
ENERGY & EMISSIONS

PART 1 – UNDERSTANDING THE ISSUE

There is scientific consensus that our climate is changing considerably. The Intergovernmental Panel on Climate Change (IPCC) has made clear that we must limit global warming to 1.5°C, but based on current levels of commitment, we are on course to reach 3°C of warming. In Germany, over 64 towns and cities have declared a climate emergency and increasing numbers of people are concerned by the lack of an urgent response to the crisis.

Germany's Climate Action Plan 2050 sets out ambitious carbon reduction targets for all sectors, and this includes long-term strategies for upgrading the building stock and the gradual phasing out of fossil-fuel heating systems, and a zero-energy standard for new buildings from 2021, aiming towards a carbon-neutral built environment by 2050.

We take our responsibility to safeguard the natural environment and reduce the adverse impacts of our business activities, including our carbon footprint, very seriously. As a company which invests in the existing building stock and modernises it to achieve higher levels of efficiency, there is an opportunity for us to position ourselves as a positive contributor to the low carbon economy, working towards low or zero carbon status for our assets. This helps us to attract and retain investors, as well as tenants, and secures easier buy-in for structural projects from local authorities.

PART 2 – MANAGING THE ISSUE

Environmental management

At a strategic level, we structure our portfolio-building activities around improving the existing building stock, which entails an inherently more sustainable approach. Renewing and refurbishing assets, rather than destroying and rebuilding, entails a lower carbon footprint and makes an important contribution to tackling wider societal and environmental challenges in the urban context.

GCP has implemented a binding Company-wide Environmental Policy which sets out our environmental management framework covering monitoring and review; benchmarking; auditing and target setting-processes for energy consumption, use of fossil fuels and CO₂ emissions.

Energy strategy

The Environmental Policy is applied across the acquisition, property and asset management stages of the property investment lifecycle (with the exception of demolition activities): we identify opportunities for greenhouse gas emissions reduction and energy efficiency improvements as part of the acquisition process and on a regular basis thereafter.

The Policy is supported by an Energy Performance Strategy and Policy that requires asset managers and project teams - under the direction of the Energy Department - to consider low carbon and energy efficiency improvements before commencing any qualifying works or capital investment. The Energy Department acts as a centre of excellence and provides support to project teams in determining the most appropriate investment given each asset's characteristics. Its cross-functional team oversees all elements of our energy strategy including digitalisation and procurement, project feasibility studies, building systems optimisation and finally performance monitoring and reporting.

As part of the due diligence that takes place during the acquisition phase, structural interventions to improve a building's energy performance characteristics and lower its CO₂ emissions profile are identified and assessed, along with upgrades to energy-consuming systems and equipment. These include measures such as thermal insulation and modernisation of heating systems (if technically possible and economically feasible), which are then factored into the capital expenditure budget that forms part of GCP's asset repositioning process.

Through the operations phase, regular performance benchmarking, site inspections and technical energy audits based on external certification standards such as EN 16247 are carried out to identify both capex and opera-

tional management improvements on an ongoing basis. Outdated or inefficient equipment (older than 20 years) is replaced wherever technically and economically feasible, and replacement systems are selected for highest technological advancement and efficiency benefit.

Enhanced metering systems are also being rolled out across the portfolio with digital and remote readable meters progressively replacing older analogue models. The technology means GCP is well placed to comply with amendments to the German heating cost regulations that come into force in 2022, which include a requirement for tenants to receive a monthly notification of their heating use in a bid to reduce energy consumption and associated GHG emissions.

These steps form part of GCP's broader digitalisation strategy which includes the integration of environmental data into our SAP-based enterprise resource planning framework which is being progressively rolled out across the company. Automated digital invoice reading and expanding data coverage via smart meters to all GCP assets will enable the Energy Department to monitor real-time energy consumption and more rapidly identify irregularities and inefficiencies at individual building management level; and implement corrective measures to reduce unnecessary resource consumption as we work towards our carbon reduction target of 40% by 2030 (against our 2018 baseline).

Other steps towards this goal include a number of projects that will be launched in 2021, including:

- Hydronic balancing which optimises hot water flows in central heating systems. Modelling indicates potential savings of between 10 and 20% in primary energy demand, and a 15% reduction in CO₂ emissions through the uniform distribution of hot water flows in radiators.
- A net zero energy building pilot project that involves upgrading building facades with high efficiency insulation and windows, improved ventilation, heat pumps and solar rooftop PV installation. The pilot at a single row of five residential units is projected to achieve carbon savings of 85 tonnes of CO₂ per year.
- Heating and lighting system optimisation at larger residential properties including heating room digitalisation, adaptive temperature controls, pump replacement, heating flow meters, hydronic balancing and LED upgrades in common areas. The initial pilots across 65 units are expected to achieve carbon savings of 280 tonnes of CO₂ per year.

Energy Investment Programme

GCP is also participating in a partnership with an energy development company on an investment programme

to analyse the feasibility of installing technologies for renewable or climate friendly energy. The programme is focused around five core components:

- The installation and operation of solar PV production systems on rooftops and parking areas.
- The installation of highly efficient energy generating systems based on combined heat and power production (CHP) or combined cooling heat and power (CCHP).
- The implementation of electricity storage to support these solar, CHP and CCHP systems. This will enable optimal management of energy consumption and production and provide the necessary infrastructure for fast and ultrafast electric vehicle charging stations to serve GCP and our tenants.
- The installation of EV charging stations. This will allow for the conversion of the Group's fleet to electric vehicles (EV) resulting in lower fleet costs and more reliable mobility as well as lower emissions.
- The implementation of smart meters combined with a total energy management system (demand/response) to optimise efficiencies in terms of resource use and cost.

In the first instance, this involves projects that will supply residential units with solar photovoltaic (PV) energy. Going forwards, we would like to increase the amount of assets with onsite energy systems such as PV and combined heat and power (CHP). This would enable us to generate and supply decentralised electricity and heat to tenants.

Green building certifications

From a strategic perspective, GCP strives to increase the share of green buildings within our portfolio. However, we do not undertake any greenfield development and the vast majority of the GCP portfolio comprises acquisitions of existing building stock, very little of which has traditionally qualified for existing green building certifications.

Recognising the value that investors place on 'green' assets, and the benefits that can be gained by benchmarking our portfolio against external standards, we have begun to assess the feasibility of seeking certification against the Certified Sustainable Housing label. The standard is the first to measure the positive social and environmental impact of residential investors, and is awarded based on a range of criteria covering affordability, tenant wellbeing, energy use and community development.

Engaging tenants

Tenant involvement and awareness are key to reducing the operational impact of GCP's assets, as tenant utilities' consumption account for the most significant environ-

mental impacts across the scope of our activities, including most of our energy and carbon footprint.

Electricity contracts at the individual unit level are agreed by the respective tenants, thus limiting GCP's scope for influence. We nonetheless strive to provide tenants with consistent and relevant information about their energy consumption, and the progressive installation of sub-metering systems enables each tenant to be charged according to real consumption rather than average consumption over a group of units. Tenants therefore have a greater incentive to reduce energy use, as this translates directly into a cost benefit for them.

GCP has developed a variety of materials in different languages promoting energy saving behaviour among tenants, emphasising the links between resource efficiency, cost saving and environmental benefit. For example, our refreshed tenant app and loyalty programme (launched in April 2021) features incentives, promotions and services that encourage tenants to adopt more sustainable lifestyles. For example, tenants earn loyalty points that can be exchanged for vouchers if they sign up to green energy contracts.

Renewable energy

Over the past three years we have pursued a policy of systematically switching energy contracts to renewable-based electricity and carbon neutral gas supplies each time an agreement is subject to renewal. As of 31 December 2020, 83% of the portfolio was supplied by Guarantee of Origin certified renewable electricity contracts (2019: 74%), along with all GCP's corporate offices.

Beginning in 2022, we plan to progressively switch all common areas electricity supply from Guarantee of Origin certificates to carbon neutral Power Purchase Agreements (PPA) for renewable electricity generated from wind, hydroelectric and solar PV sources by 2027.

Understanding climate risks

We have analysed our assets' direct exposure to climate-related risk and found that none of the locations where we are present pose risks in relation to climatic changes, including flooding and extreme weather events. Nonetheless, rising sea levels, higher temperatures, altered levels of precipitation and more frequent storms and droughts could have indirect impacts on our business if and when they become severe enough to precipitate mass migrations; food and water shortages; economic losses and rapid movements of investment capital, all of which would have repercussions for our investors, tenants and other stakeholders. Our focus on stable, mature markets within Europe, and our diversity both in terms of city-level market exposure and capital funding, put us in a strong position to withstand such scenarios.

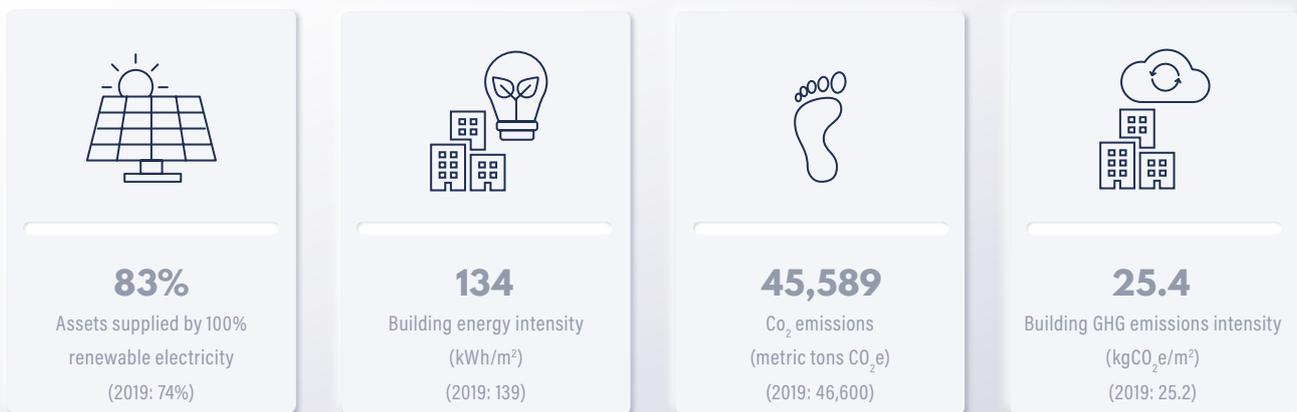
PART 3 – PERFORMANCE

Long-term Goals and 2020 Performance

Climate change is an important topic for GCP, and it is within the interests of all our stakeholders that we play an active role in the transition to a low carbon economy. To this end, we are pursuing an ambitious long-term goal to reduce our CO₂ emissions by 40% by 2030.

Achieving this will require significant reductions in energy consumption; procuring electricity from 100% renewable sources and carbon-neutral gas, and investing in renewable and low-carbon energy infrastructure where economically viable to do so (see 'Energy Strategy' above).

We use four key performance indicators that we track on a yearly basis to monitor our performance:



As well as our KPIs, in 2020 we set targets to increase the installation of energy efficient and low carbon technolo-

gies as part of our energy investment programme. Below, we have described our progress against these targets:

Targets	Achieved/Not Achieved	Progress
Continue the optimization of heating plants by replacing them with highly efficient heating system solutions, using new technologies such as CHP and CCHP systems	Ongoing	Heating plants have been upgraded at one project with the installation of a CHP plant with a 20 kW rated capacity. Feasibility studies have been completed for a further 25 projects which have been delayed due to COVID-19.
Expansion of the charging station infrastructure for electric mobility	Ongoing	Twelve electric vehicle charging stations have been installed at our headquarters.
Install solar power production systems on rooftops and parking areas by the end of 2020	Ongoing	Also, at our headquarters, we have completed the installation of a rooftop solar PV system with a generating capacity of 100 kWp. Feasibility studies have been completed for a further 30 installations which have been delayed due to COVID-19.
Achieve electricity supply from renewables and climate-neutral gas supply for 100% of our assets where we have operational influence	Ongoing	By 2020, approximately 83% of landlord obtained electricity consumption, and 89% of landlord obtained fuels consumption was from Guarantee of Origin renewable certificates. Beginning in 2022, we will begin progressively switching all common areas electricity supply from Guarantee of Origin certificates to PPA certified renewable electricity generated from wind, hydroelectric and solar PV sources by 2027.

Significant activities

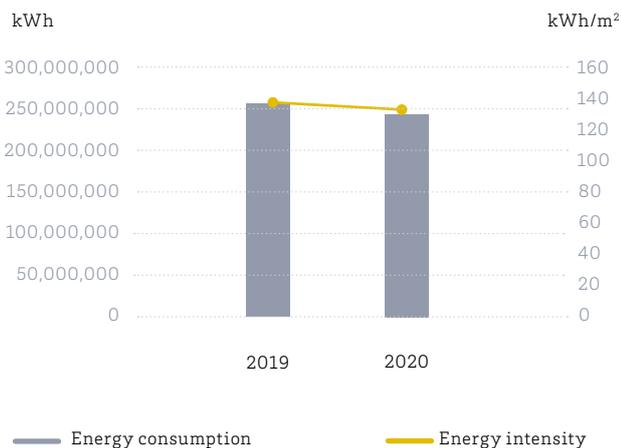
Portfolio energy and GHG emissions performance

Energy performance and greenhouse gas emissions are monitored and assessed based on total consumption and intensity metrics. Aggregated data covering the GCP portfolio is reviewed and reported in line with regulatory standards and the EPRA Sustainability Best Practice Recommendations (EPRA sBPR). The following data represents 31,337 units out of a total portfolio of 74,303 units. We are progressively increasing the scope and quality of our environmental data due to the continued rollout of automated meters and digital invoicing which we intend to complete by 2022.

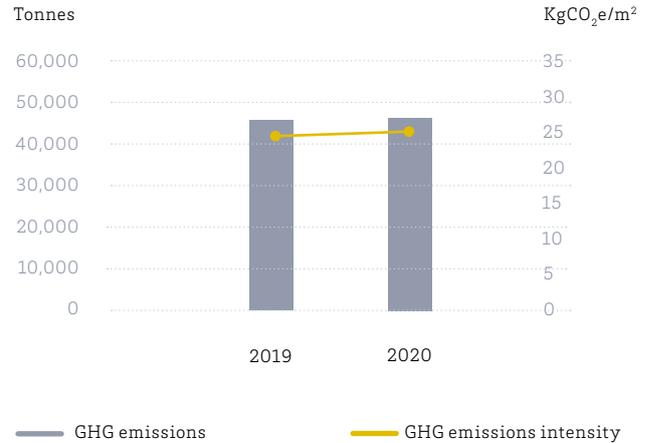
In 2020, GCP-obtained electricity consumption for units included in the scope of our data increased by 8.9% to 11,831,258 kWh (2019: 10,863,783 kWh). Landlord-obtained heat increased by 3.5% to 137,064,989 kWh (2019: 132,416,404 kWh), and fuels consumption fell by 18.2% to 93,072,477 kWh (2019: 113,740,106 kWh). This translated into an average building energy intensity of 134 kWh/m²/year (2019: 138.9 kWh/m²/year).

Scope 1 greenhouse gas emissions fell by 41% to 2,159 tonnes CO₂e (2019: 3,657), and Scope 2 (location-based) greenhouse gas emissions fell by 1.2% to 44,453 tonnes CO₂e (2019: 42,910). These reductions translated into a building greenhouse emissions intensity of 25.4 kg CO₂e/m²/year; a 0.8% improvement compared with 2019 (25.2 kg CO₂e/m²/year).

ENERGY CONSUMPTION



GHG EMISSIONS (SCOPES 1 & 2)



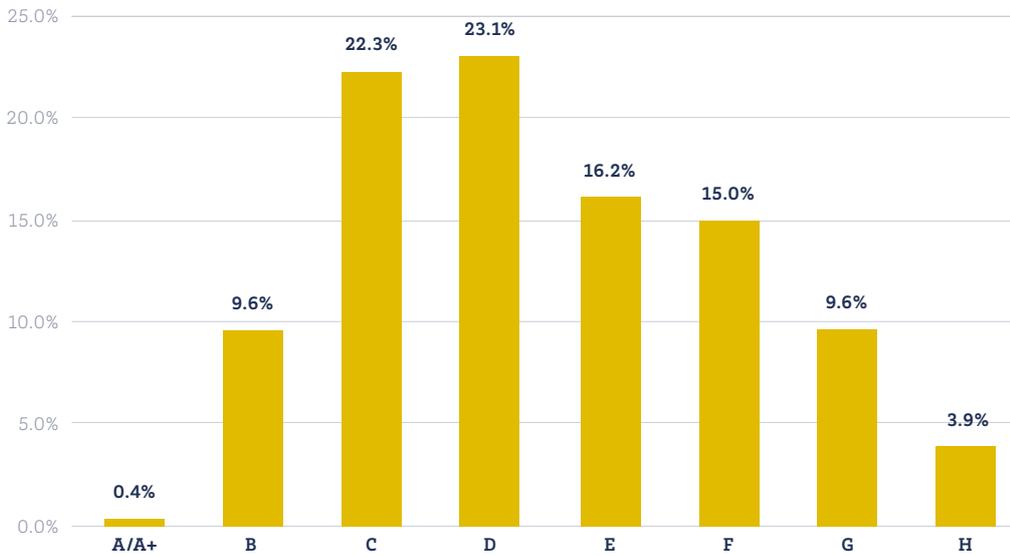
Energy Performance Certificates

Energy Performance Certificates (EPCs) are required for most buildings when they are sold or leased and provide an objective measure of the energy performance of a property for prospective buyers or tenants. Under the German system, EPCs must be prepared by a certified third party and are valid for a period of 10 years. EPCs are either calculated based on estimated energy demand due to a building's construction (Bedarfsausweis), or actual energy use (Verbrauchsausweis) which is adjusted for climate factors and vacancy rates at the time of certification.

Across our portfolio, 67% of EPCs have been issued within the past two years, and 70.5% are based on real consumption (Verbrauchsausweis). Just over 32% of GCP's portfolio by floor area have an EPC rating of C or higher, and the average consumption based on the available EPCs is 136 kWh/m²/year. The weighted average energy consumption by floor area is 126.4 kWh/m²/year, or 10.4 kWh/m² less than the national average.

¹ Environmental data covers 31,337 units, representing approximately 41% of our portfolio.

EPC ratings by floor area



Priorities for 2021

To contribute to our long-term carbon reduction goal, and focus our efforts in 2021, we have set the following priorities:

- Increase the scope of energy data to cover all GCP assets
- Conduct Net Zero Energy Building, Heating System and Lighting System Optimisation pilot studies (see 'Energy Strategy' above)

Data tables

Environmental data is reported in line with the EPRA Sustainability Best Practice Recommendations (sBPR). Please see our EPRA reporting tables (available on our website) for a full description of our scope and methodology, including like-for-like performance.

Energy use

Key Figures	Scope	Unit	Portfolio Performance		
			2019	2020	% change
Electricity	For landlord shared services	kWh	10,863,783	11,831,259	8.9%
	Total landlord-obtained electricity		10,863,783	11,831,259	8.9%
	% from renewable sources		73.8	82.7	12%
District heating & cooling	For landlord shared services	kWh	132,416,404	137,064,989	3.5%
	Total landlord-obtained Heat		132,416,404	137,064,989	3.5%
	% from renewable sources		14.5%	15%	3.4%
Fuels	For landlord shared services	kWh	113,740,106.4	93,072,477	-18.2%
	Total landlord-obtained fuels		113,740,106.4	93,072,477	-18.2%
	% from renewable sources		93.5%	88.6%	-5.2%
Energy intensity	Building energy intensity	kWh/m ²	138.9	134	-3.5%

GHG emissions

Key Figures	Scope	Unit	Portfolio Performance		
			2019	2020	% change
Greenhouse gas emissions	Scope 1	tonnes CO ₂ e	3,657	2,156	-41%
	Scope 2 (location-based)		42,910	43,430	1.2%
	Scope 2 (market-based)		38,608	39,253	1.7%
	Total		46,567	45,589	-2.1%
Greenhouse gas emissions intensity	Scope 1 and 2 intensity from building energy	kg CO ₂ e/m ²	25.2	25.4	0.8%