

## Assurance Statement

### related to the Royal Dutch Shell plc Assertion for the Net Carbon Footprint for calendar year ended December 31, 2017.

#### Terms of Engagement

This Assurance Statement has been prepared for Shell Global Solution International B.V., Carel van Bylandtlaan 30, 2596 HR the Hague, The Netherlands (hereafter referred to as "Shell").

Lloyd's Register Quality Assurance Ltd ("LRQA") was commissioned by Shell to assure its Net Carbon Footprint Assertion (hereafter referred to as "the NCF Assertion") for the calendar year 2017, which follows:

1. "Our Net Carbon Footprint is estimated as 79 grams of CO<sub>2</sub> equivalent per Megajoule (gCO<sub>2</sub>e/MJ) in 2017. "
2. "The Net Carbon Footprint is estimated in accordance with the methodology document titled SR.19.00134, 'The Net Carbon Footprint Model: Methodology'.

*The Net Carbon Footprint is determined by first estimating the emissions intensity for each of the energy product supply chains in Shell's portfolio; this is done using established lifecycle analysis principles and includes both the emissions associated with the production and processing of energy products and the emissions associated with their use. The individual intensities are then aggregated into a single value, with the weighting for each product determined by its sales volume, emissions captured in sinks are deducted to give the final net value.*

*The boundary for the product sales included in the Net Carbon Footprint encompasses not only energy products manufactured and sold by Shell, but also products manufactured by 3<sup>rd</sup> parties and purchased by Shell for re-sale.*

*The following supply chains and steps in the product lifecycles are included in the Net Carbon Footprint:*

- Oil products: (i) crude oil production, (ii) transportation of crude oil (pipeline/shipping), (iii) refining, (iv) distribution of oil products, and (v) end use of oil products.
  - Pipeline gas: (i) gas production, (ii) transportation of gas via pipeline, and (iii) end use of gas.
  - LNG: (i) gas production, (ii) transportation of gas via pipeline, (iii) liquefaction, (iv) shipping of LNG products, (v) regasification of LNG in recipient terminals, (vi) local distribution of gas, and (vii) end use of gas.
  - GTL fuels: (i) gas production, (ii) transportation of gas via pipeline, (iii) gas-to-liquid processing, (iv) shipping of GTL products, (v) local distribution of GTL fuel products, (vi) end use of GTL fuels.
  - Biofuels: (i) production, (ii) transportation (domestic/shipping), (iii) distribution and (iv) end use of biofuels.
  - Electricity from renewable sources, solar and wind, converted to fossil energy equivalent and electricity purchased and re-sold from the national transmission/distribution networks.
  - CO<sub>2</sub> reductions: the impact of CO<sub>2</sub> reductions from carbon capture usage and storage (CCUS) projects, nature-based solutions (NBS) and other carbon offsets."
3. "The boundaries used to estimate the Net Carbon Footprint from production, processing and use of energy products are consistent with those used in Shell's Annual Report."
  4. "Additional product sales data used to estimate the Net Carbon Footprint are taken from Shell's 2018 Sustainability Report."
  5. "The following greenhouse gas (GHG) emissions are not included in the Net Carbon Footprint calculation:
    - a. Emissions from production, processing, use and end-of-life treatment of non-energy products, such as chemicals and lubricants;
    - b. Emissions associated with construction and decommissioning of production and manufacturing facilities;
    - c. Emissions associated with the production of fuels purchased to generate energy onsite;
    - d. Other indirect emissions from waste generated in operations, business travel, employee commuting, transmission and distribution losses associated with imported electricity, franchises and investments;
    - e. Traded volumes of energy products not destined for use or marketing to end-customers;
    - f. Emissions from 3<sup>rd</sup> party processing of sold intermediate products;
    - g. Emissions from capital goods and other goods and services not related to purchased energy feedstocks sourced from 3<sup>rd</sup> parties or energy products manufactured by 3<sup>rd</sup> parties and sold by Shell."
  6. "The impact of end-use efficiency on the use of sold energy products is not considered in the estimation of the Net Carbon Footprint."
  7. "Greenhouse gas emissions for assets wholly or partially owned by Shell were derived from direct and energy indirect GHG emissions data verified to a limited level of assurance in May 2018."
  8. "Direct GHG emissions (scope 1) used to estimate the Net Carbon Footprint comprise CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFC, SF<sub>6</sub>, PFC and NF<sub>3</sub> for assets operated by Shell. Energy indirect GHG emissions (scope 2) for assets operated by Shell, scope 1 and 2 GHG emissions from non-operated assets and other indirect (scope 3) GHG emissions include CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O are included where data is available. We have not estimated the contribution of HFC, SF<sub>6</sub>, PFC and NF<sub>3</sub> on scope 1, 2 and 3 for assets not operated by Shell because our analysis shows that based on our own data, the contribution of these gases is immaterial to the overall Net Carbon Footprint."
  9. "GHG emissions were calculated using global warming potentials from the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report."
  10. "There were no carbon offsets included in the 2017 Net Carbon Footprint calculation."
  11. "The Shell share of CO<sub>2</sub> sequestered by the Quest carbon capture and storage project was included in the Net Carbon Footprint calculation."

This NCF Assertion will be published on the webpage: [www.shell.com/ghg](http://www.shell.com/ghg). The 2017 NCF value will be published in the Royal Dutch Shell plc Sustainability Report 2018

The production data inputs to the Net Carbon Footprint calculation have not been included within the scope of this assurance engagement. This data is derived from the Royal Dutch Shell plc Annual Report 2017.

LRQA has not been involved in the preparation of any material included within the NCF Assertion nor in devising the internal management and reporting systems that yielded the data contained therein.

#### Management Responsibility

Shell's management was responsible for preparing the NCF Assertion and for maintaining effective internal controls over the data and information disclosed. LRQA's responsibility was to carry out an assurance engagement on the NCF Assertion in accordance with our contract with Shell. Ultimately, the NCF Assertion has been approved by, and remains the responsibility of Shell.

#### LRQA's approach

Our verification has been conducted in accordance with *ISO 14064-3:2006 – Specification with guidance for validation and verification of greenhouse gas assertions* to provide limited assurance that the Shell NCF data and information as presented in the NCF Assertion has been prepared in conformance with:

- The Shell document entitled, The Net Carbon Footprint Model: Methodology. SR.19.00134 (hereafter referred to as the "method document titled SR.19.00134").

To form our conclusions, the assurance engagement was undertaken as a sampling exercise and covered the following activities:

- Reviewed the Net Carbon Footprint model and calculations for the calendar year 2017 to determine conformance with the method document titled SR.19.00134. LRQA has not verified data at facility level;
- Verified the scope of the Net Carbon Footprint model, including inclusions and exclusions;
- Confirmed the internal Net Carbon Footprint model validation and critical review processes;
- Investigated the integrity of input data and confirmed the reasonableness of assumptions regarding non-Shell processes;
- Interviewed relevant staff of the organization responsible for managing the Net Carbon Footprint model, calculation and governance processes.

#### Level of Assurance & Materiality

The opinion expressed in this Assurance Statement has been formed on the basis of a limited level of assurance and at the materiality of the professional judgement of the Verifier.

#### LRQA's Opinion

Based on LRQA's approach, nothing has come to our attention that would cause us to believe that:

- i. the NCF data and information as presented in the NCF Assertion are not materially correct; and
- ii. Shell is not in conformance with the method document titled SR.19.00134.

For information: The method document titled SR.19.00134 includes certain reasonable assumptions for the emissions intensity of non-Shell processes.

Additional GHG Assertions can be found on the webpage: [www.shell.com/ghg](http://www.shell.com/ghg).

Signed

Dated: 8 March, 2019



Paul Jackson  
Lead Verifier  
On behalf of Lloyd's Register Quality Assurance Limited  
1 Trinity Park, Bickenhill Lane,  
Birmingham, B37 7ES, United Kingdom.

LRQA reference: LRQ4004543

This Assurance Statement is subject to the provisions of this legal section:

This Assurance Statement is only valid when published with the assertion to which it refers. It may only be reproduced in its entirety.

Lloyd's Register Group Limited, its affiliates and subsidiaries, including Lloyd's Register Quality Assurance Ltd, and their respective officers, employees or agents are, individually and collectively, referred to in this Legal Section as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Due to inherent limitations in any internal control, it is possible that fraud, error, or non-compliance with laws and regulations may occur and not be detected. Further, the verification was not designed to detect all weakness or errors in internal controls so far as they relate to the requirements set out above as the verification has not been performed continuously throughout the period and the verification carried out on the relevant internal controls were on a test basis. Any projection of the evaluation of control to future periods is subject to the risk that the processes may become inadequate because of changes in conditions, or that the degree of compliance with them may deteriorate.

The English version of this Assurance Statement is the only valid version. Lloyd's Register assumes no responsibility for versions translated into other languages.