Table refers to question ***1. What are the types of GHG data sources that can be used for GHG assessments?***

Data source	Access	Country focus	Sector Coverage e.g.
ecoinvent	link	World	20,000 reliable life cycle inventory datasets, covering a range of industrial sectors. These include agriculture and animal husbandry, building and construction, chemicals and plastics, energy, forestry and wood, metals, textiles, transport, touristic accommodation, waste treatments and recycling, and water supply, among other.
uvek	Via ecoinvent platform	Switzerland	Covers sectors such as natural gas, photovoltaics, nuclear energy, hydropower, electricity, waste incineration, aluminum, refinery products, wood products, and transport services. It provides over 5,000 datasets with updated supply chains, production processes, and environmental impacts.
ILCD-based	link	it depends	The ILCD Data Network provides life cycle inventory datasets across sectors such as transportation, fuels, electricity, heat and steam, packaging, chemicals, and minerals. These datasets support consistent and quality-assured life cycle assessments for environmental decision-making.
Cobalt Institute	link	World	Provides comprehensive datasets covering the cobalt value chain, including mining, beneficiation, primary extraction, refining, and transport processes. These datasets support environmental assessments of cobalt production and its applications across various sectors, such as batteries, catalysts, magnets, and nickel alloys.
ecosystem	link	France	Life cycle inventory data for electrical and electronic equipment, covering both household and professional appliances as defined in the WEEE Directive (2012/19/EU). It includes categories such as large and small household equipment, flat screens, lamps, professional lighting, electrical motors, air conditioners, and heat pumps. The database supports circular economy strategies by modeling end-of-life scenarios, material recovery, and energy recovery, ensuring detailed and reliable data for eco-design.
PlasticsEurope	link	World	Datasets on the production of various plastics and related materials. It encompasses data on polymers such as polyamide 6 (PA6), polyamide 6.6 (PA6.6), polycarbonate (PC), polyoxymethylene (POM), and acrylonitrile butadiene styrene (ABS). Additionally, the database includes information on key chemical

Data source	Access	Country focus	Sector Coverage e.g.
			intermediates like ethylene and ethylene oxide. These datasets are instrumental for conducting life cycle assessments (LCA) and understanding the environmental impacts associated with the production of these materials.
European Solvents Industry Group EF LCA Database	link	World	Database provides datasets on the production of various solvents within the European Union, European Free Trade Association, and the United Kingdom. It includes data on organic chemicals like acetone and n-butanol, as well as various hydrocarbon solvents categorized by processing methods and properties. These datasets are compliant with Environmental Footprint 3.1 and ILCD Data Network entry-level standards, supporting accurate environmental assessments of solvent production processes.
GHG Protocol	link	World	The GHG Protocol provides calculation tools and guidance for various sectors, including cross-sector emissions, country-specific inventories, and sector-specific industries such as aluminum, cement, iron and steel, and pulp and paper. It also supports national and local governments in tracking greenhouse gas emissions. These tools help organizations develop accurate GHG inventories and meet climate targets.
BEIS/Defra	link	UK	The BEIS/Defra factors cover sectors including energy, transport, waste management, water, and materials manufacturing. They provide emission factors for fuels, electricity, various transport modes, waste disposal methods, water supply and treatment, and industrial materials. These factors help UK organizations accurately calculate and report their greenhouse gas emissions.
EPA	link	US	The EPA's GHG Emission Factors Hub provides emission factors for stationary and mobile combustion, purchased electricity, fugitive emissions, and waste management. It helps organizations calculate and report greenhouse gas emissions based on standardized data, including regional electricity grid factors and fuel combustion sources.
Exiobase	link	World (43 countries)	Multi-Regional Environmentally Extended Supply-Use and Input-Output Tables. It covers 43 countries and 5 rest-of-world regions, detailing 160 industry sectors and 200 product categories. The database includes information on emissions, resource extractions, land use, water use, mineral and energy flows, and economic and social flows by industry. This extensive coverage allows for in-

Data source	Access	Country focus	Sector Coverage e.g.
			depth analysis of environmental impacts associated with the final consumption of various product groups.
GLEC	link	World	The Global Logistics Emissions Council, provides a standardized method for calculating and reporting greenhouse gas emissions across the logistics supply chain. It covers all freight transport modes, including road, rail, air, sea, inland waterways, and logistics sites such as warehouses and transshipment centers. The framework aligns with international standards like the GHG Protocol and ISO 14083 enabling companies to assess and reduce emissions from their logistics operations.
ADEME	link for Base Carbone	France	Public database managed by ADEME, providing emission factors essential for conducting greenhouse gas (GHG) assessments and carbon accounting exercises. It serves as the reference database for France's regulatory requirements under article 75 of the Grenelle II Act, facilitating standardized GHG reporting for companies and public entities.
	link for Agribalyse	France	Life cycle inventories (LCIs) and environmental impact indicators for agricultural and food products produced or consumed in France. It encompasses data on over 2,500 food products, aiding stakeholders in understanding and improving the environmental performance of these products. The data is accessible in both simplified formats for general users and detailed versions compatible with Life Cycle Assessment (LCA) software for advanced analyses.
AIB	link	World	The European Residual Mix 2015 by AIB provides data on electricity not covered by Guarantees of Origin, ensuring accurate energy disclosure and preventing double counting of renewables. It includes the European Attribute Mix, reflecting cross-border electricity tracking.
CCF	link	World	The Cloud Carbon Footprint methodology estimates carbon emissions from cloud usage by analyzing service usage data, converting it into energy consumption, and applying region-specific emission factors. For computer instances, it considers factors like CPU utilization, memory usage, and instance type to estimate energy consumption. This approach provides organizations with insights into the environmental impact of their cloud operations and aids in identifying opportunities for emission reductions.

Data source	Access	Country focus	Sector Coverage e.g.
ICE	link	World	The Inventory of Carbon and Energy (ICE) Database, developed by Circular Ecology, is a free resource providing embodied carbon data for over 200 building materials. It assists professionals in assessing and reducing the carbon footprint of construction projects.
CLP	link	World	CLP Group's 2023 Sustainability Report details the company's initiatives toward achieving net-zero greenhouse gas emissions by 2050. The report highlights progress in reducing GHG emissions intensity and expanding the renewable energy portfolio. It also outlines CLP's commitment to community engagement, workforce transformation, and digitalization.
CT	link	World	The Brown to Green Report 2019 by Climate Transparency provides a comprehensive analysis of G20 countries' climate actions, assessing 80 indicators related to decarbonization, climate policies, finance, and vulnerability to climate impacts. It identifies leaders and laggards in the transition toward a net-zero emissions economy, offering insights to inform policymakers and stimulate national debates.
DEWA	link	World	Dubai Electricity and Water Authority (DEWA) publishes annual sustainability reports detailing its economic, environmental, and social performance. These reports, based on Global Reporting Initiative (GRI) Standards, showcase DEWA's commitment to the UN Sustainable Development Goals and the UAE's sustainability initiatives.
DISER	link	World	Published by Australia's Department of Climate Change, Energy, the Environment and Water (DCCEEW), provides methods and emission factors to help companies and individuals estimate greenhouse gas emissions. The NGA Factors are updated annually to ensure consistency between company-level inventories and national emission estimates. **While drawing on the National Greenhouse and Energy Reporting (Measurement) Determination 2008, these factors are intended for broader emissions estimates and should not be used to meet reporting requirements under the National Greenhouse and Energy Reporting (NGER) Act 2007.*
EEA	link	World	The European Environment Agency reports that the greenhouse gas emission intensity of EU electricity generation has decreased by 19% in

Data source	Access	Country focus	Sector Coverage e.g.
			2023 compared to 2022, and by 35% over the past decade. This decline is attributed to reduced coal usage, increased renewable energy adoption, and a more efficient energy mix. However, emission intensities vary among Member States, with Estonia, Poland, Cyprus, and Bulgaria having the highest levels in 2023, primarily due to their reliance on solid fossil fuels and limited renewable energy sources.
Electricity info	link	UK	The fuel mix of UK domestic electricity suppliers varies significantly, reflecting diverse energy sourcing strategies. For instance, British Gas's electricity supply comprises 4.0% coal, 17.0% natural gas, 57.0% nuclear, 20.0% renewable sources, and 2.0% other fuels. In contrast, suppliers like Co-op Energy, Ecotricity, Good Energy, Green Energy UK, and Octopus Energy source 100% of their electricity from renewable sources, resulting in zero associated CO_2 emissions. These variations underscore the range of options available to consumers seeking energy mixes aligned with their environmental preferences.
EMA	link	US	In 2023, Singapore's electricity generation relied predominantly on natural gas, which accounted for 94.5% of the fuel mix. Other energy sources, including municipal waste, biomass, and solar, contributed 4.3%, while coal and petroleum products made up 0.9% and 0.4%, respectively. This composition underscores Singapore's heavy dependence on natural gas for electricity production.
EPPO	link	Thailand	The Energy Policy and Planning Office (EPPO) of Thailand provides comprehensive data on carbon dioxide (CO_2) emissions resulting from energy consumption. The statistics are categorized by fuel type and economic sector, offering insights into emissions from power generation, transportation, industry, and other sectors. This data is essential for understanding the environmental impact of Thailand's energy use and for formulating policies aimed at reducing greenhouse gas emissions.
GEMIS	link	World	Free life-cycle analysis (LCA) model and database developed by the International Institute for Sustainability Analysis and Strategy (IINAS). It evaluates environmental impacts of energy, material, and transport systems, including air emissions, greenhouse gases, wastes, and resource use. GEMIS is used in over 30 countries

Data source	Access	Country focus	Sector Coverage e.g.
			for environmental and cost analyses, supporting sustainable decision-making.
Google Cloud	link	World	Google Cloud's Carbon-Free Energy (CFE) initiative provides data on the carbon characteristics of its global cloud regions. This information helps users select regions powered by higher percentages of carbon-free energy, aligning their cloud operations with sustainability goals. By choosing regions with higher CFE percentages, users can reduce the carbon footprint associated with their cloud services.
Green-e	link	World	Green-e® publishes annual Residual Mix Emissions Rates to calculate greenhouse gas emissions associated with untracked and unclaimed U.S. electricity consumption. These rates adjust for Green-e® Energy certified sales within each Emissions & Generation Resource Integrated Database (eGRID) subregion, providing more accurate emissions data for Scope 2 reporting.
HKEY	link	Hong Kong	HK Electric publishes annual sustainability reports detailing its environmental, social, and governance (ESG) performance. The 2023 report highlights the company's commitment to decarbonization, including increasing gas-fired power generation to approximately 56% of total output and setting a science-based target to reduce Scope 1 greenhouse gas emissions by 68.4% per kWh of electricity generated by 2035, compared to 2019 levels. The report also outlines initiatives in renewable energy, energy efficiency, and community engagement.
IPCC	link	World	The 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories updates and supplements the original guidelines to incorporate the latest scientific and technological advancements. It provides refined methodologies for estimating greenhouse gas emissions and removals across sectors such as energy, industrial processes, agriculture, forestry, and waste management. This refinement ensures that national inventories reflect current practices and knowledge, supporting more accurate and transparent reporting. The 2019 Refinement does not replace the 2006 Guidelines but should be used in conjunction with them.
MfE	link	New Zealand	The New Zealand Ministry for the Environment's "Measuring Emissions: A Guide for Organisations" (2020) offers comprehensive methodologies and emission factors to assist organizations in

Data source	Access	Country focus	Sector Coverage e.g.
			calculating their greenhouse gas emissions. It covers various emission sources, including fuel combustion, electricity usage, transportation, and waste management, providing standardized approaches for accurate reporting.
Shiseido	link	World	Shiseido is committed to sustainability with goals to achieve carbon neutrality by 2026 and reduce CO_2 emissions by 46.2% (Scopes 1 and 2) and 55% (Scope 3) by 2030 from 2019 levels. The company has already reduced CO_2 emissions by 45% and aims to cut water consumption by 40% by 2026. Shiseido focuses on energy efficiency, sustainable product development, and circular economy initiatives while being recognized with a double 'A' rating by CDP for climate action.
STC-Nestra B.V.	link	World	The GLEC report on GHG Emission Factors for Inland Waterways Transport (SFC2018) provides updated greenhouse gas emission factors for inland water transport (IWT). It introduces a detailed methodology that considers various vessel classes, sizes, operational characteristics, and cargo types, offering more precise emission estimates compared to previous models. This enhancement supports the GLEC Framework's goal of harmonizing logistics emissions calculation and reporting across multimodal supply chains.
UBA	link	Germany	The Umweltbundesamt (UBA) publishes annual reports detailing the specific greenhouse gas emissions of Germany's electricity mix, serving as indicators of the climate compatibility of power generation.
UNFCCC	link	World	Canada's 2022 National Inventory Report (NIR), submitted to the UNFCCC on April 14, 2022, provides a comprehensive account of the country's greenhouse gas (GHG) emissions and removals from 1990 to 2020. The report details emissions across various sectors, including energy, industrial processes, agriculture, and waste, and outlines methodologies for data collection and analysis.
Amaru	link	Ecuador	Amaru is an open knowledge initiative promoted by the Ecuadorian Network of Life Cycle and Circular Economy. It aims to disseminate life cycle thinking and make research results publicly accessible. The platform invites members of the Life Cycle Assessment (LCA) community to share their data and contribute to the collective knowledge base.

Data source	Access	Country focus	Sector Coverage e.g.
PeruLCA	link	Peru	Resources and data to evaluate environmental impacts across various sectors. The platform offers access to life cycle inventories and reports, such as those on wild capture fisheries and aquaculture, to support informed decision-making and the development of sustainable practices. Additionally, PeruLCA has been involved in organizing conferences like LCA Foods 2022, focusing on advancements in food-related LCA. The platform serves as a valuable resource for researchers, policymakers, and industries interested in implementing LCA methodologies to enhance environmental performance.
ESU database	link	World	Offers a comprehensive life cycle inventory (LCI) database, building upon the Swiss Federal Office for the Environment's (FOEN) background data. This database updates and extends the ecoinvent v2.2 data, incorporating corrections and new datasets, including country-specific tap water supply and recent LCI data from Plastics Europe. It comprises approximately 6,400 datasets, with 179 new and 439 updated entries, designed for integration into SimaPro software.
Sphera/Gabi datasets	link	World	Provide LCA solutions, including specialized software, extensive datasets, and consulting services to help organizations evaluate and improve their environmental performance. Their LCA software, formerly known as GaBi, enables detailed impact analysis across various industries, while their database includes over 20,000 updated datasets for accurate modeling. Sphera also offers expert guidance to support sustainability initiatives.
CEDA	link	World	International environmental Multi-Region Input-Output (MRIO) model designed to assist in various environmental systems analyses, including life cycle assessments (LCA), carbon footprints, and sustainable spend analyses. CEDA offers 60,000 emissions factors covering 400 industrial sectors across 148 countries, providing comprehensive and up-to-date emissions data. This extensive coverage allows organizations to accurately assess the environmental impacts of their operations and supply chains, facilitating informed decision-making in sustainability initiatives. CEDA's data is updated annually, reflecting global decarbonization progress and ensuring that users have access to current information for measuring and reporting emissions.

Data source	Access	Country focus	Sector Coverage e.g.
Japan iron and Steel Federation	link	Japan	The Japan Iron and Steel Federation (JISF) provides monthly data on the inventory levels of ordinary steel products in Japan. This information offers insights into supply and demand dynamics within the steel industry.
IDEA	link	World	Models the environmental impacts of nearly all Japanese economic activities. It contains approximately 9,500 processes classified based on the Japan Standard Commodity Classification. IDEA covers major impact categories, including global warming, acidification, ozone depletion, mineral resources, fossil resources, water resources, and land use, with over 940 elementary flows. The database is available in Excel format and is compatible with major LCA software platforms
worldsteel	link	World	The World Steel Association provides data on global steel production, trade, and usage, including monthly crude steel production statistics, annual industry performance reports, and forecasts on steel demand. It also offers rankings of top steel producers and insights into trade flows and raw material production.