

Data Management Practices and Greenhouse Gas Accounting Methodologies

Prepared for Coherent Corp

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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:

- Locations where Coherent does not receive energy and/or water data: 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 associated 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 from 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 it is not expected that Coherent would restate prior, published emissions data unless the changes were significant (i.e., +/-10% of the Coherent global carbon inventory).

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 to 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	<ul style="list-style-type: none"> 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 	<p style="text-align: center;">Higher</p>  <p style="text-align: center;">Lower</p>
Contracts	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> eGRID total output emission rates (U.S.) Defra annual grid average emission factor (UK) IEA national electricity emission factors 	

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 of 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.