



ASR GROUP INT.

ASR GROUP® GREENHOUSE GAS (GHG) METHODOLOGY MANUAL



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INTRODUCTION

FORWARD-LOOKING STATEMENT

This Carbon Footprint Methodology Manual contains forward-looking statements related to **future decarbonization initiatives, data system development, emerging greenhouse gas (GHG) accounting practices, supplier data maturation, potential use of voluntary carbon credit mechanisms, and anticipated refinements to methodologies related to land use, agriculture, and value chain emissions.**

Forward-looking statements are based on The ASR Group® Family of Companies ("ASR Group") expectations, assumptions, and information available at the time of publication and are subject to known and unknown risks, uncertainties, and data limitations that could cause actual outcomes or methodological approaches to differ materially.

The GHG accounting methodologies described in this document reflect **current practices applied by ASR Group at the time of publication.** Methodologies may be updated in future reporting periods to reflect changes in applicable standards, regulatory requirements, data availability, material business changes, or improvements in calculation approaches, in accordance with defined change management and base year recalculation principles.

ASR Group does not undertake any obligation to update forward-looking statements contained in this document except as required by applicable reporting standards or disclosure requirements.

INTRODUCTION

ASR Group calculates and reports GHG emissions to understand the impact of its operations, support public disclosures, respond to customer inquiries, and track progress against emissions objectives.

This Carbon Footprint Methodology Manual defines the boundaries, data sources, assumptions, and calculation methods used to quantify Scope 1, Scope 2, and Scope 3 GHG emissions across ASR Group's operations and value chain.

The methodology is **aligned with the GHG Protocol and relevant International Organization for Standardization (ISO) standards** and is applied consistently to support transparent and comparable reporting.

This Manual sets forth the methodology used by ASR Group to quantify, manage, and report GHG emissions across its operations and value chain. It establishes the **principles, boundaries, data sources, assumptions, and calculation approaches applied to support consistent internal decision-making, external disclosures, customer inquiries, and emissions performance tracking.** This manual also serves as a management-of-change framework, providing a structured approach for **evaluating, documenting, and implementing updates** as climate science, emissions accounting standards,

emissions factors, and industry practices evolve, which ensures that methodological refinements, revised assumptions, and new scientific findings are incorporated in a consistent, transparent, and auditable manner.





01 OUR GHG METHODOLOGY

01 OUR GHG METHODOLOGY

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ASR Group's GHG inventory is prepared in accordance with the principles of the **GHG Protocol** to ensure relevance, completeness, consistency, transparency, and accuracy.

The inventory aims to capture all material Scope 1 and Scope 2 emissions and all relevant Scope 3 emissions across ASR Group's operations and value chain. Emissions sources may be excluded where they are demonstrated to be immaterial, defined as contributing less than 5% of total emissions within the applicable scope.

Primary, site-specific data are used where available. Where primary data points are unavailable, secondary data, industry averages, or modeled estimates are applied

using conservative assumptions.

Methodologies are applied consistently year over year to support comparability. Any material changes to data sources, calculation methods, organizational boundaries, or emission factors are managed in accordance with defined change management and base year recalculation thresholds.

Records of data sources, assumptions, and calculation methods are maintained to support internal review, third-party verification, and transparent reporting.

1.1 Organizational Boundaries

ASR Group defines its organizational boundary using the **equity share approach**, in accordance with the Greenhouse Gas Protocol. Under this approach, ASR Group accounts for GHG emissions from operations based on its ownership expectations.

ASR Group believes that at the time of this publication all input activities and their resulting emissions are accounted for from wholly owned operations and for emissions from jointly owned operations in proportion to its equity share. This includes 50% of emissions from the Brindisi joint venture. It is understood, however, that the methodology is again under review as "Removals" are considered within the value chain because of a recent revision to the GHG Protocol.

The organizational boundary includes all refinery, milling, and nonrefining operations over which ASR Group maintains **100% operational control or an equity interest** that contributes to its consolidated financial performance. Thus, the organizational boundary should be defined as **"equity share"** in terms recognized by GHG Protocol.

This boundary is applied consistently across all reporting periods. Any material changes to ownership structure are assessed and managed in accordance with defined base year recalculation and change management principles.

Table 1: Summary of ASR Group Organizational Boundary

Operation Type	Ownership / Interest	Boundary Treatment
Refinery operations	Wholly owned	100% of emissions included
Milling operations	Wholly owned	100% of emissions included
Non-refining operations (NROs)	Wholly owned	100% of emissions included
Joint ventures	Partial ownership	Emissions included in proportion to equity share. For example, ASR Group accounts for 50% of emissions of the Brindisi joint venture based on ownership

1.2 Operational Boundaries

In accordance with the Greenhouse Gas Protocol, ASR Group categorizes GHG emissions into Scope 1, Scope 2, and Scope 3.

The GHG Protocol requires the inclusion of material Scope 1 and Scope 2 emissions in a GHG inventory. Reporting on Scope 3 emissions is considered best practice to include sources that are material or significant to a company's operation.

The activities and sources of emissions we currently report include:

- **Scope 1 emissions:** Include direct GHG emissions from sources owned or controlled by ASR Group, including stationary and mobile fuel combustion, process emissions, and fugitive emissions.
- **Scope 2 emissions:** Include indirect GHG emissions from the generation of purchased electricity, steam, heating, and cooling consumed by ASR Group. Scope 2 emissions are calculated and reported using both location-based and market-based methodologies, where applicable.

Where available, ASR Group applies the GHG Protocol Scope 2 Guidance by reporting both location-based and market-based emissions, with market-based values reflecting qualifying contractual instruments (e.g., supplier-specific factors, certificates) when they meet applicable quality criteria.
- **Scope 3 emissions:** Include other indirect GHG emissions occurring within ASR Group's value chain. ASR Group identifies, quantifies, and reports Scope 3 emissions across relevant categories in accordance with the GHG Protocol Scope 3 Standard, using primary data where available and secondary or modeled data where necessary.

The operational boundary is applied consistently across all reporting periods. Any material changes to emission sources, scope coverage, or calculation methodologies are managed in accordance with defined change management and base year recalculation principles.

1.3 Exclusions of Emissions in Our Inventory

Due to data limitations and the application of materiality thresholds, certain emissions sources and activities within ASR Group's organizational and operational boundaries are not quantified in the current GHG inventory. In accordance with the GHG Protocol, **excluded sources are assessed to ensure they do not exceed a materiality threshold of 5% of total emissions within the applicable scope.**

1.3.1 Exclusions from Scope 1

Minor sources of **welding gasses, VOC emissions, refrigerant emissions, and mobile combustion sources** may be excluded where perceived to be immaterial beyond their indirect, supply chain, Scope 3 production influence. However, the combustion and release of most mobile fuels and refrigerants are perceived to be captured and/or modeled within the programming at this time, which also considers well-to-tank and transmission and distribution losses within Scope 3 if emission factors were known.

1.3.2 Exclusions from Scope 2

ASR Group **does not exclude any known Scope 2 emissions sources.** All purchased electricity, steam, heating, and cooling consumed within the organizational boundary are included in the GHG inventory.

1.3.3 Exclusions from Scope 3

ASR Group does not currently include the following in Scope 3 calculations, as they were perceived to be **negligible or not applicable** the operation at the time of publication:

- **Category 8:** Upstream leased assets
- **Category 10:** Processing of sold products
- **Category 11:** Use of sold products
- **Category 13:** Downstream leased assets
- **Category 14:** Franchises
- **Category 15:** Investments

These factors may see further research and inclusion at a later date.

1.4 Data Collection

ASR Group collects activity data required to quantify GHG emissions from relevant operational and value chain activities. Data are **collected by business units and sites using standardized templates and processes** and are consolidated for corporate level reporting.

GHG emissions are calculated using an **activity-based approach**, whereby activity data are multiplied by **appropriate emission factors in accordance with the GHG Protocol**. Emissions are quantified separately by GHG and converted to carbon dioxide equivalent (CO₂e) using applicable global warming potentials.

Primary, site-specific data are used where available. Where primary data are unavailable, secondary data, industry averages, or modeled estimates are applied using conservative assumptions. Emission factors are sourced from publicly available, reputable databases and are reviewed periodically to ensure consistency with current guidance.

GHG emissions are calculated and reported on an annual basis. Records of activity data, emission factors, assumptions, and calculation methods are maintained to support internal review, third-party verification, and transparent reporting.

1.5 Data Gaps and Estimations

While ASR Group uses primary, site-specific data where available, certain emissions sources require estimation due to **data limitations or the absence of supplier specific information**. In such cases, emissions are estimated using secondary data, industry averages, or modeled datasets in accordance with the GHG Protocol.

Estimations are applied using **conservative assumptions and the best available information at the time of reporting**. Data gaps and estimation approaches are reviewed periodically as data availability and quality improve.



Table 2: Scope 3 Categories Relevant and Calculated

	Category	Description	Explanation
1	Purchased goods and services	Relevant and calculated	Includes sugar supply, ingredients, packaging, Forest, Land and Agriculture (FLAG)
2	Capital goods	Relevant and calculated	Modeled using available data
3	Fuel and energy related activities	Relevant and calculated	Not included in Scope 1 or 2
4	Upstream transportation and distribution	Relevant and calculated	Modeled
5	Waste generated in operations	Relevant and calculated	Modeled
6	Business travel	Relevant and calculated	Modeled
7	Employee commuting	Relevant and calculated	Modeled
8	Upstream leased assets	Not relevant	Not applicable
9	Downstream transportation and distribution	Relevant and calculated	Modeled
10	Processing of sold products	Not relevant	Not applicable
11	Use of sold products	Not relevant	Out of scope (biogenic)
12	End-of-life treatment of sold products	Relevant and calculated	Modeled
13	Downstream leased assets	Not relevant	Not applicable
14	Franchises	Not relevant	Not applicable
15	Investments	Not relevant	Not applicable

1.6 Emissions Factors

Emission factors used to calculate GHG emissions are sourced from **publicly available, reputable databases and guidance documents**, including government agencies, international standards bodies, and recognized life-cycle assessment databases.

Emission factors are selected **based on relevance to the activity, geographic applicability, and data quality**. Where multiple emission factor options exist, ASR Group applies

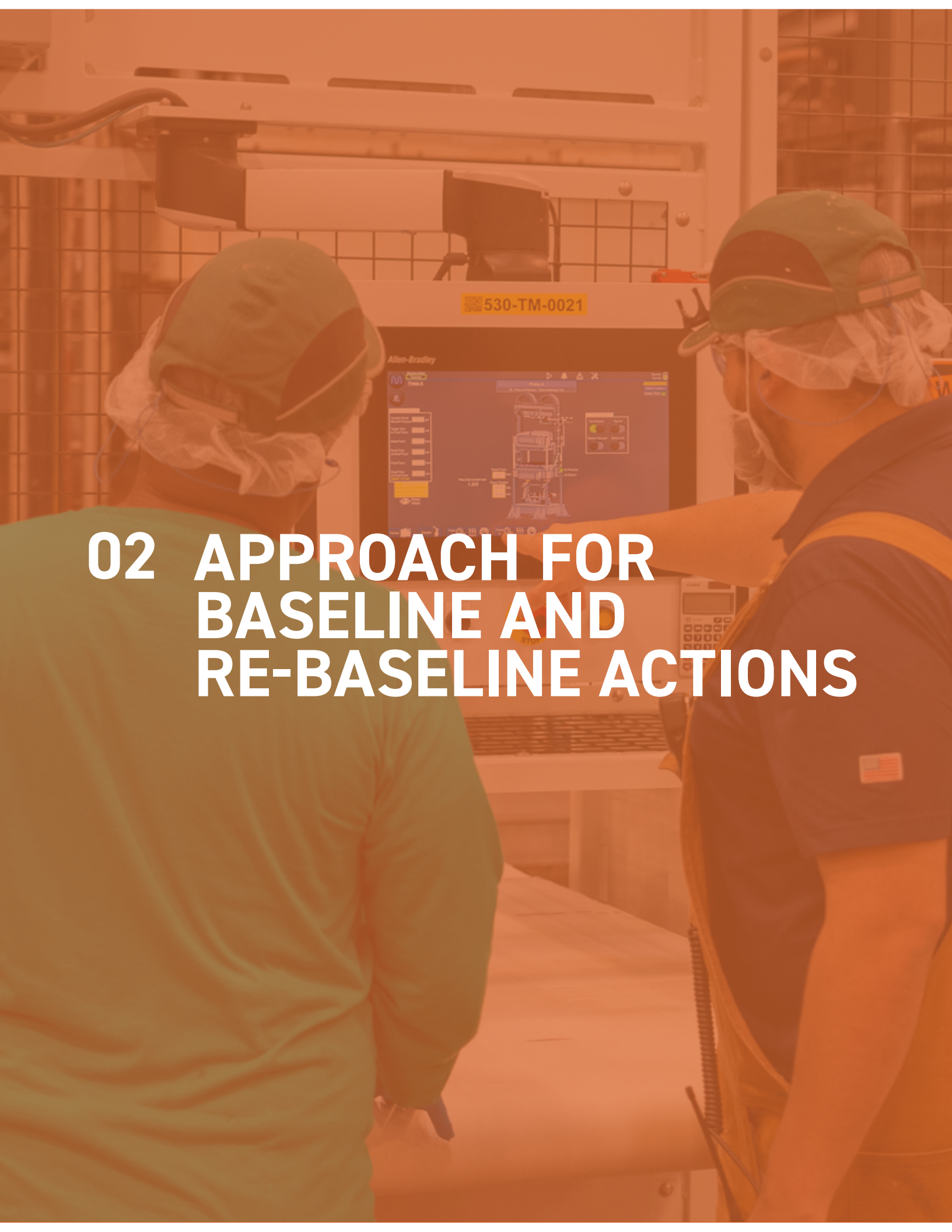
factors that are consistent with GHG Protocol guidance and uses conservative assumptions where necessary.

Emission factors are **reviewed periodically** and updated as appropriate to reflect changes in published guidance, regulatory requirements, or improvements in data quality. Global warming potentials used to convert emissions to CO₂e are aligned with applicable Intergovernmental Panel on Climate Change (IPCC) assessment reports.

Table 3: Activities Applicable to ASR Group, Organized by Scopes

Emission Source	Activity Data Source
Scope 1: Stationary combustion of fuel	Annual fuel usage (natural gas, fuel oil, biomass, wood chips, etc.) is determined from utility invoices, purchase records, and flow meters. Emission factors specific to each material type and region are applied to transform this data.
Scope 1: Process emissions – carbonation sequestration/ mineralization	For carbonation using flue gas supplied CO ₂ annual quantities of quick lime are sourced from purchase records. A mineralization calculation determines the molecular weight of CO ₂ sequestered by this activity. Carbonation using third-party supplied CO ₂ is not treated as sequestration and is not accounted for as a negative emission.
Scope 1: Mobile combustion of fuels	Annual fuel usage for company owned or operated vehicles is determined from fuel purchase records. Emission factors specific to each fuel type are then applied to transform this data.
Scope 1: Fugitive emission from use of refrigeration and air conditioning equipment	Each facility tracks the annual purchase of refrigerants for replenishment or replacement of refrigeration equipment.
Scope 1: Bioenergy CO ₂ from bio-based fuel combustion	Annual fuel usage for biomass and wood chips, etc. is determined from purchase records. Emission factors specific to each material type are then applied to transform this data.
Scope 1: Emission from Input/ nutrient utilization on farm	The application of synthetic and organic fertilizers yields nitrous oxide (N ₂ O) emissions. This area is still under ongoing research.
Scope 1: Emissions from tillage operations	Currently, “tilling emissions” as defined by Science Based Targets Initiative (SBTi) FLAG are not included, and offset emissions related to removals are also excluded. Research indicates tillage emissions behavior of the “permanent crop” of sugarcane results in net removals over the period between land management activities.
Scope 1: Emissions/ removals from crop residue management	Crop residues such as stalks, leaves, and roots left on fields decompose, burn, or are buried, impacting GHG and soil organic carbon. Emissions are calculated per hectare using a specific FAO Emission Factor for sugarcane.
Scope 1: Removals from sustainable / regenerative agriculture practices total organic carbon concentration and soil health	The carbon footprint of ASR Group's products has been calculated but not yet incorporated. Currently, “removals” as defined by SBTi FLAG are not included to offset the emissions. This area is under ongoing research.
Scope 1: Emissions/ Removals from Land Use Change	To estimate emission potential, FAO data was used to project the impact of forest cover losses. This method was compared to the Bonsucro ClimateCane tracker. An adjustment factor was applied given “on the ground research” and scientific publications in several regions determined the tool was overstating the emissions category as a “worst-case” potential, rather than crops specific influence. Further research is underway and may be expanded in this area via remote sensing tools.
Scope 2: Purchased electricity, steam heat or cooling	Each facility's annual steam and electricity quantities are obtained from utility invoices or flow data. Emission factors for both location-based and market-based calculations are tracked.
Scope 3: Category 1 – Purchased goods and services	Purchasing and invoicing data for maintenance, packaging, and chemical ingredients are sourced from the SAP system. Specific emission factors are used when available; otherwise, a spend-based analysis is applied. This area is under ongoing research.

Emission Source	Activity Data Source
Scope 3: Category 2 – Capital goods	Annually, Corporate Engineering provides reports detailing total expenditures by site. A factor is applied to distinguish labor expenses from equipment expenses. Material estimates are derived through spend-based analysis. Ongoing research aims to transition to using material purchase records where feasible.
Scope 3: Category 3 – Fuel and energy related activities (not included in Scope 1 or 2)	These emissions include upstream activities related to purchased fuels and electricity, such as extraction, production, and transportation. They also cover emissions from transmission and distribution losses and the generation of purchased electricity sold to end users. These activities help capture the full GHG impact of fuel and energy use beyond direct consumption and are calculated using usage information and appropriate country or utility provided emissions factors.
Scope 3: Category 4 – Upstream transportation and distribution	Purchased material datasets are used to estimate the weight in transit when possible. If weight information is unavailable, spend based data is collected. Depending on the source information, activities are either multiplied by emission factors that consider weight and miles in transit or by US Environmentally Extended Input-Output (EEIO) estimates for logistics influence per total spent in USD.
Scope 3: Category 5 – Waste generated in operations	Solid waste stream categorization information data is collected by sites and appropriate emission factors for data transformation are utilized to identify emissions related to material management. Additionally, each site records wastewater quantities and concentrations to determine discharge impacts.
Scope 3: Category 6 – Employee commute	ASR Group conducted a survey to assess employee commuting across the company. Site-specific responses were used to calculate average emissions per employee per year. Total emissions per site were then determined based on the average number of employees throughout the year.
Scope 3: Category 7 – Business travel	ASR Group uses Concur business travel solutions to generate annual reports on business travel influence.
Scope 3: Category 8 – Upstream leased assets	The ASR Group portfolio includes two main types of upstream leased assets: third-party warehouses and co-packing facilities. Warehouse emissions were estimated using average square footage, while co-packing facility emissions were calculated based on the sugar provided and average emissions per unit weight from Non-Refinery Operational product carbon footprint (PCF). Further research will seek vendor specific emissions as service providers are surveyed and mature in their decarbonization effort.
Scope 3: Category 9 – Downstream transportation and distribution	The ASR Group Supply Chain department uses SAP and BlueJay software platforms to identify the weight, travel mode, and distance of finished goods in transit. Appropriate emission factors are applied to calculate CO ₂ e values. Currently, emissions intensity per unit weight is normalized across all movements. Future refinements will focus on allocating emissions to specific orders from their production points for more detailed accounting.
Scope 3: Category 12 – End of life treatment of sold products	The packaging engineering department identifies the weights and compositions of all sold finished goods. Appropriate emission factors are applied to calculate CO ₂ e values based on anticipated post-consumer treatment pathways. Currently, emissions intensity per unit weight and material type is calculated and applied to regional production data using Department for Environment, Food & Rural Affairs (DEFRA) or Environmental Protection Agency (EPA) waste factors. Future refinements will focus on allocating emissions to product lines via the bill of materials for each SKU to achieve more detailed accounting.
Scope 3: Bioenergy CO ₂ from bio-based fuel combustion	ASR Group calculates bioenergy impact at owned mills and extrapolates it to third-party raw sugar. As supplier reporting improves, specific Scope 3 emissions factors will replace the industry average, becoming more accurate with increased disclosures.

The background image shows two technicians in a cleanroom. They are wearing green lab coats, green caps, and white hairnets. They are looking at a computer monitor that displays a technical diagram of a piece of equipment. The monitor is part of a larger machine with a yellow label that reads "530-TM-0021". The entire image has an orange tint.

02 APPROACH FOR BASELINE AND RE-BASELINE ACTIONS

02 APPROACH FOR BASELINE AND RE-BASELINE ACTIONS

ASR Group's methodology for establishing baseline and re-baseline actions ensures consistent tracking and comparability of GHG emissions over time. The baseline year serves as a reference point for performance evaluation and target-setting, reflecting organizational activities and emissions as defined at the time of initial measurement.

Baseline years are maintained in accordance with **GHG Protocol and SBTi guidance**. Significant changes to organizational boundaries, methodologies, activity data, or emission factors prompt assessment for base year recalculation. ASR Group applies a **materiality threshold of 5%** to determine whether such changes warrant recalculation of historical emissions data.

Structural changes include mergers, acquisitions, divestitures, and other changes to organizational boundaries that affect emissions generating activities.

While a single structural change may not materially affect base year's emissions, the cumulative effect of multiple minor changes may be significant.

In addition to structural changes, base year recalculation may be required where methodological updates, improvements in activity data precision, or emission factor updates result in a significant impact on historical emissions, or where significant errors or cumulative errors are identified.

ASR Group applies a significance threshold of 5% when assessing the need for base year recalculation. Where changes meet or exceed this threshold, historical emissions are recalculated to preserve consistency and comparability in accordance with the GHG Protocol and Science Based Targets initiative guidance.





03 PRODUCT DEFINITION, PRODUCTION, NORMALIZATION, AND PRODUCT CARBON FOOTPRINT (PCF) INTENSITY

03 PRODUCT DEFINITION, PRODUCTION NORMALIZATION, AND PRODUCT CARBON FOOTPRINT (PCF) INTENSITY

In addition to reporting total (absolute) GHG emissions, ASR Group reports **carbon intensity on a per-unit-of-production basis** to support internal performance tracking and to respond to customer requests for PCF information.

Definition of “product” (production denominator):

“Product” is defined as wet sales weight for liquid sugars and dry weight for granulated products, accounting for all damage and inventory adjustments to reflect the actual product bound for customers.

Carbon intensity is calculated as:

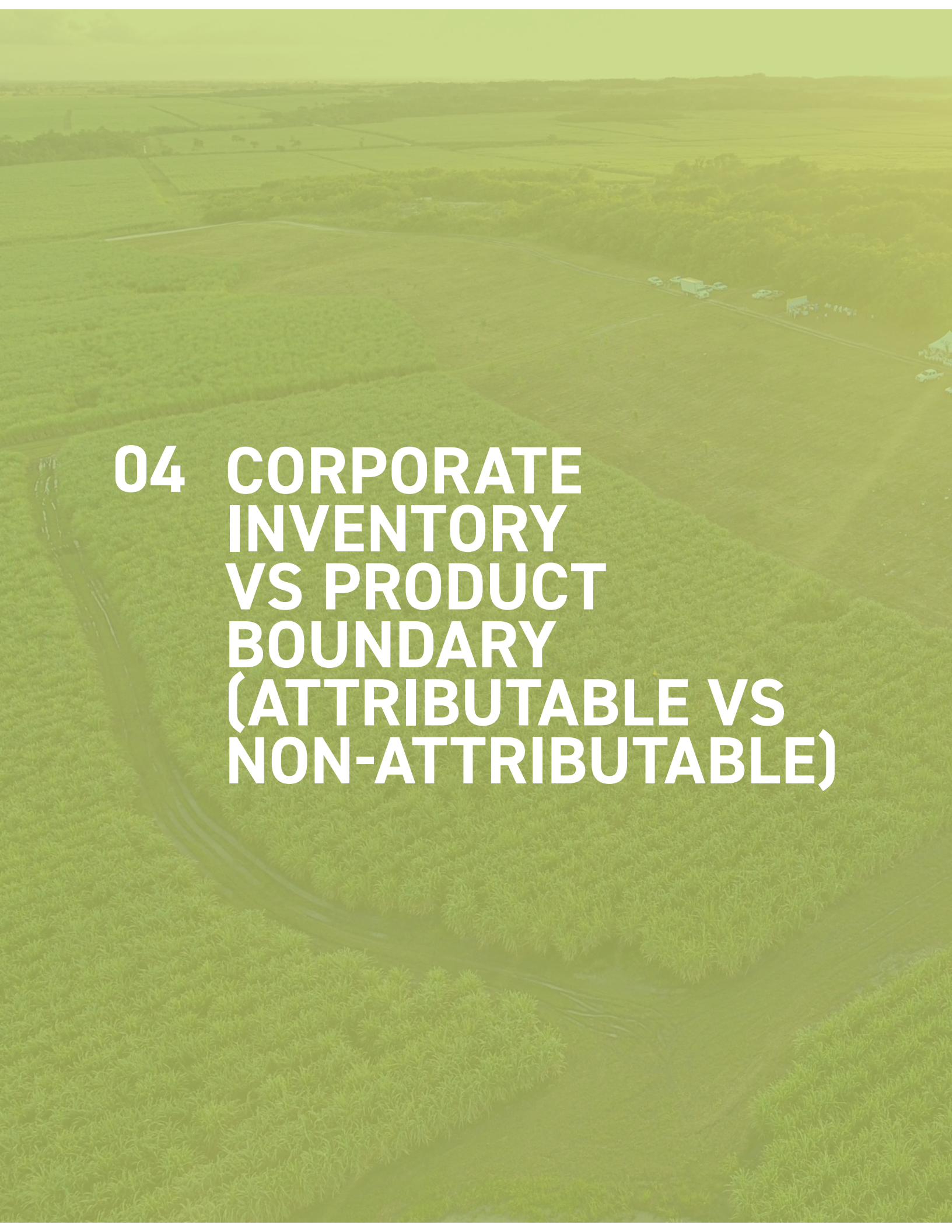
Carbon intensity (e.g., kg CO ₂ e per kg product)	=	$\frac{\text{Total GHG emissions (CO}_2\text{e)}}{\text{Total product (as defined above)}}$
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To avoid double counting, ASR Group reports carbon intensity per unit product at the site, region, and global levels, distinguishing between mill, refinery, and non-refinery operations (NRO) segments within the value chain.

Currently, we segregate finished sugar products, non-food grade molasses, and raw sugar products by weight, in accordance with ISO standards. Presently, **we do not allocate GHG influence to byproducts** from manufacturing bound for beneficial reuse, such as mill and refinery muds (calcium carbonate soil amendment materials), mill ash (land-applied ash from bagasse combustion), and bagasse moved to cogeneration facilities for energy generation. Allocation to these circular material pathways may be reassessed later.

As data systems mature, ASR Group plans to further subdivide “product” to the individual SKU level, reflecting differences in energy and material contributions associated with producing final goods.



An aerial photograph of a vast agricultural landscape, likely a cornfield, with a winding road cutting through it. In the distance, there are some buildings and more fields under a clear sky. The entire image is overlaid with a semi-transparent green filter.

04 CORPORATE INVENTORY VS PRODUCT BOUNDARY (ATTRIBUTABLE VS NON-ATTRIBUTABLE)

04 CORPORATE INVENTORY VS PRODUCT BOUNDARY (ATTRIBUTABLE VS NON-ATTRIBUTABLE)

ASR Group uses this methodology for two related, but distinct, purposes:

1. A corporate GHG inventory (Scopes 1 - 3) for reporting and target-setting,
2. PCF intensity reporting (CO₂e per unit product) to support customer and product-related disclosures.

Certain Scope 3 categories are considered non-attributable to specific products under GHG Protocol guidance (i.e., they may be relevant for corporate inventory reporting but are not always included when reporting product GHG intensity). ASR Group maintains transparency by documenting which Scope 3 categories are included in

corporate reporting and which may be treated as non-attributable for PCF intensity reporting, depending on the disclosure purpose and audience.

Examples of Scope 3 categories commonly treated as non-attributable for product intensity reporting include (but are not limited to): capital goods, certain maintenance materials within purchased goods and services, business travel, employee commuting, upstream leased assets, and investments. Where these categories are excluded from a PCF intensity view, they remain part of ASR Group's broader corporate accounting and management processes.





05 REPORTING PERIOD

05 REPORTING PERIOD

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ASR Group *estimates its annual carbon footprint for the fiscal year from*

OCTOBER 1



SEPTEMBER 30

ASR Group maintains established base years for GHG emissions to support consistent tracking of performance

over time. A 2012 base year is used for Scope 1 and Scope 2 emissions, and a 2022 base year is used for Scope 1, Scope 2, and Scope 3 emissions in **support of SBTi disclosures**.

ASR Group will **recalculate base year emissions** when one or more events result in a significant change to reported GHG emissions as detailed in Section 2 – Approach for Baseline and Re-Baseline Actions.



06 FARM BOUNDARY REMOVALS FROM SUGARCANE PLANT AND SOIL



06 FARM BOUNDARY REMOVALS FROM SUGARCANE PLANT AND SOIL

ASR Group is evaluating the **potential for significant GHG removals at the sugarcane farm boundary**, particularly within the plant-and-soil system (e.g., soil organic carbon and other biogenic carbon stock changes) associated with sustainable and regenerative farming practices. This section summarizes the status of this work and the conditions that would need to be met before any quantified removals could be used in external reporting or PCF outputs.

At the time of publication, these potential farm-level removals are not included as an inset or offset in system-wide accounting (i.e., they are not netted against Scope 1, Scope 2, or Scope 3 totals) in ASR Group's corporate inventory or PCF outputs. **Historically, ASR Group has treated biogenic CO₂ emissions** from mill-based renewable energy generation as part of the active carbon cycle (i.e., segregated and reported as biogenic rather than counted toward fossil CO₂ totals). For the same reason, tillage-related emissions have not been quantified and other removals have not been applied to offset emissions, to maintain a conservative system balance. As our understanding of system stoichiometry and land-sector guidance evolves, we recognize this approach may understate net removals; additionally, certain default factors (e.g., Food and Agriculture Organization (FAO) crop-residue factors for sugarcane) appear to be **overstated**. Accordingly, **this area remains under ongoing research and methodological review**.

As this work progresses, ASR Group anticipates **documenting**, and where appropriate **reporting separately, farm-boundary removals using approaches aligned with evolving land-sector accounting guidance**.

Key development areas include:

- **Farm boundary definition and allocation:** Define the applicable boundary (e.g., field, farm, and aggregation levels) and how results would relate to upstream supply chain allocation approaches.
- **Quantification methods and uncertainty:** Establish methods for soil and biomass carbon stock change, including sampling design and frequency, potential remote sensing augmentation where applicable, and uncertainty quantification and treatment.

- **Carbon flow characterization and storage durability:** Maintain clear separation of anthropogenic versus biogenic carbon flows and define accounting treatment for temporary versus durable storage.
- **Double-counting controls across boundaries:** Implement controls to prevent double counting across farm, mill, and refinery boundaries, including interactions where mill byproducts (e.g., soil amendment materials) may influence agricultural carbon accounting.
- **Data quality and MRV readiness:** Define data quality, monitoring, reporting, and verification (MRV) criteria that would be required before values could be considered for any external claim, assurance activity, or target-accounting purpose.

Any future inclusion of quantified farm-boundary removals in ASR Group reporting will be subject to **documented methodology updates, internal governance review**, and, where applicable, **third-party assurance readiness**. Until then, references to these removals should be interpreted as forward-looking program development and data-maturity objectives rather than current inventory adjustments or offsets.



07 CLAIM-AWARE MATURITY TRACKING AND FUTURE PRODUCT-SPECIFIC MITIGATION CLAIMS



07 CLAIM-AWARE MATURITY TRACKING AND FUTURE PRODUCT-SPECIFIC MITIGATION CLAIMS

ASR Group is developing a claim-aware data maturity framework intended to **track sustainability attribute readiness across the value chain at progressively more granular levels** (farm, mill, refinery, and logistics activities). The objective is to enable governed differentiation between modeled (secondary) values and verified (primary) values as data availability improves.

At the time of this publication, claim-aware maturity tracking is an internal capability under development. It does not, by itself, create or imply verified external claims, customer-specific allocation, or exclusive chain-of-custody attribution.

As data systems mature, this framework is expected to support:

- **Tracking data maturity and provenance** (e.g., modeled vs. supplier-specific vs. verified) for key emissions drivers and factors.
- **Binding sustainability attributes** to explicit dimensions (quantity, time-period, system boundary, and supporting evidence) to reduce the risk of overstatement or double counting.
- **Progressive enablement of finer-grain attribution** (e.g., from regional averages to mill-level, and where feasible to farm- or shipment-level) without retroactively changing the underlying physical accounting logic.

- **Governed “locked” validated data streams** (e.g., validated supplier factors or validated logistics attributes) so that eligible quantities can be differentiated from non-validated quantities in downstream reporting and analysis, to facilitate low risk or low-carbon, mass balanced product streams.

In future reporting periods, once data maturity, governance controls, and audit readiness criteria are met, ASR Group anticipates that **claim-aware tracking could support more specific product- or supply-pathway mitigation statements** (e.g., differentiated PCF outputs for defined supply pathways). Any such statements would be developed and communicated as distinct claim types with defined eligibility rules and would not be implemented until methodologies, evidence requirements, and controls are formally established.

This abbreviated methodology manual is intended to describe current accounting practices at a disclosure-appropriate level. Detailed claim-aware governance mechanisms and data model controls are documented in internal technical and governance materials and **may evolve as systems and data mature**. Any forward-looking references in this section are intended to describe program direction only and should be read in conjunction with the Forward-Looking Statement in this document.

