administration, we strive to make our contribution as a company and as a social community to reducing greenhouse gas emissions through the utilization of renewable energies and resource conservation. These endeavors are supported by our ISO certifications for quality, information, energy and environmental management that have been regularly confirmed over many years. In order to tap further potential for improvement in these areas, the Energy and Environment Team, consisting of one Management Board member and the Head of Management Systems and representatives from the Production, Sales, Procurement and Energy Technology Departments, meets once every quarter.

As a leading company for gas-fired CHP plants, 2G is working on effectively reducing its Scope 1, Scope 2 and Scope 3 emissions. We commissioned Fokus Zukunft GmbH & Co. KG to measure the carbon footprint for the major parts of the company at our headquarters in Heek. With this

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survey of the status quo for 2021, we created the basis for our operating spheres of action for greater climate protection and sustainability. We have already commissioned a report on the footprint for 2022. The greenhouse gas footprint presented shows emissions directly related to 2G's own value added. Overall, 2G emitted 5,813 tons of CO<sub>2</sub>e. This equates to a value of 7.3 tons of CO<sub>2</sub>e per employee. Further details can be found on pages 24 and 25.

We have made our voluntary commitment to sustainability beyond the confines of 2G externally visible and binding by joining the United Nations Global Compact. We will make our annual progress report available on 2G's website by June 30.



As a listed company, we are in the focus of institutional investors who base their investment decisions on ESG (environment, social, governance) criteria. In many cases, the data for such ESG criteria are obtained from service providers. Institutional Shareholder Services Inc. (ISS) is one such service provider. 2G was again awarded Prime Status by ISS in the year under review, placing it among the top 20% in the relevant "Industry" peer group.

### **Sustainability embedded in CHP system development and service**

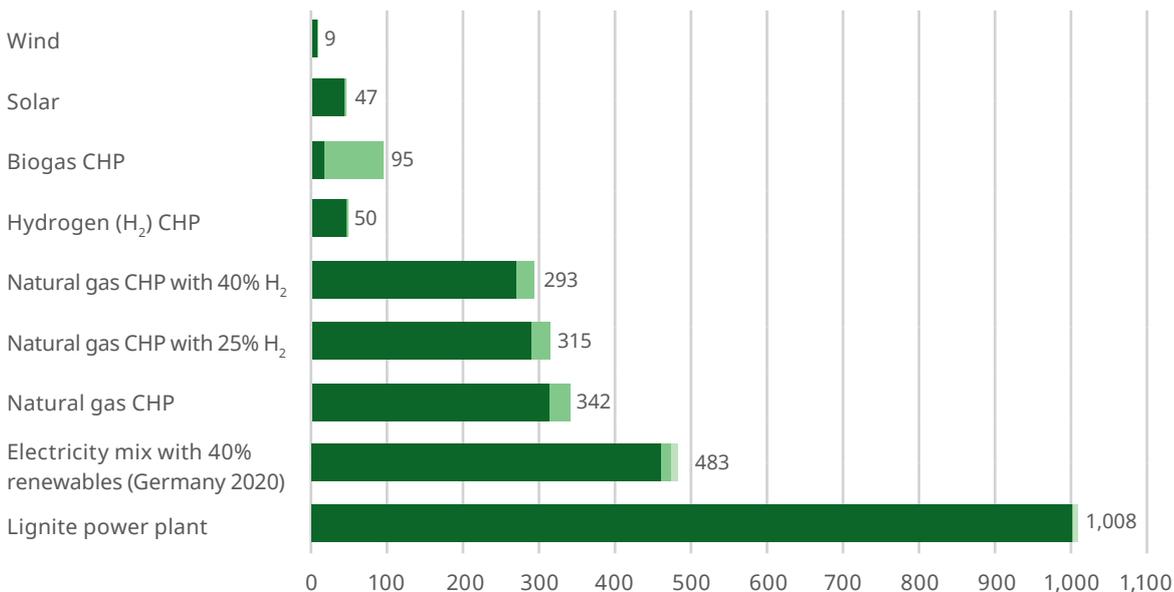
As an international manufacturer of gas-fired cogeneration systems, 2G aims to be a technology leader and thereby continuously reduce the environmental footprint of its systems and services. The cogeneration of electrical and thermal energy makes CHP technology more efficient and much more climate compatible than conventional energy production methods – achieving efficiencies of 90% and above. Compared to conventional power and heat generation, it saves at least 25% of primary energy in a resource-conserving manner. By comparison with coal-fired power stations, carbon emissions pollution is reduced by 40% to 60%. CHP units fueled by natural gas already produce around two thirds fewer greenhouse gas emissions than conventional power generation from coal, while biogas-driven CHPs save up to 90%. Ultimately, when hydrogen is harnessed, around 95% of greenhouse gas emissions will be eliminated.

### **CHP plants are the backbone of the energy turnaround**

As the backbone technology for the energy transition, natural gas-fired CHP systems are indispensable for secure supplies as complementaries to fluctuating generators depending on wind and solar energy. They provide highly flexible and demand-driven residual load under windless and clouded over conditions. In addition, decentralized CHP systems are rotating masses in the electrical system and secure grid frequency. This is particularly important for sensitive grid stability as the shutdown of nuclear and coal-fired power

## Greenhouse gas emissions of different types of electricity generation incl. upstream chain emissions

in g CO<sub>2</sub> eq/kWh<sub>el</sub>



■ CO<sub>2</sub> (carbon dioxide) | ■ CH<sub>4</sub> as CO<sub>2</sub> equivalent (methane) | ■ N<sub>2</sub>O as CO<sub>2</sub> equivalent (nitrous oxide)

Greenhouse gas emissions of different types of electricity generation incl. upstream emissions in grams of CO<sub>2</sub> equivalent per kWh of electricity (g CO<sub>2</sub> eq per kWh<sub>el</sub>); the bar "Electricity mix with 40% renewables (Germany 2020)" shows the amount of emissions released for electricity generation in Germany with a share of 40% renewables in 2020. Source: 2G Energy AG, 2021

plants progresses. Last but not least, all newly delivered 2G CHP systems in the 100 kW to 1 MW power range can be converted to operate with 100% hydrogen as part of regular maintenance. The cost of the conversion amounts to between 10 and 15% of the new purchase value. For this reason, today they already represent a secure investment in climate-neutral energy supplies.

With the development of our innovative CHP series, we factor economic, environmental and social criteria into our choice of materials, service and maintenance optimization, useful life, immissions and emissions, recyclability, and

lifecycle management for our systems. This also includes the CHP systems' compact design and modular construction, repowering options, the reduction of oil consumption and of noise and exhaust emissions, as well as software-based remote operational control and integration into existing infrastructure.

We are systematically advancing system service digitalization, including our I.R.I.S. online platform (offering predictive maintenance, among other features), which we developed in-house, as well as augmented reality applications. This results in more efficient services, a

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considerable extension in the intervals between maintenance work and thereby overall to a reduction in service and maintenance costs and the increased availability of the CHP systems.

Where product development and product equipment are concerned, 2G consistently relies on durable materials. The products used are then reprocessed and redeployed in the same function at the end of their application cycle. Ideally, this occurs more than once. Pursuing this “long-life” approach, 2G has established resource-conserving reconditioning for central components such as motors and generators as well as for classic wearing parts such as filters, spark plugs and electronic components. We are able to offer our customers attractive prices with such refit systems and reduce raw material consumption in the process.

### R&D boosts system efficiency

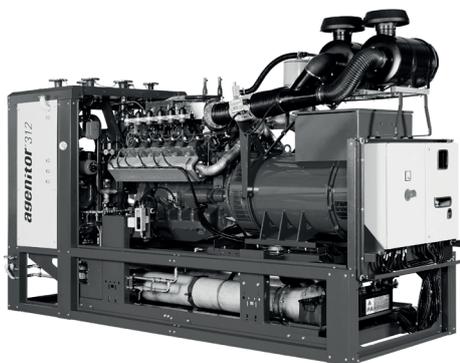
Our in-house research and development department comprising 31 members of staff has been continuously optimizing engine technology, peripheral equipment and the integration of software and hardware into CHP systems and service operations and functions. One outstanding example is certainly the development of hydrogen-fueled CHP systems on the basis of the standard natural gas CHP system. Further salient examples are the my.2-g.com and I.R.I.S. platforms developed in-house.

The design of a new 16-cylinder unit, the avus 800plus based on a Liebherr engine, was a strong focus in the reporting year. The concept builds on the avus 1000plus with the result that we were

## 2G Repowering

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- From agenitor 312 to agenitor 412
- From filius R06 to agenitor 404a
- Exchange of the engine – generator and periphery remain the same
- Modification in Heek



able to use many of the same components. The avus 800plus closes the performance gap in our product range between the avus 550plus and the avus 1000plus. We completely redeveloped the g-box 50plus as a biogas version within the space of a mere three months. This system type is primarily intended to meet the rising demand for self-sufficiency in biogas systems.

In terms of engine optimization, we focused on spark plug service life through improved control. More effective provision of ignition energy and improved knock control firstly enable the targeted increase in performance to be achieved and secondly lead to more even and lower wear on the main parts subject to wear and tear. Overall, with this development progress, we are able to deliver engines with better control and a performance increase of over 10% in connection with low emissions and the customary long component service life.

In the reporting year, we participated in the Federal Ministry for Economic Affairs and Climate Action's CH2P research project to develop technology solutions for hydrogen CHP plants which is being funded to the tune of EUR 1.5 million. The aim of our work is to enhance the power density by means of three approaches: turbo charging with wastegate control, new combustion chamber and piston design, valve timings and camshaft design. The project is being prepared together with nine partners from research and academia with the aim of providing next generation combined heat and power systems in order to produce electricity and heat highly efficiently and affordably from hydrogen.

The fact that our research and development work has been successful and we have been able to translate the fruits of our labor into our CHP series within a very short space of time is reflected in the awards which we once again garnered in the reporting year. 2G carried off two prizes in the COGEN Europe Recognition Awards: winner in the "Technology and Innovation" category and winner in the "Best individual Contribution to the European Market Development of CHP Systems" category. At regional level, the Münsterland Innovation Prize is awarded to companies that enrich the region with groundbreaking ideas, smart developments and sustainable progress. 2G received the coveted prize in the "Industry" category for its hydrogen CHP systems.

**Certified in accordance with IT, quality, environmental and energy management standards**

We continuously review and improve our processes as part of the integrated management system (IMS). The central companies are therefore certified to the ISO 9001 (quality), ISO 14001 (environment), ISO 27001 (IT security) and ISO 50001 (energy) standards. The focus is on identifying and implementing measures to reduce environmental impacts, complying with legal obligations and increasing employees' environmental awareness. With its energy management, 2G is committing to continually improving its energy-related performance and to more efficient use of the energy sources used. In addition, 2G successfully carried out the certification of its information security with the ISO 27001 standard in the year under review. This is the leading international standard for information security management systems. In

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this way, 2G is meeting the growing challenges of a digitized world. The standard has three basic objectives at its core: confidentiality, availability and integrity. On this basis, we are prioritizing the further optimization of our processes and structures.

### 2G's CO<sub>2</sub> footprint drawn up for the first time

2G commissioned a report on its carbon footprint for the first time. The Heek-based companies,

2G Energy AG, 2G Energietechnik GmbH and 2G International GmbH, which are responsible for about two thirds of group sales, were all included. The greenhouse gas footprint shows emissions directly related to the company's own value added (Scope 1 to 3). The aim was to present the emissions by their origin and create a foundation for strategic spheres of action for climate protection and sustainability. As shown in the table below, 2G emitted 5,813 tons of CO<sub>2</sub>e in 2021, equating to 7.3 tons of CO<sub>2</sub>e per employee.

### Overall result CO<sub>2</sub> balances 2021

	Tons of CO <sub>2</sub> e	in %
<b>Scope 1</b>		
Heat consumption	1,002.8	17.6
Fuel consumption	1,984.1	34.1
Direct emissions from industrial processes	0.0	0.0
<b>Scope 2</b>		
Electricity consumption	264.3	4.2
<b>Partial result Scope 1 and 2</b>	<b>3,253.2</b>	<b>55.9</b>
Per million euros of sales	12.2	
<b>Scope 3</b>		
Upstream energy-related emissions	611.0	10.5
Business travel, overnight hotel stays	523.6	9.0
Travel to work, home office	751.3	12.9
Water, waste generated in the company	468.7	8.1
Consumables, production	157.0	2.7
Other	48.0	0.8
<b>Partial result Scope 3</b>	<b>2,559.6</b>	<b>44.0</b>
<b>Emissions company</b>	<b>2,812.8</b>	
<b>Emissions per employee</b>	<b>7.3</b>	

Source: 2G Energy AG CO<sub>2</sub> footprint 2021, Fokus Zukunft GmbH & Co. KG, January 25, 2023

## 2G energy supply at the Heek site 2022/2023



The largest energy sources in the company are fuels with around 50%, followed by natural gas with 35% and electricity with a 15% share. These are the largest levers for 2G to save GHG emissions. 2G's Scope 1 and Scope 2 emissions account for around 56% of the company's contribution to the greenhouse effect. The remaining contribution comes from Scope 3 emissions in the company's upstream and downstream value chain.

From 2G's perspective, major improvements were achieved, primarily in the consumption of heat and electricity. For example, in 2018 the purchase of fuel for generating heat was converted from natural gas to eco-friendly gas and buffer storage fed from the CHP pilot operation was installed. Following the installation of a 595 kWp photovoltaic system on the company's buildings in 2022/23, 30% of its electricity is now covered by renewable energy. In addition, 2G has invested in energy efficiency measures such as new lighting concepts in its production

buildings. Spoiler alert: in-house production from renewable energies will be supplemented in the current financial year by the use of green hydrogen. The pilot plant will generate hydrogen via the PV system by means of an electrolyzer (16.8 kW) and transfer it into interim storage. If necessary, a fuel cell (5 kW) can be used to generate electricity and heat (CHP) to meet needs. The fuel consumption of our vehicle fleet will tend to decline due to the use of more electric vehicles. At the same time, 2G expanded its range of charging stations at its facility from 12 to 18 in the reporting year.

The reduction target for Scope 1 and 2 emissions of 2,570 tons of CO<sub>2</sub>e recommended by Fokus Energie for a 5-year time horizon by 2026 – in the course of achieving the 1.5 degree target – will be met by 2G ahead of time by implementing the above-mentioned measures, on its own estimates. That would correspond to a reduction of 21% within one year.

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In terms of Scope 3 emissions, we will be able to show lower emissions through better data registration for business travel/hotel overnights and commutes to work/home office. In addition, we are using various initiatives to make employees aware of the need to design their business travel to be climate-friendly such as Jobrad leasing offers (bicycles). As part of environmental management, our aim is to constantly reduce the occurrence of wastewater and waste as well as consumables with the result that here too, measurable reductions in emissions are to be expected. All waste and residual materials are naturally disposed of in accordance with strict statutory requirements or sent to a regulated recycling facility. To date, however, no specific reduction target has been set for Scope 3 emissions.

### **2G documents good corporate governance**

Good corporate governance forms the basis of 2G's business activities. In the year under review, the Supervisory and Management boards issued, on a voluntary basis, a declaration of compliance with the German Corporate Governance Code (DCGK) pursuant to Section 161 of the German Stock Corporation Act (AktG). With this declaration, the Management and Supervisory boards underscore their commitment to securing the company as a going concern and to its sustainable value creation in the interests of the company, its shareholders and the public, in accordance with the principles of the social market economy. The Corporate Governance Report, together with several accompanying documents, is published on our website at [www.2-g.com](http://www.2-g.com) in the Investor Relations area.

### **Social commitment**

2G perceives itself as a responsible member of society. Consequently, we play an active role regionally, and promote cultural and social projects. We support local sports associations and social facilities within the Münsterland region, for example. In the reporting year, 2G sent three direct truckloads with its own truck with donations from the employees for Ukraine. 2G also supports employees in their social engagement, such as through flexible working time regulations. We also promote knowledge exchange in the academic and scientific community. For example, we offer students the opportunity to write their seminar papers, bachelor's or master's theses within the framework of 2G topics.

Our social commitment also includes lobbying on the political stage for the design of a decentralized, renewable energy supply. We constantly highlight the vital and essential role that CHP plants are set to play, presenting convincing arguments to sway political decision-makers and industry associations on local, national and EU levels. In pursuing this course, 2G is making a constructive contribution to educating people about the technology and possibilities of cogeneration. The aim is for CHP systems to be recognized in a climate-neutral heat and power system as secure, decentralized power plants and acknowledged by the wider public. Company representatives are involved in various initiatives promoting the use of hydrogen, in initiatives advancing CHP systems, and in political work to decarbonize the energy supply. For example, 2G is represented in the State Association for Renewable Energy NRW

(LEE), in the Federal Association for Renewable Energy (BEE), in COGEN Europe and in the Federal Association for Combined Heat and Power. One visible expression of this commitment is the annual policymaker cycle ride under the heading of “Energiewende erFAHREN” (Experiencing/ Riding the Energy Turnaround). In 2022, the route led into the state capital of Düsseldorf prior to the state parliament elections for North Rhine Westphalia.

**Compliance culture reinforced by whistleblower system**

A uniform corporate culture with shared values is crucially important in unleashing teams’ potential to generate and add value within the company. 2G

promotes precisely such a culture. The 2G Group has had a Code of Conduct in place since 2015. In this Code, 2G makes a clear commitment to comply with all laws and regulations in place. The Code of Conduct defines the values and principles for our business activities as well as the way in which we treat each other and our customers. The Code’s contents include a ban on discrimination, protection against corruption, fair competition, the rights of all employees to fair treatment, and the handling of insider information. The Code of Conduct and the corporate guidelines contain binding compliance regulations that are valid across the entire Group. Within this regulatory framework, reinforcing the compliance culture is an important element of our corporate culture. 2G strives to detect potential misconduct in the company quickly, to investigate it and to take the necessary remedial action. 2G employees and external parties such as contractors, service providers or business partners can contact a whistleblower system introduced in the reporting



“Energiewende erFAHREN” in Düsseldorf’s state parliament in the run-up to the state elections in North Rhine-Westphalia.

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year – also anonymously. It corresponds to the EU Whistleblower Directive EU 2019/1937. It is run by our external Data Protection Officer and can be accessed via 2G’s website. A compliance officer supports the Group-wide implementation of the Code of Conduct and refines it.

In 2020, the 2G Code of Conduct was expanded to include a separate Code for suppliers, which defines 2G’s principles and requirements for its suppliers of goods and services regarding their responsibility for people and the environment. These include, among other issues and topics, the respect for the fundamental rights of employees, the prohibition of child labor, the freedom of association, as well as the prohibition of corruption and bribery, and the resource-conserving use of water and energy and the avoidance of waste.

### **2G is an attractive employer**

2G’s employees are the driving force behind the company’s success. Nearly 900 employees at home and abroad are united behind the new slogan “2G. Better together”. This togetherness brand stimulates their readiness to work together across all levels and facilities. It promotes new approaches to teamwork, permeating the organization internally but also exerting its influence externally on customers and partners. Motivated, successful employees are crucial to the company’s long-term success and performance. The Group Human Resources department reports directly to the Chief Financial Officer and coordinates all human resources issues. These include a sustainable staffing policy, attractive, flexible and fair working conditions, the training of young technical staff, and internal and external

further training for staff as well as intercultural and technical communication within the Group and with the network of partners.



Our success as a global company is founded on a corporate culture that advocates and champions self-motivation, satisfaction, continuing professional development, health and diversity of our workforce. The aim is to achieve a high level of employee identification with our products, after-sales services and corporate culture. We strive to create an appreciative working atmosphere with meaningful work content and a diverse, stimulating and safe work environment. We are confident that 2G is an attractive employer with good prospects.

2G provides its employees with various voluntary social benefits and assistance such as special payments and days off for the birth of children, followed by subsidies of up to 50% for childcare costs. The company also promotes health and fitness among its employees. For example, all employees at the German sites have the option of obtaining company bicycles through 2G via a salary conversion scheme, with 2G paying the related insurance installments. If employees wish to join a fitness studio forming part of the qualitrain association, 2G contributes part of the membership fee. 2G also contributes to the cost of visual display unit (VDU) spectacles as well as prescription personal protective equipment (PPE) safety glasses.

Flexible working time models and part-time options are given high priority in order to offer attractive structuring options to employees. In the year under review, 131 employees made use of such options (2021: 80). This corresponded to a share of 15% of all employees (2021: 10%). The compatibility of work and family life is becoming increasingly important for many employees and is a key factor in employer attractiveness. We are confident that the fundamentally positive experience with working from home office workplaces, as practiced during the coronavirus pandemic, will lead to further flexible work-life balance models for employees in the future. Already before the first pandemic-induced lockdown, 2G had created opportunities for almost all non-production employees to work from home with the respective technical equipment, software and IT support.

The training of young people in different production areas as well as in administration is of great importance to 2G. We participate regularly in various vocational training fairs and events to inform interested parties about our range of training places, career opportunities and product world. This is one way to secure qualified, motivated employees. In 2022, 15 adolescents (2021: 10) began their training at 2G, and overall 43 young people (2021: 43) were in vocational training. From the graduating class of 2022, we have taken on 10 trainees on the basis of an employment contract (2021: 10). We offer all employees attractive career prospects with further education programs or managerial qualifications. On the 2G campus, we are providing a broad range of internal training courses and opportunities to promote personal and professional growth. This also includes

online and face-to-face training for employees of foreign subsidiaries and network partners. We extended our range of training courses in the reporting year by a further 55 programs. They are offered in German and English.

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### Key employee figures (as of December 31,2022)

	2022	2021
Employees	868	796
of which female	143	125
Use of part-time offers	131	80
Employees at foreign subsidiaries	160	151
Share of female senior executives in %	12.5	10.0
Age structure of employees in Germany in years	37.5	37.2
Fluctuation ratio in %	5.5	6.5
Health ratio in %	96.0	96.8
Accidents per 100 employees	2.2	1.5
Participants in the job bike agreement (total)	250	197
Participants in the "qualitrain" fitness studio association	40	33
New trainees	15	10
of which female	5	4
Trainees/dual university system	43	43
of which female	13	10

### Number of employees per business division

	31/12/2022	31/12/2021
	Number of employees (of which part-time)	Number of employees (of which part-time)
Service	327 (28)	302 (3)
Purchasing, warehouse, production	216 (21)	193 (14)
Administration	110 (50)	106 (43)
Project management	82 (6)	72 (3)
Sales & marketing	77 (16)	74 (12)
Research & development	31 (2)	30 (3)
Quality management	25 (8)	19 (2)
<b>Total</b>	<b>868 (131)</b>	<b>796 (80)</b>

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# Lead-to-Lean

## The 2G lead project illustrated by the example of the production cycle of a CHP system

In Production and Service, 2G subjects all the steps in its value chain to a process of continuous improvement. The intention is to strengthen our competitive position and help us gain global market share on a profitable foundation. We base this process quite intentionally and deliberately on the methodological concept of Kaizen from Japan, which focuses on the search for constant, never-ending improvement. It is manifested in the gradual or punctuated, incremental optimization of a product or process. This includes constantly calling into question one's own assumptions in order to increase customer benefit with a win-win solution for all parties. After all, 2G achieves its lasting sales success by combining highly efficient CHP systems with outstanding service. The result for our customers is the constantly declining total cost of ownership – an ambitious and permanently ongoing task which 2G has enshrined in its Lead-to-Lean flagship project.

改善

That 2G's Kaizen process is bearing fruit is shown by the substantial increase in total output by EUR 70 million to EUR 339 million in the year under review. By investing in the production processes, we gain productivity. This is the basis for future growth of earnings.

With Lead-to-Lean, we are primarily implementing industrial processes in accordance with quality-driven sequences based on division of labor. This leads to cost reductions across the entire value chain, while at the same time increasing quality and expanding the potential capacity at the Heek production facility. We aim to employ these methods to strengthen our capability for growth in terms of industrial scalability and increase profitability on a lasting basis through declining process costs and unit costs. We will illustrate this on the following pages based on the production cycle of a 2G CHP system.





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Sales staff receive the prospective customer and are already able to configure a CHP system on screen during initial talks using the online CPQ tool.



# 1

## CONFIGURE – PRICE – QUOTE

With **CPQ**, we have raised the bar for efficient sales performance and gaining orders by way of structured methods. Sales staff receive the prospective customer and are already able to configure a CHP system on screen during initial talks using the online CPQ tool. Besides the use case, numerous parameters such as the structural features, electrical equipment, storage, emissions prevention, etc. are discussed and recorded. In this way, 2G is able to quote the customer a reliable price for the system. At the end of the discussion, the sales executive hands over a **sound and meaningful quotation**.

With the introduction of CPQ at the end of 2021, 2G took an important step in the digitization and simplification of the sales process by significantly increasing the level of standardization. Through CPQ, the scope and specifications are essentially clarified and documented for material procurement and production at an early stage in the process. This lends certainty and early opportunities for action to the downstream design and production processes.

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# 2

## ORDER SCHEDULING

The customer is convinced of the 2G CHP system in terms of its technical quality, cost-effectiveness and service.

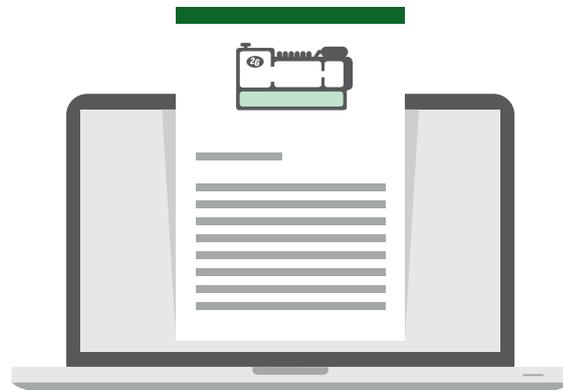
The order is placed. The order is transferred to **order scheduling**. This concept introduced in the last two years **coordinates material procurement** and **production throughput** via rough planning and detailed scheduling of the system. The resources required such as production space, material flow and workers are scheduled, and material orders triggered. This is followed by detailed scheduling which, for example, optimizes the flow charts and orders small parts and any special parts. At the same time, Design is also involved in this phase as described below. Subsequently, the production phase for the CHP system begins during which no further changes are made.

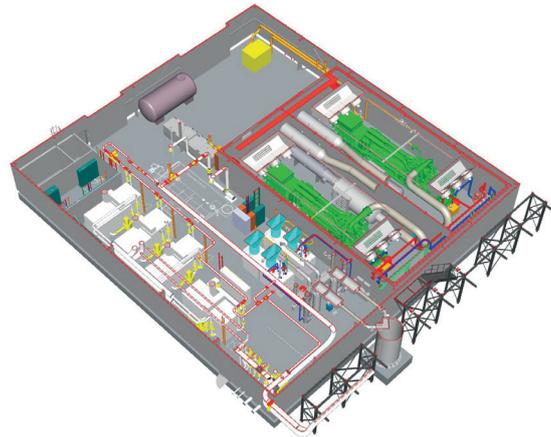
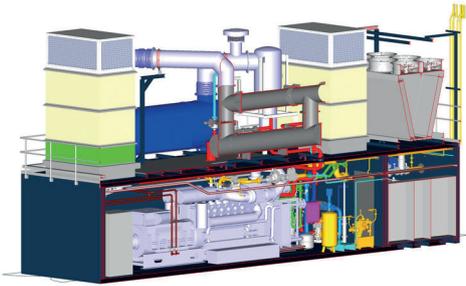


# 3

## DOCUMENTATION

The process of setting up the **master data** for each CHP system to be produced is closely linked to order scheduling. With the rules-based data collection introduced in 2021, we ensure that the configuration and material equipment are documented right down to the last detail. These exact, always retrievable data facilitate the ordering of spare parts in the course of the life cycle of the biogas CHP system, minimizing servicing costs and increasing the effectiveness of digital predictive maintenance.





3D design engineering leads to smooth production at the factory and fast installation on the customer's premises.

# 4

## DESIGN

The **design** of the system represents one crucial building block in the entire chain of production, installation and later servicing. Our maxim is to complete this process in its entirety in advance of the production process. Sales have also completed the preliminary work for the biogas CHP plant with the customer using CPQ. Building on this foundation, Design sets to work, clarifying the entire **quantities of material and resources required**. Article numbers are assigned and cabling defined – before a single screw is even touched. Previously, shift managers had to clarify many outstanding questions regarding preparatory work, design and interfaces during production on customers' construction sites. We use the clarified quantities to order all the mechanical and electronic parts required in good time and clearly define the scope of the order and assembly. In this way, we are able to maintain continuous production, thereby considerably shortening the amount of time spent on customers' construction sites. The documented design, together with the GenSet concept, increases economies of scale for orders comprising large quantities of the same configuration type.



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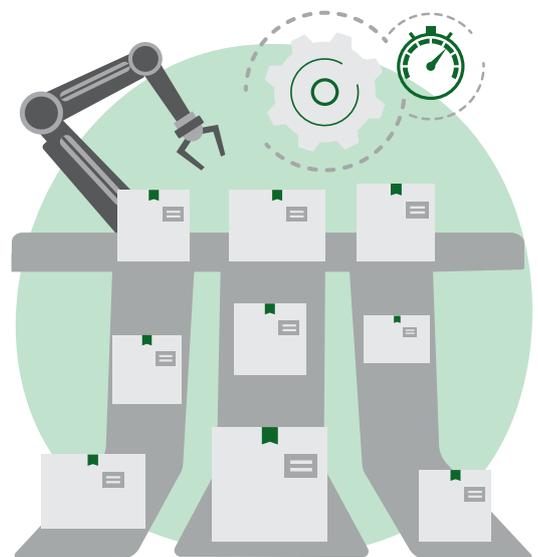
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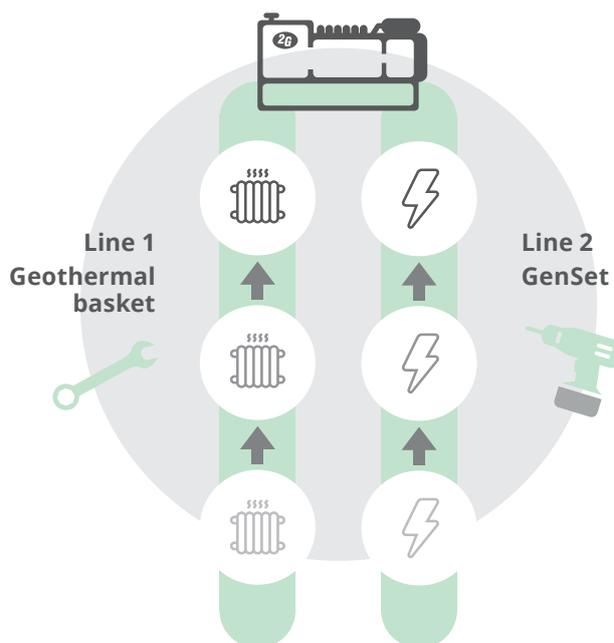
## INTRALOGISTICS

In the manufacturing hall, a metal frame with pre-installed engine and generator now rolls onto the production line. Step by step, the system is assembled on the basis of the construction plans. **Intralogistics and material supply** has defined a sustainable concept with **ten production steps** to provide the material for each step just in time based on the order. C-parts are no longer packed by the warehouse per order. Instead, workers on the assembly line are provided with the parts needed at their workplace by way of a kanban system – based solely on actual consumption. In this way, we ensure smooth production, avoiding downtime and optimizing stocks of primary products. Production efficiency has increased significantly as a result. In the current year, we are working on developing our own bills of materials in order to synchronize logistics with the progress of the order more effectively.



We have converted the 2G series to the so-called **GenSet concept**. This means the modules have been redesigned in terms of their mechanical systems and electronics with the result that the minimum scope of delivery today is significantly smaller. This is beneficial in two respects. Firstly, the 2G systems are significantly more modular in structure, thereby putting Production in a better position to prefabricate systems and produce them for stock. Later in the production process, sub-assembly options can be readily added. Secondly, thanks to the conversion, we are able to supply modules, particularly to our partner network, with considerably less scope of delivery. That may seem contradictory at first sight. The strategy behind it, however, is that our partners can retain more value added for themselves, while adaptations to fit regional specifications are implemented locally. Among other benefits, this helps 2G avoid expensive export duties.





# 6

## FLOW PRODUCTION

Some of the measures outlined so far as part of Lead-to-Lean lend major support to the **flow production** introduced in 2021 for producing the g-boxes. We gained our first experience when converting production of the switch cabinets. The aim is to streamline production and generate more output with fewer resources. To this end, we set up two production lines, one for the **GenSet** and one for the **geothermal basket**. **Three assembly stations** are set up in **each case**. The CHP system is produced in parallel on both lines at the same speed, with the right material provided directly in each case. At the end, GenSet and geothermal basket are united on a single frame. For the first time, the full extent of the system is seen in the production building. This restructuring of production enabled us to increase the **output of g-boxes by around 200% by comparison with the discrete production previously employed**.

Encouraged by these efficiency gains, we also converted production of our V engines and R engines to continuous production in 2022. Due to the higher complexity of the series, the challenge consisted in defining workflows and cycle times and feeding exact quantities of material into the process. The aim was to achieve at least the same output with the same manpower in a 1-shift operation. Thanks to sound organization and coordination, we more than achieved our target – even increasing output by 16% by comparison with the 2-shift operation in the previous year. This provides us with additional momentum to further optimize production along these lines in the coming years.

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From 2022: Flow production in three lines. The team now works in one shift.

As part of flow production, we changed from 2 to **1-shift operation**. It had nothing to do with a lack of orders, quite the opposite. In fact, we had to increase output significantly to cope with the high number of orders received in the past years. The increased output is primarily due to the fact that the processes in flow production are arranged in a more structured manner. Everyone in assembly knows what they have to do, how, where and when. Everyone in material planning knows when and where what parts have to be available on the line. To put it another way, our people are not treading on each others' toes. Shift changes also often cause handover or communication errors, which in turn have a negative effect on quality and time requirements. We avoid these problems by running a single shift which – if required – we can adapt more flexibly to meet the production requirements.

Flow production is rounded off by a newly introduced, ergonomically designed work environment and **weekly training sessions** for the workers to communicate and practice changes to the systems or in the workflow. We can see that we're working more efficiently. In control cabinet production, employees have continuously undercut the target time by 40%. On all the production lines, therefore, we are able to realize huge savings, achieving consistently high production quality as well as greater flexibility in terms of capacity. Overall, the assembly cost per unit is decreasing considerably, so we're raising output while costs are declining.

As soon as the 2G CHP system has been installed and commissioned on the customer's premises, it is transferred to the care of 2G's Service division which provides all-round, care-free service in terms of the system's performance and availability for the customer.

**Service**, too, is subject to a process of continuous improvement. In the last few years, we have already made significant progress by digitizing the systems and our service procedures. Both the systems themselves and service employees constantly exchange data with the service center in Heek. In this way, for example, over 70% of all malfunctions are solved online today by service center staff. The predictive maintenance monitoring of the system via our online platform I.R.I.S. provides support in the proactive planning of service technician deployments. And the well updated, digitally available master data on the one hand, and permanent stocktaking in vehicles by means of zero counting on the other, ensure that they have the right spare parts with them for the relevant system. In this way, we can measurably reduce the amount of unproductive work in Service and boost customer satisfaction.

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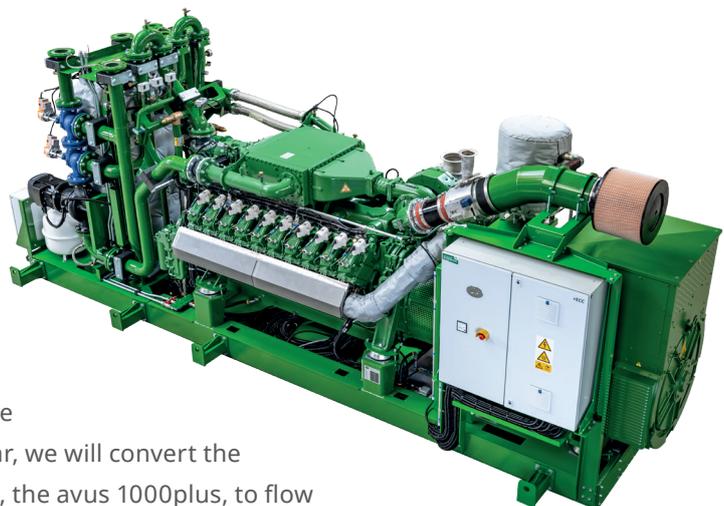
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# Outlook

Increasing the efficiency of our processes is not an end in itself. First and foremost, these improvements benefit our profitability and performance. 2G is therefore producing more CHP systems with more or less the same number of employees and declining costs. Also, a service unit is attending to more systems – with no loss of quality. Efficiency also means that we are reducing material and energy consumption, increasing the production quality of the systems, and that the Service division is able to work more effectively. In other words, Lead-to-Lean also has a positive effect on environmental conservation and on climate protection.

The successes of our Lead-to-Lean flagship project over recent years allow us to make ambitious plans for the coming years, aided by a healthy tailwind. The motivation and willingness to change both among the employees involved in the processes to be converted and in the core team consisting of specialists in design, logistics and production management, are tangible. The teams work outstandingly well together and are all pulling in the same direction.



avus 1000plus

The next major projects are already at the implementation stage. In the current year, we will convert the production of our most powerful GenSet, the avus 1000plus, to flow production. And we will define pre-installed sub-assemblies for all series. In this way, we will be able to use predominantly entire units in the relevant system containers and will no longer have to fit individual cylinders, hoses or screws by hand. With this division of labor, we will further increase the throughput in flow production and streamline material supply on the line, paring it back to essential connecting pieces and components.

In order to ensure that workflows are as free from interruption as possible, employees on the production line are equipped with tablets. With this communication tool, they receive all the relevant information relating to production such as the flow chart, parts lists, drawings and workflows. What's more, in the event of queries, they can use this channel to make direct contact with the shift manager.



In the Service division, we will be introducing a system to support employees in designing workflows for greater efficiency, bill orders more quickly and optimize service vehicles' route plans. The extensive conversion and expansion of Group IT already underway will provide further efficiency gains, among other things based on a new ERP system. More extensive data will give us the opportunity to analyze processes on a secure basis with a higher level of detail and derive potential for further optimization. With these activities, we are committed to the search for continuous, never-ending improvements in the genuine spirit of Kaizen.

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# Group management report

## **Reservation in relation to forward-looking statements**

This Group management report includes forward-looking statements that are based on management estimations that are current as of the time when this management report is prepared. Such statements relate to future periods, or are characterized by terms such as “expect”, “forecast”, “predict”, “intend”, “plan”, “estimate” and “anticipate”. Forward-looking statements are connected with risks and uncertainties. Many of these risks and uncertainties are determined by factors that are not subject to the 2G Group’s influence. As a consequence, actual results can differ significantly from those described below.

## **A. The 2G Group**

### **Operating activities and corporate structure**

The 2G Energy AG Group (hereinafter “2G”) is an internationally leading manufacturer and provider of decentralized energy supply systems. With the development, production and technical installation as well as digital grid integration of cogeneration systems, the company offers comprehensive solutions in the internationally growing market for highly efficient combined heat and power (CHP) systems. Servicing and maintenance services represent a further important performance criterion. The product range includes CHP systems from 20 to 4,500 kW electrical output for operation with hydrogen, natural gas, biogas as well as other lean gases. All plants operate highly efficiently, conserve resources, and reduce or neutralize emissions of climate-damaging CO<sub>2</sub> or NO<sub>x</sub> through combined

power generation, a variety of digital and mechanical innovations in the power generation process, and advanced exhaust gas purification systems. Worldwide, around 8,000 installed 2G systems in various applications supply electrical and thermal energy to a wide range of customers from commercial and industrial companies, utilities, municipal utilities and communities, and companies in the housing and agricultural sectors.

2G Energy AG is a holding company combining twelve operating subsidiaries under its management.

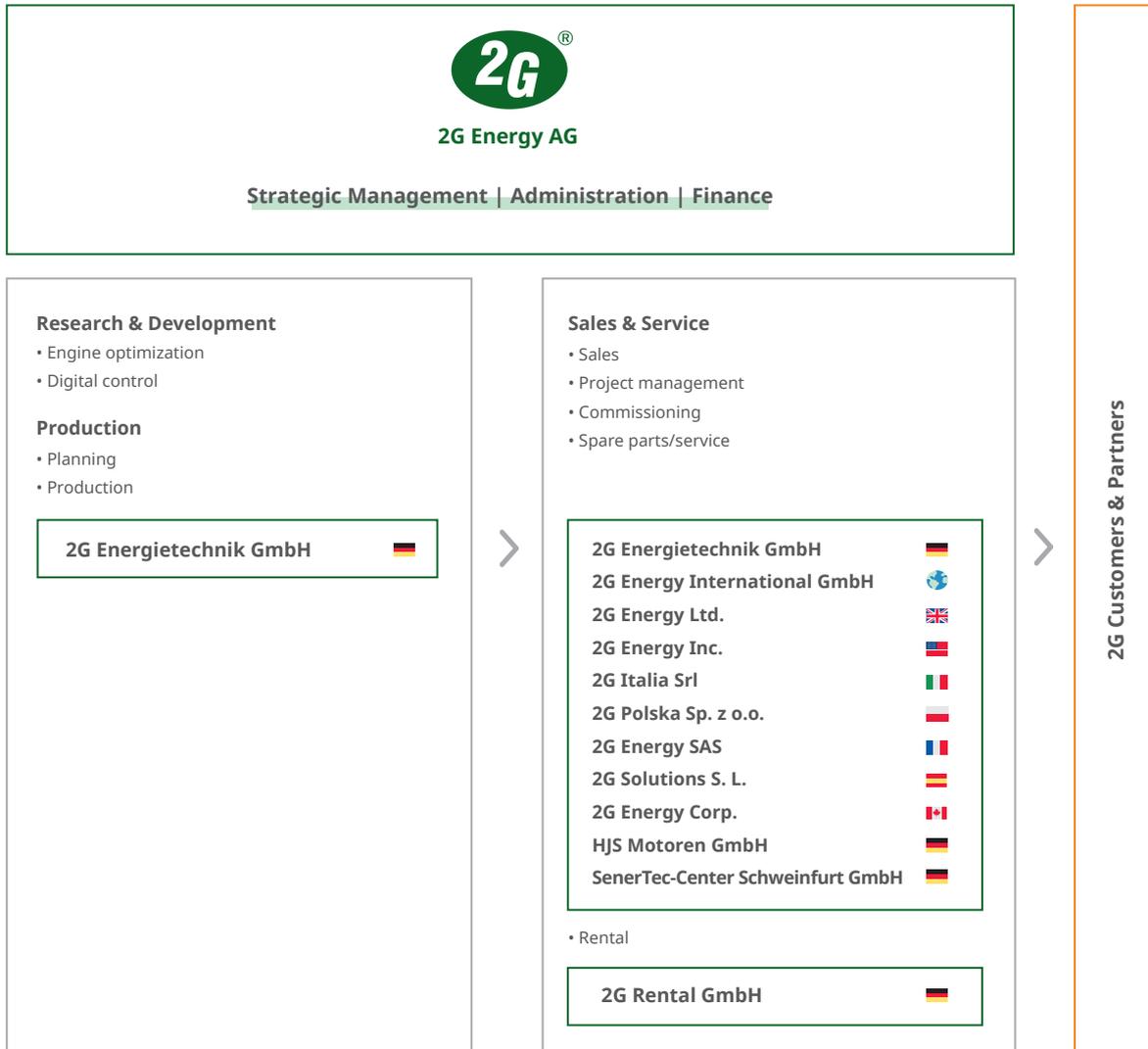


Diagram 1: 2G Energy AG corporate structure, subsidiaries' business purposes and value chain. (as of December 31, 2022)

2G Energietechnik GmbH (2GE), based at the Group headquarters in Heek, in Germany's western Münster region, comprises the main operating entity. The company combines the planning, production, commissioning and ongoing service of 2G systems. Moreover, 2GE operates dependent branches in Griesstätt near Munich, in Hamburg and in Halle/Saale. 2G Energy International GmbH, based in Heek, is responsible for international sales.

At the start of the reporting year, 2G acquired SenerTec-Center GmbH, Schweinfurt. The company has specialized in the sale and servicing of cogeneration systems in the low-power range. With this investment, 2G is strengthening its presence in South Germany – in addition to its existing branch in Upper Bavaria – in order to take an even larger slice of the potential sales there. In February of the reporting year, 2G also acquired 40% of the shares in KWK-tec GmbH,

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Mendig. KWK-tec GmbH has been a close partner of 2G for many years and, with its 25 employees, specializes in service, complex conversion measures for CHP modules, and CHP control and optimization. The company works with CHP systems from different manufacturers, thereby providing 2G with access to new target markets.

Outside Germany, 2G is represented by independent sales and service companies in the USA, Canada, France, UK, Italy and Poland, among other countries. In addition, important conurbations and industrial markets are opened up through sales partnerships, e.g. in Japan, Southeast Asia and Australia.

## **B. Economic and business environment**

### **Macroeconomic situation**

*Global economy weakened due to the impact of high energy prices and great uncertainty*

In its Economic Reports, published in mid-December 2022, the Kiel Institute for the World Economy (IfW) assumes weak economic growth for the reporting year. The pace of economic growth slackened in the course of the year under the impact of high energy prices, major geopolitical uncertainty, high inflationary pressure and as a result of a restrictive monetary policy. At the same time, the Chinese economy was still facing major problems caused by the coronavirus pandemic and the property sector. Consequently, the IfW is assuming that global gross domestic product (GDP) will grow by 3.2% (previous year: 6.1%). Special contributory factors to growth in the reporting year included the easing of supply bottlenecks and the resolution of tensions in logistics chains as well as the

ongoing normalization of economic activities in economic areas previously severely impacted by the coronavirus pandemic. For example, companies were able to work off the backlog of orders accumulated over previous quarters. In addition, the situation on the commodity markets has gradually eased since the summer. Extensive fiscal measures in Europe provided additional support in limiting the effects of the energy crisis on households and companies. A package of measures was implemented in the USA that provides for considerable additional expenditure over the next ten years, primarily in order to promote the expansion of renewable energy.

In the first half of the year, the economy in the Eurozone initially recovered in spite of the residual adverse economic effects of the coronavirus pandemic and the start of the war in Ukraine. However, according to the IfW, the continuing energy price shock and the headwinds resulting from the macroeconomic environment led to a phase of decided economic weakness. Early indicators of the confidence of companies and consumers showed a striking deterioration in sentiment. The high rate of inflation reduced purchasing power in both companies and households. Kiel's economic experts are therefore assuming GDP growth in the Eurozone of 3.4% for the reporting year (previous year: 5.3%). In Germany, high energy prices and the sharp rise in interest rates weighed on economic growth. In addition, the global economic environment for exports was weak and delivered little in the way of a positive boost to the economy. With a look to Germany, the IfW is assuming GDP growth of 1.9% (previous year: 2.6%).

The mechanical engineering sector in Germany had to battle uncertainty resulting from the overall economic situation in the reporting year as well as problems in relation to international supply chains. According to the VDMA (German Engineering Federation), initial, double-digit growth in orders turned into a price-adjusted year-on-year fall of 4% over the course of the year. In the fourth quarter, in particular, demand for capital goods sagged and the decline in orders amounted to 16% over the previous year. Domestic orders contracted by 10%, export orders by 18%.

### Overall global conditions and sector trends

*CHP as an elemental building block in the future energy generation market*

Based on its products and expertise, 2G perceives itself as an integral part of the global energy revolution. Due to the fact that with its highly efficient gas-fired CHP systems generating electrical and thermal energy in a combined process, 2G is firstly contributing towards the replacement of black coal and brown coal power stations. Our line of argument is as follows: 2G power stations require 25% less primary energy in order to produce the same volume of usable final energy by comparison with conventional power stations. This means that thanks to their highly efficient technology, our systems are already contributing on a very cost-efficient basis towards the protection of resources, a significant reduction in greenhouse gas emissions and the economic, secure supply of energy to our customers. Secondly, our technology is enabling natural gas to be increasingly replaced by green gases such as hydrogen and biomethane with the result that energy can continue to be reliably

supplied in a climate-neutral manner using a high proportion of weather-dependent solar and wind energy. After all, the fluctuating production from renewables demands available, adjustable power in times of a flat calm. This means decentralized CHP systems are natural partner technologies to solar and wind energy due to the complementary manner in which they work.

The result is that the primary applications for CHP systems are therefore to cover peak and residual loads rather than any mode of operation directed towards base loads. This leads to rising demands on such systems with respect to higher capacity and their intelligent, digital integration with the energy generation mix. Last but not least, CHP systems provide the technology in the form of hydrogen both for short-term buffer storage and for seasonal storage which can convert the energy back to heat and electricity as needs demand. It should be remembered that this sequence offers the fundamental benefit that gas molecules – in contrast to electrons – are ideally suited to being transported, stored and converted back into electricity and heat as required.

The diverse tasks associated with converting current energy systems to a decarbonized, secure energy supply do not apply to 2G's CHP systems alone. However, this scenario outlines the key qualities that CHP technology can offer for electricity and heat in our opinion in the energy turnaround. For example, a direction can be identified for market trends and the required technological characteristics of efficiency, flexibility, sector coupling, storage and digitization which make up the competitive framework for all market participants.

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In line with the surveys conducted by the IEA, 2G is assuming that there will be sufficient quantities of natural gas – also in the future – and that it will contribute to secure energy supplies. Although natural gas is likely to remain more expensive than in times before the coronavirus pandemic on a lasting basis and will be subject to more volatile fluctuations in price, gas-fired power stations will nevertheless remain indispensable for a long period as the backbone to the energy turnaround. This view is supported by the globally confirmed natural gas reserves, the worldwide expansion of LNG logistics, the advantageous CO<sub>2</sub> footprint by comparison with coal, the security of supply to be established with natural gas power stations and convertibility to hydrogen. The highly efficient CHP technology that 2G implements in its systems is all the more helpful in effectively conserving primary energy and at the same time raising the security

of supply for electrical and thermal energy for operators.

The necessity of quickly ending unilateral dependence, particularly on Russian natural gas imports, and establishing procurement on a broader basis, has highlighted the efficiency and economy of CHP systems as well as the operational opportunities afforded by lean gases and hydrogen – and not with a negative bottom line, as might be suspected at first sight but, in our view, with an advantageous result for investors and operators. The noticeable improvement in the cost-effectiveness of CHP systems according to our calculations results firstly from the lower relative significance of maintenance and depreciation costs associated with the operation of a CHP system and secondly from the higher yields for thermal and electrical energy. This applies particularly to cogeneration

### Transition from centralized to decentralized, renewable energy supply

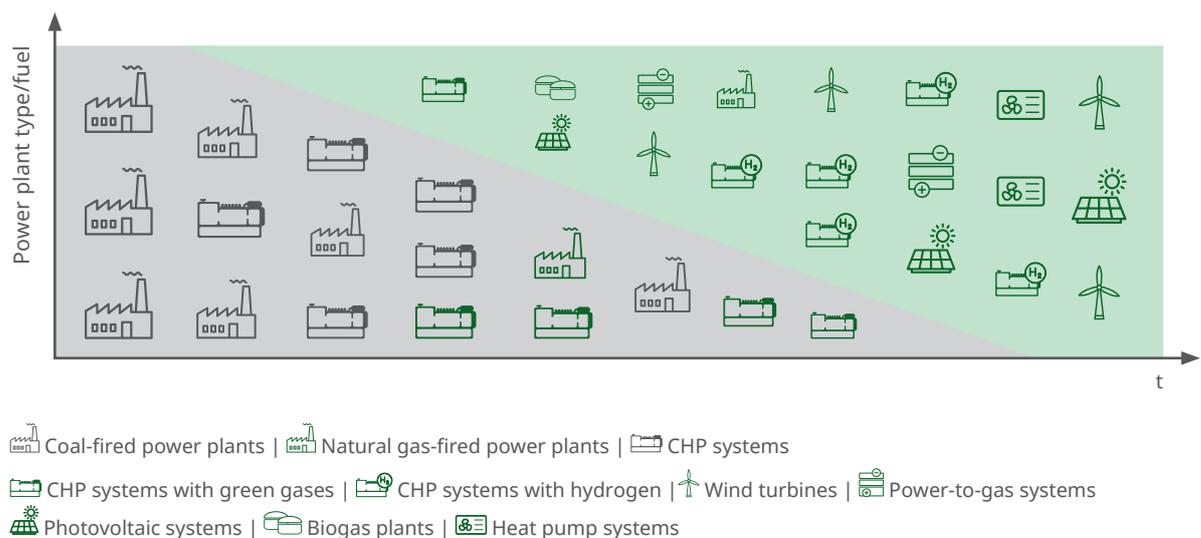


Diagram 2: From centralized, large power plants to swarm intelligence: granular transition from a conventional, central energy supply to a decentralized energy supply based on renewable energies and storage.  
 Source: 2G Energy AG

systems run on gases other than natural gas as their fuel costs have risen at a significantly lower rate than their yields or, in some cases, have remained the same, e.g. in the case of sewage gases.

At the same time, the perception of the role of CHP systems has undergone a transformation. Besides their compelling cost-effectiveness, this relates to the breadth of gaseous fuels that can be used that even applies to a large part of existing systems due to their convertibility to run on pure hydrogen. The second insight is based on the “beneficial” effect of a permanently higher (fossil) energy price level that conflicts with any dynamic performance by industry and consumers as well as urgently needed investments. The rapid expansion of renewables with significantly lower production costs lowers the price level and keeps the deployment of conventional power stations as low as possible. In the long run, conventional power stations will be shut down or converted to hydrogen and a new energy generation infrastructure capable of meeting both base and peak loads will be built. This course – moving away from centralized behemoths towards decentralized, climate-friendly, networked generation units – is illustrated in Diagram 2. For us, there is no trade-off between expanding renewables and natural gas when it comes to CHP systems – on the contrary. In our opinion, CHP plants have a highly relevant system role to play as renewable backbone power stations to guarantee residual loads.

## Sector trends in Germany

### *2G enjoys robust new order intake on a high level*

Germany remains a core market for 2G. In spite of certain constraints caused by remaining upheavals on procurement markets, bottlenecks in materials and labor as well as delays to official permits, 2G was able to maintain a strong order book in Germany. In this regard, early stockpiling and the maintenance of sufficient inventories paid off. Overall, the order intake for new systems increased year on year by 11% to EUR 107.5 million (previous year: EUR 96.8 million). With energy costs climbing to new heights during the year (fuel, carbon dioxide certificate price, electricity), this caused companies and utilities to realign their energy supply strategies.

Biogas-fired CHP plants showed the fastest order growth, climbing 39% year on year to EUR 45.8 million. Russia’s war in Ukraine and the rise in energy prices have set certain, seemingly immovable parameters in motion. Biogas system operators were able to sell their CHP power profitably on electricity exchanges, independently of the Renewable Energy Act (EEG). In 2022, in particular, biogas was a reliable, domestic source of energy for generating electricity and heat and thus a (partial) alternative to natural gas of Russian origin. The government used the EEG to suspend maximum rated outputs and flexibilized the manure bonus in order to facilitate higher gas production at short notice. The Bundestag loosened further brakes with the Energy Security Act, thereby paving the way for more biogas. According to the German Biogas Association, many operators have reinvested their additional revenues in new storage technology and engines to enable them to feed electricity into the grid

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with higher capacity as and when required. However, the announcement from the Federal Ministry for Economic Affairs and Climate Action (BMWK) that it would syphon off the revenues from the generation of electricity by biogas plants almost in their entirety then dented investors' enthusiasm in the second half of the year. After an intervention by stakeholders in the sector and the association, the government decided to skim off revenues on a significantly lesser scale. According to the association, the contribution of bioenergy to the stabilization of electricity and heat production was consequently ultimately recognized.

In the market environment for natural gas CHP systems already outlined, one marked by uncertainty, the order intake in the reporting year proved highly stable for the above-mentioned reasons of enhanced profitability. The order intake in this segment at over EUR 60 million was a mere 3% below that of the previous year.

Overall, the ratio of orders received from Germany to export orders shifted somewhat in favor of Germany by comparison with the previous year at 57.5% (previous year: 51.2%).

### **Export markets with robust development**

2G taps markets outside Germany not only through its own subsidiaries but also through its own global network of certified partners. 2G Energy International GmbH offers the opportunity to work more intensively on promising export markets that have not yet been served by a separate national company. The focus is generally on markets with an economic

system based on the rule of law if at the same time, these are markets

1. in which a gas infrastructure already exists or is being created,
2. where economic conditions exist for different applications for biogas and other lean gases,
3. where energy supply security represents a critical determinant for companies and public institutions as well as
4. where governments create favorable conditions for the use of climate-compatible energy generation.

### **Europe with a strong increase in order intake**

In Europe, we expanded the order intake for 2G CHP systems in a challenging environment. On the one hand, many measures for containing the coronavirus pandemic have been relaxed. On the other, countries have been affected to varying degrees, but in most cases heavily by the significantly higher price levels for primary fossil fuels, and have accordingly begun to realign their energy supplies. In the most important, already established sales markets of Great Britain and France, the situation was characterized by regional anomalies. While the order intake for biogas CHP systems in France benefited from a significant improvement in profitability and remained almost unchanged at EUR 11.2 million, orders in Great Britain fell by around one third by comparison with the previous year to EUR 11.1 million. This decline was caused by the uncertainty engendered by the internal U-turns associated with several different prime-

ministers and the continuing consequences of Brexit. For example, many orders for natural gas CHP systems were postponed, but in most cases not canceled.

In the rest of Europe, 2G achieved a marked expansion of its system sales. Orders trended upwards by 15% to EUR 33.6 million. In Belgium and the Netherlands, in particular, our systems were sold very successfully to the food industry, greenhouse operators and municipal waste disposal companies. In Italy, we broadened our operating base by attracting new partners and expanding our service unit, laying the foundations for further growth. In Poland, providers continue to convert their heating plants from coal to natural gas operation with CHP systems. Demand for biogas CHP systems from the agricultural sector and municipal waste disposal companies increased. In the Czech Republic, we received a further major order for eight natural gas CHP systems from an energy provider that is using the systems predominantly to meet peak loads.

### **North American market lagging behind expectations**

Orders from the North American market failed to meet expectations in the reporting year, recorded at 55% below the figure for the previous year at around EUR 9 million. A series of factors were responsible for these developments: long approval processes of in some cases two to three years, high expenditure for connecting infrastructure, sluggish material supplies and difficulties with supply chains led to very high (notional) installation costs. As a result, many CHP projects were halted or never progressed

past the planning stage. Nevertheless, lively interest in supply solutions harnessing CHP technology remained in evidence. For utilities, hospitals and the food industry, in particular, the security of supply continues to play a major role in the motivation for an investment.

### **Asian business only slowly regaining traction**

The impact of the ongoing coronavirus pandemic in Asia in the reporting year continued to put the brakes on business in many regions due to widespread reluctance to make investment decisions, sluggish approval procedures and supply bottlenecks for customers. Nevertheless, we increased the value of orders by 15% over the previous year to EUR 6.2 million. 2G took advantage of this period to win new sales and service partners in potentially attractive markets. These also include packagers who already have established access to markets and customers. In the still young markets of India and China, we operate as pure GenSet suppliers (engine-generator units) through regional partners. The partners buy and install further components and peripheral equipment to go with the GenSets.

Across all export markets, the order intake fell by almost 14% to EUR 79.5 million in the year under review.

### **Gas and electricity price trends increase profitability of CHP plants**

Potential 2G customers face the fundamental economic decision to stick with their conventional energy supply or invest in a gas-fired CHP plant. In our view, 2G's CHP technology offers a range of economic advantages: the operator becomes

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significantly less dependent on public supplies; they have a better basis for their costings; operators save substantially on energy costs through the efficient, combined generation of electricity and heat; they create an opportunity for themselves to participate in movements of the price of electricity via direct marketing, while reducing greenhouse gas emissions at the same time. Two components are crucial for the profitability of CHP systems. The first is the difference between the price of natural gas and electricity, the so-called spark spread. The second is the absolute level of the prices of gas, electricity and heat. The higher the price level, the lower the impact made by service and depreciation costs. On the output side, however, the yields for thermal and electrical energy are gaining in importance. Under the assumptions of the merit order model, gas and electricity prices are correlated in the electricity market. In other words, if the price of gas rises/falls, the price of electricity rises/falls to a similar extent, albeit with a time lag. This connection applies whenever the overall demand for electricity cannot be met by the supply of renewables with the result that the shortfall has to be made up by processing a primary fossil fuel, which is nearly always the case.

Movements in the price of natural gas in Europe – measured by the Dutch TTF Natural Gas Forward – were extremely volatile in the reporting year with record high peaks reaching 307.50 euros/MWh at the end of August 2022. This represents an increase of 349% compared with the start of the year. Over the course of the year, however, the Gas Forward fell by 16%, and at the end of the year, it was trading back at the same level as before Russia's invasion of Ukraine.

The average price of natural gas futures in the reporting period stood at 132.3 euros/MWh, which was still a factor of 2.8 above the previous year's price of 47.4 euros/MWh. The price decline that began in late summer continued beyond the turn of the year; on February 1, 2023, natural gas was trading at 58 euros, below the level for the previous year.

Factors driving the price included first and foremost Russia's invasion of Ukraine and the ensuing embargo on Russian pipeline gas as well as difficulties in finding alternative sources of supply on the world markets at short notice. Only when the government announced that it was going to quickly build LNG terminals in Germany (the first terminal going into operation in Wilhelmshaven before Christmas) and conclude agreements with the Netherlands and Norway among others for higher supplies, did prices fall significantly. Until then, there were no terminals in Germany that could have provided the country with an alternative option to its dependence on pipeline-based supply from Russia. The LNG share of total natural gas imports into Germany is still low. However, according to the BMWK, it is set to rise. When all six commissioned floating liquid gas terminals are in operation towards the end of 2023, they will have a total capacity of around 30 billion cubic meters of natural gas. That corresponds to roughly one third of the volume imported in 2021, according to the BMWK.

Electricity prices rose substantially over the course of the reporting period. The average electricity price for new contracts for small to medium-sized industrial enterprises (excluding electricity tax) jumped 269% to 53.36 ct/kWh by

### Gas imports to Germany in 2022

in GWh/day

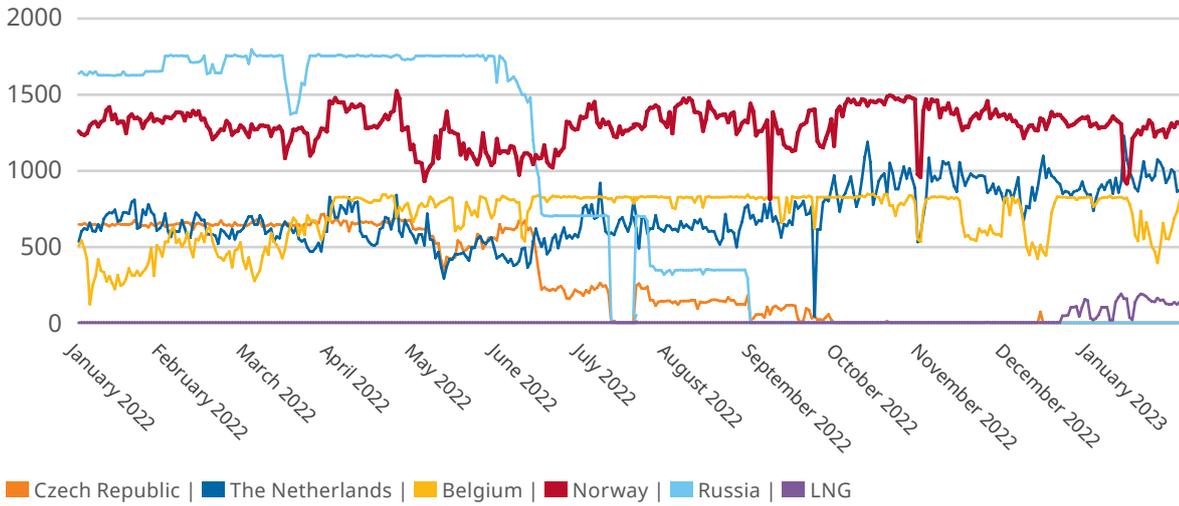


Diagram 3: Gas imports to Germany in 2022, in GWh/day, from selected countries.

Source: Bundesnetzagentur online, Aktuelle Lage der Gasversorgung in Deutschland, February 2023

### Dutch TTF Natural Gas Forward 2021 to March 2023

in EUR/MWh

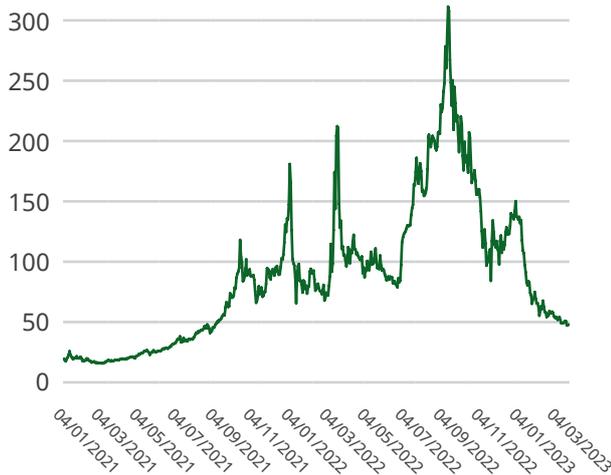


Diagram 4: Dutch TTF Natural Gas Forward 2021 to March 2023 in EUR/MWh.

Source: Pareto Securities, 2G calculations, March 2023

comparison with the previous year, according to the BDEW electricity price analysis. In particular, the price block procurement/distribution/network charges (52.18 ct/kWh) more than quadrupled and account for 97.8% of the total price. In 2021, this share still stood at 62%. The removal of the EEG levy as of July 1, 2022 was therefore more than made up for by the price rise on the procurement side and had no restraining effect on the price.

From the movements in the price of gas and electricity outlined, we are able to draw a key conclusion for our sales success. As a general rule, the profitability of CHP power stations rises as energy prices rise. Even if the spark spread, which reflects the ratio of the price of natural gas to the price of electricity, falls as a result of these price movements, profitability increases substantially. And even under the market

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conditions freeze caused by the electricity and gas price brakes in force in Germany since January 1, 2023, the price level is high and the spark spread adequate. The portion to be procured at market prices also offers a strong incentive not only to save energy, but also to reduce the amount of primary energy used. 2G's CHP power stations offer customers a major lever for doing so as they consume 25% less primary energy to generate the same amount of usable final energy.

#### **Electricity price determinants change in line with flexibilization requirements**

Fluctuating renewables always require controllable power plants at their side – even on days with a light breeze and clear skies – to ensure that security of supply can be guaranteed across the board. For gas-fired CHP plants in the system, this means that their mode of operation – removed from base-load operation – will be more closely aligned with the demand situation on the electricity market. Flexibility requirements and merit order price signals enable more lucrative operation. The profitability equation of an investment in CHP systems will in future include price components such as those for flexible performance and the provision of residual capacity. Initial incentives for increasingly flexible operation have already been created in Germany through the German Cogeneration Act (KWKG) by setting subsidy hours per year and through the German Renewable Energies Act (EEG) by setting maximum rated outputs and flexibility premiums.

On the basis of the correlation between gas and electricity prices described, and especially given the imminent shutdown of nuclear and coal-fired

power stations, an investment in a CHP system is consequently economically viable even if gas prices rise. Moreover, 2G guarantees that it will convert its CHP power plants to run on up to 100% hydrogen at the customer's request. 2G power plants are therefore compatible with the challenges of an energy supply of the future primarily based on solar and wind power and – what makes CHP systems so special – with the demanding requirements in the transition from fossil fuels to decarbonized energy generation.

#### **Overview of the financial year**

*2G increases sales revenues significantly and expands profitability*

2G was off into the 2022 financial year backed by well-filled order books (EUR 152.7 million). The company succeeded in further expanding this high level of orders thanks to a comparatively very high order intake from both Germany and abroad, particularly in the 1st half of the year. Overall, the order intake dipped year on year by a minimal 1.2% in 2022, reaching EUR 186.9 million (previous year: EUR 189.1 million). The distribution between domestic and export orders shifted temporarily in favor of the German market which accounted for 57.5% (previous year: 51.2%). It is encouraging to see that growing demand for highly innovative solutions that are also H<sub>2</sub>-ready is broadly supported across almost all regions internationally. We attribute this to our corporate strategy of operating primarily through our own subsidiaries in established markets and building a network of certified partners, including 2G stations, in new markets.

Service business once again proved to be a reliable sales driver in the reporting year with a

**2G Group  
turnover, order intake,  
EBIT margin**

EUR million  
in %

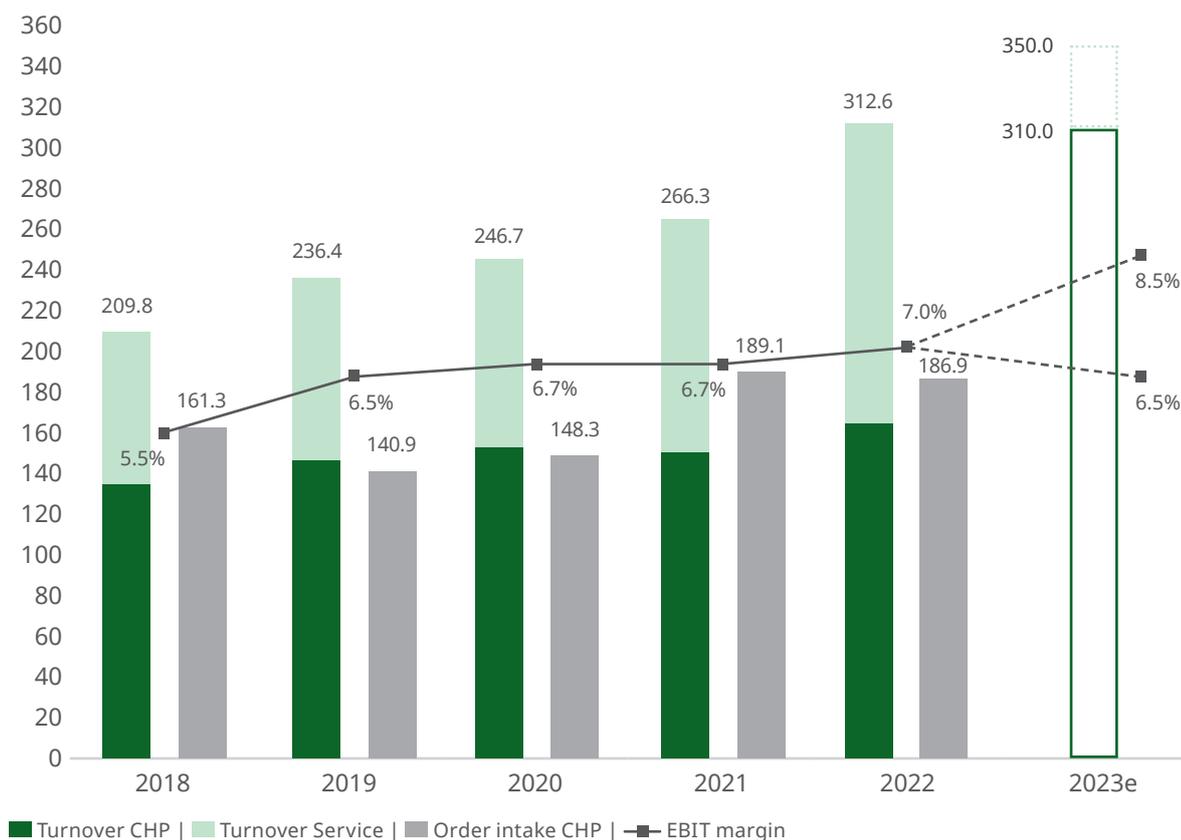


Diagram 5: Trends in sales, order intake and EBIT margin of 2G Energy AG 2018 to 2022 and the 2023 forecast.

contribution of EUR 148.1 million (previous year: EUR 115.6 million). Service achieved high double-digit growth rates in almost all core markets. The sales and service companies, HJS Motoren GmbH and SenerTec-Center GmbH, Schweinfurt, acquired in southern Germany also contributed to this growth. We expanded the service strategy in the reporting year with a view to offering to convert the control units for external systems – besides supplying spare parts and conducting regular maintenance – through our holding in KWK-tec GmbH to enable the systems to be

smoothly integrated into 2G's service processes. In the medium term, this is intended to increase the likelihood that such customers will opt for a 2G power plant when replacement investments are due.

Given the record level of orders (>EUR 200 million), overall good order growth and high total operating revenue, the 2G Management Board raised the lower limit of its Group sales forecast to EUR 290 million in September (previously: EUR 280 million to EUR 310 million). In view of the very

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dynamic situation on the procurement side with regard to material availability, but also taking price movements into account, the Management Board left its EBIT margin forecast unchanged in a range between 6.0% and 8.0%.

operating revenue consequently rose to EUR 338.8 million (previous year: EUR 268.9 million).

Ultimately, despite some restrictions on the procurement markets, net sales of EUR 312.6 million (previous year: EUR 266.3 million) were above the last specified net sales guidance of EUR 290 million to EUR 310 million. 2G succeeded in consistently maintaining its factory output at a high level. With significant cost rises in the main input factors and in view of an appreciable proportional increase in inventories, the cost of materials ratio of 66.1% was slightly higher than in the previous year (63.7%). Overall, the EBIT margin of 7.0% (previous year: 6.7%) lay in the middle of the forecast range.

### **C. Results of operations**

The main financial reporting figures are sales revenue and earnings before interest and tax (EBIT).

#### **Sales**

*2G boosts sales by 17%*

In the 2022 financial year, 2G achieved consolidated net sales of EUR 312.6 million (previous year: EUR 266.3 million). 2G thereby succeeded in significantly increasing consolidated sales for the seventh year in succession. Taking account of an appreciable increase in work in progress amounting to EUR 26.0 million (previous year: EUR 2.6 million) as well as own work capitalized in an amount of EUR 0.2 million (previous year: EUR 0.0 million), total

## Composition of net sales

The following table shows the composition of net sales in both absolute and relative figures\*:

	2022				2021			
	CHP systems	Service	Total	As a %	CHP systems	Service	Total	As a %
<b>Net sales</b> (million EUR)	<b>164.5</b>	<b>148.1</b>	<b>312.6</b>	<b>100.0</b>	<b>150.7</b>	<b>115.6</b>	<b>266.3</b>	<b>100.0</b>
Germany	82.8	103.5	186.3	59.6	81.6	80.9	162.6	61.1
Rest of Europe	57.7	27.4	85.1	27.2	37.7	20.7	58.4	21.9
North/Central America	11.9	10.2	22.0	7.1	18.0	7.9	25.9	9.7
Asia/Australia	7.3	2.0	9.3	3.0	7.5	1.9	9.3	3.5
Rest of the world	4.8	5.1	9.9	3.2	5.9	4.3	10.2	3.8

\* Rounding differences may occur

Year-on-year change (absolute and as a %)\*:

	Absolute (million EUR)			As a %		
	CHP systems	Service	Total	CHP systems	Service	Total
<b>Net sales</b> (EUR)	<b>13.7</b>	<b>32.5</b>	<b>46.3</b>	<b>9</b>	<b>28</b>	<b>17</b>
Germany	1.2	22.6	23.8	1	28	15
Rest of Europe	19.9	6.7	26.7	53	32	46
North/Central America	-6.1	2.3	-3.8	-34	29	-15
Asia/Australia	-0.2	0.1	0.0	-2	6	-1
Rest of the world	-1.1	0.8	-0.3	-19	20	-3

\* Rounding differences may occur

The trends in net sales in 2022 were characterized by the following factors:

1. Net sales in the Service division rose by EUR 32.5 million or 28% to EUR 148.1 million (previous year: EUR 115.6 million), a

significantly higher rate of increase than for total sales. Overall, 47% of consolidated sales revenues were contributed by services and the sale of spare parts. Sales in Germany and abroad showed similar rates of growth (+28% and +29% respectively). In Germany, HJS

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Motoren GmbH and SenerTec-Center GmbH contributed EUR 13.2 million to Service sales.

2. Sales revenues abroad rose by EUR 22.5 million or 22% by comparison with the previous year, which also represented a disproportionately high increase – in spite of a temporary decline in sales revenues in North America. Overall, 50% of sales revenues were generated for the first time from the sale of CHP systems abroad. Foreign sales partners in Europe, in particular, contributed to this gratifying development.
3. Net sales from the sale of CHP systems rose by EUR 13.7 million or 9% – after a slight decline in the previous year. Sales in Germany were more or less unchanged from the previous year – with growth resulting predominantly from a rise in sales in other European countries. The electric power sold in the past financial year stood at 196.4 MW<sub>el</sub> (previous year: 174.9 MW<sub>el</sub>) from a total of 662 systems (previous year: 652 systems).

### Consolidated net profit/loss

2G lifted its earnings before interest and tax from EUR 17.9 million to EUR 22.0 million in the reporting year (+23%), corresponding to a 7.0% EBIT margin (previous year: 6.7%). Consequently, the EBIT margin is in the middle of the target range communicated of 6.0% to 8.0%.

In the course of in some cases significant price increases on the procurement markets which can only be passed on in the form of adjusted list prices with a certain delay, the cost of materials ratio rose by 2.4 percentage points in the reporting year to 66.1%. It should be noted for the comparison with the previous year that total operating revenue includes a substantial inventory build-up (EUR +26.0 million, previous year: EUR 2.6 million) which must not include any components of profit or loss due to measurement requirements under German commercial law.

### Derivation of EBIT

	2022	2021
	EUR'000	EUR'000
<b>Consolidated net profit for the year</b>	<b>16,372</b>	<b>12,640</b>
- Extraordinary result*	1,798	0
+ Income taxes	7,083	5,080
+ Interest and similar expenses	384	307
- Other interest and similar income	80	100
<b>= EBIT</b>	<b>21,962</b>	<b>17,927</b>

\* The origin of the extraordinary result is presented below

In spite of this circumstance, the personnel expense ratio saw a significant reduction from 18.4% to 16.8%. The Lead-to-Lean flagship project launched several years ago took shape in the past year, particularly with the complete conversion of module manufacture from job production to continuous production. This was accompanied by a significant increase in efficiency without compromising quality. The higher utilization of indirect company systems, in particular, helped to keep the ratios low.

Other operating income of which an amount of EUR 4.6 million (previous year: EUR 2.2 million) relates to other periods, increased year on year by EUR 2.8 million to EUR 6.2 million. This was mainly due to the release of a provision at 2G Energietechnik amounting to EUR 1.8 million formed as of December 31, 2016 for potential back taxes and associated incidental tax expenses in the United Kingdom.

Sales and marketing, operating, administrative and other expenses rose, compared with the previous year, from EUR 29.7 million to EUR 35.3 million, equating to an expense ratio of 10.4% (previous year: 11.1%). The absolute rise reflects in particular higher costs for outbound cargo (EUR 5.6 million, +50%), travel activities (EUR 2.9 million, +52%), vehicles (EUR 3.4 million, +31%), for the maintenance of hardware and software (EUR 2.0 million, +32%) and higher rental and lease expenses (EUR 1.3 million, +31%).

After a financial and investment result of EUR -0.4 million (previous year: EUR -0.2 million), stemming essentially from guarantee commissions and loan interest, as well as income taxes in an amount of EUR 7.1 million

(previous year: EUR 5.1 million), this leaves consolidated net profit for the year of EUR 16.4 million (previous year: EUR 12.6 million). The tax rate is around 30% (previous year: 29%).

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## D. Financial position

The following condensed cash flow statement presents the Group's financial position:

<b>Consolidated cash flow statement</b>		
	2022	2021
	EUR'000	EUR'000
<b>EBIT</b>	<b>21,962</b>	<b>17,927</b>
+ Depreciation of fixed assets	4,672	3,941
<b>= EBITDA</b>	<b>26,634</b>	<b>21,868</b>
± Cash flow from net change in working capital	-21,744	-6,424
± Change in other provisions	3,360	3,490
± Change in other assets as well as miscellaneous assets that cannot be allocated to investing or financing activities	-315	-3,982
± Change in other liabilities as well as miscellaneous liabilities that are not allocable to investing or financing activities	1,100	-529
± Loss/gain on fixed asset disposals	-53	-1,143
± Income from associated companies	89	0
± Income tax payments	-4,090	-4,419
<b>= Cash flow from operating activities</b>	<b>4,982</b>	<b>8,863</b>
<b>Cash flow from investing activities</b>	<b>-9,749</b>	<b>-1,856</b>
<b>Cash flow from financing activities</b>	<b>-1,617</b>	<b>-1,617</b>
<b>Liquid funds on December 31</b>	<b>13,252</b>	<b>19,677</b>

In spite of an increase in EBITDA of EUR 4.8 million, operating cash flow fell to EUR 5.0 million (previous year: EUR 8.9 million) in the reporting year, due in particular to a significantly higher rise in net working capital by comparison with the previous year (EUR 21.7 million following EUR 6.4 million in the previous year). The rise in net working capital is principally due to the expansion of work in progress (EUR +25.7 million),

an increase in raw materials and supplies (EUR +13.0 million) and a rise in receivables (EUR +13.4 million) – offset by higher trade payables (EUR +8.9 million) essentially caused by the build-up of inventories and a rise in advance payments received (EUR +23.0 million).

In terms of investing activities, a total of EUR 9.4 million was invested in property, plant and

equipment and intangible assets (previous year: EUR 4.9 million) made up as follows:

- EUR 1.1 million for advance payments or asset additions in connection with the project launched in the reporting year for the introduction of new, global ERP software and the new homepage by 2G Energy AG,
- EUR 2.8 million for land and buildings in the Heek industrial estate by 2G Energy AG,
- EUR 1.3 million for the business premises of SenerTec-Center GmbH, Schweinfurt, by 2G Energy AG,
- EUR 0.5 million in new (service) vehicles by 2G Energietechnik GmbH,
- EUR 0.3 million for a transformer station by 2G Energietechnik GmbH,
- EUR 0.3 million in IT hardware by 2G Energietechnik GmbH.

A net figure of EUR 0.8 million was also spent on the acquisition of SenerTec-Center GmbH, Schweinfurt. This figure also includes a payout to the former shareholder amounting to around EUR 0.3 million. Overall, cash flow from investing activities in the past financial year amounted to EUR -9.7 million (previous year: EUR -1.9 million).

As part of finance activity, bank loans in an amount of EUR 2.5 million were taken out by 2G Energy AG to refinance land purchases as well as by 2G Energietechnik and HJS Motoren GmbH totaling EUR 0.6 million to finance their vehicle fleets. EUR 2.1 million was disbursed for the

scheduled repayment of financial liabilities. In addition, a dividend of EUR 2.2 million was paid out in June. This left cash flow from financing activities of EUR -1.6 million (previous year: EUR +1.6 million).

Finally, liquidity in the form of bank deposits (less short-term current account drawdowns) amounted to EUR 13.3 million (EUR 19.7 million) as of the reporting date. Free credit lines with banks were, and are, available as required for guarantees, sureties, letters of credit and as a potential liquidity reserve. Free lines of EUR 12.7 million were available as of December 31. No significant changes occurred to lending conditions.

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## E. Net assets

Overview of the 2G Group's net asset position:

### Assets

	31/12/2022	31/12/2021
	EUR'000	EUR'000
A. Fixed assets	31,893	27,118
B. Current assets	176,227	139,620
C. Prepayments and accrued income	1,471	1,377
D. Deferred tax assets	2,004	1,587
<b>Total assets</b>	<b>211,595</b>	<b>169,702</b>

### Equity and liabilities

	31/12/2022	31/12/2021
	EUR'000	EUR'000
A. Equity	108,615	94,540
B. Provisions	21,440	17,661
C. Liabilities		
I. Bank borrowings	6,333	5,316
II. Other liabilities	75,206	52,185
<b>Total equity and liabilities</b>	<b>211,595</b>	<b>169,702</b>

Total assets expanded by 24.7% or EUR 41.9 million to reach EUR 211.6 million as of the 12/31/2022 reporting date. The following factors in particular contributed to this rise:

- Fixed assets were up by EUR 4.8 million to EUR 31.9 million as a result of lively investment activity.
- Inventories rose from EUR 72.2 million to EUR 102.6 million in the wake of significantly higher

total operating revenue. The main reasons for this rise are the increases in raw materials and supplies (EUR +13.3 million) and work in progress (EUR +25.7 million), while at the same time advance payments received on orders rose by EUR 10.1 million.

- Trade receivables rose by EUR 13.7 million to EUR 57.1 million as of the reporting date.

Net working capital increased to EUR 94.6 million as of the reporting date (previous year: EUR 72.3 million).

As a result of the consolidated net profit for the year of EUR 16.4 million, coupled with a dividend payment in June of the reporting year (EUR 2.2 million), equity rose to EUR 108.6 million (previous year: EUR 94.5 million) as of 12/31/2022. Although the equity ratio fell as a result of the increase in total assets, it nevertheless remains steadily over 50% at 51.3% (previous year: 55.7%).

The EUR 3.8 million increase in provisions to EUR 21.4 million is attributable to a higher level of provisions for trade and corporation tax (EUR +1.2 million) and particularly to greater provisioning requirements for remaining work on completed systems and for outstanding purchase invoices (EUR +3.9 million).

Within the “Other liabilities” item, the EUR 23.0 million increase to EUR 75.2 million is due to the rise in advance payments received (EUR +12.9 million) shown as liabilities and to a EUR 9.0 million increase in trade accounts payable. The reason for this expansion of short-term borrowings is essentially the full order book as of the end of the year on which in some cases work had not yet started but for which advance payments had already been made.

### Overall statement on the business situation

Business trends during the year under review proved highly satisfactory once again. 2G maintained its growth with a 17% increase in consolidated sales and 26% rise in total operating revenue, and was also able to boost EBIT in the

process (+23%). At the same time, the order intake for the year proved very resilient with the result that the order backlog of over EUR 175 million laid a solid foundation for a successful financial year 2023.

Sound growth prospects in new systems business coupled with a Service division whose structures continue to grow will form the basis for further increases in consolidated sales in the coming years, boosting the EBIT margin to a level between 8.5% and 10.0% in the process.

### F. Corporate responsibility

Business activities are inseparably connected with risks. Corporate success is characterized by the fact that – after giving due in-depth consideration to all important decisions – the respective opportunities outweigh the risks entailed.

2G interprets risk in the broadest sense as the risk of failing to achieve technological, financial and operational targets as planned, and within the narrowest bounds as the risk of jeopardizing the company as a going concern. In this sense, risk management forms an element of all decisions and business processes.

### Management of risks and opportunities

The Management Board, the managing directors of all 2G companies, and relevant department heads are all defined as risk managers in the company-wide risk management process. These risk managers reappraise the areas that they manage and their risk situations at regular intervals, reporting identified risks to the next

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highest level in the hierarchy, or as part of regular Group-wide reporting duties. Significant changes in the assessment of known risks as well as new significant risks are reported immediately. The deliberate and controlled handling of opportunities and risks thereby forms a central management element at 2G. The Supervisory Board receives important key data for business trends and risk evaluation as part of quarterly reporting.

2G continuously records and evaluates new challenges and opportunities due to internationalization, the securing of supply chains, the EU Taxonomy, digitalization, optimization of the depth of vertical manufacturing, as well as services, such as the rental of 2G power systems. The continuous endeavor to consistently conserve resources, avoid waste and emissions, and increase the efficiency of the 2G power systems forms part of the identity of all business units.

Continuous optimization of power plant technology, operating software, external interfaces and the scope of service lead to improved profitability, reduce the total cost of ownership, and increase customer benefit. The identification of opportunities and new business possibilities both in production and in terms of products, sales and service is equally important for the further development and growth of 2G.

With regard to the business activities of 2G, the management has assessed the risks listed below as relevant for the company's further development and measured them with regard to their significance. This mainly entails listing risks whose materialization would have a significantly

negative effect on the company's financial position and performance. 2G is potentially exposed to further risks, although these are not yet known, or are currently not yet gauged as significant. The following risks were identified and shown below in declining order of significance, as of the reporting date and as of the date of the preparation of this management report, taking existing management and controlling measures into account. This order of significance also includes evaluation of the risks emanating from the Ukraine war which are described separately. The COVID-19 pandemic became endemic in the markets relevant to 2G in the reporting year and is no longer significantly restricting economic activities. The negative effects on global trade and production should thus gradually dissipate.

At the time of preparing this report, the management is not aware of any circumstances that could jeopardize the continued existence of the 2G Group.

### **Industry-specific risks/sales risks**

Total revenues and earnings of the 2G Group are based on the different 2G products and services in various power classes, application areas and operating gas types as well as a variety of global markets. This diversification is intended to help mitigate risk, as international markets differ in their structure, their regulatory frameworks for the energy market, their goals and measures for decarbonizing the economy, and their business cycles.

It is also an expression of 2G's strategy to become an internationally active company that is independent of national legislation or economic

cycles. 2G also integrates its risk management into the processes of sustainable business planning. Possible negative developments, such as changes in customer demand or changes in the political and legal environment, are taken into account and evaluated. This means that countermeasures or support measures can be taken at an early stage in the case of events that deviate from plans. This analysis also has an influence on investment and expansion plans.

### IT risks

IT risks with an impact on the business result arise when data and information or processes are not available or are faulty, access to IT functions or data is blocked by third parties, undesirable publications are made, or the processes mapped are too inflexible, too costly, or implemented in IT systems in violation of the law. Security gaps or inadequate emergency planning can quickly become incidents that affect the entire company.

Data protection violations due to incorrect assignment of authorizations or non-compliance with the EU General Data Protection Regulation can have negative external effects or result in fines. The growing importance of IT and the increasing networking of IT structures, both for the group and for its products and services, require high expenditure on further development, maintenance and protection.

With an increasing complexity of the IT landscape, the efficient handling and mapping increases, but also the potential risks increase. Key risk scenarios for 2G are the failure of central IT systems, the theft, publication and/or unauthorized use of confidential data from

research and development and business development, as well as the manipulation of IT systems or cyber attacks on the CHP itself or on the my.2-g.com platform.

Through the redundant design of technical components, networks, and locations, as well as through appropriate emergency preparedness and IT security architecture, 2G ensures the necessary availability of its business-critical systems and control over the CHPs in the field with access to all relevant data at all times. These risks can be further limited with suitable organizational and technical precautions and security measures for access control, access rights, virus protection and data protection.

In March 2022, 2G received certification for its IT systems under the ISO 27001 standard after an audit. This is the leading international standard for information security management systems and thus an important cyber security certification. It comprises the secure provision of IT support, the operation of data centers for the production and use of combined heat and power systems as well as the development of digital customer solutions. Through built-in monitoring audits and recertifications, 2G ensures that regular reviews and continuous improvements to structures and processes are guaranteed. Employees are also subject to clear rules of conduct and they receive regular online training to ensure that they are continuously sensitized and made aware of their responsibilities with regard to IT security.

To secure and protect personal data, 2G works with an external data protection officer and

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follows the recommendations for implementing the General Data Protection Regulation (GDPR).

In the reporting year, 2G began reorganizing its IT architecture as part of a complex project. This includes the introduction of new ERP software which will be connected to a Document Management System (DMS). Product Life Cycle Management (PLM) and Customer Relationship Management (CRM) are also networked. To minimize potential risks during data migration and processing and within system conversions to a new IT organizational structure and guarantee smooth internal functionalities, platform functions and interfaces with CHP systems in the field, extensive preparations were made before implementing this project. For example, among other things, a new, global chart of accounts has been developed that can be implemented in parallel to the introduction of the new ERP software. In addition, all operational processes at the company headquarters in Heek were digitally recorded and modeled and will serve as a guideline for the implementation of the new ERP software.

### **Corporate growth risks**

2G aims to maintain its growth both in Germany and abroad particularly through organic growth and, where appropriate, through strategic alliances and acquisitions of companies or parts of companies. This includes integration risks and risks to the company's success per se. The appointment of suitable managers and employees, the selection of strategic partners, and the raising of the necessary financial resources are required in order to minimize such risks. The meaningful expansion of appropriate

organizational structures is also required, especially in the areas of financial accounting, controlling, IT, human resources, and sales and marketing. As a general rule, the acquisition of companies includes integration risks which essentially comprise the loss of important employees in the company acquired as well as the loss of business relationships with suppliers and customers. Further risk areas include the failure to achieve the growth budgeted for the acquired company as well as the synergies planned from the transaction. 2G counters these risks with adequate transaction structures by acquiring relatively small entities with which there have generally been business contacts for many years already. These entities are intended to complement 2G's own structures and specifically extend them as part of their existing business activities. In this way, the complexity of the integration remains manageable and risks controllable. 2G has developed and rolled out an extensive partner concept to minimize the company's own risks in the internationally growing CHP market as well as the level of capital employed. Partnerships both in Germany and abroad thereby form the central sales and service model, keeping market entry and market establishment risks as low as possible for 2G.

To rule out potential bottlenecks in storage capacity which may arise as a result of the planned corporate growth, 2G secured further plots of land in the Heek industrial estate in the reporting year on which corresponding industrial buildings or offices can be built.

## Legal risks

2G is also exposed to litigation risks. These may include, in particular, risks from the areas of product liability, competition and antitrust law, capital market law, patent law, labor law, international tax law and environmental law. As a research-based technology company, 2G owns a portfolio of industrial property rights, such as patents and trademarks. These may become the target of attacks and infringements. 2G strives to minimize and manage all legal risks across the board. Wherever possible and practical, 2G limits liability and loss risks in the countries where it operates through contractual agreements and insurance cover, whose type and scope are constantly adjusted in accordance with current requirements. Here, 2G can already rely on experience gained in numerous countries, including outside Europe. The company can also call upon a country-specific, specialized advisory network consisting of auditors, tax consultants and lawyers who attend to the Group's cross-border affairs.

Latent tax and liability risks exist in the case of cross-border transactions (procurement and sales), which can arise with formal offenses. Thanks to the requisite specialist knowledge in the relevant divisions, tax and legal matters can be classified early and accurately, including with the involvement of external experts. Despite procedural precautions, erroneous assessments and processing errors cannot be excluded entirely.

Through an integrated, worldwide insurance program for all 2G companies, we aim as far as possible to close any gaps in coverage or liability.

Insurance premiums are to be adjusted through appropriate, manageable deductibles.

## Product quality, price and availability risks

As a manufacturer of complex technical systems, 2G is exposed to heightened product liability risks. A comprehensive information management system, ongoing quality controls and documentation along the entire value chain minimize such risks. This starts with the definition of processes in production, service and administration and qualification of suppliers, and continues with comprehensive quality requirements for materials and semi-finished products used, as well as with long-term strategic cooperation in relation to preliminary products and a human resources policy that is very strongly geared towards qualification and quality awareness. Supply capability and on-time deliveries are an important competitive factor.

On the purchasing side, risks arise from potential increases in raw material prices, the availability of intermediate products, and supplier defaults. The aim is to avoid dependencies and to ensure parts availability and delivery capability through order quantity optimization and inventory management. For example, 2G once again kept its inventories of engines for the most popular CHP modules at a high level in this reporting year and increased its stocks. Moreover, 2G can rely on alternative suppliers for almost all components and, in doing so, is geographically focused on the DACH region, with the result that logistical risks would also appear to be manageable.

2G does not regard the processing of the order book position with its existing products and

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components as being at risk in the foreseeable future. Although some bottleneck situations remain regarding material, labor or official permits which led to project delays in 2021 in particular, they eased steadily in the reporting year with the lifting of coronavirus-related restrictions.

### **Risks in human resources**

The future performance and growth of all 2G companies is highly dependent on their employees and their know-how. Consequently, the expertise and commitment of employees in all departments of the company are crucial to its success. The regional talent markets relevant to 2G are characterized by intense competition. Competition is additionally intensified by the scarcity of qualified specialists in the areas in which 2G operates and by demographic challenges in global markets. As a consequence, both the recruitment and retention of qualified specialists and talents at 2G represents one of the key priorities for the company. 2G promotes the further training of its own employees and specialists and endeavors to recruit staff at an early stage, i.e. while they are still training. We illustrate the values, principles and conduct that shape 2G's corporate dealings by means of a code of conduct that is binding for all employees. In addition, 2G offers its employees a catalog of voluntary social benefits, further training opportunities and certain flexibility options for the provision of services in order to make the Group even more attractive as an employer.

### **Political risks**

The destabilization of political systems and the potential imposition of trade barriers or changes with regard to legal certainty, as well as fluctuations in currency exchange rates, may lead to sales problems in certain countries and regions. It should be possible to reduce the potential negative impact by diversifying regional sales markets. Entry into developing markets and a withdrawal from saturated sub-markets are considered in the process.

### **Research and development risks**

Right from the outset, innovation has formed a key element of 2G's corporate strategy, with a view to setting the company apart from its competitors through digital, technological and electrical engineering expertise. This is associated with the latent risk that research and development projects will be delayed, expected budgets exceeded, or targets not met. Ongoing research and development projects are monitored for this very reason, discussed regularly and reorganized where appropriate. Decisions regarding investments in new technologies, for example, are made with the aim of minimizing risks as far as possible.

### **Financial risks**

As an internationally active company, 2G is exposed to various financial risks. Such risks primarily include liquidity risks, default risks, tax risks, currency risks, customs risks, and market price risks. In order to secure itself as a going concern, a company must be able to fulfill

its commitments arising from operational and financial activities at all times.

2G manages its liquidity across the entire Group centrally through its parent company 2G Energy AG in Heek in order to minimize any liquidity risks. Default risks can arise both in connection with financial investments, loans taken out, financing commitments, or through the rental transfer for utilization of 2G power systems, and in the case of operating receivables. Inherent credit and default risks are hedged as far as possible through an existing credit insurance policy. This also ensures professional ongoing credit monitoring and debt collection.

Overall, 2G minimizes these risks through its stringent prepayment policy. Only a few significant financial transactions entailing credit risk are concluded, where necessary, and only with banks with good credit ratings. Moreover, 2G enjoys extremely good liquidity, which significantly reduces its dependency on lenders. As a matter of principle, however, it cannot be excluded that, in markets that are at times changing extremely rapidly, specific trading partners or customers with CHP rental agreements may default, even if such counterparties have positive credit ratings.

As a result of its global group structure, 2G will naturally be exposed to currency and interest rate risks, even if only to a limited degree. 2G has minimized currency risks due to exchange rate and interest rate fluctuations, especially through forward currency transactions. Financial transactions, outstanding operating receivables, and obligations are to be exchange-rate hedged mainly through forward currency transactions.

## Environmental and safety risks

As a company with production operations, 2G is exposed to risks of possible personal injury as well as damage to the environment, its property and its reputation. We minimize these risks by auditing, advising and training in matters of environmental protection as well as occupational health and safety.

Safety and occupational safety officers manage these risks both at our own individual sites and on our customers' building sites to safeguard the company's interests. 2G ensures the preservation of its goods and assets by adhering to high technical standards, strict codes of conduct, and all legal requirements for environmental protection and occupational health and safety. In addition, 2G itself is interested in conserving resources and maintains a certified energy management system according to ISO 50001:2011 and an environmental management system according to ISO 14001.

## Repercussions of Russia's war against Ukraine

On February 24, 2022, Russia attacked Ukraine and has since been waging a war of conquest. On Ukraine's side, this is leading to millions of refugees and increasingly to the large-scale destruction of cities and utility infrastructure. Ukraine's economic output will be heavily restricted, at least for the foreseeable future. The Western community of states has imposed a wide range of extensive sanctions on Russia, on the movement of goods and money. With regard to Europe and to some extent for the global

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economy, Russia has thus far ranked as the largest exporter of primary fossil fuels (coal, oil and natural gas) and a major supplier of further industrial and agricultural raw materials.

The insecurity triggered by the war, emerging shortages due to the sanctioned movement of goods and money, and significant increases in the prices of primary fossil energy sources and agricultural goods had a negative impact on the global economy in the reporting year.

2G identifies risks from Russia's war against Ukraine primarily in the areas of "sales risks", "IT risks", "product availability risks", "political risks" and "environmental and safety risks" discussed in the risk and opportunity report, and assesses these – on the basis of information available as of the end of March 2023 – as follows:

#### *IT risks*

In recent years, Russia has increasingly been mentioned as a potential source of cyber-attacks on the IT systems of public institutions and companies in connection with extortion and destruction, including in Germany. It cannot be ruled out that Russia will deploy cyber-attacks as part of its warfare and in response to Western sanctions in order to disable or at least weaken critical infrastructure, public institutions and businesses.

As 2G products represent critical infrastructure for the generation of heat and power at our customers' facilities, they may also become the focus of such actions. In this context, 2G's IT infrastructure, with its central platform functions, can also form the target of such attacks. For this

reason, we have further refined the IT security structure's preventive processes, as described in the general risk report, and subjected them to close monitoring over time.

#### *Sales risks*

The Management Board is only assuming temporary sales risks as a result of the uncertainty over energy supplies, above all in Europe, triggered by the war. Russia and Ukraine play a very minor role for 2G as sales markets. From a rational perspective, there continues to be rising demand worldwide for decentralized, base-load capable and carbon-saving power generation capacities.

The significant rise in some prices for primary fossil energy sources has also highlighted the importance of efficient and resource-conserving energy generation. The combined generation of heat and power at the same time offers precisely these sought-after features. War and its effects do not stop climate change, nor do they make it less of a presence. A temporary shift in the priorities of fiscal resources towards spending on humanitarian purposes, military equipment for defense and to develop alternative sources of supply for fossil fuels is likely, but will not call into fundamental question legislative plans to expand climate protection in Germany and the G7 countries. On the contrary. Given the EU's efforts to break away from its dependence on Russia for fossil primary energy sources as rapidly as possible, renewable energies and particularly efficient technologies will receive greater political attention and very likely further investment incentives in order to accelerate and complete the transformation towards energy generation

that is as carbon-free as possible. 2G has also well diversified any potential sales risk thanks to its broad international presence. Moreover, 2G has a certain degree of planning security thanks to its high current order book position. In addition, Service contributes approx. 50% of Group sales. It will also generate plannable, continuous cash flows beyond 2024.

#### *Product availability risks*

2G considers the availability of components and parts for production and service to be secured, as a matter of principle. 2G has high stocks of engines and inventories in storage and has prepared capacity at the Heek facility for higher expected demand. Suppliers operate reliably and have proved their ability to deliver, including after the war started, indicating no restrictions to date. In addition, 2G can rely on alternative suppliers for almost all components. Geographically, 2G is focused on the Germany, Austria and Switzerland region, so logistical risks should also be manageable. The company's sound balance sheet position and, in particular, healthy liquidity give it the necessary scope to exploit procurement opportunities on a countercyclical basis. With the products and components available, 2G does not perceive any risks with regard to the aforementioned order book position.

#### *Political risks*

Due to the subordinate role that the states of Russia and Ukraine have long played in 2G's CHP sales, the economic sanctions imposed by the Western community of states and the restrictions on Russia in terms of monetary transactions do

not affect us directly. The same applies to Russia's economic and legal responses to such measures. Abandoning the Russian sales market has no significant impact on 2G.

#### *Environmental and safety risks*

As sales of CHP systems to Russia and Ukraine are not likely at this point in time, most of the environmental and safety risks identified above do not apply. With regard to equipment installed in these two countries, 2G can rely on digital operation and remote maintenance capabilities through its own online platform my.2-g.com and the use of augmented reality tools. Within its sphere of influence, 2G can ensure operation and maintenance as well as the shutdown of systems in inaccessible or militarily endangered regions, at least for a certain period of time. This allows potential environmental and safety risks or unauthorized use to be prophylactically avoided.

#### **Opportunities for the Group to develop in terms of growth and earnings**

2G has implemented a number of measures to create the basis for the Group's further growth and earnings-based development, to identify and evaluate business opportunities, and to put them into practice on a controlled basis. Some of these measures are medium to long-term in orientation and consequently extend over several reporting years, while other measures described here were new ones launched in the year under review.

1. 2G is forging ahead with the expansion of its business activities in the core foreign markets

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of North America, the United Kingdom, France, Italy and Japan, and is further developing the 2G partner concept worldwide. With the introduction of a digital tool for the online configuration, pricing and quoting (CPQ) of CHP systems, the company has taken a decisive step in digitalizing and simplifying the sales process.

2G is also further advancing the digitalization of CHP systems and service in terms of control, maintenance and operational availability through creating interfaces to energy utilities, contractors and investors, as well as in-house developments such as the I.R.I.S. (the "Intelligent Report Information System") for service.

2. The Lead-to-Lean flagship project should gradually result in a sustainable improvement in production processes. Among other measures, 2G has converted the previous stationary assembly to flow production in the areas of small power system assembly and control cabinet construction. With the help of rule-based assembly lines, it is the goal to achieve a higher capacitive flexibility with improved quality. At the same time, assembly work per unit can be significantly reduced.

3. The Service division is well placed for profitability following the organizational optimization of its office services and field sales force, the continuous expansion of the staff base in direct local customer service, as well as the digitalization of the control, maintenance and operational reliability of 2G power systems. Moreover, foreign markets are exhibiting growing demand for our services. Service expertise and availability are important

performance criteria in customers' investment decisions.

4. 2G is consistently advancing the technical further development of CHP modules through its own R&D department. This also includes the CHP system that runs on pure hydrogen (H<sub>2</sub>), which 2G developed itself. In technical terms, 2G's research and development team successfully adapted the technology of a standard natural gas CHP so that H<sub>2</sub> can be harnessed to generate electricity and heat on a comparatively profitable basis, as well as being highly efficient in operational terms and generating almost no carbon dioxide emissions. 2G offers H<sub>2</sub> CHP systems in the output range from 75 kW to 450 kW at similar prices to those for natural gas systems. In addition, 2G guarantees to convert its natural gas CHP systems with the 2G engine concept to 100% H<sub>2</sub> operation, e.g. as part of regular maintenance.

In the Management Board's view, this is a strategic key that makes investments in natural gas CHP systems climate-compatible and future-proof for operators. In the year under review, R&D work also focused on the design of a new 16-cylinder unit. The avus 800plus is intended to close the performance gap between 550 kW and 1,000 kW in the plants with its own engine concept. In engine optimization, 2G has focused on spark plug lifecycles. A more effective provision of ignition energy and an improved knock control enable, on the one hand, an increase in power and on the other hand a lower wear of essential wear parts. Overall, these development advances enable us to send better-tuned engines into the field with a power

increase of more than 10%, low emissions and the usual long component service life.

5. The further expansion of rental and lease options for customers of 2G power systems leverages additional sales potential. With the pay-per-use solution or the sale of “full use hours”, 2G is offering the actual use of a CHP system as a rental solution. This enables customers to exploit the benefits of CHP technology without necessitating their own investment. From the customer’s perspective, the important question as to how their investment can be secured financially after legally stipulated subsidy periods expire – depending on the performance class – thus no longer applies.

6. The international climate debate is increasingly supporting 2G’s business model in general. The global community agreed on a joint climate protection target in Paris in December 2015. With its “Fit for 55” program, the EU aims to ensure that member countries significantly reduce greenhouse gas emissions by 2030.

The EU is aiming for climate neutrality by 2050. The energy generation measures to be taken at national level (such as the decision to phase out coal in Germany by 2030/2038), and at international level, support technologies and forms of generation that deliver efficiency gains, considerably reduce resource consumption, significantly reduce greenhouse gas emissions, and enable the integration of volatile renewable energies for a reliable supply.

In other words, the establishment of energy production capacities from renewable energies and system-compatible technologies will be

supported. The phasing-out of coal as a primary energy source and the greatest source of greenhouse gases will also increasingly require technologies that ensure energy supplies in accordance with fluctuating renewables in terms of flexibility, supply reliability, and economic efficiency. This represents one of the strengths of CHP technology from which great international potential demand can grow in the future.

7. The development outlined in section 6 also implies a fundamental change in the type of generation used for heating supplies. This is because some 70% of Germany’s coal-fired power plants are integrated by some means into a CHP system; in other words, as less coal is used to generate electricity, huge quantities of heat will no longer be available. Although heat pumps can make up some of the shortfall, they will lead to an increase in power consumption at the same time as the number of electric vehicles on the road is growing. Most scientific studies are suggesting that consumption in Germany will rise by more than 50% by 2030. In other words, new markets and sales opportunities are opening up for CHP for both heating and power supplies in the future.

8. CHP systems in the medium power range from 2G’s product portfolio are natural partner technologies for solar and wind energy due to their complementary mode of operation. After all, in misty fall and winter weather, wind turbines and solar panels fall far short of their capacity for generating power. Far too little electricity is produced – against demand that tends to be high. This applies all the more on clear, frosty days and nearly all calm winter nights when the demand for heat is undoubtedly high. If more and more conventional power stations are to be taken off

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the grid, the question arises as to which producers can close this capacity gap while at the same time being flexible enough to respond at short notice to fluctuating supply and demand. CHP systems are excellently suited to such situations as a backbone technology, as they can deliver baseload-capable energy if wind and solar power are not sufficient. The combination of technologies and the coupling of sectors creates systemic value added for reliability of supply. We are convinced that this key function will be needed for a very long time to guarantee reliability of supply. And even if decarbonization is achieved in 2045, CHP systems will be required to transform the energy from renewable repositories such as biogas, hydrogen and methane back to electricity and heat. In other words: CHP systems will be a permanent, integral part of energy generation not just on the path to a nearly carbon-free energy supply, but also beyond the time when this goal is achieved. With its CHP technology, 2G is well positioned to operate with hydrogen, methane and biogas in order to participate in the foreseeable rise in demand during both phases.

9. The listing of 2G Energy AG in the "Scale" segment of the Frankfurt Stock Exchange creates transparency. Its listing on the stock market gives the company access to growth and investment capital where required. Transparency requirements contribute to tangible confidence among customers in deciding to invest in 2G CHP power systems, and help the company to set itself apart from its competitors through reliability and transparency. This goes hand in hand with 2G's commitment to sustainability standards such as the UN Global Compact, which 2G joined in 2021. For the capital market, 2G regularly undergoes a sustainability rating by

Institutional Shareholder Services (ISS), which awards 2G an above-average "Prime" rating.

Overall, the Management Board identifies attractive opportunities for 2G on both the German and foreign markets. This assessment is based, among other things, on the trend in the spark spread, which is important for the economic viability of CHP systems. In spite of the upwards trend in electricity and gas prices observed in the reporting year, the spreads remain attractive. The value of the heating and savings potential for the carbon credits, which have risen in price, are playing an increasingly important role in economic efficiency. For operators, the attractiveness of an investment in CHP systems is further enhanced by a secure basis for budgeting energy costs, and not least the future viability of 2G systems with their H<sub>2</sub> conversion guarantee. The fact that they can be operated with flexible control makes CHP systems an ideal and – for supply reliability – essential partner for fluctuating energy sources, such as solar and wind. Combined heat and power generation thereby represents an important building block in a global energy revolution to guarantee value for money, and supply security for electricity and heat consumers.

#### **Overall statement on the risk and opportunity situation**

The risk strategy has the character of that of a medium-sized company and is deliberately opportunity-orientated. Taking existing steering and controlling measures into account, no specific risk is deemed to be a going concern risk; it is also the case that the company has not identified any aggregate going concern risk

given a simultaneous occurrence of individual risks. From today's perspective, it does not identify any such going concern risks for the future either. The risks listed could nevertheless exert a negative effect on the company's net assets, financial position, results of operations and business performance.

Significant changes in the risk position result from IT risks in the form of potential cyber-attacks or significant malfunctions to IT functionalities in view of the tense geopolitical situation. With its ISO 27001 certification, 2G adapted its processes and structures to take account of this risk and raise awareness. With the growing globalization of the sales base, risks of deficient performance by partners or reputation damage are also increasing. At the same time, however, the international diversification strategy and foreign expansion via the partner concept represent proven methods for minimizing financial and operational risks for 2G. Partners are also selected in accordance with strict criteria, sales and service staff are trained to 2G standards and activities are integrated with 2G's in-house digital structures. As outlined, the Management Board perceives the Group's risk position caused by the impact of the COVID-19 pandemic as noticeably reduced by comparison with the previous year as worldwide endemicity prevails in the meantime. Potential risks from Russia's war against Ukraine are negligible in relation to Group sales. In the reporting year, Group sales in Ukraine account for less than 1%. In the medium term, the reconstruction of the energy supply infrastructure in Ukraine by means of decentralized units may lead to corresponding demand.

The high prices for primary fossil fuels and electricity as a consequence of the war have turned the spotlight on Europe's geopolitical and economic dependence on Russian oil, gas and black coal supplies. To quickly reduce this dependence, renewable energies, efficient technologies such as CHP systems and storage media are now at the top of the urgent to-do list for politicians and business leaders. CHP systems offer an attractive solution profile through the traditionally short lead times for the medium power range as well as low social and official barriers to their installation and operation. In addition, 2G CHP plants can be converted to run on hydrogen at any time, even if they are already in operation. This excludes the possibility of "stranded investments" and guarantees investment in climate-friendly, future-proof CHP technology. In the assessment of the Management Board, the demand for highly efficient, climate-friendly technology for the generation of electricity and heat will remain high around the world against the backdrop of climate change, and continue to gain dynamic momentum.

For 2G, new opportunities in the global market may well arise from its continued ability to deliver, its sound financial position, the many years of transparency provided by its stock market listing, and its established brand.

The company has the fundamental capacity to withstand risks on account of its available and potential financial reserves, sound balance sheet ratios, and the existing insurance concept. In our opinion, the business opportunities outweigh the potential risks entailed.

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The 2G Group outlook takes account of relevant facts and events that were known on the date when the consolidated financial statements were prepared, and which can influence future business development and growth.

### Orientation of the Group in the following two financial years

2G, as one of the leading international manufacturers of gas-fired CHP systems with piston drive, continues to vigorously pursue its goal of strengthening sales in existing markets, tapping selected new markets with sales and service partners, refining its CHP technology and winning new customer groups. In this way, global market shares are to be successively expanded on a profitable basis. We are pursuing four overarching projects for the Group's development: internationalization as part of the partner concept, digitalization, our Lead-to-Lean project, and innovations for our products and services. The following strategic guiding principles for growth and earnings can be derived from these projects:

- tapping additional potential by stepping up the internationalization of sales of CHP systems and services with the involvement of sales and service partners,
- consistent digitalization of CHP engine control as well as service and maintenance services, and thereby creation of proprietary digital products as additional sales potential,

- cost reductions in connection with simultaneous quality improvement and capacity expansion through the introduction of collaborative, quality-driven processes at the Heek production site covering the entire value chain,
- structured advancement of product and software innovations in order to meet our high claim of technology leadership for the benefit of our customers and for the lowest emission levels in power generation.

These guidelines will continue to determine our business activities in the coming years. To this end, we are always open-minded with regard to technology in our strategic considerations, and we perceive ourselves as the natural, integrated partner to solar and wind energy in the network. Organic growth is to be further pursued in all targeted markets. In this context, 2G is focusing on the regions of North America, Asia, and Central and Eastern Europe. In addition to its positioning as a technologically leading developer and manufacturer of CHP systems, 2G intends to increasingly establish itself as a supplier of integrated, digitally controlled CHP systems for challenging residual operation. Demand-driven, system-compatible, flexible and digital are the product and system characteristics that we believe will point the way forward for the future. 2G also covers this future viability with its broad range of hydrogen CHP power systems and its guarantee to convert natural gas and biogas CHP systems to run on hydrogen. Consequently, a large proportion of 2G products are already "H<sub>2</sub>-ready" for virtually emission-free energy generation. Naturally,

an admixture of hydrogen is also technically possible.

The company is addressing growing demand for very low emissions with its own developments, such as a combustion concept with low turbocharging and 2G SCR catalyst technology. With the launch of series production of our self-developed CHP system running on pure hydrogen, we have taken a crucial step further and can offer our customers almost carbon dioxide-free energy supplies. Additionally, 2G regards itself as a service provider and product partner in the context of our customers' energy management concepts. With these strengths, 2G is positioning itself in the dynamically developing international energy market as a provider of highly efficient, climate-compatible CHP systems and energy generation solutions.

### Future macroeconomic situation

*Retarding effects on the global economy increasingly dominant*

In its Kiel Economic Report for 2023 published in mid-December 2022, the IfW assumes that economic growth will be sluggish overall. Many imponderables such as the aftermath of in some cases strict coronavirus measures in Asia, residual material and delivery bottlenecks, Russia's war against Ukraine, high energy prices and a restrictive monetary policy to contain inflation are leading to persistent uncertainty and reluctance to invest. In its report, the IfW emphasizes that energy supplies and energy prices continue to represent a risk factor for the forecast. If inflation also proves more stubborn than assumed by the US Federal Reserve, there is a risk that US interest rates may be raised more

sharply and remain high for longer than assumed in the forecast. In that case, the pace of the downturn in the financial cycle might accelerate in the further course of the forecast period and the resulting risks to financial stability could be aggravated. Leading business publications have stated the conundrum as follows: "We can't expect the economic numbers and employment figures to remain strong while at the same time, inflation falls on a lasting basis – and not just temporarily due to the statistical base effect. The two are mutually exclusive, at least if we look at core inflation (excl. price movements in energy and food). It is very unlikely that we will escape a recession and that interest rates will nevertheless fall".

According to the IfW, the major advanced economies, above all, are facing a weak economic phase despite considerable fiscal measures to support them. At the same time, the problems for the Chinese economy remain substantial. Economic researchers expect global GDP in 2023 to only rise by 2.2% while for 2024 they expect growth of 3.2% primarily because the US economy is only expected to recover towards the end of 2024. Although inflation can be expected to have passed its zenith in the fall of 2022 and to decline significantly in the forecast period thanks to lower commodity prices and the easing of economic tensions, the underlying upward pressure on prices can only be expected to fall back to acceptable levels towards the end of the forecast period, according to the IfW. For the USA, the IfW is assuming a dip in US GDP of 0.4% in 2023 and even the recovery expected for 2024 is likely to be initially weak with growth of 0.5%.

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The economy in the Eurozone is also facing a period of weakness according to the IfW. Even if energy supplies appear secure, inflation has passed its peak and supply chain problems have eased somewhat, the USA and China, in particular, are unlikely to provide any growth stimulus. Economists see the aggressive rate at which the ECB is raising interest rates as a further negative factor. Corporate investments are therefore likely to come under pressure from higher refinancing costs. GDP is likely to rise by 0.6% in the current year and by 1.5% in 2024, according to the economists.

The German economy is experiencing a weak six-month period this winter in the opinion of the IfW. High energy prices are affecting the purchasing power of private households – despite electricity and gas price brakes – and depressing private consumption. The economic environment is weak and offering no positive stimulus to the economy. However, Deutsche Bundesbank is not expecting a recession this year. A hard landing is thought unlikely. In the current year, the IfW expects to see inflation at 5.4%. Although real disposable income and consequently also private consumption will probably fall in the coming year, the decline will be significantly less than appeared likely even a few months ago. The Bundesbank is expecting an inflation rate between 6% and 7% and emphasizes that the underlying price pressure in the economy is still strong and can be expected to persist in the medium term. As a result, the IfW is expecting GDP to rise slightly by 0.3% in 2023 and to grow somewhat more strongly again by 1.3% in 2024. The labor market has proved robust despite the economic slowdown – and one of the reasons being that

companies are still urgently looking for skilled workers.

Despite the overall modest economic outlook, 2G is assuming that companies' basic willingness to invest in energy generation and infrastructure is high with respect to the energy industry in developed countries (G7/G20). This willingness is reinforced in North America and Europe by lavishly endowed subsidy programs such as the IRA in the USA and the Green Deal Industrial Plan in the EU. The higher price level for primary fossil fuels and climate protection requirements are prompting many companies and providers to invest in efficient generation technologies that protect natural resources. 2G's CHP systems offer a broad range of appropriate solutions for future-proof, safe energy provision.

### **Rising order intake expected in the USA**

With a look to the North American market, we expect to see business recover significantly in the current year. We base this assumption on the improvement in the underlying regulatory framework such as the Inflation Reduction Act (IRA) as well as subsidies for the establishment of a hydrogen industry. The IRA specifically provides for substantial tax credits for many renewable energy producers which could revolutionize the pace of investment in the energy turnaround. Under the IRA, biogas and natural gas CHP systems qualify for the highest so-called Investment Tax Credits (ITC) of 30%, while the figure previously stood at only 10%. The US administration has also launched a program to subsidize the production of hydrogen with a tax credit of three US dollars per kilo of

hydrogen. This equates to a subsidy of approx. 9 US cents per kWh and thus a roughly 50% contribution to the production costs. Interest in our hydrogen CHP systems has picked up accordingly, and we have already been able to sell three units. The market for microgrids and island operation solutions remains attractive in the USA. Frequent blackouts caused by extreme weather events over wide areas are leading to increasing demand for alternative, safe energy supply options, particularly from hospitals and universities.

Generally, we are experiencing a trend away from large-scale CHP plants to medium-sized systems in a power range serviced by 2G with its systems. The equipping of sewage works and landfills with CHP systems remains an interesting sales market. The sales and earnings contributions from the Service division should grow more strongly, as prompted by the constantly growing machine population, we are establishing our own service capacities which are to be seen as complementary to our existing partners.

The growing availability of LNG and corresponding infrastructure and port logistics are opening up new sales markets for 2G in America. Existing fuel sources such as diesel are gradually being displaced by the supply of LNG. Funding such infrastructure measures is beneficial for many governments, as natural-gas-operated systems enable them to reduce carbon emissions per MWh from their energy sectors by 40% to 50%. In Central America and the Caribbean region, in particular, further sales opportunities arise through reference projects already implemented by 2G.

With IESO (Independent Energy System Operator), Canada has launched a program that supports investments by grid operators in expanding their capacity to meet peak loads. 2G's CHP systems have already undergone a corresponding qualification process. On commissioning, grid operators also have the opportunity to sell the electricity directly besides their fixed, daily capacity remuneration.

### Modest recovery in Asian business expected

Following the coronavirus-related restrictions, many of which still applied in the reporting year, 2G and its partners expect demand in Asia to gradually recover in the next two years.

In Japan, the willingness to invest primarily in biogas and lean gas CHP systems is expected to increase again. However, higher refinancing costs can act as a brake, as well as the weak Yen making imported 2G products significantly more expensive. As part of the climate-friendly conversion of Japanese energy production, we are expecting further orders for hydrogen CHP systems. Many major Japanese corporations are starting to invest in pilot plants.

In Australia, too, 2G believes there is a good chance that it will again be possible to win CHP orders primarily for waste recycling and food production applications. There may be a catch-up effect in the market for natural gas CHP systems now that natural gas distribution on the East coast has been secured again following the bankruptcy of the largest natural gas supplier. In Korea, we are registering growing interest in biogas and sewage gas projects as well as from the food industry. Working with

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a new partner, we can draw on many projects that have already been prepared and should reach the implementation stage in the coming quarters. The policy discussion in South Korea on the future direction of the country's energy supply is focused on renewables, green gases and hydrogen – with potentially encouraging prospects for highly innovative CHP systems from 2G in a technology-savvy country. In Taiwan, we expect an impressive sales increase due to significantly higher feed-in tariffs for biogas systems. In further countries such as Indonesia, we also see good opportunities to sell systems through new partners.

In China, 2G is working with a new distributor to gain access to this huge market. Now that the zero-COVID strategy has been lifted, there should be an upturn in the biogas market, and specific negotiations are already ongoing for a potential of at least 10 CHP systems. We see further potential in a government directive requiring each city to recycle biowaste for energy rather than dispose of it in landfills.

After some delays in Israel, we are assuming that we will be able to sell our first natural gas CHP systems through our partner. Currently, energy supplies are being decentralized in a first step with a capacity of 460 MW by 2025.

In the Middle East, 2G sees promising strategic prospects. The development of a hydrogen industry is of crucial importance for many countries on the Arabian peninsula as a substitute for oil. Our intention is to set up structures in some countries in the coming years and to sign up partners in order to participate in this market. Lean gas CHP systems also have a sales market

here for the utilization of gas from purification plants, energy recovery from food waste, or in landfills.

### **Further dynamic growth to be expected in Europe**

With regard to many Eastern European countries, 2G expects brisk demand growth to continue over the coming years. In particular, the incipient conversion of coal-fired power stations, primarily to natural gas plants, and incentives for energy efficiency measures such as in Poland are likely to be some of the market drivers, as will projects to generate process heat for industrial customers and biogas CHP systems for farms. After the massive destruction of energy infrastructure through the war in some parts of the country, Ukraine is starting to build first and foremost a decentralized energy supply infrastructure.

In terms of the Benelux countries, we are optimistic that the dynamic growth seen in recent years will continue. This applies both to natural gas-fired systems, e.g. for greenhouse operators, and to biogas-fueled CHP systems for wastewater treatment systems and the food industry. An independent subsidiary was set up in the Netherlands in the first quarter in order to tap the market potential more efficiently with regional expertise.

The French market will depend heavily on further movements in the price of electricity in the country. Nuclear power's dominance of electricity generation places tight limits on the economic use of natural gas CHP systems. At a high price level, the first projects could be commissioned by industrial companies

combining natural gas CHP systems with heat pumps primarily for the generation of heat. Otherwise, sales of biogas systems will dominate to permit companies to inexpensively meet their own requirement for electricity and heat in agriculture besides the feed-in of biomethane.

In the UK, 2G expects good growth prospects for the next two years. Many of the projects postponed in 2022 are likely to be successively realized. With a sales contribution in the double-digit millions, Service also forms a stable, growing pillar of the business of our subsidiary 2G Energy Ltd. The CHP market in the United Kingdom has experienced a clear-out in the last, economically challenging quarters, and 2G has been able to consolidate its market position in this phase. We win customers in particular through our services, expertise in solutions and conversion guarantee to hydrogen.

One expression of this confidence is the umbrella supply contract for CHP systems concluded with Centrica Business Solutions UK Ltd. As the parent company of British Gas, Centrica is the largest utility in the country and operates and/or maintains energy systems for the public sector and large industrial companies. Such systems include hydrogen-compatible CHP systems, large solar farms and heat pumps. In our view, the fact that Centrica will in future be backing highly efficient, hydrogen-compatible heat and power solutions from 2G shows the technologically and strategically preeminent status of 2G in the UK. This know-how will be needed in the UK as one of the very first countries to rapidly convert its energy supplies to hydrogen and

reach climate neutrality. The stars are favorably aligned to achieve this goal. As part of its energy revolution, the country initially backed natural gas as a climate-compatible primary energy source. Now we are witnessing the next logical step of backing hydrogen. Several hydrogen projects, produced from natural gas with carbon capture (so-called blue hydrogen), are currently being set up. The aim is to create the facility for some infrastructure projects, in addition to the nationwide natural gas grid, to supply the chemical and cement industries, in particular, with hydrogen in the future. The first tenders ("Contract for Difference" program) are expected this year for projects with green hydrogen from wind and solar energy. We assume that demand for hydrogen CHP systems will generate its own dynamic momentum. Given its broad range of hydrogen CHP systems, and now with its partnership with Centrica, 2G is excellently positioned for this transformation in the UK.

### **Accelerated expansion of renewable energies requires controllable power for reliability of supply**

The expansion of renewable energies is likely to accelerate in Germany and Europe in the coming years. In terms of the underlying tendency, Germany can serve as an example to many other developed countries that have to convert their energy supply to achieve climate neutrality. The Prognos "Climate-neutral Germany 2045" study outlines the expansion pathway for supply-dependent producers, as shown in Diagram 6, until the goal of climate neutrality is achieved in 2045. The challenge is tremendous. As of today, 138 GW of renewable

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energies have been installed, and by 2030, this base must be almost doubled to 268 GW. This is comparable with the construction of around 13 new nuclear power stations per year. The path to the climate neutrality of energy generation in 2045 will not become any easier after 2030, as the installed power will have to be more than doubled in the following fifteen years. A look at the chart also shows that the proportion of weather-dependent generation capacity is significantly higher. Against the background of the decision to phase out nuclear energy and coal-fired power generation as well as the lack of seasonal storage options, this scenario sends a strong signal for the establishment of climate-friendly, controllable power with sufficient capacity.

With regard to heat and power coupling, this can mean the way to further structural growth. After all, as urgently needed and controllable power, it goes hand in hand with the expansion of renewables in order to guarantee integrated reliability of supply. And this can be achieved by the following means: coal and fuel rods will be replaced by gaseous fuels. Besides hydrogen and other lean gases such as biogas, landfill gas and sewage gas, these also still include natural gas for the time being. Diagram 7 shows the transition from solid fuels to gases as well as their key future role. As early as 2030, gases are to make up over half of controllable power. In 2045, this proportion will be almost 90% of the roughly 80 GW that must be made available for security of supply. The molecular structure of

**Installed capacity of renewable energies in scenario KNmin** Installed capacity in GW

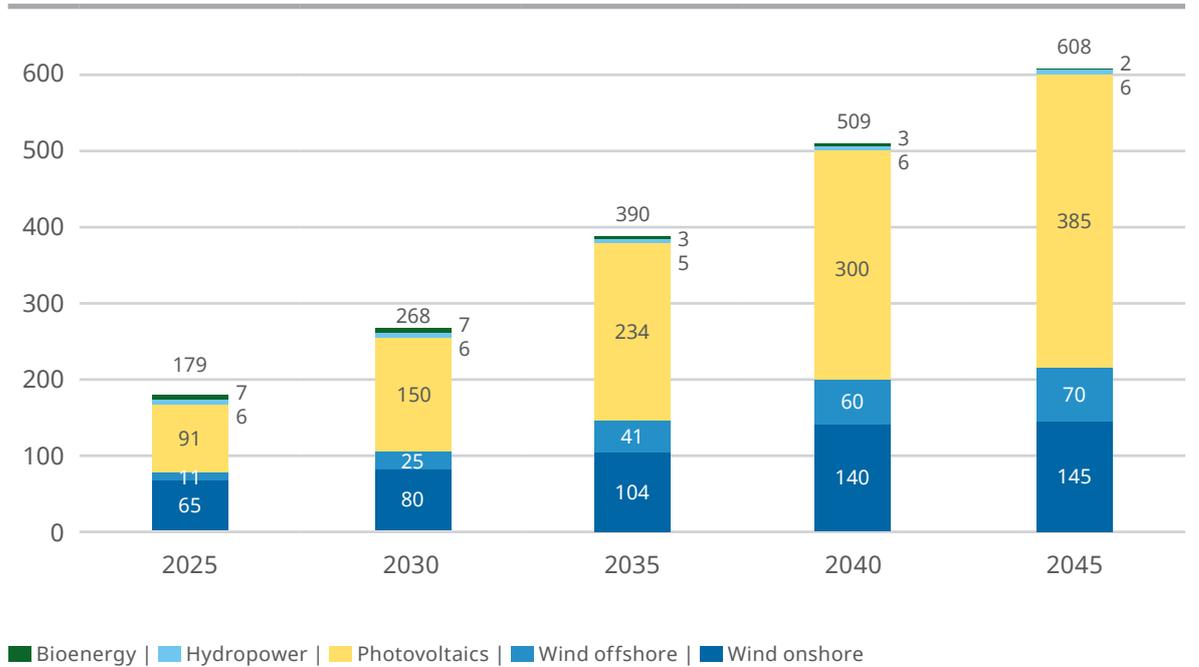


Diagram 6: Installed capacity of renewable energies in scenario KNmin (in GW).  
 Source: Prognos AG, Ökoinstitut e. V., Wuppertal Institut für Klima, Umwelt, Energie gGmbH, Klimaneutrales Deutschland 2045 Zusammenfassung, June 2021

the gases will shift gradually but significantly towards gases of green origin. In our opinion, this will be a granular transition. 2G's CHP technology already provides an outstanding example of this granular change by three means: highly efficient use of natural gas, conversion guarantee to hydrogen for existing natural gas and biogas systems and hydrogen CHP systems that run on 0 to 100% hydrogen. The steady rise in orders for hydrogen CHP systems from Europe, North America and Asia shows that we are able to meet the emerging demand for hydrogen CHP systems in the breadth and technical flexibility requested. In the reporting year, 2G received orders for hydrogen systems to a total value of EUR 5.1 million both from Germany and from five further countries in Europe, the Americas and Asia.

Discussions with politicians and investors in some cases reveal skepticism regarding the use of natural gas in the transition phase to green gases. We are convinced that the following benefits favor the continued use of natural gas in the interim.

1. Natural gas makes a substantial contribution to lowering carbon emissions by comparison with coal-fired technologies.
2. It is based on existing, well developed distribution infrastructure, complemented by LNG terminals.
3. Analysis of the so-called displacement mix demonstrates that under the merit order

### Installed controllable power in scenario KNmin

### Installed capacity in GW

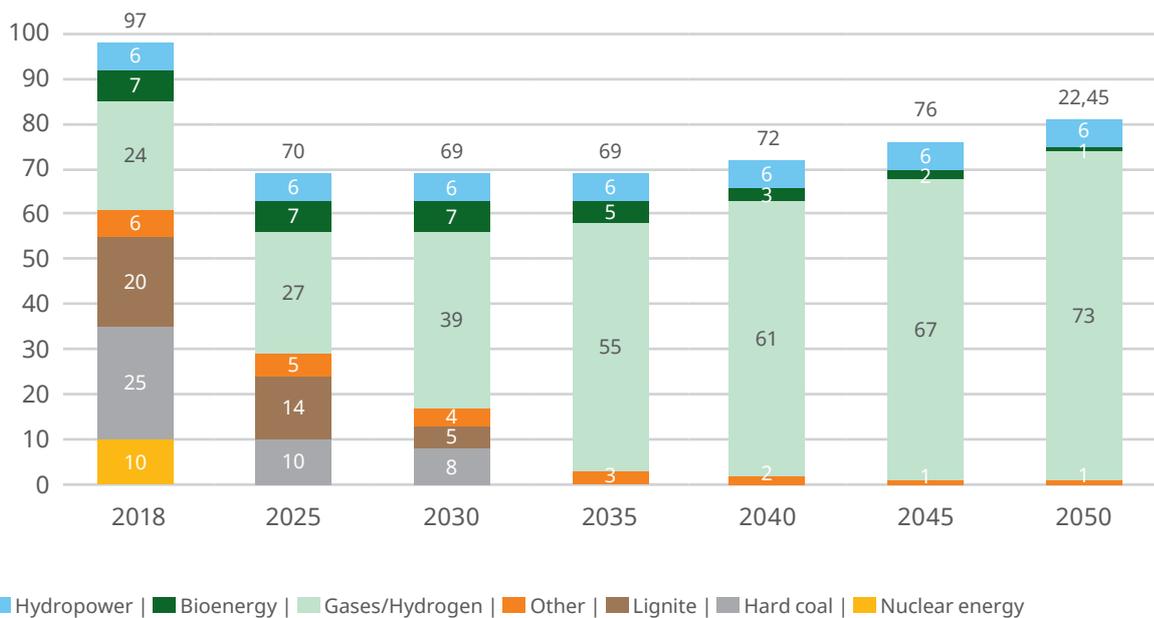


Diagram 7: Installed controllable capacity in scenario KNmin (in GW).  
Source: Agora-Energiewende Studie, Klimaneutrales Deutschland, November 2020

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**GHG savings due to CHP based on natural gas.  
CHP always displace a certain fossil energy mix.**

Conventional power plants in the electricity mix	Share		GHG factor (g CO <sub>2</sub> eq./kWh <sub>el</sub> )		CHP fueled with natural gas (not emission-optimized), g CO <sub>2</sub> eq./kWh <sub>el</sub>
	Absolute	Relative	Absolute	Relative	
Lignite	23%	45%	1006	453	
Hard coal	14%	28%	888	249	
Natural gas	13%	27%	406	110	
<b>Total</b>	<b>50%</b>	<b>100%</b>		<b>811</b>	<b>400 – 500</b>

Any additional CHP improves the GHG emissions compared to the relevant existing electricity mix, as it displaces fossil power plants.

Diagram 8: GHG savings due to CHP based on natural gas. CHP always displace a certain fossil energy mix.  
Source: 2G Energy AG, November 2022

system, every additional natural gas-fired CHP system displaces “dirty” power from lignite and hard coal-fired power stations from the energy mix. Diagram 8 shows an overview of this relationship. If cost compensation is also offered by the state for maintaining controllable natural gas-fired power plant capacity, this may accelerate the displacement and significantly improve the carbon footprint across all types of power generation.

**2G is well prepared for dynamic growth and expects a positive rise in sales and earnings**

As part of our lead projects, we are pursuing numerous initiatives within the company that will enable us to further improve our products, services and processes and drive innovation over the next two years. This should help us to gain market share in Germany and in the sales regions abroad, to enhance efficiency

and quality in our production processes, to be perceived as an attractive employer and partner, and to strengthen our profitability and increase our profit margin.

Our broad CHP system portfolio between 20 and 4,500 kW provides a good foundation enabling us to offer individual solutions in all customer segments around the world. We are observing developments on global markets minutely in order to adapt our portfolio and, if necessary, extend it at any time from a technical perspective. Our aspiration is to help shape the far-reaching transformation in energy generation and the selection of fuels, and to set the benchmarks in the process. One good example is the recent launch of our own engine concept with a rated output of 1 MW electric, the avus 1000plus, for operation with lean gases and natural gas. This opens the door internationally for 2G to the higher power range. A further example is the development of

a CHP plant running on hydrogen and the fast progression to series production. We can also convert existing natural gas and biogas CHP systems to this technology as standard. We are proceeding circumspectly along these paths and our goals for the future are to align the endurance properties of our hydrogen engines with those of our natural gas engines to further reduce emissions for all other gas types. With new CHP types such as the g-box 50 for biogas, used primarily for the in-house supply of biogas systems and secondary consumption and the avus 800plus, which closes the gap between the avus 550plus and the avus 1000plus, we are preparing early for newly emerging markets and are able to win over customers with our energy supply solutions.

2G is ready and waiting for the expected rise in orders for CHP systems from Germany and abroad. We have proactively secured further land for expansion at our Heek facility. We are assuming that we will be able to double our currently produced, annual energy generation capacity (approx. 200 MW) without any major investment in new production facilities. In the current year of 2023, we will, however, extend our central warehouse in Heek. In addition, 2G will make a strategic investment in a new ERP system architecture and in setting up a Document Management System. Investment activities are to be financed essentially from the operating cash flow.

The conversion from job production to continuous production in module manufacture has started very auspiciously. We will use the experience gained to extend it to further module sizes. Continuous manufacturing is

characterized by high flexibility in terms of capacities. We are thereby realizing a significant production increase without compromising efficiency or quality. By expanding the detailed preparatory planning in design, we are decreasing our procurement and assembly costs, while increasing the share of prefabricated system parts and reducing critical customer interfaces. This leads to higher production throughput in Heek and shorter installation times on construction sites.

We aim to steadily add external systems to 2G's Service portfolio. At present, we are maintaining around 600 systems from third-party manufacturers. In order to win over new customers, we essentially rely on three levers: the exclusive collaboration agreement with Liebherr for engine supplies and spare parts, the sale of our premium parts in the spare parts business tailored to external GenSets such as MAN engines as well as the targeted expansion of our distribution and service partners. With this strategy, we use our service business to open up direct contact with CHP operators and investors, who will receive a quotation for new 2G systems with a service contract at the end of their system's regular service life. 2G's aim is to act and be perceived globally as an integrated system provider both in terms of CHP products and with regard to the services associated with efficient operation. Our claim to technology leadership in the sector applies equally to the digital equipment and communication capabilities of 2G power plants.

Based on this analysis and the initiatives outlined, we are progressing towards the upcoming years with a certain degree of

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entrepreneurial confidence in our business. In the fall of 2022, we took this cautious optimism as an opportunity to raise our medium-term sales forecast for 2024 to a target figure of up to EUR 390 million. We expect to increase the EBIT margin to a level of 8.5% to 10% through efficiency gains from the lead projects, margin contributions from the service business, and cost degression in production.

With regard to the current financial year, the order book is well filled at the beginning of 2023 at more than EUR 175 million. In light of this order book position and additional new orders expected from the new systems business in Germany and abroad, as well as the growing service business, the Management Board expects consolidated net sales in a range between EUR 310 million and EUR 350 million for the 2023 financial year. For the EBIT margin, we have set a range of 6.5% to 8.5%. The lower end reflects an increase in personnel expenses by an average of 6% in the form of higher compensation and a targeted increase in headcount against the backdrop of a further rise of the order backlog. On the other hand, we allow a commercial buffer for the dynamic development of purchasing prices in 2022, as it was not possible to pass on increased

purchasing prices to the necessary extent in all cases by adjusting selling prices. Additionally, we must continue to expect rising prices for certain components.

The upper edge of the earnings forecast expresses the expectation that we will be able to realize further efficiency gains through the four lead projects. In addition, the cooperative ventures such as with Liebherr and Centrica should gradually develop their potential so that rising sales can (more than) compensate for the cost trend. The sustained increase in service business will also make substantial and reliable contributions to margins – irrespective of the economic situation and price volatility.

At the time of preparing this report, the forecast is subject to the specific effects of a possible recessionary economic situation in the developed economies, which cannot be assessed. Further turbulence in the financial sector as a result of a restrictive monetary policy and/or an open or smoldering banking crisis with significant consequences for the real economy, as well as geopolitical uncertainties that continue to prevail, call for caution.

Heek, April 6, 2023



Christian Grotholt  
Management Board Chairman  
(CEO)



Ludger Holtkamp  
Management Board  
Member



Friedrich Pehle  
Management Board  
Member



Frank Grewe  
Management Board  
Member

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# Consolidated balance sheet

## Assets

	31/12/2022	31/12/2021
	EUR	EUR
<b>A. Fixed assets</b>		
I. Intangible fixed assets		
Purchased concessions, industrial property rights and similar rights and assets, and licenses to such rights and assets	1,149,374.81	982,766.29
Goodwill	2,991,523.79	3,284,295.41
Prepayments rendered	866,710.07	209,412.11
	<b>5,007,608.67</b>	<b>4,476,473.81</b>
II. Tangible fixed assets		
Land, land rights and buildings, including buildings on third-party land	14,736,348.18	11,117,338.62
Plants and machinery	993,864.18	942,339.97
Other factory and office equipments	10,857,975.68	10,081,238.37
Prepayments rendered and plants under construction	195,889.96	490,542.66
	<b>26,784,078.00</b>	<b>22,631,459.62</b>
III. Financial fixed assets		
Participating interests in associated companies	91,319.86	0.00
Other participating interests	10,000.00	10,000.00
	<b>101,319.86</b>	<b>10,000.00</b>
	<b>31,893,006.53</b>	<b>27,117,933.43</b>
<b>B. Current assets</b>		
I. Inventories		
Raw materials and supplies	65,508,942.51	52,172,530.37
Work in progress	66,746,523.78	41,020,309.66
Prepayments rendered	7,631,187.10	6,140,266.35
Prepayments received for orders	-37,261,952.87	-27,112,391.50
	<b>102,624,700.52</b>	<b>72,220,714.88</b>
II. Receivables and other assets		
Trade receivables	57,070,885.70	43,355,342.71
Other assets	3,049,728.68	4,116,898.42
	<b>60,120,614.38</b>	<b>47,472,241.13</b>

## Assets

	31/12/2022	31/12/2021
	EUR	EUR
III. Cash in hand, bank balances	<b>13,481,864.70</b>	<b>19,926,679.83</b>
	<b>176,227,179.60</b>	<b>139,619,635.84</b>
<b>C. Prepayments and accrued income</b>	<b>1,471,060.57</b>	<b>1,377,079.67</b>
<b>D. Deferred tax assets</b>	<b>2,003,698.03</b>	<b>1,587,192.14</b>
<b>Total</b>	<b>211,594,944.73</b>	<b>169,701,841.08</b>

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## Equity and liabilities

	31/12/2022	31/12/2021
	EUR	EUR
<b>A. Equity</b>		
I. Subscribed share capital	17,940,000.00	4,485,000.00
II. Capital reserve	2,983,300.00	16,438,300.00
III. Other retained earnings	69,418,947.28	62,501,574.95
IV. Consolidated net income	19,050,001.48	11,823,969.13
V. Minority interests	-36,498.15	-22,442.31
VI. Equity difference from currency translation	-740,728.87	-686,105.05
	<b>108,615,021.74</b>	<b>94,540,296.72</b>
<b>B. Provisions</b>		
Tax provisions	3,111,906.29	1,877,857.03
Other provisions	18,328,181.80	15,782,755.22
	<b>21,440,088.09</b>	<b>17,660,612.25</b>
<b>C. Liabilities</b>		
Bank borrowings	6,333,442.72	5,315,740.12
Prepayments received for orders	44,668,259.09	31,808,891.15
Trade payables	20,470,991.54	11,469,998.51
Liabilities to companies in which participations are held	8,564.44	0.00
Other liabilities	10,058,577.11	8,906,302.33
	<b>81,539,834.90</b>	<b>57,500,932.11</b>
<b>Total</b>	<b>211,594,944.73</b>	<b>169,701,841.08</b>

## Consolidated profit and loss account

	01/01/ to 31/12/2022	01/01/ to 31/12/2021
	EUR	EUR
<b>Net sales</b>	<b>312,626,961.56</b>	<b>266,347,910.98</b>
Decrease in work in progress and finished goods	26,023,788.76	2,577,714.88
Other own work capitalized	186,808.10	0.00
	<b>338,837,558.42</b>	<b>268,925,625.86</b>
Other operating income	6,246,272.96	3,425,178.26
	<b>345,083,831.38</b>	<b>272,350,804.12</b>
Costs of materials		
a) Costs of raw materials and supplies, and for purchased merchandise	176,583,988.51	136,534,258.49
b) Costs of purchased services	47,546,345.22	34,730,800.35
	<b>224,130,333.73</b>	<b>171,265,058.84</b>
Personnel costs		
a) Wages and salaries	47,536,995.30	41,113,007.27
b) Social security, pensions and other benefits	9,488,654.23	8,243,925.41
	<b>57,025,649.53</b>	<b>49,356,932.68</b>
Depreciation and amortization applied to tangible and intangible fixed assets	4,672,085.72	3,941,268.46
Other operating expenses	35,264,247.06	29,737,744.17
Income from associated companies	-89,403.24	0.00
Income from other participating interests	500.00	300.00
Other interest and similar income	79,516.46	99,817.31
Interest and similar expenses	383,939.72	306,534.73
Taxes on income	7,083,291.37	5,079,663.74
<b>Profit after tax</b>	<b>16,514,897.47</b>	<b>12,763,718.81</b>
Other taxes	143,048.63	123,362.28
<b>Consolidated profit for the year</b>	<b>16,371,848.84</b>	<b>12,640,356.53</b>
Share of profit attributable to other shareholders	14,055.84	-34,666.74
<b>Consolidated profit attributable to the parent company</b>	<b>16,385,904.68</b>	<b>12,605,689.79</b>
Retained earnings	11,823,969.13	5,838,728.47
Dividend payment	-2,242,500.00	-2,018,250.00
Allocation to other retained earnings	-6,917,372.33	-4,602,199.13
<b>Consolidated net income</b>	<b>19,050,001.48</b>	<b>11,823,969.13</b>

# Derivation of EBIT

	01/01/ to 31/12/2022	01/01/ to 31/12/2021
	EUR	EUR
<b>Consolidated profit for the year</b>	<b>16,371,848.84</b>	<b>12,640,356.53</b>
- Extraordinary result	1,797,770.00	0.00
+ Taxes on income	7,083,291.37	5,079,663.74
+ Interest and similar expenses	383,939.72	306,534.73
- Other interest and similar income	79,516.46	99,817.31
<b>= Earnings before interest and taxes (EBIT)</b>	<b>21,961,793.47</b>	<b>17,926,737.69</b>

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# Notes to the consolidated financial statements

## A. General information about the consolidated statements

### 1. Basic information

2G Energy AG is a public limited company under German law. The company's shares are listed on the trading segment Scale, a part of the Open Market (Regulated Unofficial Market) of the Frankfurt Stock Exchange (FWB), as operated by Deutsche Börse AG, which is consequently not an organized market.

The company is entered in the commercial register of the Coesfeld District Court (commercial register sheet number B 11081), and has its headquarters at Benzstraße 3, 48619 Heek, Germany.

2G Energy AG, Heek, prepares the consolidated financial statements for the largest as well as the smallest group of companies. The consolidated financial statements will be submitted electronically to the company register and published via the publication platform.

### 2. Line of business

The group primarily plan, distribute, produce and install combined heat and power ("CHP")

systems for the efficient gain of electrical energy from biogas, landfill/sewage gas, natural gas and hydrogen and provide after-sales services associated with CHP systems. The group also plan, distribute, produce, install and service gas treatment plants for feeding biogas into the natural gas grid.

### 3. Accounting policies

The consolidated financial statements of 2G Energy AG were prepared in accordance with Section 290 et seq. of the German Commercial Code (HGB) and the supplementary regulations of the German Stock Corporation Act (AktG).

The regulations for public limited companies in the meaning of Section 264 et seq. of the German Commercial Code (HGB), the relevant provisions of the German Stock Corporation Act (AktG) and the provisions pursuant to Section 290 et seq. of the German Commercial Code (HGB) in relation to consolidated financial statements apply to the Group's accounting procedures.

The Group's functional currency is the euro. All amounts are consequently presented in euros or thousands of euros (EUR'000). Foreign companies' balance sheet items as well as foreign

Country/currency per currency unit	Balance sheet closing rates		Profit and loss statement Annual average rate	
	31/12/2022	31/12/2021	2022	2021
Great Britain/Pound (GBP)	0.8826	0.8357	0.8526	0.8601
USA/Dollar (USD)	1.0625	1.1267	1.0540	1.1835
Poland/Złoty (PLN)	4.6185	4.5278	4.6855	4.5648
Canada/Dollar (CAD)	1.4365	1.4342	1.3705	1.4835

currency transactions in the trade balance II are translated at the respective exchange rate on the balance sheet date. Equity items are translated at historical rates. Cost and income items are translated at average rates for the year related to the financial year.

## **B. Consolidation methods**

### **1. Consolidation scope and shareholdings**

The following financial statements are included in the consolidated financial statements of 2G Energy AG (parent company):

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## Subsidiary

	Interest in %	Subscribed capital in EUR'000	Equity in EUR'000***	Profit/loss for year in EUR'000***	Initial consolidation
2G Energietechnik GmbH*, Heek, Germany	100%	1,000	7,528	0	30/06/2007
2G Rental GmbH, Heek, Germany	100%	50	927	390	31/12/2014
2G Energy International GmbH, Heek, Germany	100%	25	19	303	01/04/2021
HJS Motoren GmbH, Amtzell, Germany	100%	25	2,482	1,355	01/06/2021
SenerTec-Center GmbH, Schweinfurt, Germany	100%	25	-35	-60	01/01/2022
2G Solutions of Cogeneration S.L., Vic Barcelona, Spain	90%	3	-214	108	31/01/2008
2G Energie SAS, Sainte-Luce-sur-Loire (Nantes), France	100%	200	4,182	1,678	24/08/2016
2G Italia Srl, Vago di Lavagno (Verona), Italy	100%	10	861	-182	15/03/2011
2G Energy Ltd., Cheshire, United Kingdom**	100%	1	4,079	1,712	19/09/2011
2G Polska Sp. z o.o., Bielsko-Biała, Poland**	100%	1	-234	-168	07/11/2011
2G Energy Inc., St. Augustine (FL), USA**	100%	1	1,407	-761	27/02/2012
2G Energy Corp., Fergus (ON), Canada**	100%	205	419	111	01/01/2019

\* On July 5, 2007, a control and profit assumption agreement was contracted with 2G Energietechnik GmbH

\*\* Converted at reporting date's exchange rate

\*\*\* Equity and profit/loss for the year are taken from the annual financial statements prepared for consolidation purposes (so-called HB-II)

The purpose of the subsidiaries 2G Energietechnik GmbH, 2G Solutions of Cogeneration S.L., 2G Energie SAS, 2G Italia Srl, 2G Energy Ltd., 2G Polska Sp. z o.o., 2G Energy Inc. and 2G Energy Corp. is to plan and install combined heat and power systems, trade in components for CHP systems, and provide after-sales services associated with CHP systems.

In addition, the purpose of the subsidiary company 2G Energietechnik GmbH is the optimization of core engines for the use as gas engines, and to manufacture and market Otto spark-ignition gas engines.

The purpose of the subsidiary company 2G Rental GmbH is to trade in, and rent, combined heat and power systems.

The purpose of the subsidiary 2G Energy International GmbH is the international market development and support as well as the distribution of combined heat and power plants.

The purpose of HJS Motoren GmbH is the development, sales and service of combined heat and power systems.

The purpose of SenerTec-Center GmbH and KWK-tec GmbH is in particular the sale of all types of energy technology systems.

All of the companies are included as subsidiaries in the consolidated financial statements due to the parent company owning the majority of their voting rights.

The following associated company is accounted using the at-equity method in accordance with

Section 312 of the German Commercial Code (HGB):

	KWK-tec GmbH, Mendig
Interest in %	40
Subscribed capital in EUR'000	25
Equity in EUR'000	222
Profit/loss for year in EUR'000	30

\* Equity and profit/loss for the year are taken from the annual financial statements prepared for consolidation purposes (so-called HB-II)

2G-SPE-1, LLC, San Juan, Puerto Rico, was not included in the consolidated financial statements due to its minor significance for the presentation of a true image of the Group's net assets, financial position and results of operations.

In the fiscal year, 2G Energy AG acquired 100% of the shares in SenerTec-Center, Schweinfurt. SenerTec-Center GmbH will be fully consolidated in the consolidated financial statements for the first time in fiscal year 2022. Without changes in the scope of consolidation, the consolidated income statement would have been as follows:

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in EUR'000

	2022 after change in scope of consolidation	2022 before change in scope of consolidation	2021
1. Net sales	312,627	310,064	266,348
2. Increase in work in progress and finished goods	26,024	26,024	2,578
3. Other own work capitalized	187	187	0
4. Other operating income	4,448*	4,419*	3,425
5. Cost of materials	224,130	222,465	171,265
6. Personnel costs	57,026	56,443	49,357
7. Depreciation	4,672	4,579	3,941
8. Other operating expenses	35,264	35,068	29,738
9. Results from investments in associated companies	-89	-89	0
10. Other taxes	143	143	123
<b>Earnings before interest and taxes (EBIT)</b>	<b>21,962</b>	<b>21,906</b>	<b>17,927</b>

\* Excluding income of exceptional size or significance (EUR'000 1,798)

The changes in the balance sheet attributable to the consolidation of SenerTec-Center GmbH mainly relate to non-current assets (EUR'000 420, including goodwill in the amount of EUR'000 242), inventories (EUR'000 197), other current assets (EUR'000 236), provisions (EUR'000 86) and liabilities (EUR'000 245) at the balance sheet date.

## 2. Consolidation methods applied

### Closing date for consolidated financial statements and companies included in the consolidation scope

The consolidated financial statements are based

on the separate financial statements of 2G Energy AG and the financial statements of the subsidiaries included in the consolidation scope. The financial statements are prepared as of the December 31, 2022 closing date.

### Capital consolidation

Capital is consolidated according to the revaluation method pursuant to Section 301 (1) of the German Commercial Code (HGB). All balance sheet items at subsidiary level are recognized at fair value on the first-time consolidation date. Share acquisition costs are offset subsequently against revalued proportionate equity. The remaining difference from capital consolidation

(goodwill) is capitalized and will be amortized on a straight-line basis over an expected useful life of 8 years in accordance with Section 309 (1) of the German Commercial Code. The amortization period is based on the life cycle of the products.

In deviation from this, the goodwill on the shares in 2G Energietechnik GmbH is amortized on a straight-line basis over the expected useful life of 20 years, as it relates to the sustainable core business activity of 2G Energy AG.

Interests in subsidiaries which are included in the consolidated financial statements, but which are not held by 2G, are reported as minority interests.

### Consolidation of liabilities

Liabilities are consolidated pursuant to Section 303 (1) of the German Commercial Code (HGB). Accordingly, prepayments rendered and other receivables, provisions and liabilities between the companies included in the consolidated financial statements are to be eliminated. Offsetting differences in connection with the consolidation of liabilities are recognized through profit or loss if they comprise year-on-year changes. Otherwise, they are recognized directly in equity. Minor offsetting differences were recognized in the reporting year.

Currency translation differences as part of the consolidation of liabilities are recognized without impact on the profit and loss accounts directly in equity as equity differences from currency translation.

### Treatment of unrealized results of intragroup transactions

Unrealized results of intragroup transactions are eliminated pursuant to Section 304 (1) of the German Commercial Code (HGB). Accordingly, assets that are based fully or partly on deliveries or services between the companies included in the consolidated financial statements must be recognized at the amount at which they could be recognized in the annual balance sheet for the respective company prepared on the closing date of the consolidated financial statements, if the companies included in the consolidated financial statement were also to form a single entity in legal terms.

The consolidated profit and loss account is adjusted to reflect profit or loss contributions from intragroup transactions as part of consolidating income and expenses in accordance with Section 305 of the German Commercial Code (HGB).

Currency translation differences in the context of the elimination of interim profits are recognized in profit or loss under other operating income or expenses.

### Consolidation of income and expenses

Income and expenses are consolidated in accordance with Section 305 (1) of the German Commercial Code (HGB). The purpose of this is to present only income and expenses in the consolidated profit and loss account according to type and amount that result from business relationships with third parties outside the Group. Consolidation measures exclusively comprise eliminations.

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Currency translation differences arising from the consolidation of income and expenses are recognized in profit or loss under other operating income or expenses.

### Equity valuation

The equity method is used when a company is classified as an associated company. This means that the parent company can exercise a significant influence on the business and financial policies of the subsidiary. According to Section 311 of the German Commercial Code (HGB), such a significant influence is to be assumed in the case of investments in companies and thus a valuation "at equity" is to be made.

Shares in associated companies are valued at the proportionate equity plus any goodwill acquired by payment in accordance with Section 312 of the German Commercial Code (HGB). The equity valuation was done according to the book value method at the time of acquisition in the consolidated financial statements.

The remaining difference (goodwill) is capitalized in the investments in associated companies and depreciated on a straight-line basis over the expected useful life of 3 years, as it relates to the acquired know-how of the associated company.

### C. Information about accounting policies

The individual financial statements of 2G Energy AG and its subsidiaries are prepared in accordance with standard accounting policies.

The annual financial statements of the companies included in the consolidation scope are prepared

in accordance with the regulations set out in the German Commercial Code (HGB) and the respective legal form-specific regulations.

Valuation methods were applied unchanged compared with the previous year.

Valuation details are as follows:

#### 1. Intangible fixed assets

Acquired intangible fixed assets are recognized at acquisition cost and, if they comprise depreciating assets, subject to systematic, straight-line amortization:

#### Intangible fixed assets

	Useful life
Software	3–5 years
Licenses	3 years
Other intangible fixed assets	3–6 years

Prepayments rendered are recognized at normal value.

#### 2. Tangible fixed assets

Tangible fixed assets are recognized at acquisition cost and, if they are subject to wear and tear, less scheduled depreciation. Depreciation is applied straight-line according to the assets' prospective useful lives:

## Tangible fixed assets

	Useful life
Buildings, indoor and outdoor facilities on own land	5–33 years
Buildings on third-party land	9–19 years
Fixtures and fittings	6–21 years
Vehicles and conveyor vehicles	6–8 years
Tools	5–13 years
Computer equipment	3–9 years
Facilities on third-party land	5–21 years
Other operating and office equipment	5–21 years

Prepayments rendered are recognized at normal value.

### 3. Financial fixed assets

Other participating interests are recognized at the lower of their cost or fair value on the balance sheet date. If the value of financial assets calculated in accordance with the principles referred to above is higher than the fair value on the balance sheet date, an extraordinary write-down is applied. If the grounds for a permanent impairment no longer exist, a write-up is applied pursuant to Section 253 (5) Clause 1 of the German Commercial Code (HGB).

### 4. Inventories

Raw materials and supplies are recognized at the lower of cost or fair value. The lower fair value, if any, is determined using reference prices as market prices on the balance sheet date. The lower market prices are obtained from the daily rates of the procurement market. In addition, further value reductions were made for inventories of lower quality or limited marketability.

Work-in-progress and finished goods are recognized at the lower of cost or fair value. In addition to directly attributable specific costs of materials and production, production costs also include materials and production overheads, as well as administrative overheads to the extent that they can be allocated to production. Borrowing costs are not included in production costs.

Prepayments rendered are recognized at nominal value.

If prepayments received do not exceed the value of the work-in-progress, they are offset with work-in-progress to the level of the satisfaction amount on a project basis.

### 5. Receivables and other assets

Receivables and other assets are recognized at the nominal value. Appropriate specific valuation allowances are applied to risky items. General default and credit risk is reflected through general valuation allowance.

In principle, revenues are realized with the customer accepts of the work or in the event of a delay in acceptance. If acceptance is with reservations, the transfer of risk and thus the realization of revenue will be assessed on a case-by-case basis in an overall assessment of the circumstances. A reservation of acceptance of a work ready for acceptance, in which the essential opportunities and risks are transferred to the buyer, does not fundamentally change the fact of acceptance and the associated consequences. Under the mentioned premises, acceptance subject to reservation is thus also considered to be realized in individual cases.

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## **6. Cash in hand and bank balances**

Cash in hand and bank balances are measured at nominal value.

## **7. Prepayments and accrued income**

Prepayments and accrued income include payments received before the balance sheet date as far as they represent costs for a particular time period after that date.

## **8. Deferred tax**

The calculation of deferred taxes was based on an average Group tax rate of 30%.

Offsetting applied as part of consolidation generates a differential amount that is to be reported as goodwill. Deferred taxes are not charged on this differential amount (German Accounting Standard/DRS 18 section 25).

## **9. Equity**

Equity is measured at nominal value.

## **10. Tax provisions**

Tax provisions are recognized at the settlement amount.

## **11. Other provisions**

Other provisions are recognized at the settlement amount and are created for contingent liabilities at their settlement value in accordance with reasonable commercial judgment, and taking into account all identifiable risks and contingent liabilities.

## **12. Liabilities**

Liabilities are recognized at the settlement amount.

## **13. Prepayments received**

Prepayments received include advance payments for new plants, and advance payments from full maintenance contracts. If prepayments received for new plants, that are recognized at the normal value, do not exceed the value of the work in progress, prepayments received are offset on a project basis with work in progress to the level of the satisfaction amount. Any surplus is reported as a prepayment received on the liabilities side of the balance sheet. Prepayments received for full maintenance contracts are accrued on a percentage of completion basis according to the specific contract. Prepayments received for full maintenance contracts are recognized in sales revenues according to percentage of completion. Any surplus prepaid amount is accrued as a prepayment received.

## **14. Currency translation**

Items in the annual financial statements that are based on amounts denominated in foreign currencies are translated at the cash exchange rate in compliance with Section 256a of the German Commercial Code (HGB). At the time of initial recognition, transactions in foreign currencies are generally recorded at the European Central Bank's reference rate recorded on the Friday of the week preceding the booking date.

## **D. Notes to the consolidated balance sheet**

### **1. Fixed assets**

For information about changes in fixed assets during the financial year under review, please refer to the corresponding presentation in the statement of changes in fixed assets. This statement also presents depreciation, amortization and extraordinary write-downs

applied for each balance sheet item during the financial year.

Fixed assets include EUR'000 1,517 (previous year: EUR'000 1,991) of rental plants from the operating activities of 2G Rental GmbH.

## 2. Receivables and other assets

Specific and general valuation allowances of EUR'000 3,724 (previous year: EUR'000 5,298) were applied to trade receivables.

As in the previous year, all receivables and other assets have a residual term of less than one year.

## 3. Deferred tax assets

Deferred tax receivables of EUR'000 2,004 (previous year: EUR'000 1,587) arise from tax loss carryforwards (EUR'000 193) at 2G Energy International GmbH, SenerTec-Center GmbH, 2G Solutions S.L., 2G Italia Srl and 2G Polska Sp. z o.o. No deferred tax assets were formed in relation to the loss carryforwards of 2G Energy Inc. due to their having generated net losses in previous years. In this context, a cautious approach was adopted that does not consider positive expectations arising from structural changes of the company. In addition, deferred taxes were formed in relation to eliminated intragroup gains on fixed assets (EUR'000 331) and inventories (EUR'000 979) deriving from intragroup deliveries and services as of the balance sheet date, and on temporary differences (EUR'000 500). These temporary differences arise mainly from adjustments to group accounting and valuation regulations, as well as recognizing differing valuations for inventories and provisions in the financial statements and in the tax accounts.

It is assumed that the tax benefits associated with the capitalized loss carryforwards can be realized with sufficient probability in the next five financial years. Deferred taxes on unutilized tax loss carryforwards were not recognized in the amount of EUR'000 1,005.

No deferred tax liabilities required reporting as of the balance sheet date.

## 4. Consolidated equity

The share capital amounts to EUR'000 17,940 (previous year: EUR'000 4,485) and is divided into 17,940,000 (previous year: 4,485,000) ordinary bearer shares each with a nominal value of EUR 1.

Capital reserves of EUR'000 2,983 (previous year: EUR'000 16,438) arise almost exclusively from share premiums from capital increases at 2G Energy AG.

The Annual General Meeting of 3 June 2022 decided to increase the share capital by EUR'000 13,455 from company funds. The capital increase will be effected by converting an amount of EUR'000 13,455 of the capital reserve reported in the Company's annual financial statements as at 31 December 2021 into share capital.

With the entry of the resolution of the Annual General Meeting in the Commercial Register on 14 June 2022, the share capital of 2G Energy AG increased from EUR'000 4,485 by EUR'000 13,455 to EUR'000 17,940. Accordingly, the capital reserve decreased from EUR'000 16,438 by EUR'000 13,455 to EUR'000 2,983.

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The net profit of 2G Energy AG (EUR'000 9,160) for the previous year was distributed in the amount of EUR'000 2,243 and transferred to other profit reserves in the amount of EUR'000 6,917.

In a resolution of the Annual General Meeting of 23 June 2020, the Management Board was authorized to issue convertible and/or option bonds in a total nominal amount of up to EUR'000 100,000 with a maximum term of 20 years with the approval of the Supervisory Board during the period up to 22 June 2025. The holders of the convertible and/or option bonds may be granted conversion or option rights to up to 2,215,000 bearer shares of 2G Energy AG corresponding to a pro rata amount of EUR 2,215 in the share capital (Conditional Capital 2020).

In a resolution of the Annual General Meeting of 3 June 2022, the Management Board was authorized to increase the share capital of the Company once or several times in the period up to 2 June 2027, with the approval of the Supervisory Board, by issuing new shares in cash or in kind up to a total of EUR'000 8,970 (Authorized Capital 2022).

Notional dividend payout restrictions exist in relation to deferred taxes of EUR'000 2,004.

An amount of EUR'000 82,545, determined from the annual financial statements of the parent company, is available to shareholders for distribution in the year under review. No restricted amounts that cannot be distributed exist in the separate financial statements of 2G Energy AG.

For more information about changes in consolidated equity during the financial year under review, please refer to the corresponding presentation in the consolidated statement of changes in equity.

## 5. Other provisions

The composition of the changes in other provisions on the balance sheet day are shown in the following statement of changes in provisions:

### Other provisions, in EUR'000

	31/12/2022	31/12/2021
Residual work on completed plants/outstanding invoices	9,130	5,261
Warranty commitments	4,398	4,921
Amounts owed to staff	3,677	3,860
Professional cooperative contributions	351	318
Costs of preparing and auditing financial statements	205	202
AGM and annual report	84	67
Litigation costs	30	45
Archiving of business documents	38	20
Taxable fringe benefits	0	872
Misc. other provisions	415	217
<b>Total</b>	<b>18,328</b>	<b>15,783</b>

## 6. Liabilities

Liabilities consist of the following:

### Residual terms, in EUR'000 (previous year's amounts in brackets)

	Up to 1 year	More than 1 year	Thereof more than 5 years	Total
Bank borrowings	2,546 (1,916)	3,788 (3,400)	0 (249)	6,333 (5,316)
Prepayments received for orders	44,668 (31,809)	0 (0)	0 (0)	44,668 (31,809)
Trade payables	20,471 (11,470)	0 (0)	0 (0)	20,471 (11,470)
Liabilities to companies in which participations are held	9 (0)	0 (0)	0 (0)	9 (0)
Other liabilities	10,059 (8,906)	0 (0)	0 (0)	10,059 (8,906)
<b>Total</b>	<b>77,752 (54,101)</b>	<b>3,788 (3,400)</b>	<b>0 (249)</b>	<b>81,540 (57,501)</b>

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The following collateral instruments relate to bank borrowings:

- EUR 2.2 million land charge, Siemensstraße 20, Heek
- EUR 2.0 million land charge, Benzstraße 3, Heek
- EUR 1.5 million land charge, Siemenstraße 9, Heek
- EUR 1.0 million land charge, Röntgenstraße 2, Heek
- Collateral assignment of a lease claims

Liabilities to companies in which participations are held arise in full from supplies and services.

Other liabilities comprise tax liabilities of EUR'000 5,749 (previous year: EUR'000 4,406), and social security liabilities of EUR'000 235 (previous year: EUR'000 148).

## **E. Notes to the consolidated profit and loss account**

The profit and loss account is prepared applying the nature of expense method, and structured according to Section 275 (2) of the German Commercial Code (HGB).

### **1. Net sales**

Net sales are divided geographically and by operating activities as follows:

### **Net sales, in EUR'000** (previous year's amounts in brackets)

	Germany	Abroad	Total
CHP systems/	82,847	81,636	164,484
After Sales	(81,626)	(69,116)	(150,742)
Service	103,491	44,652	148,143
	(80,925)	(34,681)	(115,606)
<b>Total</b>	<b>186,338</b>	<b>126,289</b>	<b>312,627</b>
	<b>(162,551)</b>	<b>(103,797)</b>	<b>(266,348)</b>

### **2. Other operating income**

Other operating income comprises EUR'000 4,626 (previous year: EUR'000 2,225) of income related to other accounting period that consists mainly of the decrease of bad debt allowances (EUR'000 1,621), insurance compensation payments and loss compensation payments (EUR'000 705), the release of provisions (EUR'000 2,052) and the disposal of fixed assets (EUR'000 65).

This other operating income related to other accounting periods includes income of extraordinary amount or significance of EUR'000 1,798 (previous year: EUR'000 0) resulting from the reversal of a provision for tax payments and associated tax ancillary benefits.

Other operating income includes income of EUR'000 790 (previous year: EUR'000 401) from currency translation.

### **3. Personnel costs**

Social security contributions and pension and benefit expenses include EUR'000 542 (previous year: EUR'000 521) of pension expenses.

### **4. Depreciation and amortization**

Depreciation and amortization applied to tangible and intangible assets includes amortization of

goodwill in the amount of EUR'000 570 (previous year: EUR'000 461).

## 5. Other operating expenses

Other operating expenses consist of the following:

### Other operating expenses, in EUR'000

	2022	2021
Operating expenses	12,001	9,685
Administration expenses	3,763	3,514
Sales and marketing expenses	11,761	8,964
Miscellaneous	7,739	7,575
<b>Total</b>	<b>35,264</b>	<b>29,738</b>

Other operating expenses comprise EUR'000 745 (previous year: EUR'000 1,809) of expenses related to other accounting periods that result mainly from credit notes and losses on receivables relating to other periods as well as expenses from the allocation to specific and general bad debt allowances.

Other operating expenses include expenses of EUR'000 1,603 (previous year: EUR'000 349) from currency translation.

## 6. Other interest and similar income

Other interest and similar income include income from the discounting of provisions in the amount of EUR'000 8 (previous year: EUR'000 6).

## 7. Taxes on income

The following items are recognized in the profit and loss account under taxes on income:

### Income from deferred taxes, in EUR'000

	2022	2021
Deferred tax income	417	0
Deferred tax expenses	0	-388
of which attributable to loss carryforwards (net balance)	26	-14
<b>Income from deferred taxes</b>	<b>417</b>	<b>-388</b>

Taxes on income include net tax expenses of EUR'000 110 relating to other periods (previous year: tax income of EUR'000 79).

## F. Additional information

### 1. Consolidated cash flow statement

The cash flow statement is prepared in compliance with German Accounting Standard/DRS 21.

Additional subtotals have been voluntarily included within cash flows from operating activities.

Cash and cash equivalents shown in the cash flow statement include cash at banks and in hand, less short-term liabilities to credit institutions. Current liabilities consist of current account drawdowns.

### 2. Notifications pursuant to Section 20 of the German Stock Corporation Act (AktG)

Christian Grotholt notified the company in accordance with Section 20 of the German Stock Corporation Act (AktG) that he owns more than one quarter of the shares in 2G Energy AG as of the balance sheet date. This notification was

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submitted to the electronic Federal Gazette (Bundesanzeiger) on July 30, 2007.

### 3. Derivative financial instruments

Derivative financial instruments serve exclusively to hedge currency risks. On the balance sheet date, the following derivative financial instruments existed:

As the conditions for these hedging transactions are met, valuation units are formed in accordance with section 254 of the German Commercial Code (HGB) (micro hedge). This ensures that the value-determining factors (nominal value, maturity) for the hedged item and hedging instrument match. The individual hedging relationships are therefore classified as effective (critical terms

#### Financial instruments, in EUR'000

	Scope	Maturity	Fair value
Forward exchange transaction JPN – EUR	104	11/01/2023	1
Forward exchange transaction EUR – CAD	309	13/01/2023	21
Forward exchange transaction EUR – USD	753	31/01/2023	27
Forward exchange transaction EUR – USD	478	31/01/2023	25
Forward exchange transaction EUR – GBP	213	15/03/2023	1
Forward exchange transaction EUR – CAD	984	31/08/2023	37
Forward exchange transaction EUR – USD	329	31/05/2023	18
Forward exchange transaction EUR – GBP	198	12/05/2023	0
Forward exchange transaction EUR – GBP	131	30/06/2023	0
Foreign exchange swap transaction EUR – CAD	390	16/01/2023	15
Foreign exchange swap transaction CAD – EUR	375	16/01/2023	0
<b>Total</b>	<b>4,264</b>		<b>145</b>

match) for the entire hedging period. As of the balance sheet date, the market value is positive at 145 EUR'000. In the event of a negative market value of the hedging transactions, the formation of a provision for impending losses is waived accordingly. The offsetting cash flows are settled upon maturity of the underlying transactions, which correspond to the maturity of the hedging transactions. The effectiveness of the valuation unit is based on the matching of the terms and parameters of the hedged item and the hedging instrument. The so-called freezing method is used to reflect the effective portions of the valuation units formed in the balance sheet.

#### 4. Contingent liabilities

No contingent liabilities in the meaning of Section 251 (HGB) of the German Commercial Code existed for third-party liabilities as of the balance sheet date.

#### 5. Other financial obligations

Other financial obligations existed in relation to contracts as follows:

#### Other financial obligations, in EUR'000 (previous year's figures in brackets)

	Up to 1 year	1 to 5 years	More than 5 years	Total
Permanent rental contracts*	858 (825)	0 (0)	0 (0)	858 (825)
Fixed-term rental contracts	344 (367)	698 (868)	309 (37)	1,351 (1,272)
Lease contracts	479 (380)	564 (593)	0 (0)	1,043 (973)
<b>Total</b>	<b>1,681 (1,572)</b>	<b>1,262 (1,461)</b>	<b>309 (37)</b>	<b>3,252 (3,070)</b>

\* The stated value for the continuing obligations relates to the Company's obligation under these contracts for a period of 12 months

The order commitment for investments amounts to EUR'000 3,915 as at 31 December 2022.

#### 6. Average number of employees during the financial year

The average number of employees pursuant to Section 267 of the German Commercial Code (HGB) is composed as follows:

#### Number of employees

	2022	2021
Industrial workers	397	385
Commercial employees	445	378
<b>Total</b>	<b>842</b>	<b>763</b>
of whom part-time employees	105	75

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## 7. Management Board

The Management Board is currently composed as follows:

### Management Board

	Since	Appointed until
Mr. Dipl.-Ing. Christian Grotholt (Chairman) Ahaus-Alstätte CEO of 2G Energy AG Strategy and Sales	17/07/2007	31/07/2025
Mr. Ludger Holtkamp Gronau COO of 2G Energy AG Procurement, Production and Project Management	17/07/2007	31/07/2025
Mr. Dipl.-Betriebsw. (BA) Friedrich Pehle Soest CFO of 2G Energy AG Finance, Human Resources, Law and Investor Relations	01/12/2017	30/11/2023
Mr. Dipl.-Ing. Frank Grewe Vreden CTO of 2G Energy AG Service, Research and Development	01/07/2020	30/06/2026

More information about the Management Board members of 2G Energy AG is provided on 2G's homepage in the section entitled "Company".

## 8. Supervisory Board

The following individuals were appointed as members of the Supervisory Board during the year under review:

### Supervisory Board

	Since
Mr. Dr. Lukas Lenz (Chairman) Hamburg Lawyer	17/07/2007
Mr. Dr. Jürgen Vutz (Deputy Chairman) Greven Graduated mechanical engineer, Graduated industrial engineer	01/01/2021
Mr. Prof. Dr. Christof Wetter Steinfurt Professor at the Department of Energy, Building, Environment at Münster University of Applied Sciences	01/01/2021

The Supervisory Board members are appointed until the end of the AGM that passes a resolution concerning the discharge of the directors for the 2026 financial year.

More information about the Supervisory Board members of 2G Energy AG is provided on 2G's website in the section entitled "Company".

## 9. Directors' compensation

Compensation of EUR'000 1,592 (previous year: EUR'000 1,415) were paid to the Management Board in the financial year under review, and compensation of EUR'000 129 (previous year: EUR'000 123) to the Supervisory Board.

## 10. Auditor's fee

Other operating expenses include the fees expensed for the auditor of the financial statements. The auditor's fee totaled EUR'000 126 (previous year: EUR'000 99) and is composed as follows:

### Auditor's fee, in EUR'000

	2022	2021
Audit services	109	95
Other assurance services	17	2
Other services	0	2
<b>Total</b>	<b>126</b>	<b>99</b>

The other certification services relate to the following business audits performed in accordance with ISAE 3000 (Revised):

- Audit of the information in the bonus calculations of the members of the Management Board of 2G Energy AG (EUR'000 2)
- Audit of the procedures for the introduction of a permanent inventory (EUR'000 15)

## 11. Proposed appropriation of profits

The Management Board will recommend that the Supervisory Board present the following proposal for the appropriation of profits to the Annual General Meeting for approval.

The unappropriated profit of EUR 12,434,835.77 reported in the annual financial statements of 2G Energy AG as prepared according to the German Commercial Code (HGB), consisting of net profit of EUR 12,434,835.77 for the year and EUR 0.00 of net retained profits, is to be distributed in an

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amount of EUR 2,511,600, and to be allocated in an amount of EUR 9,923,235.77 to other retained earnings.

## 12. Exemption rules

Utilization was made of the exemption in Section 264 (3) of the German Commercial Code (HGB) regarding the obligation to prepare a management report and publish the annual financial statements for the subsidiary 2G Energietechnik GmbH, Heek.

## 13. Events of key significance after the reporting date

No events occurred after the balance sheet date that are of material significance for the assessment of the net assets, financial position and results of operations of the company.

Heek, April 6, 2023



Christian Grotholt  
Management Board Chairman  
(CEO)



Ludger Holtkamp  
Management Board  
Member



Friedrich Pehle  
Management Board  
Member



Frank Grewe  
Management Board  
Member

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# Consolidated statement of changes in fixed assets

	Cost						31/12/2022
	01/01/2022	Currency translation	Changes in scope of consolidation	Additions	Transfers	Disposals	
<b>Intangible fixed assets</b>							
Purchased concessions, industrial property rights and similar rights and assets, and licenses to such rights and assets	3,618,737.83	1,113.56	21,937.12	509,323.84	1,715.00	0.00	4,152,827.35
Goodwill	9,852,376.91	0.00	277,132.90	0.00	0.00	0.00	10,129,509.81
Prepayments rendered	209,412.11	0.00	0.00	659,012.96	-1,715.00	0.00	866,710.07
	<b>13,680,526.85</b>	<b>1,113.56</b>	<b>299,070.02</b>	<b>1,168,336.80</b>	<b>0.00</b>	<b>0.00</b>	<b>15,149,047.23</b>
<b>Tangible fixed assets</b>							
Land, land rights and buildings, including buildings on third-party land	14,433,086.31	89.86	0.00	4,140,158.36	0.00	0.00	18,573,334.53
Plants and machinery	2,490,279.39	-843.18	0.00	186,225.97	36,500.00	633.41	2,711,528.77
Other factory and office equipments	26,285,830.31	-24,014.09	449,656.42	3,686,803.95	470,487.33	1,404,653.44	29,464,110.48
Prepayments rendered and plants under construction	490,542.66	0.00	23,988.00	188,346.63	-506,987.33	0.00	195,889.96
	<b>43,699,738.67</b>	<b>-24,767.41</b>	<b>473,644.42</b>	<b>8,201,534.91</b>	<b>0.00</b>	<b>1,405,286.85</b>	<b>50,944,863.74</b>
<b>Financial fixed assets</b>							
Participating interests in associated companies	0.00	0.00	0.00	180,723.10	0.00	89,403.24	91,319.86
Other participating interests	10,000.00	0.00	0.00	0.00	0.00	0.00	10,000.00
	<b>10,000.00</b>	<b>0.00</b>	<b>0.00</b>	<b>180,723.10</b>	<b>0.00</b>	<b>89,403.24</b>	<b>101,319.86</b>
<b>Total</b>	<b>57,390,265.52</b>	<b>-23,653.85</b>	<b>772,714.44</b>	<b>9,550,594.81</b>	<b>0.00</b>	<b>1,494,690.09</b>	<b>66,195,230.83</b>

Depreciation and amortization					Book value		
01/01/2022	Currency translation	Changes in scope of consolidation	Additions	Disposals	31/12/2022	31/12/2022	31/12/2021
2,635,971.54	771.72	12,732.12	353,977.16	0.00	3,003,452.54	1,149,374.81	982,766.29
6,568,081.50	0.00	0.00	569,904.52	0.00	7,137,986.02	2,991,523.79	3,284,295.41
0.00	0.00	0.00	0.00	0.00	0.00	866,710.07	209,412.11
<b>9,204,053.04</b>	<b>771.72</b>	<b>12,732.12</b>	<b>923,881.68</b>	<b>0.00</b>	<b>10,141,438.56</b>	<b>5,007,608.67</b>	<b>4,476,473.81</b>
3,315,747.69	-9.24	0.00	521,247.90	0.00	3,836,986.35	14,736,348.18	11,117,338.62
1,547,939.42	1,124.73	0.00	168,600.44	0.00	1,717,664.59	993,864.18	942,339.97
16,204,591.94	-11,801.47	334,988.42	3,058,355.70	979,999.79	18,606,134.80	10,857,975.68	10,081,238.37
0.00	0.00	0.00	0.00	0.00	0.00	195,889.96	490,542.66
<b>21,068,279.05</b>	<b>-10,685.98</b>	<b>334,988.42</b>	<b>3,748,204.04</b>	<b>979,999.79</b>	<b>24,160,785.74</b>	<b>26,784,078.00</b>	<b>22,631,459.62</b>
0.00	0.00	0.00	0.00	0.00	0.00	91,319.86	0.00
0.00	0.00	0.00	0.00	0.00	0.00	10,000.00	10,000.00
<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>101,319.86</b>	<b>10,000.00</b>
<b>30,272,332.09</b>	<b>-9,914.26</b>	<b>347,720.54</b>	<b>4,672,085.72</b>	<b>979,999.79</b>	<b>34,302,224.30</b>	<b>31,893,006.53</b>	<b>27,117,933.43</b>

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# Consolidated cash flow statement

	01/01/ to 31/12/2022	01/01/ to 31/12/2021
	EUR	EUR
<b>Consolidated profit for the year</b>	<b>16,371,848.84</b>	<b>12,640,356.53</b>
+ Taxes on income	7,083,291.37	5,079,663.74
+ Interest and similar expenses	383,939.72	306,534.73
- Other interest and similar income	-79,516.46	-99,817.31
- Income of exceptional magnitude or exceptional significance	-1,797,790.00	0.00
<b>= Earnings before interest and tax (EBIT)*</b>	<b>21,961,773.47</b>	<b>17,926,737.69</b>
+ Depreciation and amortization applied to tangible and intangible fixed assets	4,672,085.72	3,941,268.46
<b>= Earnings before interest, tax, depreciation and amortization (EBITDA)*</b>	<b>26,633,859.19</b>	<b>21,868,006.15</b>
± Change in raw materials and supplies	-12,994,677.02	-7,639,775.05
± Change in work in progress	-25,726,214.12	-2,828,303.15
± Change in prepayments rendered on inventory	-1,490,920.75	-3,597,643.59
± Change in prepayments received for orders	23,008,929.31	7,078,079.64
± Change in trade receivables	-13,446,878.23	-693,301.31
± Change in trade payables	8,905,726.04	1,256,726.29
<b>± Cash flow from change in operative net working capital*</b>	<b>-21,744,034.77</b>	<b>-6,424,217.17</b>
± Change in other provisions	3,360,455.58	3,490,402.38
± Change in other assets and assets that are not allocable to investing or financing activities	-315,343.31	-3,981,583.56
± Change in other liabilities and liabilities that are not allocable to investing or financing activities	1,100,480.28	-528,647.04
± Loss/gain from fixed asset disposals	-52,564.22	-1,142,543.66
± Income from associated companies	89,403.24	0.00
± Income tax payments	-4,090,285.25	-4,418,535.05
<b>= Cash flow from operating activities</b>	<b>4,981,970.74</b>	<b>8,862,882.05</b>

	01/01/ to 31/12/2022	01/01/ to 31/12/2021
	EUR	EUR
+ Proceeds from fixed asset disposals	477,851.28	3,299,153.65
- Payments for investments in intangible fixed assets	-1,168,336.80	-822,301.47
- Payments for investments in tangible fixed assets	-8,201,534.91	-4,029,117.88
- Payments for investments in financial fixed assets	-180,723.10	0.00
+ Proceeds from profit distributions	0.00	818,497.73
- Payments for acquisition of consolidated companies	-755,935.76	-1,221,759.84
+ Interest received	79,516.46	99,817.31
<b>= Cash flow from investing activities</b>	<b>-9,749,162.83</b>	<b>-1,855,710.50</b>
+ Proceeds from additions to equity through issuance of new shares	0.00	5,258,000.00
+ Proceeds from raising of loans	3,123,062.00	0.00
- Outgoing payments for redemption of loans	-2,113,544.33	-1,315,982.76
- Interest paid	-383,939.72	-306,534.73
- Dividends paid to parent company shareholders	-2,242,500.00	-2,018,250.00
<b>= Cash flow from financing activities</b>	<b>-1,616,922.05</b>	<b>1,617,232.51</b>
<b>= Net change in cash and cash equivalents</b>	<b>-6,384,114.14</b>	<b>8,624,404.06</b>
± Currency-related change in cash and cash equivalents	-40,884.23	60,868.81
+ Cash and cash equivalents at start of period	19,677,025.32	10,991,752.45
<b>= Cash and cash equivalents at end of period</b>	<b>13,252,026.95</b>	<b>19,677,025.32</b>

\* voluntary included sub-totals

	31/12/2022	31/12/2021
	EUR	EUR
<b>Composition of cash and cash equivalents</b>		
Cash in hand, bank balances	13,481,864.70	19,926,679.83
Short-term bank borrowings	-229,837.75	-249,654.51
	<b>13,252,026.95</b>	<b>19,677,025.32</b>

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# Consolidated statement of changes in equity

## Consolidated statement of changes in equity, in Euro

	Parent company				Consolidated net income attributable to the parent company
	Subscribed share capital	Capital reserves	Other retained earnings	Equity difference from currency translation	
<b>Balance on 01/01/2021</b>	<b>4,430,000.00</b>	<b>11,235,300.00</b>	<b>57,899,375.82</b>	<b>-1,034,308.46</b>	<b>5,838,728.47</b>
Capital increase	55,000.00	5,203,000.00	0.00	0.00	0.00
Allocation of retained earnings	0.00	0.00	4,602,199.13	0.00	-4,602,199.13
Currency translation	0.00	0.00	0.00	348,203.41	0.00
Dividends	0.00	0.00	0.00	0.00	-2,018,250.00
Consolidated profit for the year	0.00	0.00	0.00	0.00	12,605,689.79
<b>Balance on 31/12/2021</b>	<b>4,485,000.00</b>	<b>16,438,300.00</b>	<b>62,501,574.95</b>	<b>-686,105.05</b>	<b>11,823,969.13</b>
<b>Balance on 01/01/2022</b>	<b>4,485,000.00</b>	<b>16,438,300.00</b>	<b>62,501,574.95</b>	<b>-686,105.05</b>	<b>11,823,969.13</b>
Capital increase from company funds	13,455,000.00	-13,455,000.00	0.00	0.00	0.00
Allocation of retained earnings	0.00	0.00	6,917,372.33	0.00	-6,917,372.33
Currency translation	0.00	0.00	0.00	-54,623.82	0.00
Dividends	0.00	0.00	0.00	0.00	-2,242,500.00
Consolidated profit for the year	0.00	0.00	0.00	0.00	16,385,904.68
<b>Balance on 31/12/2022</b>	<b>17,940,000.00</b>	<b>2,983,300.00</b>	<b>69,418,947.28</b>	<b>-740,728.87</b>	<b>19,050,001.48</b>

	Minority Interests			Consolidated equity	
	Total	Minority interests before equity differences from currency translation and profit	Profit/loss attributable to other shareholders	Total	
	<b>78,369,095.83</b>	<b>300.60</b>	<b>-57,409.65</b>	<b>-57,109.05</b>	<b>78,311,986.78</b>
	5,258,000.00	0.00	0.00	0.00	5,258,000.00
	0.00	0.00	0.00	0.00	0.00
	348,203.41	0.00	0.00	0.00	348,203.41
	-2,018,250.00	0.00	0.00	0.00	-2,018,250.00
	12,605,689.79	0.00	34,666.74	34,666.74	12,640,356.53
	<b>94,562,739.03</b>	<b>300.60</b>	<b>-22,742.91</b>	<b>-22,442.31</b>	<b>94,540,296.72</b>
	<b>94,562,739.03</b>	<b>300.60</b>	<b>-22,742.91</b>	<b>-22,442.31</b>	<b>94,540,296.72</b>
	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00
	-54,623.82	0.00	0.00	0.00	-54,623.82
	-2,242,500.00	0.00	0.00	0.00	-2,242,500.00
	16,385,904.68	0.00	-14,055.84	-14,055.84	16,371,848.84
	<b>108,651,519.89</b>	<b>300.60</b>	<b>-36,798.75</b>	<b>-36,498.15</b>	<b>108,615,021.74</b>

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# Independent Auditor's Report

## To 2G Energy AG, Heek

### Audit Opinions

We have audited the consolidated financial statements of 2G Energy AG, Heek, and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 31 December 2022, and the consolidated income statement, consolidated statement of changes in equity and consolidated cash flow statement for the financial year from 1 January to 31 December 2022, and notes to the consolidated financial statements, including the presentation of the recognition and measurement policies. In addition, we have audited the group management report of 2G Energy AG for the financial year from 1 January to 31 December 2022.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the requirements of German commercial law and give a true and fair view of the assets, liabilities and financial position of the Group as at 31 December 2022 and of its financial performance for the financial year from 1 January to 31 December 2022 in compliance with German Legally Required Accounting Principles, and
- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development.

Pursuant to § [Article] 322 Abs. [paragraph] 3 Satz [sentence] 1 HGB [Handelsgesetzbuch: German Commercial Code], we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

### Basis for the Audit Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with § 317 HGB in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and on the group management report.

### Other Information

The executive directors are responsible for the other information.

The other information comprises the annual report, which is expected to be made available to us after the date of the auditor's report – excluding cross-references to external information – with the exception of the audited consolidated financial statements, the audited group management report and our auditor's report.

Our audit opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information mentioned above – as soon as they are available – and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report disclosures audited in terms of content or with our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

**Responsibilities of the Executive Directors and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report**

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with the requirements of German commercial law, and that the consolidated financial

statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with German Legally Required Accounting Principles. In addition, the executive directors are responsible for such internal control as they, in accordance with German Legally Required Accounting Principles, have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud (i.e., fraudulent financial reporting and misappropriation of assets) or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting, provided no actual or legal circumstances conflict therewith.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be

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able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

#### **Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report**

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with § 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered

material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.
- obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems.
- evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.

- conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective audit opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with German Legally Required Accounting Principles.
- obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of

the group audit. We remain solely responsible for our audit opinions.

- evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.
- perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Osnabrück, April 6, 2023

PricewaterhouseCoopers GmbH  
Wirtschaftsprüfungsgesellschaft

Prof. Dr. Gregor Solfrian  
Wirtschaftsprüfer

ppa. Stefan Vox  
Wirtschaftsprüfer

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