



## **Assurance Statement related to Greenhouse Gas Emissions Inventory and Sustainability Data for Fiscal Year 2017 prepared for Carnival Corporation & plc.**

### **Terms of Engagement**

This Assurance Statement has been prepared for Carnival Corporation & plc. (Carnival).

Lloyd's Register Quality Assurance Inc. (LRQA), an affiliate of Lloyd's Register North America, Inc., was commissioned by Carnival to assure its Greenhouse Gas (GHG) Emissions Inventory and Sustainability Data Assertion for the fiscal year (FY) 2017 (December 1, 2016 to November 30, 2017).

The GHG Emissions Inventory includes direct GHG emissions and energy indirect GHG emissions.

In addition to the 6 Kyoto gases and  $\text{NF}_3$ , the GHG Emissions Inventory includes direct emissions from the following refrigerants as used in pure form (not blends): R11, R12, R22, and Halon.

The following were excluded from the GHG Emissions Inventory on the basis of their de minimis contribution to the total direct and energy indirect GHG emissions and sense-checked during the engagement:

- Fuel combustion GHG emissions from emergency generators used in shore facilities;
- Combustion GHG emissions from burning waste in the shipboard incinerators;
- Fugitive release of Sulphur Hexafluoride ( $\text{SF}_6$ ) gas from shipboard circuit breakers;
- Fugitive release of Methane ( $\text{CH}_4$ ) gas or Carbon Dioxide ( $\text{CO}_2$ ) from shipboard Marine Sanitation Devices or Advanced Waste Water Treatment plants;
- Fugitive release of refrigerant gas from shore hotels and offices;
- Electricity consumption from shore offices smaller than 8,000 square feet;
- Small water craft at Carnival owned islands; and
- Releases of  $\text{CO}_2$  based fire suppression systems on board the ships.

The Sustainability Data Assertion includes the twenty two sustainability parameters included in Table 1 below.

### **Management Responsibility**

The management of Carnival was responsible for preparing the GHG Emissions Inventory and Sustainability Data 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 GHG Emissions Inventory and Sustainability Data Assertion in accordance with our contract with Carnival.

Ultimately, the GHG Emissions Inventory and Sustainability Data Assertion have been approved by, and remain the responsibility of Carnival.

### **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* for the GHG data and LRQA's verification procedure for the Sustainability Data Assertion to provide limited assurance that the data as presented in the GHG Emissions Inventory and Sustainability Data Assertion for Carnival have been prepared in conformance with ISO 14064-1:2006 *Specification with guidance at the organizational level for quantification and reporting of greenhouse gas emissions and removals* and Carnival sustainability data management processes.



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

- Conducted a site visit to Carnival Corporate Headquarters and phone interviews with representatives from four of the Carnival brands;
- Reviewed the processes for the management of data and information related to the GHG emissions and sustainability data used at the Carnival corporate level and by the four sampled brands;
- Interviewed relevant staff responsible for managing and maintaining data and information and for preparing and reporting the GHG Emissions Inventory and the Sustainability Data Assertion for Carnival;
- Verified the direct and energy indirect GHG emissions for FY 2017; and
- Verified the Sustainability Data Assertion for FY 2017, which is a subset of Carnival's complete set of sustainability data parameters.

#### **Level of Assurance and Materiality**

The opinion expressed in this Assurance Statement has been formed on the basis of a limited level of assurance and at a 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 the total direct GHG emissions, energy indirect GHG emissions and Sustainability Data disclosed by Carnival in its GHG Emissions Inventory and Sustainability Data Assertion for FY 2017, as summarized in Table 1 below, are not materially correct and that the GHG Emissions Inventory and Sustainability Data Assertion have not been prepared in conformance with ISO 14064-1:2006 and Carnival sustainability data management processes.

Signed

Dated: June 13, 2018

A handwritten signature in blue ink, appearing to read 'Derek Markolf'.

Derek Markolf  
LRQA Lead Verifier  
On behalf of Lloyd's Register North America, Inc.,  
represented by Lloyd's Register Quality Assurance, Inc.,  
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**Table 1. Summary of Carnival, GHG Emissions Inventory and Sustainability Data FY 2017**

Data Parameter	Data
Direct (Scope 1) GHG Emissions (Tonnes CO <sub>2</sub> e)	10,642,209
Energy Indirect (Scope 2) GHG Emissions – Location-Based (Tonnes CO <sub>2</sub> e) <sup>1</sup>	45,437
Energy Indirect (Scope 2) GHG Emissions – Market-Based (Tonnes CO <sub>2</sub> e) <sup>1</sup>	43,589
Ship Fuel GHG Emissions Rate (grams CO <sub>2</sub> e/ALB-KM)	256
Total Ship Fugitive Refrigerant Releases (Kg)	107,153
Total Ship ODS Emissions (Kg CFC-11e)	318
Total Ship Energy Consumption (Gigajoules)	136,128,687
Total Ship Fuel Consumption (Tonnes)	3,287,125
Ship Fuel Consumption Rate (Grams Fuel/ALB-Km)	81.0
High Sulfur Fuel Oil (Percent of total Ship fuel consumption)	74.04
Low Sulfur Fuel Oil (Percent of total Ship fuel consumption)	5.41
Marine Diesel Oil/Marine Gas Oil (Percent of total Ship fuel consumption)	20.52
Liquefied Natural Gas (Percent of total Ship fuel consumption)	0.03
Total Potable Water Purchased (Tonnes)	5,591,610
Total Potable Water Produced (Tonnes)	21,224,398
Bilge Water Discharged to Sea (Tonnes)	178,174
Bilge Water Sea Discharge Rate (Liters/NM)	18.5
Total Number of Significant Spills <sup>2</sup>	0
Total Number of Reportable Spills <sup>3</sup>	60
Total Volume of Reportable Spills (Liters)	643
Total Number of Non-monetary Sanctions	0
Total Monetary Value of Fines (US Dollars)	\$40,316,857
Total Number of CDC VSP Inspections	120
Total Number of CDC VSP Inspections - Ships scoring 100%	18
Total Number of CDC VSP Inspections - Ships scoring 86-99%	97
Total Number of CDC VSP Inspections - Ships scoring <86%	5

1. Scope 2, Location-based and Scope 2, Market-based are defined in the GHG Protocol Scope 2 Guidance, 2015.

2. A significant spill is defined as a spill for which the monetary sanctions are greater than \$100,000.

3. A reportable spill is a spill greater than 500ml. However, in US waters, any spill that causes oil sheen is to be reported.

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