Data Management Practices and Greenhouse Gas Accounting Methodologies

Prepared for Coherent Corp

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[UPDATED: BASELINE RESTATEMENT CRITERIA & SCOPE 1 and SCOPE 2 METHODOLOGY]

Review of Siemens Data Quality Control and Assurance Processes and Associated Third-party Audit Rating

Greenhouse gas (GHG) emissions reporting completed by Siemens for Coherent Corp (Coherent) was developed in accordance with the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) GHG Protocol Corporate Standard and the Scope 2 Guidance addendum. The underlying data leveraged for these carbon accounting efforts is the energy utility invoice data managed by Siemens on behalf of Coherent. Under the utility bill management process, Siemens captures invoices, validates the accuracy and completeness of each invoice, enters invoice line-item details into our cloud-based utility management database, Navigator. If necessary, Siemens engages the utilities / suppliers directly to resolve invoice errors to ensure corrected data is reported. Invoice images are stored within the cloud-based reporting system to ensure transparency and to support further data auditing and verification purposes as needed.

The energy and water utility data entry and receipt process managed by Siemens includes the following control characteristics:

- Invoices are reviewed and processed by trained energy professionals; data entry accuracy rates have been demonstrated at a 99%+ level
- Each invoice undergoes a 100+ point rule validation check; this process includes the application of utility tariff and contract-specific data entry templates to ensure consistent and accurate data processing and rate application
- Invoice images are captured and provided within Navigator inside 24 hours of receipt by Siemens
- Validated invoice data is reported within Navigator within 24 to 48 hours; 95% of electronic and paper invoices are processed within the same day

A third-party auditor confirms the data integrity of Siemens data processing, validation, and management processes. This independent auditing process reviews over 25 tests across the following control points within the process: (1) Control Environment and Risk Assessment, (2) Access and Security, (3) Monitoring, (4) System Change Management, (5) Account Setup, (6) Invoice Processing, (7) Tax and Tariff Analysis, (8) Funds Management, and (9) Supply Management Services. This System and Organization Controls (SOC) 1 Type 2 audit is completed annually with the most recent report prepared for the January 1, 2023 through December 31, 2023 throughput period. Siemens received a "zero exceptions" review from this audit process.

Under specific circumstances, Siemens will estimate energy and water usage data to address gaps that could not reasonably be addressed by other means. There are two predominant scenarios where estimates will be applied:

- <u>Locations where Coherent does not receive energy and/or water data</u>: This category includes leased properties where the property owner receives and pays energy and water invoices, passing costs to

Coherent via rent charges. Efforts are made to obtain energy and water usage data for leased properties. However, for locations that are de minimis (<3% of Coherent global carbon emissions) and data capture effort have been unsuccessful, energy and water usage and associate carbon emissions are estimated. These estimates are based on the site use case (e.g., office, warehouse, etc.), building floor area, regionalized building energy and water use intensity factors, and local electric grid carbon emissions factors.

- Utility invoice record lag behind reporting timelines: Given that invoice data is often not available from the utilities and suppliers until 30 to 45 days after month the energy was actually used, complete energy usage data for the end of the reporting year may be unavailable for some energy accounts. Water invoice billing periods often follow a similar lag time as energy invoices, but some may also invoice on quarterly and semi-annual periods. Under these conditions, the data gaps will be estimated based on account-specific energy and water usage from the prior months and the same time period form prior years. Siemens will also solicit insight from Coherent to determine whether any significant changes at the site occurred that would impact energy and water usage.

Once actual data is available, the validated invoice data will be compared to the estimates made for the same accounts. Based on Siemens experience, the difference between the estimated values and actual data will typically be nominal. Therefore, it is not anticipated that Coherent would need to restate previously published emissions data upon receipt of actual data. Furthermore, as detailed within the CDP reporting guidance, it is not a requirement to restate emissions due to data corrections. Specifically, CDP states "a company that has previously responded to CDP's climate change questionnaire may wish in the current reporting period to restate historical emissions data. While this is not strictly necessary, restatements can be warranted in some cases." Therefore, Siemens will notify Coherent of the data updates, but is it not expected that Coherent would restate prior, published emissions data unless the changes were significant (i.e., +/-10% of the Coherent global carbon inventory).

Coherent supplements the Siemens data collection process with internally reported data. Siemens reviews this data to ensure there is no overlap or exclusions with data collected directly through utilities and suppliers. Siemens does not verify this data for accuracy or completeness. This data includes but is not limited to stationary and mobile combustion fuels, fluorinated greenhouse gases (F-GHGs), industrial gases (e.g. CO_2, CH_4, N_2O), refrigerants, and on-site generation.

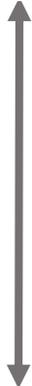| Category	Activity Data and Source	Emissions Estimation Methodology	Emissions Factor Source
Scope 1			
Natural Gas, Distillate Fuel Oils, Liquefied Petroleum Gases, Biofuels & Biomass	Energy usage by source; Utility invoice data (control points verified through the third-party, SOC 1 Type 2 Audit), limited Coherent supplied data and estimation	Energy usage values multiplied by emissions factors	U.S. EPA Stationary Combustion factors (IPCC AR5)
Stationary Combustion (Misc. Fuels)	Coherent supplied data (volumes by fuel source)	Volume values multiplied by emissions factors	U.S. EPA Stationary Combustion factors (IPCC AR5)
Mobile Combustion	Coherent supplied data (volumes by fuel source)	Volume values multiplied by emissions factors	U.S. EPA Stationary Combustion factors (IPCC AR5), due to unknown vehicle source CH4 and N2O emissions from stationary combustion factors is utilized.
Fluorinated Greenhouse Gases (F-GHGs)	Coherent supplied data (volumes by source)	Volume values multiplied by emissions factors	U.S. EPA Global Warming Potential (GWP) factors (IPCC AR5)

Industrial Gases (e.g. CO2, CH4, N2O)	Coherent supplied data (volumes by source)	Volume values multiplied by emissions factors	U.S. EPA Global Warming Potential (GWP) factors (IPCC AR5)
Refrigerants	Coherent supplied data (volumes by source)	Volume values multiplied by emissions factors	U.S. EPA Global Warming Potential (GWP) for Blended Refrigerants factors (IPCC AR5)
Scope 2			
Electricity, District Heating & Cooling	Energy usage by source; Utility invoice data (control points verified through the third-party, SOC 1 Type 2 Audit), limited Coherent supplied data and estimation	Energy usage values multiplied by emissions factors	U.S. EPA (eGrid) and IEA national electricity emissions factors

Market-based Scope 2 GHG Emissions Accounting - Renewable Energy Documentation Criteria Explainer

The revised GHG Protocol Scope 2 Guidance published by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) as an addendum the original GHG Protocol was developed to standardize how corporations measure emissions from purchased electricity. This methodology is recognized as the leading, voluntary carbon accounting standard and has been adopted by CDP, RE100, SBTi and many other climate and sustainability frameworks. The Scope 2 addendum codifies two distinct methods for scope 2 accounting each with defined documentation requirements to establish specific emissions factors. The Scope 2 Guidance defines these two distinct methodologies as follows:

- Location-based method: "reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data)."

- Market-based method: "reflects emissions from electricity that companies have purposefully chosen (or their lack of choice). It derives emission factors from contractual instruments, which include any type of contract between two parties for the sale and purchase of energy bundled with attributes about the energy generation, or for unbundled attribute claims."

The Scope 2 guidance requires that reporting companies account for scope 2 emissions under both the location-based and market-based methodologies and report both values in parallel. Market-based accounting for scope 2 emissions is only necessary for operations where those purposeful electricity source choices have been made and the necessary data requirements are met. The following table outlines the various sources of eligible, market-based emissions factors and the relative credibility for each documentation source.

Emission Factors	Examples / Notes	Precision
Energy attribute certificates	• Renewable Energy Certificates (RECs) • Generator Declarations (U.K.) for fuel mix disclosure • Guarantees of Origin (GOs) • Electricity contracts (e.g., PPAs) that also convey RECs or GOs • Other certificate instruments meeting the Scope 2 Quality Criteria	**Higher**
Contracts	• Contracts that convey attributes to the entity using the power where certificates do not exist • Contracts for power that are silent on attributes, but where attributes are not otherwise tracked or claimed	
Supplier / utility emission rates	• Emission rate allocated and disclosed to retail electricity users, representing the entire delivered energy product (not only the supplier's owned assets) • Green energy tariffs • Voluntary renewable electricity program or product	
Residual mix	• Calculated by EU country under RE-DISS project • Within the U.S. residual mix data is available on a fragmented basis (e.g., select markets, Green-e reporting, select utilities, etc.)	
Other grid-average emission factors	• eGRID total output emission rates (U.S.) • Defra annual grid average emission factor (UK) • IEA national electricity emission factors	**Lower**

Note: Adapted from WRI/WBCSD Scope 2 Accounting Guidance

Renewable energy purchases completed by Coherent triggers the market-based reporting requirement under the revised WRI/WBCSD GHG Protocol Scope 2 Guidance and all renewable energy procurements executed by Coherent to date have been backed by documentation that exceed the minimum criteria established by the guidance.   The majority or Coherent's renewable procurements are backed by contracts that guarantee solicitation and retirement of market-specific energy attribute certificates. The certifying agencies that establish the various energy attribute certificates all have protocols to guard against double counting by ensuring the certificates are retired on behalf of the entity that purchased the attributes. This is accomplished with registry systems that document each unique certificate and 3rd party auditing procedures designed to ensure that sellers adhere to strict accounting standards. Green-e, for example, established an "annual verification process that requires all providers of Green-e® Energy certified products to complete an annual third-party verification audit of their renewable energy purchases and sales".

Scope 3 GHG Emissions Accounting

Scope 3 GHG emissions accounting activities for Coherent were completed in accordance with the WRI/WBCSD Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Prior to conducting data compilation and emissions estimation activities, the Siemens and Coherent teams completed a workshop exercise to assess which Scope 3 emissions categories are material to the Coherent organization. As summarized in the graphic below, categories 1, 2, 3, 4, 6 and 7 were deemed to be material and measurable with current processes and resources. Categories 5, 9, 10, 11 and 12 were deemed to be material, but adequate data measurement practices are not currently in place to report on these categories and estimate emissions impact. Coherent intends to improve measurement capabilities for all 11 relevant categories in the future and disclosure impacts from additional, material categories once consistent, comprehensive data capture processes are in place.

Greenhouse Gas Inventory
Assessing Materiality of the 15 Scope 3 Categories for Coherent

1 Purchased goods & services	2 Capital goods	3 Fuel & energy-related activities	4 Upstream T&D	5 Waste generated in operations
Upstream cradle-to-gate emissions from production of goods & services purchased	Upstream cradle-to-gate emissions from production of capital goods purchased	Extraction, production, & transportation of fuels & energy purchased or acquired	Transportation and distribution of products & services purchased	Disposal & treatment of waste generated
6 Business travel	7 Employee commuting	8 Upstream leased assets	9 Downstream T&D	10 Processing of sold products
Transportation of employees for business-related activities	Transportation of employees between their homes and their worksites	Operation of assets leased by the reporting company (lessee)	Transportation and distribution of products & services sold	Processing of intermediate products sold
11 Use of sold products	12 End-of-life sold products	13 Downstream leased assets	14 Franchises	15 Investments
End use of goods & services sold	Waste disposal & treatment of products sold	Operation of assets owned by the company (lessor) & leased to other entities	Operation of franchises	Operation of investments

Not material to operations   Potentially material, but not measured currently   Material and estimable emission sources

Adapted from the WRI / WBCSD GHG Protocol Technical Guidance for Calculating Scope 3 Emissions

The following data sources and estimation methodologies were leveraged for the six Scope 3 emissions categories currently being disclosed:

Category	Activity Data and Source	Emissions Estimation Methodology	Emissions Factor Source
Purchased Goods and Services (Cat. 1)	Spend data; Internal procurement records	Vendor/product-specific spend value multiplied by emissions factor	U.S. EPA Supply Chain Greenhouse Gas Emission Factors v1.2 by NAICS-6
Capital Goods (Cat. 2)	Spend data; Internal procurement records	Vendor/product-specific spend value multiplied by emissions factor	U.S. EPA Supply Chain Greenhouse Gas Emission Factors v1.2 by NAICS-6
Fuel and Energy Related Activities (Cat. 3)	Energy usage by source; Utility invoice data	Energy usage values multiplied by emissions factors	U.S. EPA and U.K. DEFRA T&D and WTT factors
Upstream T&D (Cat. 4)	Spend data; Internal procurement records	Vendor/product-specific spend value multiplied by emissions factor	U.S. EPA Supply Chain Greenhouse Gas Emission Factors v1.2 by NAICS-6

Business Travel (Cat. 6)	Calculated emissions based on air travel, car rentals and hotel stays; Travel agency	Supplied by travel agency; Travel spend outside the travel agency is scaled based on proportionality	NA – calculated by travel agency
Employee Commuting (Cat. 7)	Employee headcount by geographic location; Human resources	Estimated based on employee count and the distribution of travel modes and distances by region	Transport emissions factors provided by U.S. EPA; Travel distance and mode statistics provided by the UN, U.S. Census Bureau, and internal Coherent EHS team.

Base Year Emissions Recalculation

Structural changes to the organization are evaluated to assess impact to Coherent's historical and ongoing emissions profile. However, the organization is dynamic and baseline restatements can be difficult if historic data is not available for acquired assets. Furthermore, the level of effort to restate the organization's baseline can be significant and frequent changes can create confusion for stakeholders. To maintain consistency over time and provide a meaningful comparison of current emissions, historic emissions data will be recalculated only under qualifying circumstances. Decisions related to baseline recalculation are made with the intent of ensuring internal and external stakeholders can clearly understand true changes to Coherent's GHG emissions over time. The following outlines the basis for any base year recalculation: [correction vs. new baseline]

1. Structural changes (i.e., mergers, acquisitions, and divestments) will trigger a baseline restatement when the emission change (increase or decrease) meet a predetermined significance threshold. The significance thresholds considered are as follows:
    a. A single acquisition or divestiture of greater than 5% of total base year emissions.
    b. A cumulative effect, over a period of 6 months, of a small number of acquisitions or divestitures of greater than 15% of total base year emissions.
2. Changes in calculation methodology or improvements in the accuracy of emission factors or activity data that result in a significant impact (>5% of total base year emissions) on the base year emissions data.
3. Discovery of significant errors, or several cumulative errors, that are collectively significant (>5% of total base year emissions).
4. Outsourcing or insourcing of emitting activities of greater than 5% of total base year emissions
5. Examples of cases that do not call for base year recalculation include:
    a. Organic growth and decline (i.e., changes in production output, openings or closures of production units controlled by Coherent)
    b. Emissions covered by acquisitions and divestitures are already covered in another scope of the emission inventory
    c. An asset is permanently closed, demolished, or will operate under a new use case under the new operator
    d. A structural change that does not meet the significance threshold
    e. A facility is acquired that did not exist in the base year
    f. A new facility is constructed
    g. Outsourcing or insourcing if accounted for under scope 2 and/or scope 3

If a change does not meet the significance threshold, base year calculation may still be performed at Coherent's discretion.

When significant structural changes occur during the middle of the year, the base year emissions should be recalculated for the entire year, rather than only for the remainder of the reporting period after the structural change occurred.

NOTE: Baseline restatement evaluations should be completed based on location-based, scope 2 emissions comparisons and without inclusion of any other environmental instruments (e.g., carbon offset purchasing).