

PROCEDURE GHG & Atmospheric Emissions Reporting



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HSE-010 GHG & Atmospheric Emissions Reporting Procedure



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Owner

Department: HSE

Position: ESG Manager



Applies to

Unless otherwise indicated, this procedure applies to all staff, officers, directors, consultants, contractors, part or fixed-term employees, casual and agency staff and volunteers (collectively referred to as “staff” in this document).



Jurisdictional Coverage

All

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1. Purpose

Genel Energy (Genel) recognises the contribution of fossil fuel combustion to global climate change. Commitments made by international governments highlight the importance for Genel of understanding, managing and mitigating its emissions of Greenhouse Gases (GHGs).

The purpose of this document is to define and describe Genel's approach to collection, calculation and management of GHGs, and selected additional other atmospheric pollutant data in order to generate a corporate inventory suitable for internal performance management and external reporting purposes. This document describes Genel's processes for GHG and other atmospheric pollutant accounting and reporting, and is designed to promote consistency in accounting and reporting of petroleum industry GHGs.

2. Scope of this standard

2.1. Emission sources

The GHG accounting and reporting will include all combustion, flaring, venting and fugitive sources of relevant GHGs and atmospheric emissions, including those outlined in Table 1. This applies to assets in which Genel has an equity share (i.e., both operated, and non-operated assets). In its final GHG inventory report, Genel will report the proportion of these GHG emissions equivalent to its financial interest in each asset.

Table 1 – GHG and Atmospheric Emissions and sources relevant to Genel operations

Source Category	Source	GHG and Atmospheric Emissions Species included						
		CO ₂	CH ₄	N ₂ O	NO _x	SO ₂	VOC	CO
Combustion of liquid fuels	Diesel - vehicles	X	X	X	X	X	X	X
	Gasoline - vehicles	X	X	X	X		X	X
	Diesel - engines/generators	X	X	X	X	X	X	X
	Diesel - heaters/boilers	X	X	X	X	X	X	X
Combustion of Gaseous Fuels	Gas engines	X	X	X	X	X	X	X
	Boilers	X	X	X	X	X	X	X
	Heaters	X	X	X	X	X	X	X
Flaring	Flared gas at processing facilities	X	X	X	X	X	X	X
	Flared gas at well sites	X	X	X	X	X	X	X
Venting	Tank blanketing	X	X				X	
	Cold vents	X	X				X	
	Purge gas	X	X				X	
	Tanker Loading	X	X				X	
Gas Treatment	Glycol dehydrator	X	X					
	AGRU (amine unit)	X	X				X	
Fugitive Emissions	Unintended leakage from processing equipment	X	X				X	

The direct and energy related GHG emissions associated with Genel's operations will be reported separately as:

- **Scope 1 direct emissions** from assets within the organizational boundary.
- **Scope 2 indirect energy related emissions** associated with the purchase of electricity, steam or cooling from a 3rd parties.

In addition, Genel will include in its GHG inventory the applicable indirect emissions associated with its value chain and report these as Scope 3 indirect emissions. This includes emissions associated with activities that Genel does not own or control, for example business travel, the supply of raw materials, or use of products. Based on an

internal assessment of the relevance of each Scope 3 category to Genel's activities, Genel reports the Scope 3 emissions based on definitions set out in IPIECA/API Estimating Petroleum Industry Value Chain (Scope 3) Emissions, June 2016

2.2. Accounting and reporting

Genel distinguishes between the processes of accounting and reporting as follows:

- **Accounting:** relates to the collection, calculation and consolidation of source data collected from individual assets/ reporting units. Emissions from reporting units are then aggregated at the corporate level.
- **Reporting:** concerns the presentation of consolidated data in formats tailored to the needs of various reporting requirements, partnerships and voluntary initiatives (see Table 2).

This procedure covers the collection of data on GHGs and other atmospheric pollutants that will feed into external reports of relevance to Genel, including those mandated by regulations and voluntary disclosures. The GHG and atmospheric emissions reporting requirements of these regulations and voluntary disclosures are summarised in Table .

Table 2 - Genel Energy External GHG and Atmospheric Emissions Reporting Requirements

SECR	CDP	TCFD	IOGP	Annual Report	Sustainability Report
<ul style="list-style-type: none"> Annual global scope 1 and 2 GHG emissions Underlying global energy consumption (in kWh) The UK proportion of global energy consumption and GHG emissions At least one intensity ratio A narrative on energy efficiency actions taken in the last year 	<ul style="list-style-type: none"> Base year emissions (scope 1 & 2) Emissions methodology/standard Scope 1 emissions <ul style="list-style-type: none"> By GHG type By country/ region By business division By facility By activity Scope 2 emissions <ul style="list-style-type: none"> By GHG type By country/ region By business division By facility By activity <p>Exclusions</p> <ul style="list-style-type: none"> Scope 1 and 2 emissions intensity per unit of production 	<ul style="list-style-type: none"> Disclose scope 1, 2 and, if appropriate, scope 3 GHG emissions and related risks. Metrics and targets (where applicable) relating to managing and reducing GHG emissions 	<ul style="list-style-type: none"> Emissions management strategy Company-wide scope 1 GHG emissions by equity share approach (include: direct CO₂; direct CH₄; and direct other GHG). Company-wide scope 2 emissions GHG emissions, disaggregated by business activity GHG emissions intensity, company-wide and, if appropriate, disaggregated by business activity 	<ul style="list-style-type: none"> Emissions management strategy Annual global scopes 1 and 2 GHG emissions on equity basis Scope 1 and 2 emissions intensity per unit of production 	<ul style="list-style-type: none"> Annual global scopes 1 and 2 GHG emissions on equity basis Scope 3 emissions for all relevant categories. Explanation for “not relevant” categories. Scope 1 and 2 emissions intensity per unit of production

3. Terms and Abbreviations

An explanation of terms and abbreviations that are found within this document are detailed within table 3 and table 4.

Table 3 – Terms and definitions

Term	Definition
Activity data	Data on emissions and pollutant-producing activities relevant to calculating emissions from those activities (e.g., litres of fuel combustion).
Base year	A historic datum (a specific year or an average over multiple years) against which a company's emissions are tracked over time.
Base year emissions recalculation	Recalculation of emissions in the base year to reflect a change in the structure of the company, or to reflect a change in the accounting methodology used. This ensures data consistency over time, i.e., comparisons of like with like over time.
Boundary	An imaginary line that encompasses the direct and indirect emissions that are included in the inventory. It results from the chosen organizational and operational boundaries.
Carbon dioxide equivalent	The mass of a GHG species multiplied by the global warming potential (GWP) for that species. It is used to evaluate the impacts of releasing (or avoiding the release of) different GHGs on a common basis—the mass of CO ₂ emitted that would have an equivalent warming effect. (Adapted from the API Compendium).
Carbon Intensity	Ratios that express carbon impact per unit of physical activity or unit of economic value (e.g. tonnes of CO ₂ emissions per unit of electricity generated). Intensity ratios are the inverse of productivity/efficiency ratios.
Control approach	An approach to accounting for GHG emissions from operations that a company controls. Under the control approach, a company reports all of the emissions from operations it controls irrespective of its ownership share in those operations. Control may be defined in either financial or operational terms.
Direct emissions	Emissions from sources that are owned or controlled by the reporting company.
Emission factor	A factor allowing GHG or pollutant emissions to be estimated from a unit of available activity data (e.g. tonnes of fuel consumed, tonnes of product produced) and absolute GHG or pollutant emissions.
Emissions	The intentional or unintentional release of greenhouse gases and other air pollutants into the atmosphere.
Emissions accounting	Recognition and consolidation of GHG and other pollutant emissions data.
Equity share approach	An approach for setting organizational boundaries. This approach requires reporting GHG emissions in proportion to the economic interest in or benefits derived by the reporting company from partially owned operations.
Fugitive emissions	Emissions that are not physically controlled but result from the intentional or unintentional releases of GHGs. They commonly arise from the production, processing transmission storage and use of fuels and other chemicals, often through joints, seals, packing, gaskets, etc.
Global warming potential (GWP)	A factor describing the radiative forcing impact (degree of harm to the atmosphere) of one unit of a given GHG relative to one unit of CO ₂ . Note Genel uses the Intergovernmental Panel on Climate Change (IPCC) Assessment Report Version 5 (AR-5) GWP values.
Greenhouse Gas	GHGs are the six gases (or families of gases) listed in the Kyoto Protocol: carbon dioxide (CO ₂); methane (CH ₄); nitrous oxide (N ₂ O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF ₆).
Indirect emissions	Emissions that are a consequence of the operations of the reporting company but occur at sources owned or controlled by another company.
Inventory	A quantified list of an organization's GHG emissions and sources.
Marginal abatement cost curve	A methodology for assessing and presenting the cumulative effects of GHG or energy reduction opportunities that shows both the impact of the reduction and the net cost or benefit of doing so. For example, improvement of compressor

Term	Definition
	reliability allowing increased gas export and reduced flaring. The analysis may also take into account either internal or market-based carbon pricing.
Operational boundary	The boundaries that determine the direct and indirect emissions associated with operations owned or controlled by the reporting company. This assessment allows a company to establish which operations and sources cause direct and indirect emissions, and to decide which indirect emissions to include that are a consequence of its operations.
Operational control	Assets that are either wholly owned and operated by a company or operated by the company under a contractual obligation to other owners or participants in the asset are under the company's operational control. When reporting GHG emissions on the basis of operational control, 100% of the emissions from such assets are included in the inventory.
Organisational boundary	The boundaries that determine the operations owned or controlled by the reporting company, depending on the consolidation approach taken (equity or control approach).
Reporting	Presenting data to internal management and external users such as regulators, shareholders, the general public or specific stakeholder groups.
Scope 1	A reporting organization's direct emissions.
Scope 2	A reporting organization's emissions associated with the generation of electricity, heating/ cooling, or steam purchased for own consumption.
Scope 3	A reporting organization's indirect emissions other than those covered in Scope 2.
Significance threshold	A qualitative or quantitative criteria used to define a significant structural change. It is the responsibility of the company/ verifier to determine the "significance threshold" for considering base year emissions recalculation.
Structural change	A change in the organizational or operational boundaries of a company that result in the transfer of ownership or control of emissions from one company to another. Structural changes usually result from a transfer of ownership of emissions, such as mergers, acquisitions, divestitures, but can also include outsourcing/ insourcing.
Tonne	1000kg, a metric tonne
Verification	An independent assessment of the reliability (considering completeness and accuracy) of a GHG inventory.

Table 4 – Acronyms and abbreviations

Acronym	Definition
API	American Petroleum Institute
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CDP	Carbon Disclosure Project
GWP	Global warming potential
GHG	Greenhouse gas
HFCs	Hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
IOGP	International Association of Oil and Gas Producers
NOJV	Non-Operated Joint Venture
MACC	Marginal Abatement Cost Curve
CH ₄	Methane
N ₂ O	Nitrogen dioxide
PFCs	Perfluorocarbons
SECR	Streamlined Energy and Carbon Reporting
SF ₆	Sulfur Hexafluoride
TCFD	Taskforce for Climate-related Financial Disclosures
IPIECA	The global oil and gas industry association for advancing environmental and social performance

WBCSD	World Business Council for Sustainable Development
WRI	World Resources Institute

4. Process

This section outlines the accounting and reporting process for GHG's and other pollutants. The process follows international standards and industry best practice and will be reviewed and updated as necessary.

4.1. GHG Accounting and Reporting Approach

Genel aligns its accounting and reporting process to international and industry standards, including:

- WBCSD/WRI The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition 2015).
- IPIECA, Petroleum industry guidelines for reporting greenhouse gas emissions, 2nd edition, 2011.
- ISO 14064-1:2018 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.
- API Compendium of Greenhouse Gas Emission Methodologies for the Oil and Gas Industry, 2021.

4.1.1. Accounting & reporting principles

Genel follows the principles for accounting and reporting as laid out in the IPIECA petroleum industry guidelines for reporting greenhouse gas emissions (2nd Edition, May 2011). As such, emissions accounted for in the inventory and reported publicly are:

- **Relevant:** the inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of internal and external users.
- **Complete:** all GHG emissions sources and activities within the reporting boundary are accounted for. Any exclusions are identified and explained.
- **Consistent:** consistent methodologies are applied to allow for meaningful comparison of emissions over time and transparently documents any changes to data, boundary, methods or other relevant factors.
- **Transparent:** all relevant issues are presented in a factual and coherent manner, based on a clear audit trail. Any relevant assumptions are disclosed with appropriate reference to accounting and calculation methodologies and data sources used.
- **Accurate:** quantification of GHG emissions is systematically neither over nor under actual emissions and that uncertainties are reduced as far as possible. Genel Energy strives to achieve sufficient accuracy to enable users to make decisions with reasonable assurance of the integrity of the data.

4.1.2. Organisational boundaries

Since 2020, Genel has followed an *equity share* approach to defining organisational boundaries for Scope 1 and Scope 2 reporting. Under this approach, Genel accounts for the GHG emissions from operations or assets according to its share of equity in the operation or asset. Each asset is required to collect data based on its operational boundary at 100% of relevant emissions, Genel then reports these emissions on the basis of its equity share of each asset. The equity share reflects economic interest, which is the extent of rights a company has to the risks and rewards from an operation. Where equity share is not the same as the ownership percentage, the economic substance of the relationship the company has with the operation should override the legal ownership to ensure that equity share reflects the percentage of economic interest.

Organisational structures

The following organisational structures are relevant to Genel's GHG accounting:

- **Fully owned assets (100%):** Genel accounts for 100% of the emissions of these assets.
- **Partly owned assets (<100%):** Genel accounts for the proportion of GHG emissions from operations according to its share of equity in the operation or asset, regardless of whether the assets are operated by Genel or not.
- **Joint ventures:** a joint venture is when two or more companies working together set up a JV company (e.g. TTopco) instead of individual companies (e.g. Tawke, Peshkabir). Regardless of whose control the joint venture is under, emissions are reported based on Genel Energy's equity share. Equity share factors are

applied at the reporting unit level so if the reporting unit corresponds to the joint venture, the total emissions from the joint venture are multiplied by Genel Energy’s equity share factor.

Genel’s equity share approach reflects the economic interest in assets listed below

Table 5 - Genel Energy Equity Share for Organisational Boundary (as at January 2023)

Asset	Type	Status	Equity Share (%)
Sarta	Production	Operated	30
TaqTaq	Production	Non-operated	44
Tawke	Production	Non-operated	25
Peshkabir	Production	Non-operated	25
Somaliland SL10B13	Exploration	Operated	51
Somaliland Odewayne	Exploration	Operated	50
Morocco	Exploration	Operated	100
London	Office	Operated	100
Istanbul	Office	Operated	100
Erbil	Office	Operated	100
Somaliland	Office	Operated	100
Morocco	Office	Operated	100

Acquisitions or divestments made during the reporting year will be incorporated in the GHG inventory for the period of the year that they were under Genel’s control/ownership. If this is not possible, then they may be omitted from the inventory for that year, subject to disclosure with the inventory report. No acquisitions were made in 2023.

4.2. Input Data Collection and Calculations

Data are collected monthly from assets (both operated and non-operated) and JVs using the GHG data request templates. Data are calculated according to the scope outlined in Section 2 and the organisational boundaries outlined in Section 4.1.2.

4.2.1. GHG Emissions

Genel calculates carbon dioxide equivalent (CO₂e) emissions as its main unit of emissions using the following formula:

$$AD \times EF \times GWP = CO_{2e}$$

AD = Activity data

EF = Emission factor (including oxidation factor)

GWP = Global Warming Potential

Assets are responsible for collecting and recording activity data within the relevant boundaries. Emissions factors are then applied to this activity data to calculate the GHG or pollutant emissions from the activity. AR5 global warming potentials are used to calculate CO₂e from the emissions of individual greenhouse gasses within the boundary (2015 IPCC Fifth Assessment Report, Chapter 3, Future Pathways for Adaption, Mitigation and Sustainable Development). For CO₂, CH₄ and N₂O, the AR-5 GWP values are as follows:

Table 6 - Global Warming Potential of GHGs

Gas	GWP (AR-5)
CO ₂	1
CH ₄	28
N ₂ O	265

The data are input into the emission calculator where calculations are carried out and reported at asset-level, and consolidated into a corporate inventory. The calculations follow methodologies from the API Compendium for GHG and using first-principle methods, or credible public domain factors for additional pollutants. The factors

used are built into a GHG/Atmospherics calculation spreadsheet, in which the reference sources of the factors used, and the structure of the equations are also noted. Genel's emissions are calculated based on:

- Recorded activity data such as fuel consumed, gas processed, gas flared
- Specific emission factors based on fuel samples
- Standard emission factors based on commercially traded fuels, as referenced in the emissions calculator tool
- Source based emission factors using industry average or proxy data

4.2.2. Non-GHG Pollutants

Genel Energy has also chosen to report non-GHG combustion emissions for its operated assets, specifically:

- Sulphur Dioxide (SO₂) from combustion of sulphur-containing compounds
- Carbon Monoxide (CO) from incomplete combustion
- Nitrogen Oxides (NO_x) as a combustion by-product
- Volatile Organic Compounds (VOC) from both incomplete combustion and vented sources

Calculation of these emissions is also carried out in the GHG / atmospheric spreadsheet, based on collected activity data, relevant compositions and default factors.

4.2.3. Policy for minor sources

Genel has developed a policy for direct or indirect GHG emission sources whose contribution to GHG emissions is not material. Sources with a total combined percentage of less than 3% of Genel's GHG emissions from each scope category may be classified as de minimis sources. Contribution to overall emissions is assessed at a company level and must be estimated. These estimations are included in the inventory as a default value, reviewed at least every 3 years.

4.2.1. Non-operated assets

For non-operated assets an additional margin of between 10-15% is added to the emissions figures provided by Genel's operating partner. This is on account of Genel not having control over the emissions calculations (i.e. a 10-15% additional margin is applied to the calculated figures received by Genel). The factor applied to Taq Taq is 10% and to Tawke and Peshkabir is 15%. In the 2023 reporting period Genel reduced these factors from that of 25% which had been established since 2021. The rationale for reducing these factors are as follows:

Taq Taq: Genel receives the fuel use, production, and flaring data directly from the operating partner, which is then applied to our existing (audited) calculation workbook. As such, Genel has a degree of control over calculations of emissions from this asset, despite not being the operator.

Tawke Peshkabir: Genel receives the assurance statement from our operating partners' third-party auditor, and given that this has been completed successfully year-on-year, the previous factor was considered too conservative and not an accurate representation of the emissions profile.

It should also be noted that in the case of Tawke and Peshkabir, a back-calculation exercise is completed to estimate the monthly emissions profile and energy use estimate based on the year-end emissions figures.

4.3. Base Year and Data Restatement

As set out in the GHG Protocol Corporate Accounting Standard, a meaningful and consistent comparison of emissions over time requires that companies set a performance datum with which to compare current emissions. This performance datum is referred to as the base year emissions. For consistent tracking of emissions over time, the base year emissions may need to be recalculated as companies undergo significant structural changes such as acquisitions, divestments, and mergers.

4.3.1. Base Year

Genel has established 2020 as its base year because this was the first year Genel reported GHG emissions on an equity basis.

4.3.2. Base Year Recalculation

To allow for consistency and comparability in reporting, the base year will be recalculated in the event of the following events leading to a change of at least 5% of scope 1 & 2 or scope 3 GHG emissions:

- Changes to the portfolio or structure of the company
- Changes to GHG calculation methodology
- Discovery of significant errors.

Genel has set a significance threshold of 5% to trigger recalculation of the base year. This means that if changes within a given year or over a period of up to 3 years cumulatively account for greater than 5% of annual GHG emissions, for either Scopes 1 & 2, or Scope 3 respectively then the base year emissions, current year's emissions and (if necessary) previous year's emissions will be recalculated to reflect these changes. Recalculation of all years between base year and the current year will be carried out if necessary and where possible.

Significant changes to the portfolio or structure of the company

Portfolio or structural changes that could trigger a base year recalculation include:

- Significant structural changes to the organization, e.g. mergers, acquisitions, and divestments.
- Transfer in the ownership or control of emissions sources.
- Outsourcing of emitting activities if the associated emissions were not previously covered under Scope 3.
- Insourcing of emitting activities if the associated emissions were not previously covered under Scope 3.

In certain cases, potentially significant structural changes to the company **do not** trigger a recalculation of the base year:

- An operating unit of a company is shut down
- A new operating unit is started
- An acquisition of a company or parts of a company that came into existence after the base year of the acquiring company was set
- Outsourcing or insourcing of activities if these emissions are covered under a separate reporting scope (e.g., transfer from scope 1 to scope 3 or vice versa) .

Significant changes to the GHG calculation methodology

If a change in calculation methodology or data accuracy (e.g. emissions factors, activity data) results in changes in scope 1 & 2 or scope 3 emissions inventory of more than 5%, the base year, current year and (if necessary) previous year's emissions will be recalculated using the new methodology and/or data. If the data cannot be applied to historic data, the change will be acknowledged without recalculation.

Any changes in activity data or emissions factors that represent a change in actual activities or technology do not require recalculation of historic data. For instance, changes to scope 2 energy emissions factors due to change in the country grid energy supply will not trigger a recalculation. Similarly changes in GHG emissions due to improved performance, such as a permanent reduction in flaring may not trigger a recalculation.

Significant errors

If Genel discovers an error or cumulative errors in data or calculations which results in a greater than 5% change in scope 1 & 2 or scope 3 emissions, the error is addressed and base year, current year and (if necessary) previous year emissions data recalculated accordingly. All errors and corrections are disclosed with a narrative explanation during external annual reporting.

4.4. Reporting

4.4.1. Internal Data Collection and Reporting

Assets operated by Genel are required to report activity data and relevant gas compositions used for GHG and emissions calculation to corporate level on a monthly basis. Data requests are sent to operated assets using the data request form and is completed by the second week of the following month. Activity data are also requested from non-operated JV partners operating assets on behalf of Genel Energy and contractors or service providers

carrying out specific packages of work, using the same form. Genel has prepared a data collection template for this purpose, in order to ensure consistency of data collected. Genel also reports its emissions to specific JV partners on a quarterly basis, under JV partners' internal reporting requirements using the NOJV data collection form.

The data are input into Genel's GHG calculation tool, which provides outputs at asset, function and corporate level, including the output data to be included in the NOJV Data Collection form.

4.5. Performance Management

Genel is committed to the identification and implementation of GHG and other emission and energy reduction opportunities. These opportunities will be assessed using a cost-benefit analysis approach in order to identify which are the most effective. Techniques for assessment include using a Marginal Abatement Cost Curve (MACC) to identify the initiatives likely to bring the largest carbon reductions for the lowest price per unit reduction. This assessment is undertaken at the corporate level to compare opportunities across all sites and geographies.

4.5.1. Key performance indicators

Genel calculates and reports both absolute and intensity indicators to demonstrate carbon performance. Absolute indicators reflect the total emissions of the company (on an equity share basis), while intensity indicators normalise per unit of output or similar as a means of tracking the impact of mitigation measures and comparing with peers that report on the same basis.

Absolute indicators

Genel calculates and reports carbon dioxide equivalent (CO_{2e}) emissions as its absolute indicator of GHG performance.

Intensity indicators

Genel reports an intensity indicator to reflect GHG performance in a way comparable across Genel assets/sites and with industry peers. This allows Genel to identify which sites/assets may require further attention to identify emissions reductions. The following intensity indicator is applied to scope 1 and scope 2 emissions:

- tCO_{2e} /BOE – emissions intensity per barrel of oil equivalent sold.

4.5.2. Performance monitoring

Progress in emissions reduction plans at the asset level will be monitored on a quarterly basis alongside the standard Quarterly Business Review and annually during the Asset Development Plans.

4.6. Data Uncertainty

Sources of uncertainty relevant to Genel Energy’s inventory include the uncertainty in activity data (quantity of gases or other fuel combusted or released due to either inherent characteristics of the meter and variability of flow, or due to use of estimation methods), and uncertainty in the calculation factors used (due to variability in the composition of those gasses used to determine emission factors, the analysis performed, or the use of aggregated source-based factors etc).

4.7. Quality Assurance

4.7.1. Internal system assurance

This procedure will be included in the internal audit and management system review processes based on risk.

4.7.2. Internal data assurance

Internal quality assurance is the first line of quality checks undertaken in Genel’s assurance process. Internal assurance adopts the following measures:

Table 7 - Internal data assurance processes

Data gathering, input and handling
<ul style="list-style-type: none"> ▪ Check a sample of input data for transcription errors. ▪ Identify inventory process modifications that could provide additional controls or checks on quality. ▪ Ensure that adequate version control procedures for any written procedures or electronic files have been implemented. ▪ Review operations to ensure that changes to emission sources have been correctly incorporated
Data documentation
<ul style="list-style-type: none"> ▪ Check that data references are included in spreadsheets or other calculation tools for all primary data. ▪ Check that copies of cited references have been archived.

- Check that assumptions and criteria for selection of methods, activity data, emission factors, and other parameters are documented.
- Check that changes in data or methodology are documented.

Activity data

- Check current year data against historical data. If data shows +/-10% change on previous year, investigate the causes for this pattern.

Calculating emissions and checking calculations

- Check whether emission units, parameters, and conversion factors are appropriately labeled.
- Check that units are properly labeled and correctly carried through from beginning to end of calculations.
- Check that emissions factors and conversion factors are correct and appropriate.
- Check the data processing steps (e.g. equations) in any calculation tools that are used.
- Check that input data and calculated data are clearly differentiated.
- Check a representative sample of calculations.
- Check some calculations with abbreviated calculations (i.e. back of the envelope checks).
- Check the aggregation of data across source categories, organizational units, etc.
- When methods or data have changed, check consistency of time series inputs and calculations.

4.7.3. External assurance

External assurance by a qualified third party may be sought for external reporting purposes. The scope of assurance will be clearly defined and agreed with the assurance body, as well as the level of assurance to be achieved. At a minimum, external assurance will address:

- The quality of reported data
- Data collection and consolidation processes

5. Training

Training or competency requirements for implementing this procedure will include Asset representatives being trained on requirements of data collection, and specifically on inputting data into the data collection sheets.

6. Review Frequency

The suitability and effectiveness of this standard/procedure will be evaluated periodically and included within the management review process as part of Genel Energy's HSE Management system.

7. Record Keeping

All records relating to the document and record control described in this standard/procedure shall be maintained in accordance with Genel document management controls, and relevant statutory requirements.

8. Templates

Any records, tables, flow charts, graphs or templates that are referenced for use within this document are included within this section of the procedure.

Table 8 - Templates

Reference Title	Number or Location
GHG Scope 1 and Scope 2 Input data Collection tool	HSE-FRM-042 GHG Emission Input Data Request Form
NOJV GHG Reporting template	HSE-FRM-043 NOJV Proposed GHG Data Request Form
Scope 3 GHG data collection and calculation tool	U:\0 Environment\GHG\ERM Scope 3 accounting work\03. Scope 3 GHG Tool
GHG Quantification and reporting tool	U:\0 Environment\GHG\Emissions accounting - Actuals

9. References

Any policies, procedures, websites, manuals, information sources, external bodies, laws, regulations, standards or codes of practice that have been used as source material will be referenced in the table below.

Table 9 - References

Reference Title	Full Reference
API Compendium	API (2021) Compendium of Greenhouse Gas Emissions Estimation Methodologies for the Oil and Natural Gas Industry.
EEA Report No 13/2019	European Environment Agency (EEA) Air pollutant emission guidebook 2019
Greenhouse Gas Protocol	WBCSD, WRI (2015) The Greenhouse Gas Protocol, a Corporate Accounting and Reporting Standard
IEA Emissions Factors	International Energy Agency (IEA) Emissions Factors database 2022
IPIECA Petroleum industry guidelines	IPIECA, API, IOGP (2011) Petroleum industry guidelines for reporting greenhouse gas emissions - 2nd edition
IPIECA Scope 3 guidance	IPIECA, API (2016) Estimating petroleum industry value chain (scope 3) emissions. Overview of methodologies.
ISO 14064-1:2018	ISO (2018) ISO 14064-1:2018: Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.
ISO 14001:2015	ISO (2015) ISO 14001:2015: Environmental management systems — Requirements with guidance for use.
UK Government GHG conversion factors	Department for Environment Food and Rural Affairs (DEFRA) UK Government conversion factors for company reporting 2.0 (2023)

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