

# PERFORMANCE SUMMARY – ENVIRONMENTAL DATA

	Units	2016	2017	2018
Total Ships	Number	102	103	104

## GREENHOUSE GAS EMISSIONS (GHGs)<sup>1</sup>

Total GHG Emissions - Location Based	Metric Tonnes CO <sub>2</sub> e	10,539,036	10,687,646	10,697,602
Total GHG Emissions - Market Based	Metric Tonnes CO <sub>2</sub> e	10,538,413	10,685,798	10,695,342
Direct GHG Emissions	Metric Tonnes CO <sub>2</sub> e	10,491,277	10,642,209	10,647,189
> Ship Direct GHG Emissions	Metric Tonnes CO <sub>2</sub> e	10,462,851	10,616,662	10,618,166
>> Ship Fuel GHG Emissions	Metric Tonnes CO <sub>2</sub> e	10,226,588	10,395,499	10,423,242
>> Ship Refrigerant GHG Emissions <sup>2</sup>	Metric Tonnes CO <sub>2</sub> e	236,263	221,164	194,924
> Shore Direct GHG Emissions	Metric Tonnes CO <sub>2</sub> e	28,425	25,547	29,023
Indirect GHG Emissions - Location Based	Metric Tonnes CO <sub>2</sub> e	47,759	45,437	50,413
> Shore Indirect GHG Emissions - Location Based	Metric Tonnes CO <sub>2</sub> e	41,019	35,649	39,385
> Ship Indirect GHG Emissions - Location Based	Metric Tonnes CO <sub>2</sub> e	6,740	9,789	11,028
Indirect GHG Emissions - Market Based	Metric Tonnes CO <sub>2</sub> e	47,136	43,589	48,153
> Shore Indirect GHG Emissions - Market Based	Metric Tonnes CO <sub>2</sub> e	37,851	32,331	35,505
> Ship Indirect GHG Emissions - Market Based	Metric Tonnes CO <sub>2</sub> e	9,285	11,258	12,648
Ship Fuel Greenhouse Gas Emission Rate	Grams CO <sub>2</sub> e/ ALB-Km	261	256	251

## AIR EMISSIONS

Ship Fugitive Refrigerant Releases <sup>1</sup>	Kilograms	117,936	107,153	97,628
Ship Ozone Depleting Substances (ODS) Emissions <sup>1,3</sup>	Kg CFC-11e	10,292	318	1,331
Total Sulfur Oxides (SOx) Emissions <sup>4</sup>	Metric Tonnes	98,089	99,622	98,543
Sulfur Oxides (SOx) Emissions Rate	Kg SOx/NM	10.4	10.3	10.2
Total Nitrogen Oxides (NOx) Emissions <sup>5</sup>	Metric Tonnes	253,532	257,665	258,410
Nitrogen Oxides (NOx) Emissions Rate	Kg NOx/NM	27.0	26.8	26.8
Total Particulate Matter (PM <sub>2.5</sub> ) Emissions <sup>6</sup>	Metric Tonnes	2,092	2,099	2,086
Particulate Matter (PM <sub>2.5</sub> ) Emission Rate	Kg PM/NM	0.22	0.22	0.22

## ENERGY & ELECTRICITY

Total Direct Energy Consumption <sup>7</sup>	Gigajoules	134,237,025	136,462,998	136,877,903
> Ship Direct Energy Consumption	Gigajoules	133,946,419	136,128,687	136,486,695
> Shore Direct Energy Consumption	Gigajoules	290,606	334,311	391,208
Total Direct Energy Consumption Rate	Kilojoules/ ALB-Km	3,427	3,361	3,303
Total Ship Fuel Consumption <sup>7</sup>	Metric Tonnes	3,233,138	3,287,125	3,295,821
Ship Fuel Consumption Rate <sup>7</sup>	Grams Fuel/ ALB-Km	83	81	80
Total Purchased Electricity	MWh	102,723	106,446	116,129
> Shore Purchased Electricity	MWh	78,827	77,404	83,305
> Ship Purchased Electricity	MWh	23,896	29,042	32,823

## SHIP FUEL<sup>1</sup>

High Sulfur Fuel Oil (HSFO)	Percent	75.8	74.0	73.3
Low Sulfur Fuel Oil (LSFO)	Percent	3.0	5.4	6.1
Marine Diesel Oil/Marine Gas Oil (MDO/MGO)	Percent	21.2	20.5	20.6
Liquefied Natural Gas (LNG)	Percent	0.01	0.03	0.01

## POTABLE WATER

Total Water Consumption <sup>7</sup>	Metric Tonnes	26,566,505	26,816,008	27,315,010
> Water Purchased (From Shore)	Metric Tonnes	6,079,254	5,591,610	5,639,972
> Water Produced (From Sea)	Metric Tonnes	20,487,252	21,224,398	21,675,038
Water Consumption Rate	Liters/Person-Day	232	227	226

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## WASTEWATER

Bilge Water Discharged to Sea <sup>7</sup>	Metric Tonnes	205,846	178,152	165,133
Bilge Water Sea Discharge Rate <sup>7</sup>	Liters/NM	21.9	18.5	17.1
Gray Water Discharged to Sea	Metric Tonnes	17,862,704	17,048,797	17,742,316
Gray Water Sea Discharge Rate	Liters/Person-Day	155.9	144.6	146.6
Black Water Discharged to Sea	Metric Tonnes	7,915,258	7,775,545	7,873,151
Black Water Sea Discharge Rate	Liters/Person-Day	69.1	65.9	65.0

## WASTE DISPOSAL

Total Waste	Metric Tonnes	354,156	357,767	378,142
> Hazardous Waste <sup>8</sup>	Metric Tonnes	127,105	137,957	144,236
> Non-Hazardous Waste	Metric Tonnes	227,051	219,810	233,906
Waste Rate (Excluding Recycling)	Kilograms/Person-Day	2.3	2.2	2.2
Waste Recycled	Percent	26.5	28.0	30.1

**1)** Independently verified by Lloyd's Register Quality Assurance (LRQA) in accordance with ISO 14064-3:2006, "Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertion." **2)** Revised FY2018 emission factors are in accordance with The Climate Registry Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4). **3)** The conversion factors to obtain the amount of CFC-equivalent from the various types of refrigerant gases are those given in the Montreal Technical Papers. FY2016 high value was due to accidental releases of a gas with a high ODS value into the environment. **4)** The SOx emission calculations take into account the weighted-average sulfur content of the fuel consumed and default emission factors. The default emission factor used for calculating SOx value is %S x 20 x 0.96, where S is the fuel sulfur content. This calculation has been adjusted to account for the usage of Advanced Air Quality Systems (AAQS). This adjustment was made based on the near-zero sulfur emissions resulting from planned HSFO fuel consumption during AAQS operations. **5)** The NOx emission calculations are based on default emission factors. The default emission factor used for calculating NOx value for HSFO/LSFO is 78 kg, MGO is 80 kg, and LNG is 7 kg of NOx per tonne of fuel consumed. **6)** PM2.5 refers to particles with diameters between 2.5 and 10 micrometers. The PM2.5 weight is calculated based on default emission factors. The default emission factor used for calculating PM2.5 value for HSFO is 0.82 kg, LSFO is 0.75 kg, MGO is 0.15 kg, and LNG negligible kilograms of PM2.5 per tonne of fuel consumed. This calculation has been adjusted to account for AAQS. This adjustment was made based on PM2.5 emission reductions resulting from planned HSFO fuel consumption during AAQS operations. **7)** Independently verified by LRQA. **8)** Carnival Corporation & plc's definition of hazardous waste is in accordance with most recognized waste management practices worldwide, though some countries may have somewhat different definitions. For regulatory purposes, Carnival Corporation & plc complies with the requirements of the particular country where waste is landed. Carnival Corporation & plc uses the most inclusive definition of hazardous waste for sustainability reporting purposes, which standardizes waste reporting quantities independent of how the wastes are classified when landed ashore, thus potentially resulting in higher reported aggregate quantities of hazardous waste but allowing for more consistent trend analysis.

# PERFORMANCE SUMMARY – SOCIAL DATA (SHIPBOARD)

	Units	2016	2017	2018
<b>WORKFORCE<sup>7</sup></b>				
Average Crew	Number	84,600	86,000	88,000
<b>DIVERSITY</b>				
Labor Sourcing Region:				
> Africa	Percent	1.0	1.6	1.6
> Asia	Percent	69.4	72.2	72.0
> Australia	Percent	0.7	0.5	0.5
> Europe	Percent	16.6	17.8	18.2
> North & Central America	Percent	9.2	4.6	4.4
> South America	Percent	3.1	3.3	3.2
Gender Distribution - Female	Percent	17.0	17.0	17.4
Gender Distribution - Male	Percent	83.0	83.0	82.6
<b>INJURIES &amp; FATALITIES</b>				
Total Injuries	Number	2,357	2,911	3,365
> Minor Injuries	Number	1,304	1,719	2,223
> Serious Injuries	Number	544	637	583
> Major Injuries	Number	509	555	559
Accidental Deaths	Number	1	1	1
<b>HEALTH &amp; SAFETY<sup>1</sup></b>				
Total CDC VSP Inspections	Number	109	120	94
> CDC VSP Inspections - Ships scoring 100%	Number	13	18	14
> CDC VSP Inspections - Ships scoring 86 - 99%	Number	94	97	77
> CDC VSP Inspections - Ships scoring < 86%	Number	2	5	3
<b>OTHER STATISTICS</b>				
Employee Turnover	Percent	19.4	16.9	18.9
Employees Covered by Collective Bargaining Agreements (CBA)	Percent	58.1	58.0	58.0
Employees Represented by Health and Safety (H&S) Committees	Percent	100.0	100.0	100.0

# PERFORMANCE SUMMARY – SOCIAL DATA (SHORESIDE)

	Units	2016	2017	2018
<b>WORKFORCE</b>				
Average Number of Full Time Employees	Number	10,500	11,000	12,000
Average Number of Part Time/ Seasonal Employees	Number	2,100	2,200	2,000
Shoreside Employee Status - Full Time	Percent	83.2	83.0	85.7
Shoreside Employee Status - Part Time	Percent	16.8	17.0	14.3
<b>DIVERSITY</b>				
Gender Distribution - Female	Percent	58.8	58.9	57.5
Gender Distribution - Male	Percent	41.2	41.1	42.5
<b>EMPLOYEES BY BRAND HEADQUARTER REGION<sup>2</sup></b>				
Australia	Percent	3.1	2.9	2.9
Europe	Percent	31.3	31.5	31.6
North America	Percent	65.6	65.6	65.5
<b>OTHER STATISTICS</b>				
Employee Turnover <sup>3</sup>	Percent	13.3	14.0	15.1
Employees Covered by Collective Bargaining Agreements (CBA)	Percent	21.1	20.6	21.0
Employees Represented by Health & Safety (H&S) Committees	Percent	73.5	72.8	70.2

**1)** Independently verified by Lloyd's Register Quality Assurance (LRQA).

**2)** In addition to our headquarters locations, other offices are located worldwide. Due to varying legal requirements worldwide, further detail on employee base is limited.

**3)** This number does not include shoreside employees on unpaid leave.