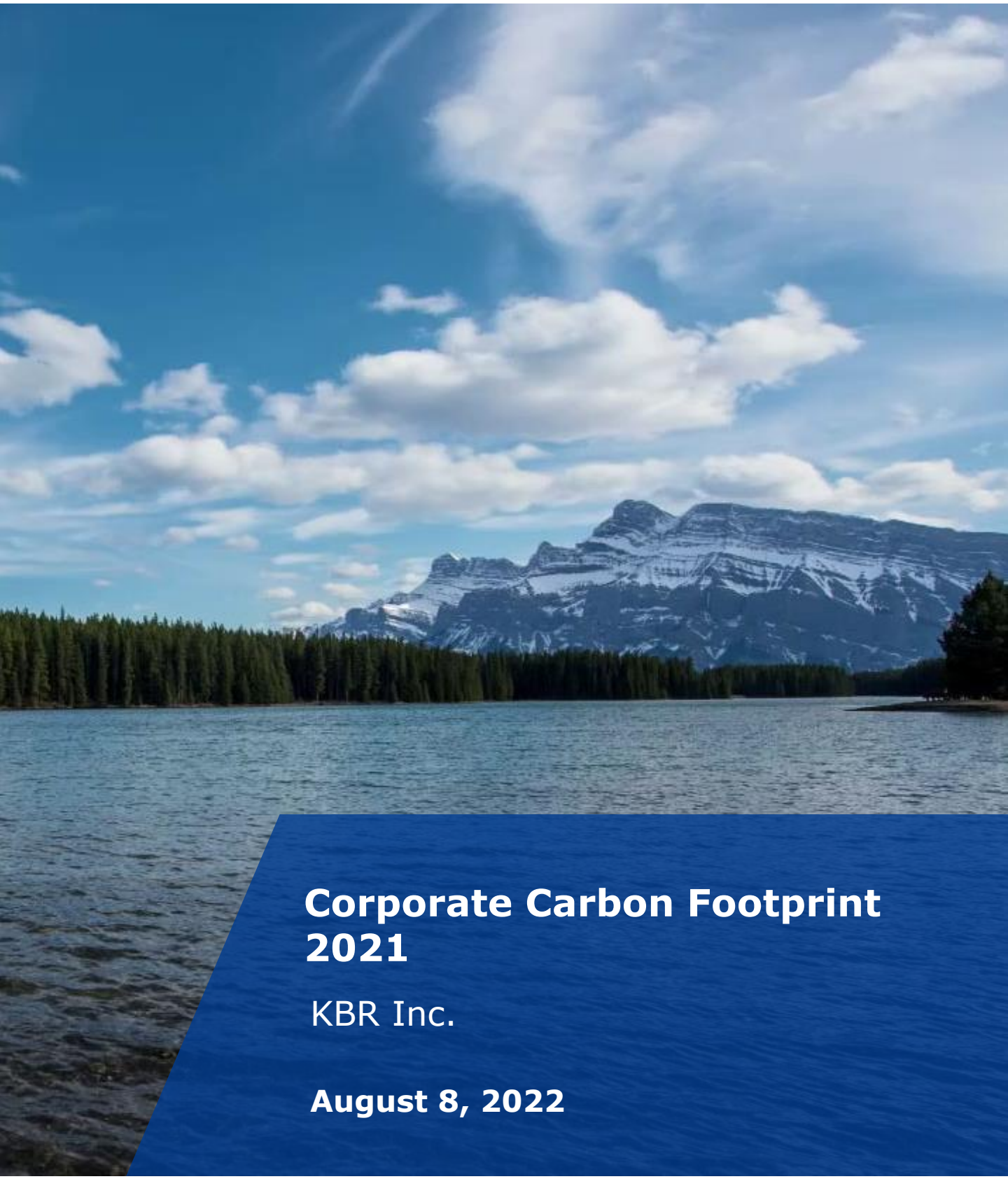
ClimatePartner



# Corporate Carbon Footprint 2021

KBR Inc.

**August 8, 2022**

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# Summary

ClimatePartner has measured KBR's Corporate Carbon Footprint for 2021 (January - December 2021) and re-calculated the Corporate Carbon Footprint for 2020 (January - December 2020). In performing these calculations, ClimatePartner has adhered to the world's most widely used greenhouse gas accounting standards for companies, the *Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (GHG Protocol*).

This report provides an overview of the carbon dioxide equivalent ($CO_2e$) emissions generated by KBR's business activities in 2021 and 2020. Business activities accounted for include Scope 1 (heating, cooling [refrigerant leakage], and vehicles), Scope 2 (electricity and heating), and Scope 3 (business travel: air, rail and road travel, and hotel stays). Scope 2 electricity emissions were calculated according to both the location-based and the market-based methodologies. Scope 3 emissions used a 2019 baseline to account for reduced business travel during the COVID-19 pandemic. This operational control approach was determined as to set organizational boundaries.

The report provides an overview of Scope 1 and 2 emissions by the regions and countries in which KBR operates. In 2021, KBR's business activities generated a total of 40,705.60 tonnes of carbon dioxide equivalent ($CO_2e$). The emissions have decreased by 71.85% compared to the 2020 baseline, when calculated using equivalent emission factors.

| Year | Total Footprint (t $CO_2$) | Sites |
|---|---|---|
| 2021 | 40,705.60 | 180* |
| 2020 Baseline | 144,603,778.74 | 159** |
| **Difference** | **-103,898,176.78** | **+21** |

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

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

The Corporate Carbon Footprint can help identify emission hotspots, set carbon reduction targets and define climate action goals. As such, it can be used as a first step in developing a holistic climate action strategy. Initial recommendations have been provided based on the findings revealed in KBR's Corporate Carbon Footprint.

# Summary

| Total (t $CO_2e$) |
| --- |
| 40,705.60 |

This amount corresponds to…

… the melting of
**120,818 m²**
of Artic ice in
summertime

… the annual $CO_2$
footprint of
**2,597**
U.S. citizens

… the amount of $CO_2$
sequestred by
**3,221,828**
beech trees per year

# Company Overview

KBR delivers science, technology and engineering solutions to governments and companies around the world (NYSE: KBR) . KBR employs approximately 29,000 people worldwide with operations in 40 countries and customers in more than 80 countries.

Since 2020, KBR has operated a 2-segment business model. The Government Solutions (GS) Business Segment provides full life cycle support solutions to defense, space, aviation, intelligence, and other programs and missions for governments around the world. The Technology Solutions (TS) 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.

Frazer-Nash Consultancy Ltd and Harmonic Limited were acquired in October 2021 and July 2021, respectively, and added to this report (seen on page 20). The GHG Protocol recommends recalculating base year emissions after structural changes such as mergers and acquisitions, allowing for meaningful comparisons of emissions data to be made over time. As such, KBR's baseline year was re-defined as 2019 for business travel with Scope 1 and 2 emissions of 2020.

## System Boundaries

### Organizational Boundaries

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.

See Appendix 2 for a full list of legal entities that fall under KBR's organizational boundaries and Appendix 3 for a full list of sites and vehicles included in the assessment.

### Operational Boundaries

KBR chose 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):** Company facilities (heating and cooling) and company vehicles
- **Scope 2 (indirect emissions):** Purchased electricity and heating
- **Scope 3 (indirect emissions):** Business travel (air, rail and road travel, as well as hotel stays)

### 2020 Baseline

KBR has chosen 2020 as its baseline for its Scope 1 and 2 emissions. In order to have a more accurate reflection of pre-pandemic business-as-usual activities such as business travel, KBR has chosen to calculate its Scope 3 emissions using 2019 data.

Further information on the methodology used to calculate KBR's Corporate Carbon Footprint can be found in Appendix 1.

### Changes in System Boundaries 2020 – 2021

The following emission categories were added in the assessment to improve data completeness in both the baseline year and 2021.

**Scope 1: Cooling (Refrigerant leakage).** Primary data including the refrigerant cooling agent and the storage capacity of the associated system was reported in 2021 for four (4) locations: Huntsville, Alabama USA (R-410A, 202 kg refrigerant charge capacity for the system), Phoenix, Arizona, USA (R-410A, 1,560 kg refrigerant charge for the system), Houston, Texas, USA (R-134A, 363 kg refrigerant charge for the system), and South Brisbane, Australia, APAC (R-134A, 564 kg refrigerant charge capacity for the system). When using Option 2 of the ClimatePartner footprint calculator, where the cooling agent and system charge are known, the emissions calculation is: [Refrigerant charge for the system [kg]: X} * [Refrigerant used: emission factor] * 7.9%.

The latest research conducted by ClimatePartner determined an average leakage rate of 7% to be the most conservative. The leakage rate of 7% is cited from the German Environment Agency Umweltbundesamt – UBA, which can be found here. The 7.9% factor used in the footprint calculator is from an earlier version of the given reference and is to be changed in the next iteration of the data input tool.

The average of the primary data provided for the United States locations was used as a proxy for the remaining offices or mixed-use locations, with the exception of those in Europe. External calculations using areal data and industry assumptions were completed for the European locations only. The calculation approach is discussed further on page 12 of this report. As site managers could not provide data on the refill quantities or charge capacities for air condition systems of other KBR locations, secondary refrigerant leakage data was also applied to the 2020 baseline year based on square footage of sites.

**Scope 3: Business Travel.** Data on hotel stays and on business travel by car was added to the total footprint for 2021 and the baseline year which was 2019 for business travel as it falls under scope 3 emissions.

[*] *More info regarding this classification can be found in the GHG Protocol Scope 2 Guidance – an amendment to the GHG Protocol corporate standard.*

## 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: D**ata 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.

### Conclusion Data Quality

Table 1 provides ratios of the primary and secondary data used in the assessment. Improving data quality is highly necessary as this 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, Scope 1 and 2 comprise predominantly of secondary data while Scope 3 comprises of primary data. Compared to 2020, the primary data availability for electricity consumption was much lower.

**Table 1. Ratio of Primary and Secondary Data**

| Scope, activity | Primary Data 2020 | Primary Data 2021 | Secondary Data 2020 | Secondary Data 2021 |
|---|---|---|---|---|
| **Scope 1** | | | | |
| Heating | 5% | 6% | 95% | 94% |
| Cooling (refrigerant leakage) | NA | 3% | NA | 97% |
| Vehicle fleet | 100% | 100% | 0% | 0% |
| **Scope 2** | | | | |
| Electricity | 51% | 29% | 49% | 71% |
| **Scope 3** | | | | |
| Business travel (air)* | 100% | 100% | 0% | 0% |
| Business travel (rail)* | 100% | 100% | 0% | 0% |
| Business travel (road)* | NA | 98% | NA | 2% |
| Business travel (hotels)* | NA | 100% | NA | 0% |

**business travel emissions are calculated using a 2019 baseline*

## Data Quality and Limitations

### Exclusions

Due to lack of data related to certain assets controlled by KBR, exclusions have been made in the assessment, namely:

- If neither primary consumption data nor the operational area of a given location is available, those locations are to be excluded from the calculation, since no reasonable basis on which to form assumptions exists. Of the 182 total sites reported, this included:
- Electricity
  - Two (2) locations from the Scope 2 Purchased Electricity calculation – one Romanian and one UK location.
- Heating
  - Ten (10) UK and one Romanian location from the Scope 1 Heating calculation.
- Cooling
  - Ten (10) UK, two (2) Australian and one Romanian location from the Scope 1 Refrigerant Leakage calculation
- Energy used for heating and cooling (air conditioning) has been reported separately.
  - Fuel used for heating is reported as Scope 1 direct stationary combustion for most sites. Emissions from locations using district heating, fall under Scope 2. Heating related emissions in sites located in India, China, Indonesia, Republic of Korea, Azerbaijan, and Kazakhstan have been excluded due to lack of primary data and unavailability of heating consumption estimates available to extrapolate secondary data.
  - 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.
- A full list of sites and vehicles considered in the assessment is provided in Appendix 3.

## Calculation Methodology

### Scope 2 Emission Calculation Methods

Scope 2 emissions for 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.

## Assumptions

Due to the incomplete nature of, or unavailability of, the data mentioned above, ClimatePartner has made assumptions within the following categories.

- **Scope 1: Vehicle fleet**

  Emissions related to vehicles controlled by KBR (company vehicles) are calculated using fuel consumption data. As this data is unavailable for two reported vehicles, the average yearly consumption from similar KBR vehicles is used.

- **Scope 1: Heating**

  The majority of KBR facilities' heating falls under Scope 1 self-generated heat emission as they utilize natural gas. There are, however, several sites that utilize other forms of heating categorized under Scope 2 emissions. More information on the latter is found on page 15.

  The amount of primary data provided by KBR increased slightly year on year. In 2021, 6% of KBR's sites reported primary data relating to annual heating energy consumption, up from 5% primary data in 2020. Secondary data fills the data gaps for the remaining 94% in 2021.

- **US locations.** In order to ascertain a proxy for fuel usage across the US we have reviewed the *Commercial Buildings Energy Consumption Survey (CBECS) and published by the U.S. Energy Information Administration*. 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

  Where electricity is considered the main heating energy source, it is assumed that heating is included in the electricity consumption data and, thus, reported under Scope 2.

  In sites where natural gas is considered the main energy source for heating, we adhere to regulations in the survey and use average energy intensity ratios for the respective regions relative to area.

  The survey also supports our assumption that electricity is far more often used for cooling purposes over natural gas. Buildings in hotter climates use more electricity than natural gas.

- **Australia:** Based on an article published by the Australian Government, electricity is considered as the primary energy source for heating and cooling (*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.

* *The 2020 KBR corporate carbon footprint used the assumption that Deleware was classified as a Southern state. Deleware has been reclassified as a Northeastern state for the 2020 Baseline Recalculation and 2021 corporate carbon footprint, so to more accurately reflect the infrastructure and climate of Deleware.*

- **Germany:** Natural gas is considered the primary heating energy source in Germany according to the online publication Verlgleichswerte fur den Energieverbrauch von Nichtwohngebauden (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.
- **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 and cooling in the United Arab Emirates. It is assumed that the related heat consumption is provided with the total electricity consumption and reported under Scope 2.
    - 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 region.
- **Mexico:** Based on lack of reliable statistical data for heating/cooling energy consumption in offices and warehouses in Mexico, the statistical data and assumptions for the US Southern regions is assumed to be representative for Mexico due to similarities in their climatic conditions.
- **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 and cooling in Singapore. It is assumed that the related heat consumption is provided with the total electricity consumption and reported under Scope 2.
- **The Netherlands:** Since reliable secondary data to estimate heating consumptions in The Netherlands can not be obtained, the statistics used to estimate average heat consumption in Germany are used instead.
- **India, China, Republic of Korea, Azerbaijan, Indonesia:** Due to lack of reliable secondary data, ClimatePartner could not make a credible estimate of the heating/cooling energy consumption in sites located in these countries (nine sites in total). Therefore, they are excluded from the assessment. KBR should aim to collect primary data for these locations and include the related emissions in the assessment.

- **Scope 1: Refrigerant Leakage**

In offices and mixed-use sites for which no primary data on refrigerant refill quantities or purchased cold was available, emissions caused by the operation of air conditioning systems were calculated using the average of primary data from three (3) sites in the USA converted to $CO_2$ emissions/sq ft. This proxy value was applied to the offices and mixed-use locations, where square footage data was available, within all countries and regions except Europe and two sites in Australia.

The Australian office in South Brisbane provided primary data and the office in Parkside reported no refrigerant leakage for 2021. The secondary data from the three (3) USA sites are applied to the rest of 16 office sites in Australia.

For Europe, when only the size of the lease area was known, and no information was given on the coolant or system capacity, an external calculation was completed using an external calculation tool developed by ClimatePartner. 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 office 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.

**Scope 2: Electricity**

Twenty-nine percent (29%) of KBR's sites reported primary electricity consumption data in 2021. However, note, the locations for which primary data was provided comprise 51% of the total lease area being evaluated for 2021.

Primary consumption data is used as a proxy for locations within the same general area 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 where only KBR's operational area is given. The process below is followed when applying the calculated energy intensity to secondary data:

- If primary data is provided for a location within the same city and of the same use type, the energy intensity is applied as a direct proxy.

- If there are multiple locations with primary data available within a city, the location with the closest square footage is selected as the proxy location.
- If no locations have a similar area or there are multiple with primary data available, then a city average is calculated from the primary data provided and applied as the energy intensity proxy.
- If there are no locations with primary data in the same city or immediate vicinity, then locations with primary data within the same state are used as proxy based on the calculated energy intensity.
- If multiple locations within a state have primary data, and are of the same use type, then the state average is calculated for a given usage type and applied as a consumption per square foot energy intensity.
- If there are no locations within a state that have primary data, surrounding states and/or regions are evaluated for primary data availability, and the applicability - i.e., climatic similarities. A regional proxy is calculated from the available primary data when deemed applicable.
- If it is determined that there are no appropriate primary data points in the state, or surrounding area, a national average is calculated as an energy intensity ratio from all the primary data provided for a given use type. Where necessary, external resources on energy consumption are used to establish a national average energy intensity ratio and applied to the square footages of the locations where only secondary data was provided.
- If there are locations in countries that do not have any primary data, and there are no locations in surrounding countries with primary data available, external resources are applied to countries of similar climate and infrastructure. However, if primary data is made available in those countries from previous years, the 2020 (baseline year) electricity consumption is used.
- Lastly, if a proxy could not be applied to a location through the above steps, a global average is calculated as an energy intensity ratio from KBR's primary electricity consumption data worldwide for a given use type.

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, 2021, 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 2020, that location was not considered as part of the 2021 evaluation. The following provides a summary of the electricity calculation approach used for each country and any deviations from the decision tree above:

**Americas:**

- **United States:** The approach outlined above is generally followed. Some deviations included:
  - Locations FL14 and TX51 are not included in the calculation of their respective state average energy intensity since primary data provided is abnormally high. The primary consumption data was only retained for the specific location.
  - An external resource published by the U.S. Energy Information Administration (EIA) is applied as a proxy to KBR offices in sates with no surrounding primary data: Commercial Buildings Energy Intensity Survey (CBECS)
- **Mexico:** The average office energy intensity for the state of Texas, USA is applied as a proxy based on proximity.
- **Canada:** An external resource published by the Canadian government on commercial building energy intensities is used as a proxy: Canadian Energy Intensity by Building Type

**Europe**:

- **United Kingdom:** A national average of energy consumption per square foot is applied to locations where no primary data exists.
- **Germany:** An external resource published on German commercial building energy intensities is used as a proxy. This same resource is used in previous calculations: *Durch-schnittliche Heizverbräuche ausgewählter Gewerbeobjekte* .
- **All other European countries:** If 2020 primary data is available, the 2020 primary data is used for that location and applied as an energy intensity proxy for that country. Otherwise, the German external resource value is applied as a conservative approach.

**Asian Pacific Region**:

- **Australia:** The approach outlined above is followed with no deviations.
- **India:** The approach outlined above is followed with no deviations.
- **China:** A published scientific journal study of energy consumption of commercial buildings in China (published in 2017) is used as a proxy. This external resource is more contemporary and more precise compared to the resource previously used: Study and analysis of office building energy consumption, China.
- **Singapore:** Primary data provided for all sites (2).
- **All other Asian Pacific countries:** An Asian Pacific regional average for offices calculated based on the primary data from Australia, India and Singapore and the external source for China.

**Middle East**:

- **Iraq:** No current or historic primary data is available for Iraq. Since the only primary data for the region is from 2019, the global average energy intensity ratio is applied.
- **All other middle eastern countries**: If 2020 primary data is available, the 2020 primary data was used for that location and that country

- **Scope 2: Heating**

  Most heating methods for KBR sites utilize gas combustion to create heat and, as such, fall under Scope 1 category of emissions. However, sites in three countries purchase their heat, which is categorized as district heating, and fall under Scope 2 emissions. These countries are Finland, Sweden and Russia.

  - **Finland and Russia:** Based on studies published by the U.S. Department of Energy, district heating is considered the primary heating energy source (*Analysis of the Russian Market for Building Energy Efficiency* ). Space area size and average energy intensity provided in this study, published by the Russian Association of Engineers for Heating, Ventilation, Air-Conditioning, Heat Supply and Building Thermal Physics, is used to estimate the total heating energy consumption in KBR's locations in Finland and Russia.
  - **Sweden:** Since reliable secondary data to estimate heating energy consumption in Sweden cannot be obtained, the statistics used to estimate average energy consumption at the sites in Germany are used.

- **Scope 3: Business 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 the UK Department for Environment, Food & Rural Affairs (DEFRA) are used to calculate emissions.

  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 kerosene 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 3: 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'.

- **Scope 3: Business Travel by Road**

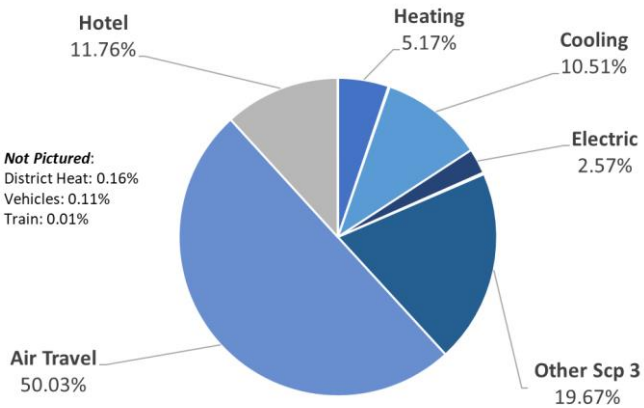
  Fuel consumption or distance data are used to calculate emissions from business travel by road. Where only taxi expense data was available, distance travelled was estimated from total reported fares (note, that local currency was taken into account).

# Results:
# 2021 Carbon Footprint

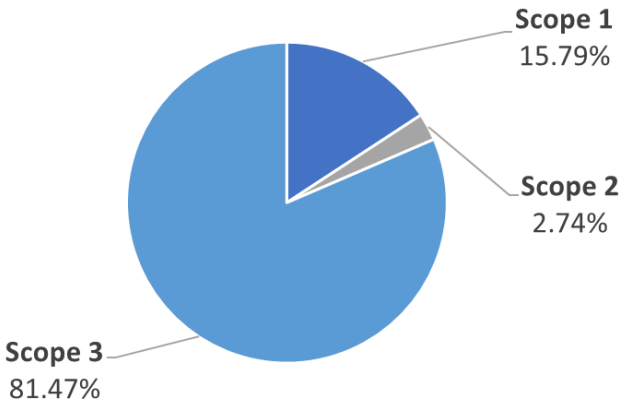
In 2021, KBR's business activities generated a total of 40,705.60 tonnes of $CO_2e$, 15.79% of which were Scope 1 emissions, 2.74% Scope 2 emissions and 81.47% Scope 3 emissions (business travel). Business travel, specifically air travel, was the most emission-intensive activity and represents the largest share of the company's carbon footprint.

| Emission source | Emissions [t $CO_2$] | Share, % |
|---|---|---|
| **Scope 1** | **6,426.44** | **15.79** |
| Heating | 2,104.86 | 5.17 |
| Vehicles | 43.42 | 0.11 |
| Cooling (refrigerant leakage) | 4,278.17 | 10.51 |
| **Scope 2 (Market-based)*** | **1,114.97** | **2.74** |
| Electricity | 1,047.81 | 2.57 |
| District heating | 67.16 | 0.16 |
| **Scope 3** | **33,164.19** | **81.47** |
| Other*** | 8,010.07 | 19.67 |
| Air travel** | 20,365.63 | 50.03 |
| Hotel nights** | 4,785.12 | 11.76 |
| Train travel** | 3.36 | 0.01 |
| **Total** | **40,705.60** | **100.00** |

**Emissions per Source**




**Emissions per Scope**




** - Scope 2 emissions were calculated using the location-based method, except for the UK where market-based method was used. UK location-based emissions amount to 1,435.1t $CO_2e$. Market-based emissions equal 0t $CO_2e$.*
*** - business travel emissions are calculated using a 2019 baseline*
**** - includes emissions for business travel by car, employee commuting (UK only), waste (UK only) and upstream logistics (UK only)*

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 3 provides an overview of this breakdown.

**Table 3. Scope 1 and 2 Emissions by Region and Country**

| | 2021 Calculation (Updated Efs) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Scope 1 [t CO2] | | | | Scope 2 [t CO2] | | | Scope 1 and 2 |
| | Heating | Fuels / vehicles | Cooling | TOTAL | Electricity | District heating | TOTAL | TOTAL |
| **Americas** | **1,520** | **6** | **3,656** | **5,181** | **113** | **-** | **113** | **5,294** |
| Mexico | - | - | 32.5 | 32.5 | 38.8 | - | 38.8 | 71.3 |
| USA* | 1,519.5 | 6.2 | 3,623.1 | 5,148.8 | 74.2 | - | 74.2 | 5,223.0 |
| **APAC** | **-** | **-** | **402** | **402** | **715** | **-** | **715** | **1,117** |
| Australia | - | - | 233.4 | 233.4 | - | - | - | 233.4 |
| China | - | - | 9.4 | 9.4 | 39.9 | - | 39.9 | 49.3 |
| India | - | - | 105.6 | 105.6 | 541.5 | - | 541.5 | 647.1 |
| Indonesia | - | - | 1.8 | 1.8 | 12.7 | - | 12.7 | 14.5 |
| Singapore | - | - | 33.2 | 33.2 | 63.9 | - | 63.9 | 97.1 |
| South Korea | - | - | 6.2 | 6.2 | 19.3 | - | 19.3 | 25.5 |
| Kazakhstan | - | - | 12.1 | 12.1 | 37.6 | - | 37.6 | 49.7 |
| **EMEA** | **585** | **37** | **220** | **843** | **220** | **67** | **287** | **1,130** |
| Azerbaijan | - | - | 14.2 | 14.2 | 52.8 | - | 52.8 | 67.1 |
| Bahrain | - | - | - | - | - | - | - | - |
| Finland | - | - | 1.9 | 1.9 | 6.2 | 17.1 | 23.3 | 25.2 |
| Germany | 36.9 | 17.2 | 8.8 | 62.9 | 59.3 | - | 59.3 | 122.2 |
| Oman | - | - | 2.5 | 2.5 | 1.8 | | 1.8 | 4.3 |
| Poland | - | - | - | - | - | - | - | - |
| Qatar | - | - | - | - | - | - | - | - |
| Russia | - | - | 2.4 | 2.4 | 55.5 | 48.9 | 104.4 | 106.9 |
| Saudi Arabia | - | - | 155.8 | 155.8 | - | - | - | 155.8 |
| UK | 547.5 | 20.0 | 3.6 | 571.0 | 7.1 | - | 7.1 | 578.1 |
| UAE | - | - | 28.0 | 28.0 | - | - | - | 28.0 |
| Netherlands | 1.0 | - | 0.2 | 1.2 | 1.1 | - | 1.1 | 2.3 |
| Sweden | - | - | 0.4 | 0.4 | 0.1 | 1.1 | 1.2 | 1.6 |
| Iraq | - | - | 1.5 | 1.5 | 25.2 | - | 25.2 | 26.7 |
| Kuwait | - | - | 0.7 | 0.7 | 10.8 | - | 10.8 | 11.5 |
| **TOTAL** | **2,105** | **43** | **4,277** | **6,426** | **1,048** | **67** | **1,115** | **7,541** |

* - Canadian locations included in the emissions reported for USA
Efs - Emission Factors
t $CO_2$ - Data reported in tonnes of $CO_2$ equivalents

# Adjustments to Corporate Carbon Footprint 2020 Baseline Year

As a result of the availability of new primary data, better secondary data, and information relating to new acquisitions that occurred in 2021, the following adjustments were made to the Corporate Carbon Footprint 2020. This update allows for more accurate tracking of KBR's emissions changes over time.

- **Acquisitions:** In 2021, KBR acquired Frazer-Nash Consultancy Ltd. (Frazer-Nash) which, is considered a significant acquisition. While the acquisition occurred in October 2021, the Frazer-Nash locations were in operation for the years 2020 and 2021. Since Frazer-Nash was a fully functioning entity upon its acquisition, these locations were added to the corporate carbon footprint for the baseline year of 2020. The Frazer-Nash sites added to the 2020 baseline year recalculation included 10 office locations in the United Kingdom and three office locations in Australia.

- **More accurate secondary data made available:** In 2020, KBR had 16 small lease locations worldwide. Initially, no secondary data, aside from a presumed area of less then 1,000 square feet, was made available for these locations. As a conservative approach, consumption for these small lease areas was originally calculated based on the maximum area assumption of 1,000 square feet. More accurate lease areas have since been provided, and the 2020 baseline corporate carbon footprint has been updated accordingly.

- **Missing data made available:** Locations MD18 – a warehouse in Columbia, Maryland, USA – and TX63 – a mixed-use site in Temple, Texas, USA - were previously excluded from the 2020 baseline year calculation as no primary consumption data or secondary square footage data was made available. The leased area of these locations has since been provided and the locations have been added to the 2020 footprint baseline recalculation.

- **New locations:** KBR reported 36 new locations for the 2021 corporate carbon footprint. Of these locations, four (4) were reported to have been in operation prior to 2021. The four (4) locations (one in Australia, two in Canada and one in California, USA) have been added to the 2020 baseline footprint calculation since they were in operation and under KBR control in 2020.

# Adjustments to Corporate Carbon Footprint 2020 Baseline Year

- **Updated emissions factors:** The 2020 footprint baseline has been recalculated in July 2022 using updated and more contemporary emissions factors. The variation in the emission factors resulted in a 15.9% reduction, as a relative percent difference, when compared to the original calculation.

- **Cooling-related emissions:** The aforementioned methodology applied to sites in operation in 2021 has also been applied to office/mixed locations from 2020 using square footage from the 2020 record.

- **Business travel by car and hotel stays:** These categories have been added to the baseline year to improve data completeness and reflect KBR's true emissions. Note that as agreed with KBR, the baseline year used for business travel is 2019.

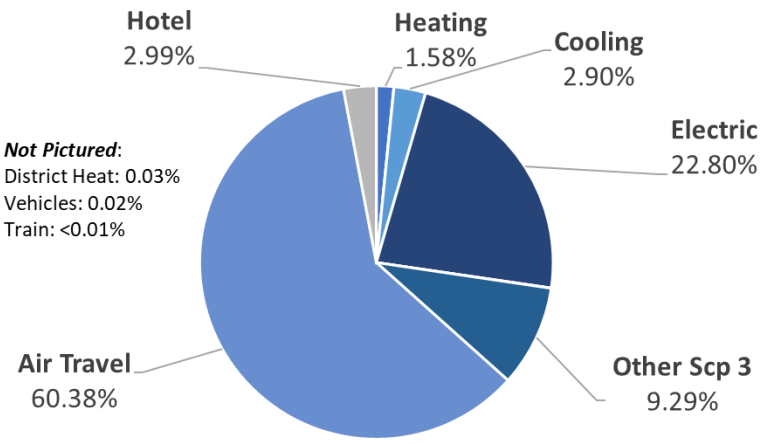
- **Vehicle-related emissions:** KBR's vehicle inventory and associated emissions changed to only include 'company vehicles', in line with KBR's system boundary. It is important to note that this results in a significant reduction in the number of vehicles than previously reported.

# Results: Corporate Carbon Footprint 2020 Baseline

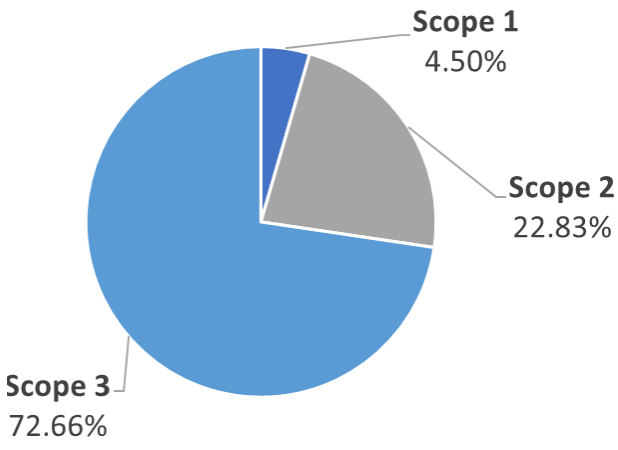
After incorporating the above-mentioned updates into Scope 1 and Scope 2 categories of 2020 and the Scope 3 business travel category from 2019, the results have been adjusted and summarized below. Like 2021, air travel is now the highest emission source for the overall 2020 footprint, with electricity consumption as the second highest contributor.

| Emission source | Emissions [t $CO_2$] | Share, % |
|---|---|---|
| **Scope 1** | **6,514.31** | **4.50** |
| Heating | 2,287.06 | 1.58 |
| Vehicles | 32.90 | 0.02 |
| Cooling (refrigerant leakage) | 4,194.34 | 2.90 |
| **Scope 2 (Market-based)*** | **33,014.32** | **22.83** |
| Electricity | 32,972.71 | 22.80 |
| District heating | 41.52 | 0.03 |
| **Scope 3** | **105,075.24** | **72.66** |
| Other*** | 13,430.62 | 9.29 |
| Air travel** | 87,312.64 | 60.38 |
| Hotel Nights** | 4,325.94 | 2.99 |
| Train travel** | 6.02 | 0.00 |
| **Total** | **144,603.78** | **100.00** |

**Emissions per Source**




**Emissions per Scope**




** - Scope 2 emissions were calculated using the location-based method, except for the UK where market-based method was used. UK location-based emissions amount to 1,914.2t $CO_2$e. Market-based emissions equal 423.5t $CO_2$e.*

*** - business travel emissions are calculated using a 2019 baseline*

**** - includes emissions for business travel by car, employee commuting (UK only), waste (UK only) and upstream logistics (UK only)*

# 2020 and 2021 Carbon Footprint Comparison

Significant changes exist between the 2020 baseline and 2021 carbon footprint results. However, data quality is dependent on the availability of primary data, which was minimal in the 2021 reporting year. The largest attributers to the ~70% decrease in emissions were Scope 2 electricity consumption and Scope 3 business travel (Table 3). The decrease in electricity consumption can be accounted for because of KBR's decision to purchase renewable energy certificates (RECs) which led to a significant decrease in non-renewable electricity consumption.

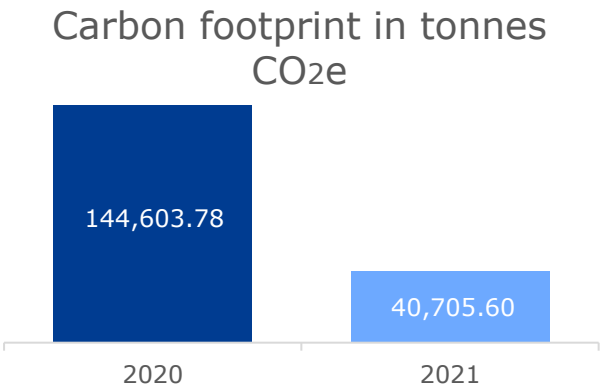
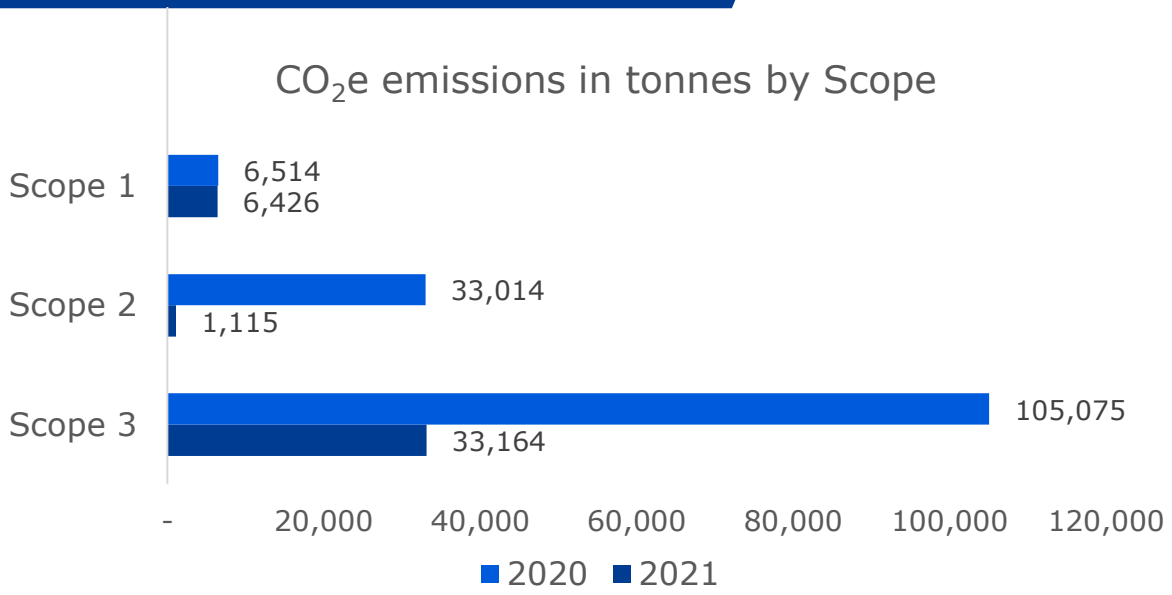



**Table 3. Scope 1, 2 and 3 emission comparison across years**

| | 2020 Baseline Recalculation | | 2021 CCF | | Change Y20/21 | |
|---|---|---|---|---|---|---|
| | [kg $CO_2$] | [% of Overall] | [kg $CO_2$] | [% of Overall] | Net Difference [kg $CO_2$] | Relative Change [%] |
| **Scope 1** | 6,514,307.94 | 4.50% | 6,426,443.65 | 15.79% | (87,864.29) | -1.35% |
| **Direct emissions from company facilities** | 6,481,402.02 | 4.48% | 6,383,024.93 | 15.68% | (98,377.09) | -1.52% |
| Heat (Self generated) | 2,287,057.28 | 1.58% | 2,104,859.84 | 5.17% | (182,197.44) | -7.97% |
| Refrigerant leakage | 4,194,344.74 | 2.90% | 4,278,165.09 | 10.51% | 83,820.35 | 2.00% |
| **Direct emissions from company vehicles** | 32,905.92 | 0.02% | 43,418.72 | 0.11% | 10,512.80 | 31.95% |
| Vehicle fleet | 32,905.92 | 0.02% | 43,418.72 | 0.11% | 10,512.80 | 31.95% |
| **Scope 2 (Market-based)** | 33,014,232.31 | 22.83% | 1,114,970.91 | 2.74% | (31,899,261.40) | -96.62% |
| **Purchased electricity for own use** | 32,972,716.03 | 22.80% | 1,047,809.64 | 2.57% | (31,924,906.39) | -96.82% |
| Electricity (stationary) | 32,972,716.03 | 22.80% | 1,047,809.64 | 2.57% | (31,924,906.39) | -96.82% |
| Electricity (vehicle fleet) | - | - | - | - | - | - |
| **Purchased heating, steam, and cooling for own use** | 41,516.29 | 0.03% | 67,161.28 | 0.16% | 25,644.99 | 61.77% |
| Heat (purchased) | 41,516.29 | 0.03% | 67,161.28 | 0.16% | 25,644.99 | 61.77% |
| **Scope 3** | 105,075,238.49 | 72.66% | 33,164,187.40 | 81.47% | (71,911,051.09) | -68.44% |
| **Fuel- and energy-related activities**[1] | 8,877,577.62 | 6.14% | 3,470,424.02 | 8.53% | (5,407,153.60) | -60.91% |
| Upstream emissions electricity | 8,449,421.46 | 5.84% | 3,058,063.18 | 7.51% | (5,391,358.28) | -63.81% |
| Upstream emissions heat | 411,267.66 | 0.28% | 392,369.93 | 0.96% | (18,897.73) | -4.59% |
| Upstream emissions vehicle fleet | 16,888.49 | 0.01% | 19,990.91 | 0.05% | 3,102.42 | 18.37% |
| **Upstream transportation and distribution**[2] | - | - | 94,190.00 | 0.23% | 94,190.00 | N/A |
| Inbound logistics | - | - | 94,190.00 | 0.23% | 94,190.00 | N/A |
| **Waste generated in operations**[2] | - | - | 374.44 | 0.00% | 374.44 | N/A |
| Operational waste | - | - | 374.44 | 0.00% | 374.44 | N/A |
| **Business travel**[3] | 96,197,660.87 | 66.52% | 27,680,318.80 | 68.00% | (68,517,342.07) | -71.23% |
| Flights | 87,312,644.00 | 60.38% | 20,365,633.63 | 50.03% | (66,947,010.37) | -76.68% |
| Hotel nights | 4,325,943.83 | 2.99% | 4,785,120.65 | 11.76% | 459,176.82 | 10.61% |
| Rental and private vehicles | 6,694.56 | - | 672,864.74 | 1.65% | 666,170.18 | N/A |
| Rail | 6,026.87 | 0.004% | 3,363.86 | 0.01% | (2,663.01) | -44.19% |
| Business Travel by Car | 4,546,351.61 | 3.14% | 1,853,335.92 | 4.55% | (2,693,015.69) | -59.23% |
| **Employee commuting** | - | - | 1,918,880.14 | 4.71% | 1,918,880.14 | N/A |
| Employee Commuting | 13,186,013.67 | - | 1,918,880.14 | 4.71% | (11,267,133.53) | N/A |
| **Overall results** | 144,603,778.74 | 100.00% | 40,705,601.96 | 100.00% | (103,898,176.78) | -71.85% |
| | | | | | | |
| **Scope 2 (Location-based in kg CO2)** | 32,056,283.18 | | 26,367,090.61 | | (5,689,192.57) | -17.75% |

*1- Upstream emissions for fuel and energy related activities are calculated based on factors specific to indirect energy emissions and losses.*
*2- only calculated for the UK*
*3- business travel emissions are calculated using a 2019 baseline*




**Analysis by Scope of Emissions**

**Scope 1**

**Heating**

Energy consumption in 159 sites were reported in 2020 vs. 182 sites reported in 2021. Scope 1 self-generated heating (e.g., heating produced on site via boilers, furnaces or pellet stoves) decreased from 2,287 tonnes CO2e in 2020 to 2,104 tonnes CO2e in 2021. Eight of the 21 additional sites reported in 2021 rely on self-generated heating. With eight additional sites, but a 182.2 tonne CO2e decrease in related emissions, it appears that KBR has reduced their global heating fuel consumption in 2021.

Scope 2 purchased heating (e.g. District heat) increased from 41.5 tonnes CO2e in 2020 to 67.2 tonnes CO2e in 2021. Of the sites added in 2021, two are located in Russia, which is an area assumed to be serviced by district heating. The two newly added locations account for 15% of all leased areas across Russia, Sweden and Finland – the countries operating on district heating. The additional sites included this year also likely contributed to the increase.

In order to assess whether there was a change in actual associated emissions, more information is needed. It is strongly advised to collect more primary heating consumption data from sites to allow for a comprehensive comparison between the 2020 and 2021 carbon footprint results.

**Vehicle fleet**

The fuel consumption, or mileage, for 14 vehicles were reported in 2020 vs 13 vehicles reported in 2021. KBR owns and operates 'company vehicles' in the United States, Germany and the United Kingdom. Despite a reported decrease in vehicles reported in 2021, the associated emissions for the vehicle fleet increased by 10.5 tonnes of $CO_2e$, a nearly a 32% increase from the 2020 baseline recalculation. KBR's vehicle fleet accounts for 0.11% of its 2021 Corporate Footprint. We assume this emission increase is associated with increased vehicle use. More comprehensive primary vehicle data quality is strongly recommended to allow for better insights into the actual changes of the emissions associated with vehicle use.

**Cooling**

Due to the refringent leakage data consisting mainly of secondary data, there is no credible comparison across years. However, 2020 and 2021 now provide a base for fugitive emissions across all locations and regions. Once more primary data is provided next year, the calculated change in emissions will better reflect actual cooling agent emission attributions from KBR sites over time.

Specifically in 2021, primary data was provided for 5 out of 182 sites. Those locations that reported primary cooling data were all located in hot climates and are likely to rely more heavily on air-conditioning throughout the year. Seeing that this primary data was used as a proxy for calculating other locations with secondary data, the calculated cooling related emissions are likely to be conservatively high. Additional amounts of primary data will help give a better sense of KBR's actual emissions in this category.

## Scope 2

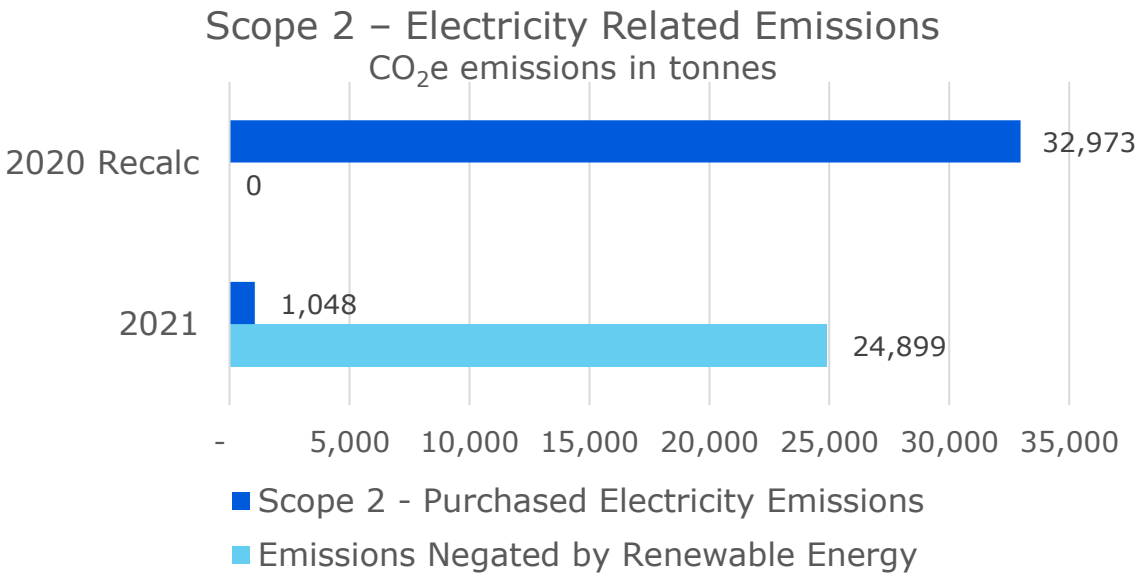
### Electricity

Electricity consumption for 180 sites was reported in the 2021 carbon footprint (2 sites of the 182 total evaluated were excluded due to missing data). Fifty-three (53) of the 180 sites included in the calculation reported primary consumption data, while secondary square footage data was used to determine consumption for the remaining 127 sites. Electricity consumption for 159 sites was reported for the 2020 baseline carbon footprint recalculation. Eighty-one (81) of the 159 sites reported primary consumption data, while secondary square footage data was used to determine consumption for the remaining 78 sites. Primary electricity data was provided for 29% of the locations in 2021, whereas primary electricity was provided for 51% of locations for the 2020 baseline recalculation. However, the 2021 primary data accounts for 51% of the total lease area being evaluated and 45.55% of the global electrical consumption in 2021.

While the 2021 corporate carbon footprint had 21 more sites than the 2020 baseline recalculation, the electricity related emissions decreased. For location-based electricity, the related emissions decreased from 32,056.2 tonnes of $CO_2e$ for the 2020 baseline recalculation to 26,367.1 tonnes of $CO_2e$ in 2021. This constitutes a 17.75% reduction from the 2020 baseline recalculation. For market-based electricity, the related emissions decreased from 32,972.7 tonnes of $CO_2e$ for the 2020 baseline recalculation to 1,047.8 tonnes of $CO_2e$ in 2021. This constitutes a 96.8% reduction from the 2020 baseline recalculation.

The primary reason for such a drastic decrease in the market-based electricity related emissions is due to KBR's use of renewable energy in 2021. KBR purchased RECs for the 2021 electricity consumption of all locations in Australia, Saudi Arabia, United Arab Emirates, and the United States. Additionally, all locations in the United Kingdom have switched to 100% renewable energy and can verify such with the electricity provider. Through RECs and renewable energy, KBR's global electricity consumption was reduced by 57.467M kWh for the 2021 footprint calculation. To put this in perspective, these five countries constituted 95% of the Scope 2 electricity emissions for the 2020 baseline recalculation.

Beyond the use of renewable energy, it is difficult to draw conclusions about the global electricity consumption values, as the availability of primary data is highly variable year over year.




## Scope 3

### Business Travel

KBR chose to use 2019 as its baseline for business travel, in order to account for reduced travel during the 2020 Covid-19 pandemic. The change in business travel related emissions from 2019 to 2021 is the second most significant change in KBR's carbon footprint, behind the reduction in electricity-related emissions. Business travel emissions decreased by 71.2% in 2021 compared to the 2019 baseline recalculation. Emissions from air travel, in particular, decreased by 66,947 tonnes of $CO_2e$, corresponding to a 76.7% drop from 2019. Air miles flown in 2021 were reported to be 62.4 M kilometers whereas in 2019 air miles flown were reported to be 248.5 M kilometers.

Emissions from rail travel and business travel by car also experienced a decrease in 2021, while emissions from hotel stays experienced a slight increase. These fluctuations were of minimal impact, as the change in air travel accounted for more than 97% of the change in all business travel emissions from 2019 to 2021.

# Recommendations

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

## Data Quality

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**: Inform facility managers and/or 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.

## Scope 1

### Heating

Further analysis is required to provide site-specific heating recommendations; however, there are general recommendations which 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 CO2e 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 water-source heat pumps can also drive substantial emission reductions.

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

**Vehicles**

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

- **Green fleet:** Increasing the ownership/use of electric, hybrid 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. Our recommendations are:

- **100% renewable electricity:** Ninety-seven percent (97%) of KBR's electricity consumption is provided by renewable electricity through RECs. As a next step, KBR should consider purchasing 100% renewable energy for all its global operations.
- **Energy efficiency measures:** As a further step, companies can also focus on implementing energy efficiency measures. These include but are not limited to installing LED lighting, replacing old equipment, switching appliances and 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 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. Covid-19 has shown the world that we are capable of conducting most business activities through video conferencing and calls. When travelling cannot be avoided:

- **Opt for rail:** Where possible, 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 1

## 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 $CO_2e$ 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 $CO_2$ emissions from different companies.

- **Scope 3.** All remaining $CO_2$ emissions that cannot be directly managed by the company are included in Scope 3 (other indirect carbon emissions). These are all $CO_2$ 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 $CO_2$ 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 $CO_2$ emissions of energy consumption, both primary and secondary data is used.

### Greenhouse Gases disclosure

Corporate Carbon Footprints report the emissions in $CO_2$ equivalents ($CO_2e$). It means that in addition to $CO_2$, the calculations also address the other six greenhouse gases regulated by the Kyoto Protocol: methane ($CH_4$), nitrous oxide ($N_2O$), sulfur hexafluoride ($SF_6$), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and nitrogen trifluoride ($NF_3$). These gases are converted to the global warming potential value of $CO_2$ and represent $CO_2$ equivalents ($CO_2$ e). These equivalents are usually referred to as carbon emissions or $CO_2$.

# Appendix 2

## Overview of sites and vehicles

**Table 1. Overview of all reported sites**

| Included/ excluded in the assessment | No of sites |
|---|---|
| Excluded | 2 |
| Included | 180 |
| **Grand Total** | **182** |

**Table 2. Overview of sites considered in the assessment**

| Region/ Country | No of Sites |
|---|---|
| **Americas** | **106** |
| Canada | 2 |
| Mexico | 1 |
| United States | 103 |
| **Asia Pacific** | **30** |
| Australia | 18 |
| China | 3 |
| India | 4 |
| Indonesia | 1 |
| Kazakhstan | 1 |
| Korea, Republic of | 1 |
| Singapore | 2 |
| **Europe** | **25** |
| Finland | 1 |
| Germany | 2 |
| Netherlands | 1 |
| Russian Federation | 4 |
| Sweden | 1 |
| United Kingdom | 16 |
| **Middle East** | **19** |
| Azerbaijan | 2 |
| Iraq | 3 |
| Kuwait | 1 |
| Oman | 1 |
| Saudi Arabia | 8 |
| United Arab Emirates | 4 |
| **Grand Total** | **180** |

**Table 3. Overview of all reported vehicles**

| Included/ excluded in the assessment | No of vehicles |
|---|---|
| Excluded | 0 |
| Included | 13 |
| **Grand Total** | **13** |

**Table 4. Overview of vehicles considered in the assessment**

| Region/country | No of vehicles |
|---|---|
| **Americas** | **6** |
| United States | 6 |
| **Europe** | **7** |
| Germany | 4 |
| United Kingdom | 3 |
| **Grand Total** | **13** |

*See full lists of sites and vehicles enclosed as a separate documents.*

## 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 $CO_2$ 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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