



# LRQA Group Independent Assurance Statement

Relating to Petroliaam Nasional Berhad (PETRONAS) Greenhouse Gas (GHG) emissions - Limited Level of Assurance using operational control and equity share approach for Scope 3 Category 11 for year 2024

This Assurance Statement has been prepared for Petroliaam Nasional Berhad (PETRONAS) in accordance with our contract.

## Terms of Engagement

LRQA INSPECTION MALAYSIA SDN. BHD. (LRQA) was commissioned by PETRONAS to provide independent assurance of its Scope 3 greenhouse gas (GHG) emissions inventory for Category 11 – Emissions due to use of sold products (the Inventory) for the year 2024 against the assurance criteria below to a limited level of assurance and materiality of the professional judgement of the verifier using LRQA's verification procedure that is in accordance with ISO 14064 - Part 3: Specification with guidance for the verification and validation of greenhouse gas statements.

Our assurance engagement covered PETRONAS' entities related to its Upstream<sup>1</sup>, Gas and Downstream businesses and covered all operations globally that are under PETRONAS' operational control and equity share (refer Annex A). Our assurance engagement excludes PETRONAS' KLCC (Property) and MISC Group (Shipping) businesses. Our engagement specifically covered the following:

- Verifying conformance of the selected datasets with:
  - PETRONAS Technical Standards (PTS) 18.72.05 Greenhouse Gas (GHG) Emissions Management, March 2023.
  - Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard by the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) for the GHG emissions data<sup>2</sup> and GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.
- Reviewing whether the GHG emissions data has taken account of:
  - The Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Gas Industry issued by American Petroleum Institute (API), 2021<sup>3</sup>.
  - The Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions, 2<sup>nd</sup> Edition, 2011 issued by IPIECA<sup>4</sup>, API and the IOGP<sup>5</sup>.
- Evaluating the accuracy and reliability of data and information for only the selected GHG emissions scopes listed below:
  - Other Indirect GHG Emissions (Scope 3 Category 11: Use of Sold Products) expressed in tonnes CO<sub>2</sub>e for operational control and equity share.

Our assurance engagement excluded the data and information of PETRONAS suppliers, contractors and any third parties mentioned in the report

LRQA's responsibility is only to PETRONAS. LRQA disclaims any liability or responsibility to others as explained in the end footnote. PETRONAS' responsibility is for collecting, aggregating, analysing and presenting all the data and

<sup>1</sup> excludes exploration and decommissioning activities

<sup>2</sup> <https://www.ghgprotocol.org/corporate-standard>

<sup>3</sup> <https://www.api.org/>

<sup>4</sup> <https://www.ipieca.org/resources/sustainability-reporting-guidance> - Petroleum industry guidelines for reporting greenhouse gas emissions - 2nd edition issued by the International Petroleum Industry Environmental Conservation Association (IPIECA)

<sup>5</sup> International Association of Oil & Gas Producers



information within the Inventory and for maintaining effective internal controls over the systems from which the Inventory is derived. Ultimately, the Inventory has been approved by, and remains the responsibility of PETRONAS.

### **LRQA's Opinion**

Based on LRQA's approach nothing has come to our attention that would cause us to believe that PETRONAS has not, in all material respects:

- met the requirements of the criteria listed above; and
- disclosed accurate and reliable performance data and information as summarized in Table 1 below.

The opinion expressed is formed on the basis of a limited level of assurance<sup>6</sup> and at the materiality of the professional judgement of the verifier.

### **LRQA's Approach**

LRQA's assurance engagements was carried out in accordance with our verification procedure. The following tasks were undertaken as part of the evidence gathering process for this assurance engagement:

- conducting a strategic analysis and risk analysis to identify sample products and entities for verification:
  - Sampled products included crude oil, natural gas, processed gas, liquified natural gas (LNG), liquified petroleum gas (LPG), jet fuel, diesel, fuel oil, motor gasoline, petroleum waxes, heavy naphtha, and other petroleum products;
  - Sampled entities included PETRONAS, PETRONAS Trading Corporation Sdn. Bhd., PC Ketapang II Ltd., PETRONAS Carigali (Ketapang) Ltd., PETRONAS NGV Sdn. Bhd., PETRONAS Dagangan Berhad, PETRONAS Energy & Gas Trading Sdn. Bhd., PETRONAS LNG Ltd., Malaysia LNG Sdn. Bhd., Malaysia LNG Tiga Sdn. Bhd., PETRONAS Energy Canada Ltd., PETRONAS Australian Pty. Ltd., PC Oman Ventures Ltd. and PETRONAS Carigali Nile Ltd.
- cross-referencing relevant finance documents related to the sale of products in year 2024;
- reviewing processes related to the control of fuel sale data and records in year 2024;
- interviewing relevant employees of the organization responsible for managing fuel sale data and records;
- interviewing relevant employees of the organization responsible for calculating GHG emissions and collating the data;
- assessing the appropriate use of GHG emission factors for various fuels from API Compendium of Greenhouse Gas Emission Methodologies for the Natural Gas and Oil Industry, 2021;
- verifying GWPs<sup>7</sup> aligned with IPCC AR4<sup>8</sup>;
- verifying the operational control and equity share of various entities having relationship with PETRONAS;
- assessing PETRONAS' data management systems and tools to confirm they are designed to prevent significant errors, omissions or mis-statements in the GHG emissions data. We did this by reviewing the effectiveness of data handling procedures, instructions and systems, including those for internal quality control; and
- verifying historical GHG emissions data and records for fuel sales at an aggregated level for the year 2024.

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<sup>6</sup> The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a limited assurance engagement is lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

<sup>7</sup> Global Warming Potentials

<sup>8</sup> Intergovernmental Panel on Climate Change Fourth Assessment Report



### **LRQA's Standards, Competence and Independence**

LRQA implements and maintains a comprehensive management system that meets accreditation requirements for ISO 14065 Greenhouse gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition and ISO/IEC 17021 Conformity audit – Requirements for bodies providing audit and certification of management systems that are at least as demanding as the requirements of the International Standard on Quality Control and comply with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification audits is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

We conducted gap analyses in previous years for PETRONAS on their methodology of reporting Scope 1 and Scope 2 GHG emissions under equity share and Scope 3 Category 11 (GHG emissions from sold products) for 2019-2023. The verification audits are the only work undertaken by LRQA for PETRONAS and as such does not compromise our independence or impartiality.

Signed

Dated: 30 June 2025

A handwritten signature in black ink, appearing to read 'Sew Shuh Ping', is written over a light blue horizontal line.

**Sew Shuh Ping**

LRQA GROUP LIMITED Lead Verifier

On behalf of LRQA INSPECTION MALAYSIA SDN. BHD., Level 25, Naza Tower, Platinum Park, No.10, Persiaran KLCC, 50088 Kuala Lumpur

LRQA GROUP LIMITED reference: KLR00000809

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**Table 1: Scope 3 GHG Emissions from sale of products using operational control and equity share approach**

**Operational Control Emissions**

| <b>Products sold</b>                      | <b>2024(tCO<sub>2</sub>e)</b> |
|-------------------------------------------|-------------------------------|
| Fuels own manufactured                    | 186,740,823                   |
| Fuels traded                              | 55,380,555                    |
| Crude oil and condensate own manufactured | 33,480,510                    |
| Crude oil and condensate traded           | 12,714,216                    |
| <b>Total</b>                              | <b>288,316,105</b>            |

**Equity Share Emissions**

| <b>Products sold</b>                      | <b>2024 (tCO<sub>2</sub>e)</b> |
|-------------------------------------------|--------------------------------|
| Fuels own manufactured                    | 170,548,205                    |
| Fuels traded                              | 55,380,555                     |
| Crude oil and condensate own manufactured | 43,485,487                     |
| Crude oil and condensate traded           | 12,714,216                     |
| <b>Total</b>                              | <b>282,128,464</b>             |

**Notes:**

- Fuels include natural gas, processed gas, LNG (liquified natural gas), LPG (liquified petroleum gas), jet fuel, diesel, fuel oil, motor gasoline and other petroleum products.
- Fuels own manufactured implies fuels manufactured and retailed by PETRONAS
- Fuels traded implies fuels traded by PETRONAS
- Crude and condensate oil own manufactured implies crude oil manufactured and retailed by PETRONAS
- Crude oil and condensate traded implies crude traded by PETRONAS
  - It is assumed that the crude oil and condensate sold and retailed is completely combusted, although crude oil and condensate may be transformed to other products such as chemicals.



## Annex A

### PETRONAS entities covered under operational control & equity share

| Business Divisions | List of Entities Covered                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Upstream           | <ul style="list-style-type: none"> <li>• Petroliam Nasional Berhad</li> <li>• PETRONAS Carigali Sdn Bhd</li> <li>• PETRONAS Carigali (Turkmenistan) Sdn</li> <li>• PC Vietnam Limited</li> <li>• PETRONAS Energy Canada Ltd</li> <li>• PETRONAS E&amp;P Argentina S.A</li> <li>• PETRONAS Petróleo Brasil Limitada.</li> <li>• PETRONAS Carigali (Jabung) Ltd</li> <li>• Natuna 1 BV</li> <li>• PC Madura Ltd</li> <li>• PC Oman Ventures Ltd</li> <li>• PETRONAS Carigali Brunei Ltd</li> <li>• PETRONAS Carigali Nile Ltd</li> <li>• PC Muriah Ltd</li> </ul> |
| Gas                | <ul style="list-style-type: none"> <li>• Petroliam Nasional Berhad</li> <li>• PETRONAS Australia PTY Ltd</li> <li>• PICL (Egypt) Corp Ltd</li> <li>• PETRONAS Energy and Gas Trading Sdn Bhd</li> <li>• PETRONAS Energy Trading Ltd</li> <li>• Malaysia LNG Sdn Bhd</li> <li>• Malaysia LNG Tiga Sdn Bhd</li> <li>• PETRONAS LNG Ltd</li> </ul>                                                                                                                                                                                                                 |
| Downstream         | <ul style="list-style-type: none"> <li>• PETRONAS Dagangan Berhad</li> <li>• PETRONAS Trading Corp.</li> <li>• PETRONAS NGV Sdn Bhd</li> <li>• Mesra Retail &amp; Cafe Sdn. Bhd.</li> <li>• LNG Investments Europe Limited</li> </ul>                                                                                                                                                                                                                                                                                                                           |