



# Corporate Carbon Footprint 2022

KBR, Inc.  
July 24, 2023

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## Summary

ClimatePartner has measured KBR’s Corporate Carbon Footprint for 2022 (January - December 2022). In performing these calculations, ClimatePartner has adhered to the *Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (GHG Protocol)*, which is the world's most widely used greenhouse gas accounting standards for companies.

This report provides an overview of the carbon dioxide equivalent (CO<sub>2</sub>e) emissions generated by KBR in 2022 for the following GHG Protocol emissions categories and associated business activities:

### Scope 1 Emissions:

1. Facility heating;
2. Facility cooling [refrigerant leakage]; and
3. Company-owned vehicles.

### Scope 2 Emissions:

1. Purchased electricity; and
2. Purchased heat [district heating].

### Scope 3 Emissions:

1. Business travel including air, rail and road travel, and hotel stays; and
2. Indirect (upstream) emissions from utility use.

In 2022, KBR’s business activities generated a total of 54,931.46 tonnes of carbon dioxide equivalent (CO<sub>2</sub>e) - a 62.01% reduction relative to the 2020 baseline and a 34.95% increase relative to the 2021 corporate carbon footprint. The increase from 2021 to 2022 was generally due to additional travel post Covid-19 and more accurate data.

**Table 1. Summary of Emissions and KBR Sites Year over Year**

Year	Total Footprint (t CO <sub>2</sub> )	Sites
2020 Baseline	144,603.78	159 <sup>a</sup>
2021	40,705.60	180 <sup>b</sup>
2022	54,931.46	154 <sup>c</sup>

*a - Thirty-six (36) locations were added to the site list for the 2021 evaluation. Based on the years of operation, emissions from some of these locations were also added to the 2020 Baseline Recalculation for a total of 159 sites in the baseline re-evaluation. The net difference in site numbers is reflected as 21 additional in 2021.*

*b - 182 KBR sites were evaluated as part of the 2021 Corporate Carbon Footprint. Emissions or partial emissions for 180 of the 182 locations were able to be calculated based on primary or secondary data.*

*c -159 unique lease IDs were reported to be under KBR’s operational control in 2022. However, due to lease consolidation, these were considered to be 154 separate facilities.*

An operational control approach was used to determine the system boundaries of the corporate carbon footprint emissions calculation. In 2022, KBR reported operational control over 154 facilities in 15 countries globally versus 182 facilities in 22 countries globally in 2021. See summary table below.

**Table 2. Location and Total Lease Area for 2021 versus 2022**

Country	2021		2022		Year on Year Change	
	Locations	Total Sq Ft Occupied	Locations2	Total Sq Ft Occupied2	Locations3	Total Sq Ft Occupied3
Australia	18	205,528.11	16	176,552.70	-2	(28,975.41)
Azerbaijan	2	12,615.30			-2	(12,615.30)
Canada	2	21,196.00			-2	(21,196.00)
China	3	8,369.84	1	8,084.00	-2	(285.84)
Finland	1	3,436.80			-1	(3,436.80)
Germany	2	15,779.46	2	15,780.00	0	0.54
India	4	97,097.20	4	158,178.00	0	61,080.80
Indonesia	1	1,619.43	2	1,834.00	1	214.57
Iraq	3	1,350.00			-3	(1,350.00)
Kazakhstan	1	10,731.62	1	10,731.62	0	-
Korea, Republic of	1	5,501.97	1	5,502.00	0	0.03
Kuwait	1	581.25			-1	(581.25)
Mexico	1	17,260.00			-1	(17,260.00)
Netherlands	1	409.03	1	409.00	0	(0.03)
Oman	1	2,206.60	1	2,206.60	0	-
Russian Federation	4	7,987.90	3	1,387.48	-1	(6,600.42)
Saudi Arabia	8	141,993.63	7	168,644.78	-1	26,651.15
Singapore	2	29,392.79	2	29,393.00	0	0.21
Sweden	1	678.13			-1	(678.13)
United Arab Emirates	4	24,807.59	8	43,459.00	4	18,651.41
United Kingdom	17	504,414.00	16	555,910.00	-1	51,496.00
United States	103	2,968,138.00	89	2,798,145.00	-14	(169,993.00)
Grand Total	182	4,081,094.65	154	3,976,217.18	-28	(104,877.47)

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**Total (metric tonnes CO<sub>2</sub>e)**

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**54,931.46**

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This amount corresponds to...



... the melting of

**164,820 m<sup>2</sup>**

of Artic ice in  
summertime



...

**170.59 million  
km**

driven by car



... the amount of CO<sub>2</sub>  
sequestered by

**4,395,200**

beech trees per year

## Company Overview

KBR delivers science, technology and engineering solutions to governments and companies around the world (NYSE: KBR). In 2022, KBR employed approximately 30,000 people worldwide with operations in 34 countries and customers in more than 80 countries.

KBR operates two core business segments – Government Solutions and Sustainable Technology Solutions. The Government Solutions (GS) Business Segment provides full life cycle support solutions to defense, space, aviation, intelligence, as well as other programs and missions for military and government agencies around the world. The Sustainable Technology Solutions (STS) Business Segment combines KBR’s licensed proprietary technologies, equipment and catalyst supply, digital solutions, and associated knowledge-based services, working closely with customers to provide an optimal approach to maximizing their return on investment.

## System Boundaries

### Organizational Boundaries

ClimatePartner applies the 'operational control' approach when determining which locations, assets, and/or activities must be included within the scope of KBR's corporate carbon footprint. Operational control is considered to apply in all cases where KBR employs its operational policies and procedures within an entity or facility.

Given that KBR's legal entities are often subcontracted to run operations on behalf of its clients, it was essential to identify those operations over which KBR has full operational control. All operations that KBR manages as part of its service provision, but where client's operational policies and procedures applied, are considered to fall outside of the system boundaries of this assessment. ClimatePartner does not follow a financial control or an equity-share approach in this scenario.

It was determined that the following instances are not within KBR's operational control, and therefore, are considered beyond the scope of this assessment:

1. Residential leases.
2. Passthrough agreements, where KBR is linked to a facility by lease agreement only.
3. Joint venture leases, where KBR is not the primary occupant.
4. Company vehicles assigned for employee commuting / personal use.
5. Company vehicles assigned to specific projects.

Company vehicles used for internal corporate services are the only vehicles retained within the boundaries of the calculations.

See Appendix 2 for a list of vehicles included in the assessment.

### Operational Boundaries

KBR has chosen to account for its Scope 1 and Scope 2 emissions, as well as part of its Scope 3 emissions. Operational boundaries were set, and business operations classified as follows:

- **Scope 1:** Direct emissions from company facilities (heating and cooling) and company-owned vehicles.
- **Scope 2:** Indirect emissions from purchased electricity and purchased heat for company facilities.
- **Scope 3:** Indirect emissions for business travel (air, rail and road travel, as well as hotel stays) and indirect upstream emissions from utilities usage.

### Changes in System Boundaries

Scope 1 emissions from facility cooling (refrigerant leakage) as well as Scope 3 emissions from hotel stays and business travel by car were added to the assessment in 2021 to improve data completeness. The emissions categories considered in the 2022 assessment remain consistent and no significant system boundary changes are included in this report.

## Data Quality and Limitations

### Data Gaps

Primary data is key for a comprehensive and complete carbon footprint assessment. Where primary energy and/or fuel consumption data is not available, secondary data is used. The GHG Protocol defines primary and secondary data as follows:

- **Primary Data:** Data provided by suppliers or other value chain partners related to specific activities in the reporting company's value chain.
- **Secondary Data:** Industry-average data (e.g., from published databases, government statistics, literature studies, and industry associations), financial data, proxy data, and other generic data.

ClimatePartner considers data provided by KBR to be primary data.

**Table 3. Yearly Ratio of Primary and Secondary Data**

Scope, activity	Primary Data 2020	Primary Data 2021	Primary Data 2022	Secondary Data 2020	Secondary Data 2021	Secondary Data 2022
<b>Scope 1</b>						
Heating	5%	6%	29%	95%	94%	71%
Cooling (refrigerant leakage)	NA	3%	16%	NA	97%	84%
Vehicle fleet	100%	100%	100%	0%	0%	0%
<b>Scope 2</b>						
Electricity	51%	29%	60%	49%	71%	40%
<b>Scope 3</b>						
Business travel (air)*	100%	100%	100%	0%	0%	0%
Business travel (rail)*	100%	100%	100%	0%	0%	0%
Business travel (road)*	NA	98%	100%	NA	2%	0%
Business travel (hotels)*	NA	100%	100%	NA	0%	0%

### Exclusions

Exclusions have been made in the assessment, namely those listed below:

- Three (3) United Kingdom locations have been excluded from the cooling (refrigerant leakage) emissions calculation, as these locations were not being actively used.



- Ten (10) United Kingdom locations have been excluded from the heating emissions calculation, as it has been confirmed that these locations are not supplied with natural gas heating and/or these locations were not being actively used.
- Sites located in the Australia, Kazakhstan, Oman, Saudi Arabia, Singapore, United Arab Emirates and the southern United States have been excluded from the heating emissions calculation, as it is assumed that heating is provided via electricity in these geographies, and this would be reflected in the electricity consumption (unless primary data was provided which indicated a heating source other than electricity).
- Storage or warehouse locations were excluded from the cooling calculations as the primary data provided only accounted for office and mixed locations, and a plausible proxy for the facility use type could not be established. It is also presumed that warehouse/ storage locations are not temperature controlled.
- Two (2) vehicles associated with KBR's US vehicle fleet were excluded from the Scope 1 direct emissions calculation as KBR was unable to verify actual fuel consumption or usage.

The exclusions noted here are for assets that fall within the calculation system boundaries and do not include those facilities deemed to be outside of KBR's operational control.

### Conclusion Data Quality

Table 1 above provides ratios of the primary and secondary data used in the assessment. Improving data quality will generate more accurate future calculations based on fewer assumptions. This is also important for determining relevant and effective reduction measures.

As demonstrated in Table 1, KBR improved upon primary data collection for facility heating, cooling and electricity. When compared to the 2021 Corporate Carbon Footprint, the percentage of primary data increased by 3x or more for facility heating and refrigerant data, and primary electricity consumption data doubled (2x).

Scope 1 emissions for heating and cooling in 2022 are predominantly based on secondary data, however.

## Methodology

### Operational Period Adjustments

If primary data was provided for only a portion of the year – monthly or quarterly – the data is extrapolated to calculate the annual consumption value.

For locations which have not been under KBR operational control for a full year, the calculated consumption was adjusted to reflect only the months of operation. For example, if a KBR lease commenced on July 1, 2022, only 6 months of emissions were attributed to that location. A similar approach was taken for leases that ceased part way through the year. If a lease ceased in its entirety by the end of 2021, that location was not considered as part of the 2022 evaluation.

### Scope 1 Emissions Calculations – Heating

#### **Calculation Overview**

Most KBR's facility heating falls under Scope 1 self-generated heat emission as they utilize natural gas. However, sites located in Russia are presumed to use district heating which is categorized separately as purchased heat under Scope 2 emissions.

The amount of primary data provided by KBR increased year on year. In 2022, 29% of KBR's sites reported primary data relating to annual heating energy consumption, which is up from 6% primary data for the previous reporting period. Secondary data fills the data gaps for the remaining 71% in 2022.

Heating emissions were calculated using the 2022 emissions factors published by the United Kingdom's Department for Environment, Food & Rural Affairs (DEFRA).

#### **Assumptions**

##### **United Kingdom:**

All United Kingdom locations that were not excluded from the heating emissions calculation provided primary consumption data. One location, GBR11, reported a renewable heating source - biogas from anaerobic digester. The heat related emissions for this location were calculated using the specific biogas emissions factor from DEFRA. The remaining United Kingdom facilities were reported to use natural gas as the heating source.

##### **United States:**

In order to ascertain a proxy for heating fuel usage across the United States, ClimatePartner has reviewed the Commercial Buildings Energy Consumption Survey (CBECS) and published by the U.S. Energy Information Administration (EIA). According to this survey, in all census regions except South, most buildings use natural gas as the energy source for primary space heating. Energy source by region is listed below:

- Northeast\* - Natural Gas
- Midwest - Natural gas
- South - Electricity
- West - Natural gas

\* As noted in the *KBR Corporate Carbon Footprint – 2021* dated August 2022, Delaware has been reclassified for the purposes of this assessment as a Northeastern state to better reflect the state’s climate and infrastructure.

Where electricity is considered the main energy source for heating, it is assumed that heating is included in the electricity consumption data. Therefore, facilities located in the southern United States are not included in KBR’s natural gas consumption value, unless primary data was received indicating otherwise.

For sites where natural gas is considered the main heating energy source, and primary data was not provided, ClimatePartner applied the following assumptions:

1. If primary data was received for a like location within the same state, an average energy intensity ratio was calculated from the primary data and applied to the lease area.
2. If there was no primary data available for a location within the given state, ClimatePartner adhered to EIA recommendations and used the average energy intensity ratios from the *Commercial Buildings Energy Consumption Survey (CBECS)* for the respective state.

#### **Australia:**

Based on an article published by the Australian Government, electricity is considered as the primary energy source for heating (*Baseline Energy Consumption and Greenhouse Gas Emissions - In Commercial Buildings in Australia*). It is assumed that the related consumption is provided with the total electricity consumption and reported under Scope 2. Australian facilities are not included in KBR’s natural gas consumption value.

#### **Germany:**

Natural gas is considered the primary heating energy source in Germany according to the online publication *Vergleichswerte für den Energieverbrauch von Nichtwohngebäuden (Comparative values for the energy consumption of non-residential buildings)*. Space area size and average energy intensity provided in this study is used to estimate the total heating energy consumption in KBR’s locations in Germany.

#### **The Netherlands:**

In 2019, Central Bureau of Statistics of the Netherlands published *Energiekentalen utiliteitsbouw dienstensector; oppervlakteklasse* (Energy figures non-residential construction service sector; surface class). The average gas consumption for a small office is used to estimate the total heating energy consumption in KBR’s locations in the Netherlands.

#### **Middle East (Oman, Saudi Arabia and United Arab Emirates):**

Based on *statistics provided by the International Renewable Energy Agency*, electricity is considered the primary energy source for heating in the United Arab Emirates (UAE). Due to unavailability of reliable statistics on heating/cooling energy consumption in Saudi Arabia and Oman, UAE statistical data is assumed to be representative for the whole Middle East region.

It is assumed that heat consumption for facilities in these countries is included with the total electricity consumption and reported under Scope 2.

**Singapore:**

According to statistics published by the Building and Construction Authority (BCA) of Singapore and provided in *the BCA Building Energy Benchmarking Report 2014*, electricity is considered as the primary energy source for heating in Singapore. It is assumed that the related heat consumption is provided with the total electricity consumption, reported under Scope 2.

**China and Republic of Korea:**

KBR reported primary facility heating data for their one location in Korea. An energy intensity ratio was calculated from the primary data and applied to the lease area of the one location in China, as a close geographic proxy.

**Kazakhstan, India and Indonesia:**

Neither a close geographical proxy nor secondary external source data could not be applied for locations in Kazakhstan, India and Indonesia. A global average of primary heating data was used in this instance. KBR should aim to collect primary data for these locations for subsequent assessments.

## Scope 1 Emissions Calculations – Cooling (Refrigerant Leakage)

**Calculation Overview**

KBR reported primary data for their facility refrigerants in two separate manners:

1. The leakage volume, which is determined by volume of coolant needed to refill the air conditioning system; or
2. The cooling system charge capacity, which provides the total volume of coolant the air conditioning system contains.

Five (5) locations in the United States, 16 in the United Kingdom (one of which is a warehouse location) and four (4) in Australia reported primary facility cooling data. While the primary data for coolant remains limited, there is a notable increase in primary data availability for the 2022 emissions calculation.

Where the refill volume (i.e., a measured loss) was reported along with the coolant, the refill volume is multiplied by the coolant's global warming potential (GWP) to determine the respective emissions. These refill quantities or leakages are considered direct releases to the atmosphere and can be a significant source of emissions. Coolant GWP values are taken from the Intergovernmental Panel on Climate Change (IPCC) and the Climate Change 2021: The Physical Science Basis, Sixth Assessment Report.

Where the cooling agent and system charge are known, the related emissions are calculated based on an industry average systems leakage rate. The latest research conducted by ClimatePartner determined an average leakage rate of 7.9% to be the most conservative. The leakage rate is cited from the German Environment Agency Umweltbundesamt – UBA, which can be found here.

Where necessary, cooling system charge capacities were adjusted to reflect KBR's percent occupancy within the total building space.

## Assumptions

As noted in the Exclusions, storage or warehouse locations were excluded from the cooling calculations as a plausible proxy for the facility use type could not be established.

### United States:

An average emissions per area was calculated using the primary data provided for the five (5) United States locations – DE01, DE02, OH01, OH09 and TX03. The emissions ratio was determined to be 0.427 kg of carbon dioxide equivalents (CO<sub>2</sub>e) per square foot of lease area. This value was used as a proxy for the remaining offices or mixed-use locations in the United States, where primary data was not reported.

### Australia:

An average emissions per area was calculated using the primary data provided for the four (4) Australian locations – AUS18, AUS49, AUS55 and AUS57. The emissions ratio was determined to be 0.912 kg of carbon dioxide equivalents (CO<sub>2</sub>e) per square foot of lease area. This value was used as a proxy for the remaining offices or mixed-use locations in Australia, where primary data was not reported.

### United Kingdom:

All locations in the United Kingdom reported facility cooling data. Ten (10) of the 15 office locations in the United Kingdom reported a measured refrigerant loss of '0'. **Europe (Germany, Netherlands, Russia):**

For Europe, where only the size of the lease area was known, and no information was given on the refill volume or system capacity, an external calculation was completed using areal data and industry assumption. The calculation assumes the following input parameters: ceiling height of three meters (3 m), coolant R-410 A (one of the most frequently used cooling agents), split/multi-split air conditioning system was being used and a coolant leakage rate of 6%. Using the standardized assumptions, emissions were calculated based on a given location size (sq. ft). The German reference noted previously, and product catalogues of air conditioner manufacturers were used to determine that 6% leakage was the most applicable and most conservative for European countries.

### Other Global Locations:

In absence of primary data, the emissions per area ratio for the United States was applied as a secondary data proxy for all other geographies, outside of those discussed above or those excluded based on use-type.

## Scope 1 Emissions Calculations – Vehicle Fleet

### Calculation Overview

Emissions related to vehicles controlled by KBR (company vehicles) are calculated using either fuel consumption data or the distance travelled by a given vehicle class or vehicle type.

The emissions associated with flights were determined based on the fuel consumption data provided by a third-party operator who uses a Fuel Recovery Factor to factor in ground fuel

burns in addition to fuel consumed in flight, so it was determined that fuel consumed was more comprehensive than the flight mileage reported.

Vehicles issued by KBR to employees for commuting or personal use are not considered in this calculation.

### **Assumptions**

Due to the high altitude that airplanes reach during the cruising phase, emissions occur in a higher part of the earth's atmosphere compared to all other human made greenhouse gas emissions. In this context, radiative forcing describes the additional indirect effect that the combustion of aviation fuel at high altitudes has on global warming due to the imbalance between the energy absorbed by the Earth and energy radiated back to space.

The radiative forcing index (RFI) attempts to account for this additional impact on global warming. The Intergovernmental Panel on Climate Change (IPCC) recommends a factor between 1.9 and 4.7. ClimatePartner uses an RFI of 3.

### **Scope 2 Emissions Calculations – Purchased Electricity**

#### **Calculation Overview**

Sixty percent (60%) of KBR's sites reported primary electricity consumption data in 2022. Locations for which primary data was provided comprise 84% of the total lease area being evaluated for 2022.

Emissions for Scope 2 purchased electricity are calculated using both the market-based method and the location-based method. This dual reporting approach is recommended by the GHG Protocol. For the market-based method, the company provides supplier-specific emission factors for the electricity they purchased. If these specific factors were not available, factors for the residual mix in the country of operation are used. The residual mix is defined as the country's average grid mix with any renewable energy usage removed. If this is unavailable, the average grid mix of the country is used, incorporating both renewable and non-renewable power generation. The report also states the location-based method, which calculates the average electricity grid mix for the country.

KBR has invested in Renewable Energy Credits (RECs; also known as Energy Attribute Certificate (EACs)) for electricity consumption in the United States, Australia, Saudi Arabia, and the United Arab Emirates. These credits certify that the specified energy consumption volume was from a renewable energy source and the certificate holder can claim that they used renewable energy once the certificate has been retired. For KBR locations where this applies, the renewable energy contribution is reflected in the market-based emissions.

Renewable energy is a great way to reduce Scope 2 emissions. In addition to RECs, locations GBR11 and GBR38 in the United Kingdom, and AUS06 in Australia, have entered into a Green Tariff with their power provider which ensures the energy consumed at these locations is from a renewable energy source.

## **Assumptions**

For the 40% of KBR locations that did not report primary electricity data, secondary data values were calculated. In most instances, primary consumption data is used as a proxy for locations within the same general geography and of the same use type. Where primary data is provided, an energy intensity is calculated on a consumption (kWh) per square foot basis. This energy intensity is applied to locations within a similar geography where only KBR's operational area (lease area) is known.

In instances, where primary data was not available for a geography, external data sources were used to determine the most appropriate secondary data values. The following provides a summary of the electricity calculation approach used for each country and any deviations:

### **Americas Region**

#### **United States:**

47 of 89 United States locations (53%) reported primary electricity consumption data. These locations amount to 81% of the total leased space within the United States for 2022. For the remaining locations, secondary data was applied based on the following:

1. If primary data was available for a facility (or facilities) within a given state, and of a similar use type, primary data was used to calculate an energy intensity ratio (consumption per area) for that state.
2. If a primary data point was not available within a given state, and for a like use type, state-specific energy intensity ratios from the United State's Energy Information Administration (EIA) were applied on an area basis to determine consumption.

The EIA national average for warehouses was applied as state specific information for that given facility use type is not available.

### **Asian Pacific Region**

#### **Australia:**

15 of 16 Australia locations provided primary data. A country average energy intensity ratio was applied to the lease area of AUS53.

#### **China:**

KBR reported primary facility data for their one location in Korea. An energy intensity ratio was calculated from the primary data and applied to the lease area of the one location in China, as a close geographic proxy.

#### **India:**

Primary electricity data was provided for all India facilities considered within the scope of the 2022 calculation.

#### **Indonesia, Kazakhstan:**

An Asian Pacific regional average for offices was calculated based on the primary data from Australia, India and Korea. Primary data from Indian location IND27 was excluded from the regional average as this location was unoccupied and under renovation during the reporting period.

**Korea:**

Primary electricity data was provided for the one KBR facility in Korea.

**Singapore:**

Due to the absence of 2022 data, primary data from 2021 was applied to Singapore locations - SGP26 and SGP27. Neither location had a change in occupational period, or lease space from 2021 to 2022.

**European Region**

**Germany:**

An external resource published on German commercial building energy intensities is used as a proxy (Comparative values for the energy consumption of non-residential buildings).

**Netherlands:**

Average value of electricity consumption per area for a Dutch office building was used to calculate annual electricity consumption. The energy intensity value applied was published by the Netherlands' Central Bureau of Statistics in *Energy figures non-residential construction service sector; surface class* (Energiekentallen utiliteitsbouw dienstensector; oppervlakteklasse).

**Russia:**

Due to the absence of a suitable regional proxy nor reliable external data sources, 2020 primary data from facility RUS09 was applied to the 2022 Russian locations on an energy per area basis.

**United Kingdom:**

Primary electricity data was provided for the 16 facilities in Great Britain.

**Middle East Region**

**Oman:**

A Middle East regional average for offices was calculated based on the primary data from Saudi Arabia and the United Arab Emirates.

**Saudi Arabia:**

Primary electricity data was provided for the seven (7) KBR facilities in Saudi Arabia.

**United Arab Emirates:**



Primary electricity data was provided for two KBR facilities located in the United Arab Emirates -ARE266 and ARE267. An energy consumption average for these locations was applied to the remaining facilities within the UAE.

### Scope 2 Emissions Calculations – Purchased Heat

Most heating methods for KBR sites utilize on-site gas combustion to create heat and, as such, fall under Scope 1 category of emissions. However, based on studies published by the U.S. Department of Energy, district heating is considered the primary heating energy source in Russia (*Analysis of the Russian Market for Building Energy Efficiency*). District heating or purchased heat therefore falls under Scope 2 emissions.

The average energy consumption in Russian office buildings, as published by the [Center for Energy Efficiency](#), is used to estimate the total heating energy used in KBR's Russia locations.

### Scope 3 – Business Travel

#### **Travel by Air**

Flight class (economy, premium economy, business and first) and specific flight distances (e.g., long-haul vs. short-haul) are considered in the calculation of emissions associated with air travel. Emission factors provided by DEFRA are used to calculate emissions.

As noted under the Scope 1 emissions, ClimatePartner applies an RFI of 3 for air travel to account for the high altitude that airplanes reach during the cruising phase, emissions occur in a higher part of the earth's atmosphere compared to all other human made greenhouse gas emissions. Refer to the previous section for additional detail.

#### **Business Travel and Hotel Stays**

Hotel star ratings are considered when calculating emissions from hotel stays. Although not all hotels are given a star rating in data collection, the following star ratings are assumed:

- 5-star rating: Marriott, Hilton, Shangri-la, Hyatt, Intercontinental
- 4-star rating: Radisson, Accor

All other hotels are rated as 'unknown'.

#### **Business Travel by Road**

Fuel consumption or distance data are used to calculate emissions from business travel by road. Where only taxi expense data was available, distance travelled was estimated from total reported fares (note, that local currency was taken into account).

## 2022 Corporate Carbon Footprint Results

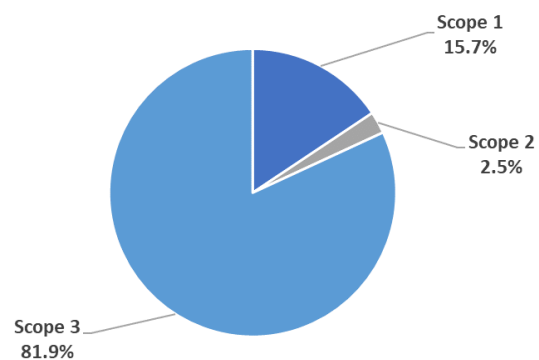
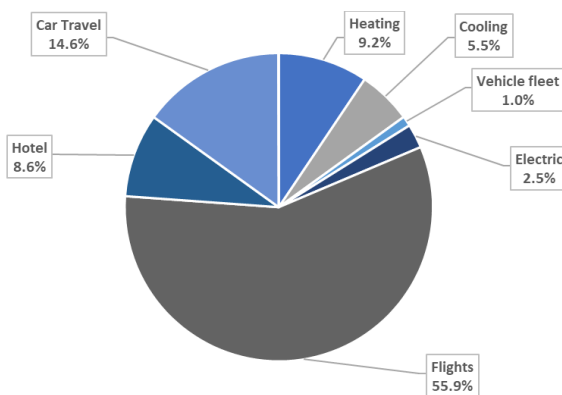
### Results Summary

In 2022, KBR’s business activities generated a total of 54,931.46 tonnes of CO<sub>2</sub>e, 15.66% of which were Scope 1 emissions, 2.46% Scope 2 emissions and 81.88% Scope 3 emissions (business travel). The share of emissions across Scope 1, Scope 2 and Scope 3 remains consistent with the 2021 Corporate Carbon Footprint.

Business travel, specifically air travel, was the most emission-intensive activity and represents the largest share of the company’s reported carbon footprint at greater than 50%.

**Table 4. 2022 Emissions by Sub-Category**

	Emissions, [t CO <sub>2</sub> ]	Share, %
<b>Scope 1</b>	<b>8,601.79</b>	<b>16%</b>
Refrigerant leakage	3,009.25	5%
Heat (self-generated)	5,026.52	9%
Vehicle fleet	566.02	1%
<b>Scope 2</b>	<b>1,353.25</b>	<b>2%</b>
Electricity (Market based)	1,349.20	2%
District Heating/ Cooling	4.04	0.01%
<b>Scope 3</b>	<b>44,976.43</b>	<b>82%</b>
Upstream Fuel- and energy-related activities	1,497.07	3%
Flights	30,733.40	56%
Hotel nights	4,698.56	9%
Rental and private vehicles	8,022.59	15%
Rail	24.81	0%
<b>Overall results</b>	<b>54,931.46</b>	<b>100%</b>



**Figure 1 and Figure 2. 2022 Emissions by Sub-Category**

Primary and secondary data available for Scope 1 and Scope 2 emissions allowed for the division of these emissions measurements into specific regions and countries. Table 5 provides an overview of this breakdown.

**Table 5. 2022 Scope 1 and Scope 2 Emissions by Country**

	2022 Calculation							
	Scope 1 [t CO <sub>2</sub> ]				Scope 2 [t CO <sub>2</sub> ]			Scope 1 and 2
	Heating	Fuels / vehicles	Cooling	TOTAL	Electricity	District heating	TOTAL	TOTAL
<b>Americas</b>	<b>4,119.7</b>	<b>374.5</b>	<b>2,502.8</b>	<b>6,997.0</b>	-	-	-	<b>6,997.0</b>
USA	4,119.7	374.5	2,502.8	6,997.0	-	-	-	6,997.0
<b>APAC</b>	<b>822.5</b>	<b>2.2</b>	<b>252.5</b>	<b>1,077.2</b>	<b>908.9</b>	-	<b>908.9</b>	<b>1,986.1</b>
Australia	-	2.2	178.1	180.3	38.5	-	38.5	218.8
China	1.1	-	3.5	4.6	757.2	-	757.2	761.8
India	748.6	-	51.1	799.7	6.6	-	6.6	806.3
Indonesia	5.0	-	0.3	5.3	63.9	-	63.9	69.2
Singapore	-	-	12.6	12.6	2.5	-	2.5	15.1
South Korea	0.8	-	2.3	3.1	40.1	-	40.1	43.2
Kazakhstan	67.1	-	4.6	71.7	-	-	-	-
<b>EMEA</b>	<b>84.3</b>	<b>189.4</b>	<b>253.9</b>	<b>527.6</b>	<b>440.3</b>	<b>4.0</b>	<b>444.3</b>	<b>971.9</b>
Bahrain	-	-	-	-	-	-	-	-
Germany	36.8	-	8.7	45.5	137.0	-	137.0	182.5
Oman	-	-	0.1	0.1	1.8	-	1.8	1.8
Russia	-	-	-	-	7.2	4.0	11.2	11.2
Saudi Arabia	-	-	65.3	65.3	-	-	-	65.3
UK	46.2	189.4	166.2	401.8	292.8	-	292.8	694.6
UAE	-	-	13.3	13.3	-	-	-	13.3
Netherlands	1.3	-	0.2	1.5	1.5	-	1.5	3.1
<b>TOTAL</b>	<b>5,026.5</b>	<b>566.0</b>		<b>8,601.8</b>	<b>1,349.2</b>	<b>4.0</b>	<b>1,353.2</b>	<b>9,955.0</b>

Note: The emissions presented above are the market-based emissions and reflect the purchase of RECs and use of green electricity and heating gas.

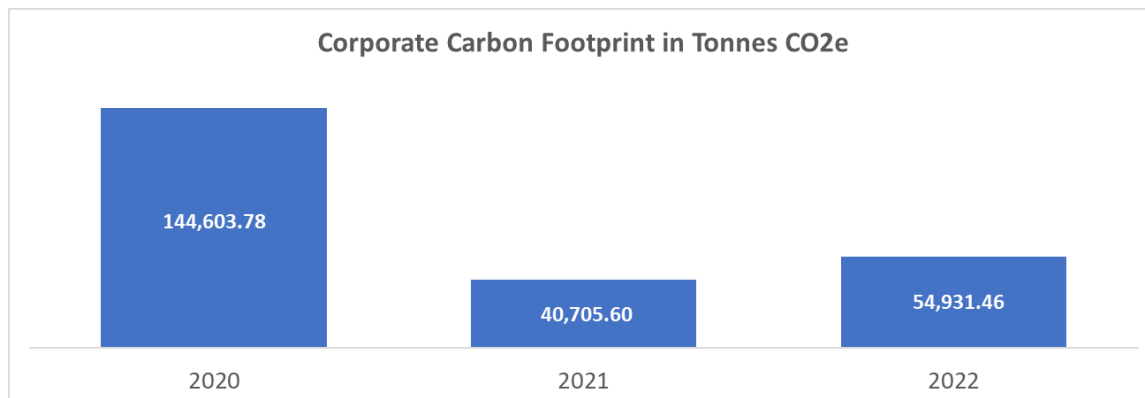
The United States contributes the most significant volume of emissions to KBR’s global corporate carbon footprint. Fifty-eight percent (58%) of locations considered within the 2022 scope of calculation are located in the United States, and those locations alone comprised >70% of the global lease area.

### Analysis by Scope of Emissions

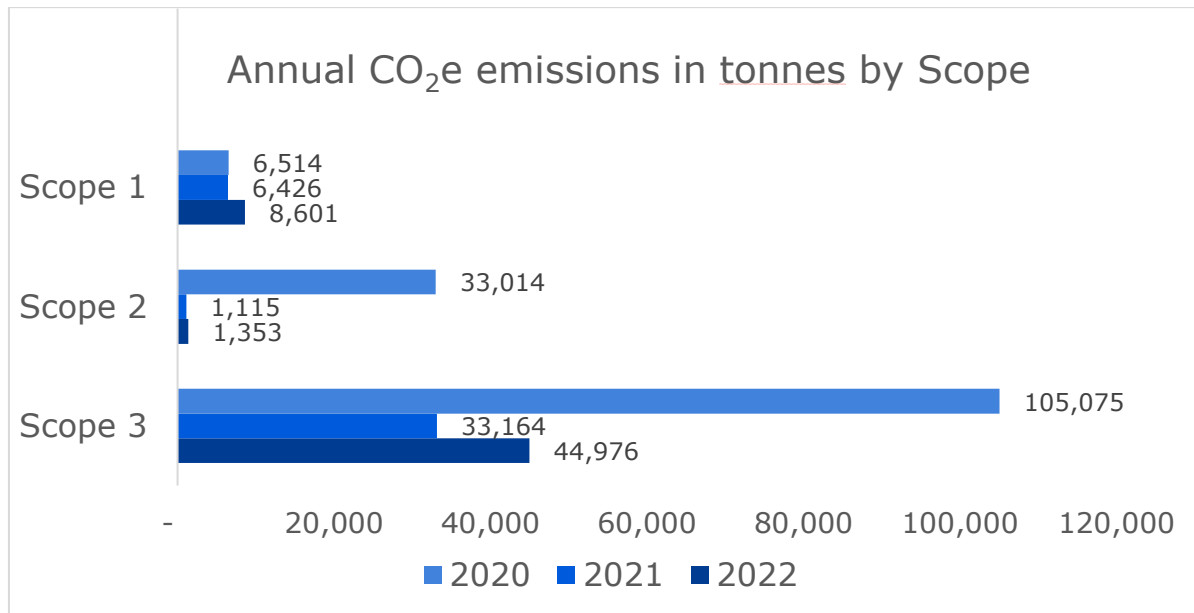
As shown in Figures 3 and 4 below, there is a significant difference between the 2020 baseline and the 2022 carbon footprint results.

In 2022, KBR reported operational control over 154 distinct facilities in 15 countries globally. On-site facility emissions (Scope 1 – heating and cooling) have remained comparable to previous years..

**Figure 3. Total Emissions Comparison Year over Year**



**Figure 4. Scope 1, 2 and 3 Emissions Comparison across Years**



In 2022, emissions from purchased electricity (Scope 2) are approximately 4% of that calculated for the 2020 baseline (96% reduction). Similar to 2021, the decrease in emissions compared to the baseline year is partially due to the reduction in Scope 2 electricity consumption, as a result of KBR’s decision to purchase renewable energy certificates (RECs). The use of RECs has negated 18,804 tonnes of CO<sub>2</sub>e Scope 2 market-based emissions from the 2022 corporate carbon footprint.

While the decrease in Scope 2 purchased electricity represents the most significant percent change, decreases in Scope 3 emissions relative to the 2020 baseline represent the most significant reduction in gross emissions. Business travel - flights in particular - contribute to most of the Scope 3 emissions. Flight emissions in 2022 were roughly 56,579 tonnes of CO<sub>2</sub>e less than in the 2020 baseline year, which is a 64.8% reduction. It should be noted that pre-pandemic data from 2019 was used to establish the business travel baseline. KBR chose to use 2019 as its baseline for business travel, in order to account for reduced travel during the 2020 Covid-19 pandemic.

See Insert A for more details on the global emissions breakdown per category and changes year over year. Variability in 2022 emissions is explored in more detail in subsequent sections.

## Insert A – Year over Year Net Difference and Relative Change Analysis

	2020 Baseline Recalculation		2021 CCF		2022 CCF		Change Y21/22		Change Y20/22	
	[kg CO <sub>2</sub> ]	[% of Overall]	[kg CO <sub>2</sub> ]	[% of Overall]	[kg CO <sub>2</sub> ]	[% of Overall]	Net Difference [kg CO <sub>2</sub> ]	Relative Change [%]	Net Difference [kg CO <sub>2</sub> ]	Relative Change [%]
<b>Scope 1</b>	6,514,307.94	4.50%	6,426,443.65	15.79%	8,601,788.76	15.66%	2,175,345.11	33.85%	2,087,480.82	32.04%
Direct emissions from company facilities	6,481,402.02	4.48%	6,383,024.93	15.68%	8,035,771.48	14.63%	1,652,746.55	25.89%	1,554,369.46	23.98%
Heat (Self generated)	2,287,057.28	1.58%	2,104,859.84	5.17%	5,026,522.00	9.15%	2,921,662.16	138.81%	2,739,464.72	119.78%
Refrigerant leakage	4,194,344.74	2.90%	4,278,165.09	10.51%	3,009,249.48	5.48%	(1,269,915.61)	-29.66%	(1,185,095.26)	-28.25%
Direct emissions from company vehicles	32,905.92	0.02%	43,418.72	0.11%	566,017.28	1.03%	522,598.56	1203.62%	533,111.36	1620.11%
Vehicle fleet	32,905.92	0.02%	43,418.72	0.11%	566,017.28	1.03%	522,598.56	1203.62%	533,111.36	1620.11%
<b>Scope 2 (Market-based)</b>	33,014,232.31	22.83%	1,114,970.91	2.74%	1,353,247.15	2.46%	238,276.24	21.37%	(31,660,985.16)	-95.90%
Purchased electricity for own use	32,972,716.03	22.80%	1,047,809.64	2.57%	1,349,202.37	2.46%	301,392.73	28.76%	(31,623,513.66)	-95.91%
Electricity (stationary)	32,972,716.03	22.80%	1,047,809.64	2.57%	1,349,202.37	2.46%	301,392.73	28.76%	(31,623,513.66)	-95.91%
Electricity (vehicle fleet)	-	-	-	-	-	-	-	-	-	-
Purchased heating, steam, and cooling for own use	41,516.29	0.03%	67,161.28	0.16%	4,044.78	0.01%	(63,116.50)	-93.98%	(37,471.51)	-90.26%
Heat (purchased)	41,516.29	0.03%	67,161.28	0.16%	4,044.78	0.01%	(63,116.50)	-93.98%	(37,471.51)	-90.26%
<b>Scope 3</b>	105,075,238.49	72.66%	33,164,187.40	81.47%	44,976,428.14	81.88%	11,812,240.74	35.62%	(60,096,810.35)	-57.20%
Fuel- and energy-related activities <sup>1</sup>	8,877,577.62	6.14%	3,470,424.02	8.53%	1,497,074.73	2.73%	(1,973,349.29)	-56.86%	(7,380,502.89)	-83.14%
Upstream emissions electricity	8,449,421.46	5.84%	3,058,063.18	7.51%	1,214,097.28	2.21%	(1,843,965.90)	-60.30%	(7,235,324.18)	-85.63%
Upstream emissions heat	411,267.66	0.28%	392,369.93	0.96%	236,642.62	0.43%	(155,727.31)	-99.69%	(174,625.04)	-42.46%
Upstream emissions vehicle fleet	16,888.49	0.01%	19,990.91	0.05%	46,334.84	0.08%	26,343.93	131.78%	29,446.35	174.36%
Upstream transportation and distribution <sup>2</sup>	-	-	94,190.00	0.23%	-	-	(94,190.00)	-100.00%	-	-
Inbound logistics	-	-	94,190.00	0.23%	-	-	(94,190.00)	-100.00%	-	-
Waste generated in operations <sup>3</sup>	-	-	374.44	0.00%	-	-	(374.44)	-100.00%	-	-
Operational waste	-	-	374.44	0.00%	-	-	(374.44)	-100.00%	-	-
Business travel <sup>3</sup>	96,197,660.87	66.52%	27,680,318.80	68.00%	43,479,353.40	79.15%	15,799,034.60	57.08%	(52,718,307.47)	-54.80%
Flights	87,312,644.00	60.38%	20,365,633.63	50.03%	30,733,398.71	55.95%	10,367,765.08	50.91%	(56,579,245.29)	-64.80%
Hotel nights	4,325,943.83	2.99%	4,785,120.65	11.76%	4,698,559.52	8.55%	(86,561.13)	-1.81%	3,721,615.69	8.61%
Rental and private vehicles/ Business Travel by Car	4,553,046.17	3.15%	2,526,200.66	6.21%	8,022,587.55	14.60%	5,496,386.89	217.58%	3,469,541.38	76.20%
Rail	6,026.87	0.004%	3,363.86	0.01%	24,807.62	0.05%	21,443.76	637.47%	18,780.75	311.62%
Employee commuting	13,186,013.67	-	1,918,880.14	4.71%	-	-	(1,918,880.14)	-100.00%	(13,186,013.67)	-100.00%
Employee Commuting	13,186,013.67	-	1,918,880.14	4.71%	-	-	(1,918,880.14)	-100.00%	(13,186,013.67)	-100.00%
<b>Overall results</b>	144,603,778.74	100.00%	40,705,601.96	100.00%	54,931,464.07	100.00%	14,225,662.11	34.95%	(89,672,314.67)	-62.01%
<b>Scope 2 (location-based in kg CO<sub>2</sub>)</b>	32,056,283.18	-	26,367,090.61	-	20,704,267.39	-	(5,662,823.22)	-21.48%	(13,357,015.79)	-35.41%

1- Upstream emissions for fuel and energy related activities are calculated based on factors specific to indirect energy emissions and losses.

2- Employee commuting and operational waste were only calculated for the United Kingdom in that given year

3- Rental car use and business travel by car were consolidated into one reporting category for 2022. The values for 2020 and 2021 have been updated similarly for comparability.

## Scope 1

### Heating

Scope 1 heating related emissions in 2022 were >2x higher when compared to 2020 and 2021, respectively.

The increase in heating related emissions can be attributed to several possible factors:

1. Better primary data - In previous years, only 5-6% of facilities provided heating consumption data. In 2022, 29% of facilities provided heating data. Primary data is applied as a proxy on an area basis for certain geographies.
2. Better secondary data - More contemporary and location-specific data has been published with regards to commercial facility utility consumption.
3. Inclusion of additional countries - In years prior, countries like India, China, Kazakhstan, and Korea, were excluded from the heating emissions calculation due to lack of appropriate secondary data. This year, a global average was applied to facilities in these countries so a more comprehensive evaluation could be completed. Heating emissions from these countries amounted to 16% of the Scope 2 heating emissions.

### Vehicle fleet

Scope 1 emissions from the KBR vehicle fleet showed the largest percent change for the 2022 corporate carbon footprint. Vehicle fleet emissions in 2022 are 1720% of those from the 2020 baseline primarily due to inclusion of additional air travel, which amounted to 531.2 tonnes of CO<sub>2</sub>e emissions, nearly 94% of the Scope 1 vehicle fleet emissions.

Emissions from other company vehicles otherwise would have decreased in 2022. However, it is unclear if the vehicle fleet was tracked and reported in its entirety, so it remains difficult to complete a comparison year over year.

### Cooling

Twenty-four (24) of the 146 locations considered to have facility cooling (16.4%) reported primary refrigerant data in the form of measured leakage or system charge capacity. This is a notable increase from the previous annual emissions calculation where only 3% of facilities provided such information.

Seeing that this primary data is used as a secondary data proxy, the calculated cooling related emissions are likely to be conservatively high. As additional primary data points are collected, this will refine, and ultimately lower, the cooling related emissions.

The 2022 cooling related emissions exemplifies this theory. With the increase in primary data points, the cooling related emissions have been reduced by 1,185 and 1,269 tonnes of CO<sub>2</sub>e emissions, respectively, when compared to previous years. Additional primary data will help continue to refine KBR's cooling related emissions.

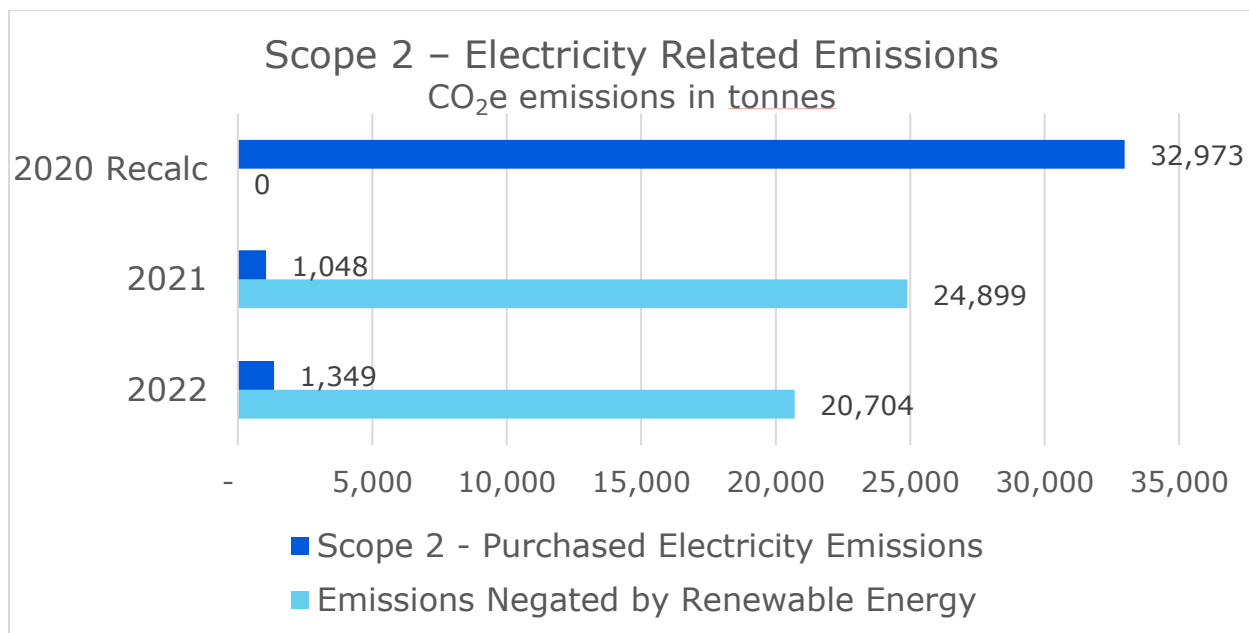
## Scope 2

### Electricity

As noted previously, the most significant decrease in emissions in 2021 and 2022 is due to the purchase of renewable energy. In 2022, renewable energy negated 94% of emissions from Scope 2 -purchased electricity.

The volume of emissions negated by renewable energy decreased in 2022 when compared to 2021. One contributing factor is the decrease in the number of operationally controlled facilities in the United States. There were 14 fewer facilities in the United States in 2022 which equates to a reduction in the leased area by approximately 170k square feet. The electricity consumption coincidentally was reduced from 45,706.6 MWH in 2021 to 35,741.0 MWH in 2022. The reduced number of leased facilities can be attributed to several factors including updates to operational control designation, or facility consolidations.

**Figure 5. Scope 2 Electricity Related Emissions Year over Year**



While there was a decrease in facilities and leased area globally, Scope 2 emissions for those countries not covered by renewable energy credits exhibited a nearly 29% increase from 2021.

Countries that showed the largest increase in market-based electricity related emissions included:

1. Germany

While the lease area remained consistent, an update secondary data source was applied to the 2022 emissions calculation. The data source is more contemporary and specific to commercial buildings in Germany. As a result, electricity emissions in Germany were >2x those of the previous year.

## 2. India

In 2022, the leased area in India grew by approximately 61,000 square feet, which is a 63% increase in leased area from the 2021 calculation. With the updated primary data, the emissions associated with electricity consumption in India grew by nearly 40% in 2022.

## 3. United Kingdom

Like India, the leased area in the United Kingdom increased in 2022. More precise lease area data added greater than 50,000 square feet of facility space in 2022. The location-based electricity emissions for the United Kingdom remain quite similar however, with 906.1 tonnes CO<sub>2</sub>e in 2021 versus 905.8 tonnes CO<sub>2</sub>e in 2022.

## Scope 3

### Business Travel

As noted previously, the emissions from business travel are the largest contributor to KBR's global emissions. In 2022, business travel accounted for 79% of KBR's corporate carbon footprint.

Within business travel, flights cause the largest impact. Flights are 71% of the total business travel emissions. In 2022, there were 89,470 M kilometers of business travel flights reported, which is a 43% increase from the 62.4 M kilometers reported in 2021.

Business travel generally increased in 2022, as global businesses returned to normal operations following the Covid-19 pandemic. Emissions related to rental car use and/or business travel by car increased >3x compared to 2021, and emissions related to rail travel increased by >7x compared to 2021.

The increase in rail travel was the second largest percent change for 2022 when compared to 2021. The increase in emissions from rail travel is not all negative, as this signifies more reliance on rail travel which is a lower impact alternative to long distance travel. However, rail travel is still dwarfed by the flights and car use reported. Rail travel amounts to 0.5% of KBR's global emissions.



## Recommendations

Based on the Corporate Carbon Footprint assessment, ClimatePartner recommends the following initiatives and actions to improve KBR's carbon footprint:

### Data Quality

As stated in previous assessments, primary data is key for comprehensive and complete carbon footprint measurement. It allows you to accurately track the emissions over time and draw insightful conclusions to develop effective climate action and carbon reduction strategies. The following actions are recommended to improve primary data quality:

- **Primary energy consumption and coolant use data collection from sites:** Continue to educate facility managers and/or inform energy providers of the annual collection of consumption data. Enable data to be reported in a standardized format, utilizing a user-friendly data collection and management tool. Continue to communicate with and gain cooperation from non-disclosing facilities.
- **Primary vehicle use data collection:** Install a global centralized inventory of vehicles, including ownership details, the type and model of vehicle, type of fuel and quarterly/annual fuel consumption.
- **Employee engagement:** Communicate the importance and goal of the carbon footprinting process to all employee stakeholders frequently to help to improve engagement in the data collection process.

Future recommendations can be improved by an increase in the quantity of primary data provided by KBR sites.

### Scope 1

#### Heating

Further analysis is required to provide site-specific heating recommendations; however, there are general recommendations that apply to all locations:

- **Office average temperatures:** Implementation of a lower average temperature in your offices, allowing you to reduce emissions rapidly. On average you reduce 6 percent of CO<sub>2</sub>e emissions per degree. Pairing this policy with staff training on better behaviors, e.g., "windows open = heating off" can be effective. Installation of Smart thermostats and timers for your central heating system to regulate the heating during non-working hours is another useful method to decreasing unnecessary usage.
- **Building insulation:** For buildings you own or where you have strong relationships with landlords, inquire about the insulation of the buildings. Old buildings can be retrofitted by thermal renovation.
- **Low carbon energy:** Implementing lower carbon energy sources will reduce emissions. For instance, natural gas, wood pellets and biogas all typically produce less emissions than oil. In locations where you already source renewable electricity, looking at air and ground-source heat pumps can also drive substantial emission reductions.

#### Vehicles

We recommend assessing the feasibility and implementation of greening KBR's fleet:

- **Green fleet:** Increase the ownership/use of electric, or hydrogen powered vehicles and ensuring that any new vehicle purchases are green.
- **Infrastructure:** Consider installing infrastructure onsite to encourage the charging of company cars at KBR facilities so that KBR has control over the type of electricity used and resulting emissions. KBR could also provide eco-driving training for staff, to improve the efficiency of journeys made by car.

## Scope 2

With the purchase of RECs, KBR significantly decreased its emissions in 2021 and 2022. Our recommendations are:

- **100% renewable electricity:** In 2022, 89% of KBR's electricity consumption was provided by renewable electricity through RECs. KBR should consider purchasing 100% renewable energy for all its global operations.
- **Energy efficiency measures:** As a further step, KBR can also focus on implementing energy efficiency measures. These include but are not limited to installing LED lighting, replacing old equipment, or switching appliances. Energy conservation procedures can also be instituted such as switching lights off completely when not in use, making energy saving settings a standard, e.g., for laptops and computers, and using the power saving settings on relevant equipment. Network printers can also be automatically set to sleep mode when not in use, and sensors or automatic light switch-off functions are most effective.

## Scope 3 (Business Travel)

Air travel is by far the largest sub-category within Business Travel. Ultimately, the easiest way to reduce your footprint here is avoid travel in the first place as there are no sustainable options when it comes to flying. When travelling cannot be avoided:

- **Opt for rail:** Continue to encourage employees to travel by train even if this means longer travel times. Travelling by train virtually always comes out better than by air, and often by a lot.
- **Flight type:** Consider choosing economy class over business or first class (for example, one passenger's flight on business class might have an impact that is 2-3 times higher than that of an economy class flight). Direct flights, even if more expensive, should be preferred over flights with many connections as these often have a much higher carbon footprint.

## Appendix

### Climate action and carbon neutrality

A holistic climate action approach is based on the following principle: avoid unnecessary emissions, reduce existing emissions, and offset unavoidable emissions. Therefore, a Corporate Carbon Footprint, updated on a yearly basis, is an important tool for companies and organizations that seek to identify their emission mitigation and reduction potentials as well as track the effectiveness of their climate action measures over time.

Companies, processes, or products are considered as carbon neutral when all their carbon emissions are measured and offset through international carbon offset projects. Since greenhouse gases are evenly distributed throughout the atmosphere, it is considered that their concentration across the world is the same. Therefore, those emissions that cannot be avoided locally, can mathematically be offset through emission reduction activities in another part of the world. This offset is rendered possible by carbon offset projects.

By offsetting the calculated emissions, KBR Inc. can become a carbon neutral company.

### Methodology

#### **Reporting standard**

The GHG Protocol is the internationally recognized standard for greenhouse gas accounting at the corporate level. It was developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).

It defines five fundamental principles for carbon footprint measurement:

- **Relevance.** The principle of relevance requires that all major emission sources are taken into consideration when measuring corporate carbon footprint. The report should be informative and useful in internal and external decision making.
- **Completeness.** The principle of completeness requires that all relevant emission sources within the boundaries are addressed and included.
- **Consistency.** To facilitate the comparison of the results over time, accounting methods and boundaries must be documented and kept for the record. Any changes in the methodology and/or boundaries must be reported, explained and justified.
- **Accuracy.** Discrepancies and uncertainties that may occur during the calculation and measurement process should be reduced as much as possible to make sure that the results are accurate and provide solid data for stakeholder decisions.
- **Transparency.** The results should be presented in a transparent and comprehensible manner.

#### **Process**

The following steps define the carbon footprint measurement process:

- Definition of goals
- Definition of boundaries
- Data collection
- Carbon footprint calculation

- Documentation of results

**Goals.** Corporate carbon footprint helps to identify the largest emission sources within the company and along the upstream and downstream value chain. Thus, it may form a basis when developing a climate action strategy in which targets, measures and responsibilities for the reduction of greenhouse gas emissions are defined. It is advised to track the progress regularly and revise (as well as adjust, if needed) the goals set.

**Definition of boundaries.** Carbon accounting requires a clear definition of the inventory boundaries, including both organizational and operational boundaries.

The organizational boundaries describe the organizational unit and the timeframe which the Corporate Carbon Footprint applies to. System boundaries can be defined based on the company's operational or financial control or according to its equity share (for most companies, the system boundaries based on either operational or financial control are identical).

Greenhouse Gas Protocol defined three categories ("Scopes") to classify various emission sources. They form the basis of every corporate carbon footprint:

- **Scope 1.** Scope 1 includes all CO<sub>2</sub>e emissions that the company can control (direct carbon emissions): emissions generated by the combustion of fossil fuels (mobile and stationary), chemical and physical processes, and use of refrigerators and/or air conditioning equipment.
- **Scope 2.** Scope 2 represents indirect carbon emissions from purchased electricity, steam, district heating and cooling. All emissions that are generated by fossil fuel combustion controlled by external energy providers fall under this category as well. A separate category for these emissions allows us to avoid double counting when comparing CO<sub>2</sub> emissions from different companies.
- **Scope 3.** All remaining CO<sub>2</sub> emissions that cannot be directly managed by the company are included in Scope 3 (other indirect carbon emissions). These are all CO<sub>2</sub> emissions that are related to products and services used or processed by the company. The emissions directly generated through the use of sold products and services are also included in this scope.

According to the Greenhouse Gas Protocol, the calculation of CO<sub>2</sub> emissions is mandatory for Scope 1 and Scope 2 but voluntary for Scope 3.

### [Data collection and emission calculation](#)

Generated emissions are calculated using scientifically determined emission factors. The data collected for carbon footprint measurement is classified as primary and secondary. Primary data is collected at the source and applies to a specific object researched. Secondary data is obtained by processing and modelling the primary data (e.g., using lifecycle analysis databases such as ecoInvent or GEMIS). For example, when calculating CO<sub>2</sub> emissions of energy consumption, both primary and secondary data is used.

### Greenhouse Gases disclosure

Corporate Carbon Footprints report the emissions in CO<sub>2</sub> equivalents (CO<sub>2</sub>e). It means that in addition to CO<sub>2</sub>, the calculations also address the other six greenhouse gases regulated by the Kyoto Protocol: methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and nitrogen trifluoride (NF<sub>3</sub>). These gases are converted to the global warming potential value of CO<sub>2</sub> and represent CO<sub>2</sub> equivalents (CO<sub>2</sub>e). These equivalents are usually referred to as carbon emissions or CO<sub>2</sub>.

## Improving Lives

### About ClimatePartner

ClimatePartner is a solution provider for climate action: it combines tailored consulting services with a software-as-a-service (SaaS) platform for company and product carbon footprints. ClimatePartner helps companies calculate and reduce their CO<sub>2</sub> emissions, as well as offset unavoidable emissions, enabling them to become carbon neutral. This is then communicated through interactive digital labelling.

ClimatePartner was founded in Munich in 2006. Today, it has over 500 employees across offices in Munich, Boston, Berlin, Essen, Cologne, Vienna, Milan, Zürich, London, The Hague and Yerevan, and works with more than 3,000 companies in over 35 countries.

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***July 24, 2023***

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