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DEFINING OUR ROLE
STATEMENT BY THE CHAIRMAN OF THE BOARD

Our reputation and business viability are contingent on being transparent and sustainable. This means providing satisfying vacations while keeping our guests and crew safe, protecting the environment, developing our workforce, strengthening our stakeholder relationships, enhancing the port communities that we visit and maintaining fiscal strength. We at Carnival Corporation & plc believe that sustainability is not a cost of doing business; it is a way of doing business.

We know that the journey ahead will contain many challenges and opportunities for stronger stewardship, and recognize that our future success and delivery on our sustainability plans and goals are inextricably linked. As an industry leader, we are committed to and accountable for growing and operating sustainably.

The Boards of Directors of Carnival Corporation & plc have in place a Board-level Health, Environmental, Safety & Security (HESS) Committee to assist the Boards in fulfilling their responsibility to supervise and monitor HESS policies, programs, initiatives, compliance with HESS legal and regulatory requirements, as well as sustainability programs. Our Corporate Maritime Policy Department (CMP) is led by a Senior Vice President and retired U.S. Navy Captain, and supported by a full-time professional and administrative staff. CMP is responsible for providing an integrated approach to management of HESS matters and for reporting to the HESS Committee on such matters.

We are proud to have been recognized for our efforts by socially responsible investment rating agencies and to be named in the Carbon Disclosure Leadership Index, the FTSE4Good Index and the Maplecroft Climate Innovation Leaders Index, among others.

As part of our sustainability commitment, we recognize that our carbon footprint is one of our most significant risks and consequently set our greenhouse gas reduction target to reduce the level of our 2015 shipboard carbon dioxide emissions rate by 20 percent from our 2005 baseline. We are proud to report that we are on track to achieve this target. In 2011, we published our first Corporate Sustainability Report, continuing the process we began over six years ago, of informing our stakeholders about our sustainability policies, practices and performance.

We report in accordance with the Global Reporting Initiative (GRI), which is the leading Sustainability Reporting Framework and is used widely around the world. By producing and publishing Sustainability Reports we can benchmark our collective performance and identify improvement opportunities. The information in these Sustainability Reports better equips us to address sustainability challenges and advance as a global company. We invite you to explore this report to learn more about our Company and our sustainability performance.

MICKY ARISON
Chairman of the Board
Carnival Corporation & plc
KEY IMPACTS, RISKS AND OPPORTUNITIES
At Carnival Corporation & plc, we believe that proactively addressing the challenges of operating and maintaining a sustainable business is key to our continued success. The emerging regulatory environment, the global political and socioeconomic landscape, and the advance of science and technology, require that we identify the best approaches to improve our sustainability performance, while addressing the interests of our stakeholders. Like companies in many industries, we face a number of challenges related to our sustainability. These challenges are summarized below and detailed in other sections of this Sustainability Report, as well as in our 2010 Sustainability Report. In managing these challenges, we assign health, safety, security and the environment the same priority as we do other crucial business matters.

We view our key impacts, risks and opportunities as:
• protecting the health and safety of guests and crew;
• ensuring the security of guests, crew and ships;
• preserving the natural environment;
• recruiting and retaining qualified employees;
• operating in a changing regulatory landscape;
• conserving fuel and minimizing engine emissions;
• remaining transparent in our sustainability performance and accountability; and
• reducing our greenhouse gas (GHG) emissions.
Greenhouse Gas Emission Reduction
Recognizing that greenhouse gas (GHG) emissions are one of our most significant risks, we set a Corporate target to reduce the intensity of carbon dioxide emissions from shipboard operations by 20 percent by 2015, from our 2005 baseline, as measured in grams of CO₂e per ALB-km. Shipboard fuel consumption is the most significant contributor to Carnival’s carbon footprint. Therefore, we will achieve our goal primarily by reducing the consumption of fuel on our ships.

We have already made substantial progress toward reaching this goal. From 2005 to 2011, Carnival reduced our GHG emission rate by 14.1 percent. This included a 1.7 percent decrease from 2010 to 2011. In order to reach the 2015 target, we must reduce our GHG emission rate by approximately 6.7 percent, which will require an average annual reduction rate of approximately 1.7 percent. We continue to work on practical and feasible energy reduction and conservation initiatives to reach our target.

### TABLE 1.1—TARGET AND PERFORMANCE AGAINST TARGET

<table>
<thead>
<tr>
<th>Measure</th>
<th>Unit</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2015 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship Fuel Greenhouse Gas (GHG) Emission Rate</td>
<td>Grams CO₂e/ALB-Km</td>
<td>347</td>
<td>338</td>
<td>335</td>
<td>327</td>
<td>315</td>
<td>303</td>
<td>298</td>
<td>278</td>
</tr>
</tbody>
</table>

### FIGURE 1.1—TARGET AND PERFORMANCE AGAINST TARGET

Table 1.1 and Figure 1.1 show how the ship fuel GHG emission rate performed against the 2015 Corporate target.
SAILING WITH OUR BRANDS
THE POWER OF OUR GLOBAL BRANDS
Our mission is to take the world on vacation and deliver exceptional experiences through many of the world’s best known cruise brands that cater to a variety of different geographic regions and lifestyles, all at an outstanding value unrivaled on land or at sea.

A GLOBAL CRUISE COMPANY
Carnival Corporation & plc is a global cruise company and one of the largest vacation companies in the world. Our portfolio of 10 leading cruise brands includes Carnival Cruise Lines, Princess Cruises, Holland America Line and Seabourn in North America; P&O Cruises and Cunard Line in the United Kingdom; AIDA Cruises, Costa Cruises and Ibero Cruises in Europe; and P&O Cruises in Australia. These brands, which comprise the most recognized cruise brands in North America, the United Kingdom, Germany and Southern Europe, offer a wide range of holiday and vacation products to a customer base that varies broadly in terms of cultures, languages and leisure-time preferences.

Some of our brands trace their lineage to the 1800s, when they operated some of the world’s most famous ocean liners. Some have played a pivotal role in history, transporting thousands of immigrants during the golden age of transatlantic travel. Others shaped and later defined the modern-day cruise industry, combining an entrepreneurial spirit with a commitment to innovation to usher in a new era in oceangoing vacation travel. With the widest variety of styles in cruising, Carnival Corporation & plc is not only steeped in tradition: We are also firmly committed to expanding today’s vacation marketplace, with forward-thinking ideas and an eye toward serving the needs of our guests for generations to come.

Carnival’s respect for the past, focus on the present, and planning for the future have enabled our Company to build a rich portfolio of distinct brands. Although our brands are different in terms of product, style and amenities, there are three traits that they all share—each is the most successful in its respective area, each has a well-known brand name, and each has a responsibility to operate sustainably. This leadership, visibility and shared responsibility unite our brands and allows for coordination of sustainability efforts across the organization.

COMPANY INFORMATION
The name of our Company is Carnival Corporation & plc, referred to in this Sustainability Report as “Carnival.” Carnival Corporation & plc has a subsidiary Operating Line, Carnival Cruise Lines, referred to in this report as “Carnival Cruise Lines.”

Carnival Corporation is incorporated in Panama, and Carnival plc is incorporated in England and Wales. Carnival Corporation and Carnival plc operate a dual-listed company (DLC), whereby the businesses of Carnival Corporation and Carnival plc are combined through a number of contracts and through provisions in Carnival Corporation’s Articles of Incorporation and By-Laws and Carnival plc’s Articles of Association.

The two companies operate as though they are a single economic enterprise, but each has retained its separate legal identity. Each Company’s shares are publicly traded under ticker symbol CCL. Carnival Corporation is traded on the New York Stock Exchange (NYSE) and Carnival plc is traded on the London Stock Exchange (LSE). In addition, Carnival plc American Depositary Shares are traded on the NYSE under ticker symbol CUK.

SERVICES AND OPERATING STRUCTURE
Carnival utilizes an “Operating Line” structure to manage the Company. Carnival’s Operating Lines are organizational units that operate and manage one or more of the Carnival brands, as follows:

• AIDA Cruises;
• Carnival Australia, which operates P&O Cruises (Australia);
• Carnival Cruise Lines;
• Carnival UK, which operates Cunard and P&O Cruises (UK);
• Costa Cruises, which operates Costa Cruises and Ibero Cruises;
• Holland America Line, which operates Holland America Line and Seabourn; and
• Princess Cruises.

Carnival also operates Holland America Princess Alaska Tours, the leading tour company in Alaska and the Canadian Yukon.

Carnival has operations worldwide and each year visits approximately 500 ports-of-call around the globe.
We aggregate each of our brands into two reportable cruise segments, based on the similarity of their economic and other characteristics:

- North America, which includes Carnival Cruise Lines, Holland America Line, Princess Cruises and Seabourn; and
- Europe, Australia and Asia, which includes AIDA Cruises, Costa Cruises, Cunard, Ibero Cruises, P&O Cruises (UK) and P&O Cruises (Australia).

SCALE OF ORGANIZATION
Carnival employs approximately 77,000 crew members on board our ships at any given time. Our shoreside operations have approximately 9,800 full-time and 4,500 part-time/seasonal employees. As of January 23, 2012, we operated 99 cruise ships, with a total capacity of 195,872 guests. During fiscal year 2011, we carried more than 9.5 million guests. Carnival’s product offerings provide our guests with exceptional vacation experiences at an outstanding value, and our success has made us one of the most profitable companies in the leisure industry. Our fiscal year 2011 revenues were approximately $15.8 billion. Total fiscal year 2011 assets were approximately $38.6 billion.

| TABLE 2.1—DIMENSIONS OF CARNIVAL’S BUSINESS |
|------------------|--------|--------|--------|
| Fiscal Year      | 2009   | 2010   | 2011   |
| Guests (in thousands) | 8,519  | 9,147  | 9,559  |
| Guest Capacity² | 180,746| 191,464| 195,872|
| Number of Ships | 93     | 98     | 99     |
| Average Number of Employees | 84,000 | 87,000 | 90,000 |
| Financial data (in US$ millions) |        |        |        |
| Revenue          | 13,460 | 14,469 | 15,793 |
| Total Assets     | 36,835 | 37,490 | 38,637 |

1 As of November 30, 2011 Annual Report on Form 10-K
2 Capacity is based on two guests per cabin.

SIGNIFICANT CHANGES
During fiscal year 2011, there was a net increase of three ships owned and operated by Carnival’s Operating Lines:

- Carnival Magic was added to Carnival Cruise Lines,
- Seabourn Quest was added to Seabourn,
- Costa Favolosa was added to Costa Cruises,
- AIDAsol was added to AIDA Cruises, and
- Artemis left P&O Cruises (UK).

There were no other significant changes during the reporting period regarding size, structure, or ownership of Carnival.

AWARDS AND RECOGNITION
As evidenced by the selection of awards and recognition listed below, in fiscal year 2011 Carnival was recognized in a number of forums for our sustainability-related performance, particularly in relation to environmental, social, governance and guest-satisfaction issues. For Operating Line awards, please refer to their respective websites and Sustainability Reports.

- **FTSE4Good Index**
  Since 2006, Carnival has been a member of the FTSE4Good Index, the socially responsible investment index calculated by global index provider FTSE Group. The FTSE4Good Index measures the performance of companies that meet globally recognized corporate responsibility standards and facilitates investment in those companies.

- **Carbon Disclosure Leadership Index**
  The Carbon Disclosure Project (CDP) has recognized Carnival for our transparency, particularly in relation to our GHG emissions and climate change disclosures, by inclusion in CDP’s Carbon Disclosure Leadership Index for the past five years.

- **Maplecroft Climate Innovation (CII) Leaders Index**
  Carnival has been listed on the Maplecroft Climate Innovation (CII) Leaders Index of the “100 Top Performing Companies” that successfully innovate and manage climate-related opportunities and risks.

- **Newsweek Green Rankings**
  Carnival ranked number 280 in the Newsweek annual rankings of the “Top 500 Green U.S. Companies.” These rankings, based on research conducted by KLD, Trucost and CorporateRegister.com, take into account environmental impact, green policies and reputation.

- **Corporate Responsibility Magazine—“100 Best Corporate Citizens”**
  Corporate Responsibility magazine listed Carnival as number 69 on its 12th Annual “100 Best Corporate Citizens List” for 2011. The 100 Best Corporate Citizens database is based on publicly available data sources and computed by IW Financial, a Portland, Maine-based financial analysis firm serving the environmental/social/governance (ESG) investment community.

- **Broward Partnership for the Homeless (BPHI)**
  Broward Partnership for the Homeless presented Carnival with its Corporate Trusteeship Award, which recognizes a member of the business community who has provided BPHI with financial support and management expertise, and assisted the organization through the volunteer efforts of its employees.

ADDITIONAL DISCLOSURES
Additional details relating to the Company Information, Services and Operating Structure sections are disclosed in the Carnival 2011 Annual Report to Shareholders, and in the Annual Report on Form 10-K on the Carnival Corporation website (www.carnivalcorp.com).
The contemporary leader in North America, Miami, Florida-based Carnival Cruise Lines is the world’s most popular cruise line based on number of passengers carried. Operating 23 “Fun Ships,” Carnival appeals to a wide range of passengers by offering fun, memorable and affordable vacations with guest-pleasing innovations (www.carnival.com).

Based in Santa Clarita, California, Princess Cruises is a leader in the premium market, operating 16 modern ships renowned for stunning interiors, design innovations and a wide array of choices in dining, entertainment and amenities, along with exceptional customer service (www.princesscruises.com).

Seattle-based Holland America Line operates a fleet of 15 five-star ships. Exquisitely appointed ships, delectable cuisine and impeccable service have enabled Holland America Line to earn its position as a premium cruise leader (www.hollandamerica.com).

Seabourn epitomizes luxury cruising on board each of its six all-suite ships targeted primarily to North America. The Seabourn Ships are lavishly appointed with approximately one staff member to every guest (www.seabourn.com).

Cunard Line features cruising’s only transatlantic ocean liners, Queen Mary 2, Queen Victoria and Queen Elizabeth. Epitomizing luxury travel, the U.K.-based cruise operator is defined by its White Star Service, a special standard that has served royalty and celebrities for decades. Queen Elizabeth joined the Cunard fleet in October 2010, following the retirement of Queen Elizabeth 2 in late 2008 (www.cunard.com).

P&O Cruises (UK) is Britain’s favorite cruise line and offers passengers the most stylish and contemporary holidays afloat on its fleet of seven ships. Azura, the newest addition to the fleet, is one of the largest and most family-friendly ships built for the British market (www.pocruises.co.uk).
Based in Rostock, Germany, AIDA Cruises is the best known brand in the fast-growing German cruise market, catering to a young, active clientele through its distinctive “club ship” concept. The fleet of this rapidly expanding contemporary operator is composed of eight ships. The latest exciting additions to the fleet include AIDAblu and AIDAsol (www.aida.de).

Ibero Cruises is a top operator in the fast-growing Spanish- and Portuguese-speaking cruise markets. Based in Madrid, the company operates three ships: Grand Holiday, Grand Mistral and Grand Celebration. The Ibero Cruises experience is defined by the fun-loving attitude that characterizes its two largest customer nationalities: Spaniards and Brazilians (http://www.iberocruces.com/).

Headquartered in Italy, Costa Cruises is the number-one cruise line in Europe and South America. Cruising for nearly 60 years, the Genoa-based cruise line operates in the contemporary market, and offers 14 state-of-the-art ships with Italian ambience to an international clientele (www.costacruise.com).

Costa is the first cruise line to operate in Asia, homeporting in Shanghai in 2006 and sourcing its guests primarily from China. Its great success brought Costa to make China cruises available to worldwide customers in 2007, enriching the itineraries to satisfy guests’ demand for new experiences (www.costacruisesasia.com).

P&O Cruises (Australia) pioneered Australian cruising in 1932. Its four contemporary ships take Australian and New Zealand passengers on relaxed holidays to a range of exotic and pristine South Pacific destinations (www.pocruises.com.au).
REPORTING TO OUR STAKEHOLDERS
REPORTING STANDARDS AND SCOPE

In 2008, Carnival made a commitment to expand our transparency by publicly disclosing the environmental, social and governance performance of each of our Operating Lines, using the internationally recognized Global Reporting Initiative (GRI) framework. This effort, which resulted in the publication of the fiscal year 2009 Sustainability Reports by our Operating Lines in 2010, expanded on the annual public Environmental Management Reports that we first published in 2006 (for fiscal year 2005).

Based on our experience with this first year of individual Operating Line Sustainability Reporting, we decided to publish a full Corporate-level 2010 sustainability report, and allow the Operating Lines to prepare a line-specific Sustainability Report if they desired. Carnival intends to publish an annual Corporate Sustainability Report on a fiscal-year basis.

This Corporate Sustainability Report provides information related to Carnival’s fiscal year 2011 (December 1, 2010 to November 30, 2011) for all of Carnival’s Operating Lines. This is Carnival’s second Corporate Sustainability Report, and it follows the same GRI framework and metrics as our fiscal year 2010 Sustainability Report. This report encompasses the Operating Lines, cruise ships, and shoreside operations and facilities worldwide over which Carnival has operational control.

This report is complemented by Sustainability Reports published by the following Carnival Operating Lines, also for fiscal year 2011:

- AIDA Cruises,
- Carnival UK (P&O Cruises (UK) and Cunard Line),
- Costa Cruises, and
- P&O Cruises (Australia).

Carnival and our Operating Lines are members of a number of organizations that work together with key stakeholders to address sustainability issues in the cruise industry, in the broader maritime industry, and with companies in other industries.

We first used our engagement with our stakeholders to help define the Sustainability Report content. Then, through a systematic and an iterative process, we:

- identified those issues that were currently being reported on and/or measured internally,
- selected a core set of issues and identified a related metrics-reporting framework/process,
- agreed on the desired content for each metric and the approach to reporting (qualitative vs. quantitative detailed performance tracking, etc.), and
- decided to use performance indicators for other purposes (e.g., making disclosure decisions, driving performance improvement, etc.).

This Sustainability Report covers and prioritizes information on the basis of materiality, sustainability context and stakeholder inclusiveness. It includes entities that meet the criteria of being subject to Carnival’s operational control. The information in this Sustainability Report includes significant actions or events in the reporting period, and it does not intentionally exclude relevant information that would influence or inform stakeholder assessments or decisions, or that would reflect significant economic, environmental or social impacts.

The scope of this Sustainability Report encompasses the operation of the ships, as well as the support facilities and personnel charged with managing the Operating Lines and the Corporate headquarters. As greenhouse gas (GHG) emissions represent one of our main operational impacts, we include purchases of shipboard and shoreside energy (fuel and electricity). It excludes, however, the other aspects and performance indicators of Carnival’s supply chain, shoreside facilities and shore excursion activities, the environmental impacts of which are relatively small in comparison with those of Carnival’s fleet of cruise ships.

There are no changes from last year’s reporting period in the scope, boundary or measurement methods applied in the Sustainability Report for the economic and social indicators. Even though we have increased the size of our fleet, we have normalized the majority of our indicators to take into account this growth, as well as changes in itineraries and guest capacity.

DATA MEASUREMENT, CALCULATIONS AND GRI

We developed this Sustainability Report in accordance with the G3.1 Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI). Sustainability performance data included in this Sustainability Report are based on information supplied to Carnival by its subsidiary Operating Lines and the fleets of cruise ships operated by each. These include:

- quantitative data that were collected, aggregated and analyzed, utilizing our in-house sustainability data collection and reporting systems; and
- qualitative data that were collected from each of Carnival’s Operating Lines and from other in-house and industry sources.

We selected the 34 performance indicators in this Sustainability Report based on the economic, environmental and social issues of greatest interest to most of our stakeholders, and those that we determined to be material to Carnival. In most cases, we attempted to align our data gathering to follow the GRI indicator protocols as closely as possible. However, in some cases, due to the unique characteristics of our business, we have deviated from strict adherence to the GRI indicator protocol requirements to reflect materiality.

As mentioned in other sections of this Sustainability Report, Carnival does not always have full operational control of its shoreside activities. Therefore, we have excluded certain shoreside-related data from this report. Some of our Operating Lines have included shoreside performance indicators in their respective Sustainability Reports.

The GRI Content Index of this report follows the standard disclosures listed in the GRI G3.1 Sustainability Reporting Guidelines and can be found at the end of this report.

ASSURANCE PRACTICES

With the exception of Carnival’s greenhouse gas (GHG) inventory, Carnival has decided not to seek external assurance for this report.

Carnival contracted with LRQA Americas Sustainability, Inc. (LRQA) to verify Carnival’s GHG inventory for fiscal year 2011 (December 1, 2010 to November 30, 2011). Carnival’s GHG inventory includes direct and indirect GHG emissions. LRQA is an independent, third-party verifier.
LRQA’s verification was conducted in accordance with ISO 14064-3:2006, “Greenhouse gases—Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions.” This verification provided limited assurance that Carnival’s GHG inventory has been prepared in conformance with ISO14063-1:2006, “Greenhouse gases—Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.” The LRQA Assurance Statement is located on page 75 of this report.

**CONTACT POINT**

For questions or to provide feedback regarding this Sustainability Report or its contents, please contact:

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Corporate Maritime Policy  
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Miami, Florida 33178-2428 U.S.A.

Or  
Karina Hilton Spiegel  
Manager Sustainability Programs  
Corporate Maritime Policy  
Carnival Corporation & plc  
3655 N.W. 87th Avenue  
Miami, Florida 33178-2428 U.S.A.

Or email us at: Sustainability@Carnival.com
FULFILLING OUR ROLE
Carnival’s governance policies and practices, outlined below, are further detailed in the “Corporate Governance” section of the Carnival website (www.carnivalcorp.com), as well as in the 2010 Sustainability Report.

BOARD OF DIRECTORS
The governance structure of Carnival includes the following committees of the Boards of Directors, each of which has a specific charter, defined responsibilities and composition:

- Audit Committee;
- Nominating and Governance Committee;
- Executive Committee;
- Compensation Committee; and
- Corporate Health, Environmental, Safety & Security (HESS) Committee.

During fiscal year 2011, Carnival’s Chairman of the Boards was also the Chief Executive Officer, the reasons for which are detailed in the Corporate Governance Guidelines.

The membership of the Carnival Boards of Directors includes:

- three members with Executive functions,
- two non-Executive Directors,
- nine independent non-Executive Directors, and
- one female Board member.

The following are described in the Corporate Governance section on the Corporate website:

- Mechanisms for shareholders and employees to provide recommendations or direction to the Boards of Directors.
- Linkages between compensation for members of the Boards of Directors, Executives and Senior Managers, and the Company’s financial, environmental, social and governance performance. This subject is also addressed in the Compensation Discussion and Analysis section of the Annual Proxy Statement.
- The processes for the Boards of Directors to ensure conflicts of interest are avoided are detailed in the Carnival Corporation & plc Code of Business Conduct and Ethics.

- The process for determining the qualifications and expertise of the members of the Boards of Directors for guiding the Carnival strategy on economic, environmental and social topics.
- The processes for evaluating the performance of the Boards of Directors.

ECONOMIC, ENVIRONMENTAL, SOCIAL VALUES AND SOCIAL OVERSIGHT
Carnival recognizes our responsibility to provide industry leadership and to conduct our business as a responsible global citizen. Our Corporate leadership is manifested in our Code of Business Conduct and Ethics and requires that every employee and member of the Boards of Directors use sound judgment, maintain high ethical standards and demonstrate honesty in all business dealings. As a responsible global citizen, we are committed to achieving and maintaining the highest standards of professional and ethical conduct.

The Boards of Directors of Carnival Corporation and Carnival plc have established a Board-level Health, Environmental, Safety & Security (HESS) Committee to assist the Boards in fulfilling their responsibility to supervise and monitor HESS and sustainability-related policies, programs, initiatives at sea and onshore, and in compliance with HESS legal and regulatory requirements. The HESS Committee meets on at least a quarterly basis. The full text of our HESS Policy is on page 17, as well as on our Corporate website.

In addition to the HESS Committee, Carnival has a Corporate Maritime Policy Department (CMP). CMP is headed by a Senior Vice President, has a full-time professional and administrative staff, and is responsible for providing a common, integrated approach to management of HESS matters, and for reporting to the HESS Committee on such matters. The Senior Vice President CMP reports directly to Carnival’s Vice Chairman/Chief Operating Officer and to the Chairman of the HESS Committee of the Boards of Directors.
Carnival Corporation & plc and its Operating Lines are committed to:

- Protecting the health, safety and security of our passengers, guests, employees and all others working on behalf of the Company, thereby promoting an organization that is free of injuries, ill health and loss.
- Protecting the environment, including the marine environment in which our vessels sail and the communities in which we operate, minimizing adverse environmental consequences, and using resources efficiently.
- Fully complying with or exceeding all legal and statutory requirements related to health, environment, safety and security throughout our business activities.
- Assigning health, environment, safety and security matters the same priority as other critical business matters.

To implement this Policy, Carnival Corporation & plc and its Operating Lines will:

- Identify those managers responsible for implementing health, environmental, safety and security performance and ensure that there are clear lines of accountability.
- Develop, implement and monitor effective and verifiable management systems to realize our health, environmental, safety and security commitments.
- Identify the aspects of our business that impact the environment and take appropriate action to minimize that impact.
- Identify, document, assess and conduct periodic reviews of the principal health, environmental, safety and security risks affecting our business.
- Implement practical measures to manage identified risks effectively.
- Provide appropriate health, environmental, safety and security support, training, advice and information to passengers, guests, employees and others working on behalf of the Company.
- Perform regular health, environmental, safety and security audits and take prompt action on identified shortcomings.
- Promptly report and properly investigate all health, environmental, safety and security incidents, and take appropriate action to prevent recurrence.
- Establish and act upon goals and objectives to continually improve our health, environmental, safety and security performance.
- Publicly report to and maintain open dialogue and cooperation with key stakeholders on health, environmental, safety and security matters.
- Promote industry best practices regarding health, environmental, safety and security matters.

The head of each Operating Line is responsible for ensuring compliance with this Policy within his/her respective organization.

Carnival Corporation & plc senior management will review this policy at least annually.

Howard S. Frank, Vice Chairman and COO
15 October 2007

Micky Arison, Chairman and CEO
15 October 2007
During fiscal year 2011, the principal activities of CMP included:

- establishing HESS-related policies, standards and procedures;
- conducting HESS audits of Carnival’s Operating Lines and ships; and
- measuring and reporting on HESS-related performance.

CMP develops and assures implementation of Corporate maritime policy, standards and guidance based on the:

- assessment of risk,
- identification of best management practices,
- changing and emerging regulations,
- monitoring and responding to expectations of internal and external stakeholders, and
- results of shipboard audits and Operating Line headquarters reviews of HESS processes and performance.

During fiscal year 2011, CMP performed annual Corporate HESS audits of each Operating Line’s head office and one-third of each Operating Line’s fleet of cruise ships. These were in addition to the internal HESS audits performed by all Operating Lines under their respective management systems and by external third-party certification and regulatory auditors.

COMMITMENTS TO EXTERNAL INITIATIVES

Precautionary Approach

Risks and/or opportunities are identified and addressed by Carnival’s formal Enterprise Risk Management (ERM) process in the risk categories of Regulatory and Brand Quality/Innovation. Risk assessment activities within ERM occur at two levels: risk categories and risk events. The outputs of the ERM process are communicated to the Boards of Directors on a biannual basis. In addition, supplemental ERM reporting is provided periodically to the Audit and HESS Committees.

Mandatory and Voluntary

Carnival ships are regulated by the various international, national, state and local laws, regulations and treaties in force in the jurisdictions in which our ships operate. Our ships are registered in the Bahamas, Bermuda, Italy, Malta, the Netherlands, Panama, Portugal and the U.K. They are regulated by these Flag States and by the international conventions that govern health, environmental, safety and security matters in relation to guests, crew members and the ships. Representatives of each “Flag,” or country of registry, conduct periodic inspections, surveys and audits to verify compliance with these regulations. In addition, we are subject to the decrees, directives, regulations and other requirements of the more than 500 ports that our ships visit every year, as they apply to the various aspects of our ships’ operations.

Table 4.1 summarizes some of the principal laws, acts, codes, directives, legislation, protocols, statutes, rules, regulations and voluntary guidelines related to international environmental, maritime safety and labor requirements with which Carnival complies.
# GOVERNANCE, COMMITMENTS AND ENGAGEMENTS

## TABLE 4.1—OVERVIEW OF THE MAIN ENVIRONMENTAL AND SAFETY REGULATIONS

<table>
<thead>
<tr>
<th>REGULATION</th>
<th>DESCRIPTION AND SUMMARY OF REQUIREMENTS</th>
<th>HOW CARNIVAL MEETS OR EXCEEDS REGULATION</th>
</tr>
</thead>
</table>
| **International Conventions:** | SOLAS contains safety requirements for design, construction, equipment, operations, safety management, and security. It includes 12 Chapters, seven of which apply to Carnival’s operations:  
- Chapter I—General Provisions  
- Chapter II—Construction—Subdivision and stability, machinery and electrical installations  
- Chapter II—Fire protection, fire detection and fire extinction  
- Chapter III—Life-saving appliances and arrangements  
- Chapter IV—Radio-communications  
- Chapter V—Safety of navigation  
- Chapter IX—Management for the safe operation of ships  
- Chapter XI—Special measures to enhance maritime safety  
- Chapter XI—Special measures to enhance maritime security  

Compliance with SOLAS is verified by inspections and surveys conducted by the Flag State, or by its delegated representative (usually a classification society), and certificates are issued that confirm compliance. Port States also verify compliance with these requirements. In addition, cruise ships are subject to surveys that examine the ship’s structure (subdivision and stability), machinery and equipment, including life-saving appliances, fire protection and fire-safety systems, navigational equipment, radio installations, and other equipment to confirm compliance with the requirements of SOLAS. These surveys are conducted before the ship is put into service, annually thereafter, and as necessary. The Flag State issues a Passenger Ship Safety Certificate as evidence of compliance with SOLAS requirements. | Carnival complies with SOLAS. We have also developed and implemented Corporate Safety Standards that go beyond SOLAS requirements to further ensure the safety of our guests, ship personnel and ships, and cover a number of subjects including:  
- bridge team management;  
- training;  
- fire protection, detection and remediation;  
- emergency preparedness and response;  
- ship stability;  
- life-saving equipment and systems; and  
- watertight integrity. |
| **International Safety Management Code ("ISM Code"), contained in Chapter IX of SOLAS** | The ISM Code is an international standard for the safe management and operation of ships and for pollution prevention. It requires all ship operating companies and ships to develop, implement and obtain certification of their Safety Management System ("SMS"). The SMS covers both shipboard and shore-based activities and must include:  
- a company safety and environmental protection policy;  
- instructions and procedures to ensure the safe operation of ships and protection of the environment;  
- procedures for preparing for and responding to emergencies;  
- defined levels of authority and lines of communication between shore and shipboard personnel, and identification of a designated person ashore responsible for ISM Code compliance;  
- procedures for reporting accidents and ISM Code non-conformities; and  
- procedures for internal and external audits and management reviews.  

Compliance with ISM code is verified by inspections and surveys conducted by the Flag State, or by its delegated representative (usually a classification society), and certificates are issued that confirm compliance. | Carnival has also obtained additional certifications that go beyond the requirements of the ISM Code, including:  
- ISO 14001 Environmental Management System certification (all Operating Lines),  
- ISO 9001 Quality Management System certification (some Operating Lines), and  
- OHSAS 18001 Occupational Health and Safety Management System certification (some Operating Lines). |
| **International Ship and Port Facility Security Code ("ISPS" Code), contained in Chapter XI-2 of SOLAS** | The ISPS Code:  
- defines security standards, requirements, arrangements and procedures for ships, ports, and governments; and  
- prescribes responsibilities for governments, shipping companies, shipboard personnel, and port/facility personnel, among others, to develop security plans, detect security threats and take preventative measures against potential security incidents affecting ships or port facilities.  

Compliance is verified by inspections and surveys conducted by the Flag State, or by its delegated representative (usually a classification society), and certificates are issued that confirm compliance. | Carnival complies with the ISPS Code. |
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| International Convention for the Prevention of Pollution from Ships ("MARPOL") | MARPOL is the principal international convention governing marine pollution prevention and response. Compliance with MARPOL is verified by inspections and surveys conducted by the Flag State, or by its delegated representative (usually a classification society), and certificates are issued that confirm compliance. Port States also verify compliance with these requirements. MARPOL has six Annexes, four of which are applicable to Carnival’s ships and are described below: | Carnival complies with the requirements of MARPOL. We have also developed and implemented Corporate Environmental Standards that go beyond MARPOL and other regulations to further ensure environmental protection. They cover a number of subjects including:  
• control of refrigerants,  
• refrigerant personnel training,  
• wastewater management,  
• oily waste management,  
• hazardous waste management,  
• hazardous materials management,  
• Environmental Management Systems,  
• environmental organization,  
• environmental training, and  
• environmental performance monitoring and reporting. |
| Annex I, Regulations for the Prevention of Pollution by Oil, establishes requirements that prevent pollution from oil. Annex I sets forth a comprehensive list of requirements that include: | • designing and constructing vessel equipment specifications to reduce the occurrence of oil discharge;  
• fitting vessels with oil discharge monitoring and control systems, oily water separating equipment, oil content meters (bilge alarms) and a filtering system, slop tanks, sludge tanks, piping and pumping arrangements;  
• recordkeeping requirements for such equipment; and  
• having an approved shipboard oil pollution emergency plan (SOPEP). | Carnival exceeds the requirements of Annex I, in areas that include, but are not limited to:  
• often reducing the oil content of bilge water effluent from oily water separators to five parts per million (ppm) or less, lower than the MARPOL-required 15 ppm; and  
• requiring that Carnival’s Operating Lines install “white boxes,” which are redundant systems that monitor treated bilge water a second time prior to discharge to ensure the treated bilge water contains less than 15 ppm of oil before being discharged overboard.  
• Some of Carnival’s Operating Lines discharge treated bilge water outside 12 NM from the nearest land, whereas Annex I has no distance restrictions provided the ship is “en route” (sailing). |
| Annex IV, Regulations for the Prevention of Pollution by Sewage from Ships: | • establishes regulations for the discharge of sewage into the sea from ships, including regulations regarding the ships’ equipment and systems for the control of sewage discharge, the provision of facilities at ports and terminals for the reception of sewage, and requirements for survey and certification;  
• requires ships to be equipped with either an approved sewage treatment plant, or an approved sewage comminuting and disinfecting system, or a sewage holding tank;  
• prohibits the discharge of sewage into the sea, except when the ship has in operation an approved sewage treatment plant, or when the ship is discharging comminuted and disinfected sewage using an approved system at a distance of more than 3 NM from the nearest land; and  
• limits discharges of sewage that is not comminuted or disinfected to specific rates and at a distance of more than 12 NM from the nearest land. | Carnival exceeds the requirements of Annex IV, by:  
• requiring that discharges of treated black water be made beyond 12 NM from the nearest land (Annex IV only restricts treated black water discharges to outside 3 NM). Some Operating Lines have installed Advanced Waste Water Purification Systems (AWWPS) for the treatment of black and gray water. AWWPS utilize technologies designed to produce a higher effluent quality that is above MARPOL black water treatment standards, and meets or surpasses standards for secondary and tertiary effluents and reclaimed water.  
Annex IV does not include gray water management or treatment. |
| Annex V, Regulations for the Prevention of Pollution by Garbage from Ships: | • establishes rules and guidelines to eliminate and reduce the amount of garbage disposed of into the sea from ships;  
• defines garbage as all kinds of food, domestic and operational waste, excluding fresh fish, generated during the normal operation of the vessel and liable to be disposed of continuously or periodically;  
• prohibits, in part, the disposal of garbage in waters less than 12 NM from nearest land and prohibits the disposal of plastics anywhere into the sea;  
• severely restricts discharges of other garbage from ships into coastal waters and “Special Areas;” and  
• requires vessels to implement a Garbage Management Plan and record all disposal and incineration operations in a Garbage Record Book. | Carnival complies with Annex V, and some Operating Lines limit discharges to beyond 12 NM, which is even more restrictive than required by this regulation. |
### Standards of Recognition

Standards of Recognition ("SIRE")

- establishes reduction requirements for sulfur oxides ("SOx"), nitrogen oxides ("NOx") and particulate matter;
- sets limits on the sulfur content of fuel oil used by ships;
- requires that, in special Sulfur Emission Control Areas ("SECA's"), the sulfur content of fuel burned cannot exceed 0.5%;
- requires that, in non-SECA areas, the sulfur content of fuel burned cannot exceed 3.5%;
- requires ships to carry an International Air Pollution Prevention (IAPP) Certificate; and
- restricts the use of Ozone Depleting Substances (ODS), by requiring the recording of ODS, usage of rechargeable equipment, emissions and disposal of equipment containing ODS.

**Regulation**

Annex VI, Regulations for the Prevention of Air Pollution from Ships:

- Carnival complies with Annex VI by using fuel oil that is at or below the Annex VI limits for sulfur content. In addition, the following programs have been implemented:
  - Programs to train and certify individuals responsible for refrigeration and air-conditioning plants.
  - Use of recovery units certified to meet refrigerant recycling and recovery requirements.
  - Programs to reduce ODS releases.

### Ballast Water Convention

The Ballast Water Convention:

- aims to prevent the spread of harmful aquatic organisms from one region to another;
- establishes standards and procedures for the management and control of ships' ballast water and sediments;
- requires all ships to implement a Ballast Water and Sediments Management Plan and carry a Ballast Water Record Book;
- require ships to implement ballast water management procedures to a given standard;
- phases-out ballast water exchange as the primary control mechanism;
- phases-in ballast water discharge standards;

The Convention was adopted in 2004, but is not yet in force. It will go into force 12 months after ratification by 30 states, representing 35% of the world's merchant shipping tonnage (expected in 2013).

**Regulation**

International Convention for the Control and Management of Ships' Ballast Water and Sediments (IMO "Ballast Water Convention")

**How Carnival Meets or Exceeds Regulation**

Carnival voluntarily complies with the IMO's Ballast Water Management Guidelines. In addition:

- Carnival aims to minimize any discharges of ballast water by monitoring the levels of fuel, potable water, gray water and black water, and uses those tanks when possible to stabilize the vessel as opposed to taking on or discharging ballast water.
- Carnival's fuel and potable water bunkering is often coordinated in such a way as to reduce the need for ballast water tank usage.
- Some Operating Lines have worked with ballast water technology manufacturers and regulatory bodies to advance the development of treatment technologies and testing requirements.

### STCW

STCW requirements include:

- standards for the training, qualification and certification of seafarers;
- specific standards of competency of crew members; and
- methods for demonstrating competency.

All eight chapters of STCW apply to Carnival's operations:

- Chapter I: General provisions
- Chapter II: Master and deck department
- Chapter III: Engine department
- Chapter IV: Radio-communication and radio personnel
- Chapter V: Special training requirements for personnel on certain types of ships
- Chapter VI: Emergency, occupational safety, medical care and survival functions
- Chapter VII: Alternative certification
- Chapter VIII: Watchkeeping

Training requirements apply to all levels of crew members and are tailored to their specific on-board responsibilities.

Compliance is verified by inspections and surveys conducted by the Flag State, or by its delegated representative (usually a classification society), and certificates are issued to crew members that confirm compliance. Port States also verify compliance with these requirements.

**Regulation**

International Convention on Standards of Training, Certification and Watchkeeping for Seafarers ("STCW")

**How Carnival Meets or Exceeds Regulation**

Carnival complies with the requirements of STCW.

### ILO

ILO is the United Nations agency that develops and oversees international labor standards. These standards address many subjects related to the employment of people who work on ships, including:

**Regulation**

International Labour Organization ("ILO")

**How Carnival Meets or Exceeds Regulation**

Carnival complies with the ILO requirements.
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<td>Maritime Labor Convention (&quot;MLC&quot;), 2006</td>
<td>MLC 2006 consolidates and updates ILO standards into a single document. It: • provides comprehensive rights and protection at work for seafarers on a global basis; • aims to be globally applicable, easily understandable, readily updatable and uniformly enforced; and • was designed to become the “fourth pillar” of the international regulatory regime for quality shipping (SOLAS, MARPOL and STCW).</td>
<td>Carnival already complies with many MLC 2006 requirements, and will fully comply when it becomes mandatory in August 2013.</td>
</tr>
<tr>
<td>Limits on Sulfur Content in Fuel in the European Union (EU)</td>
<td>In January 2010, a 0.1% sulfur limit on all marine fuels used in EU ports entered into force, requiring the use of distillate fuels.</td>
<td>Carnival complies with EU requirements.</td>
</tr>
<tr>
<td>Pollution Prevention Guidelines for the Operation of Cruise Ships under Canadian Jurisdiction (TP 14202 E)</td>
<td>These Canadian regulations describe waste management practices and procedures, including items such as effluent discharge requirements, fuel sulfur content, halocarbon use and reporting.</td>
<td>Carnival only discharges treated black water outside 12 NM from the nearest land, though TP 14202 E would allow discharges beyond 3 NM. Some of Carnival’s operating lines discharge treated bilge water outside 12 NM from the nearest land provided the ship is “en route” (sailing), exceeding the requirement of TP 14202 E.</td>
</tr>
<tr>
<td>Canadian Ballast Regulations—Transport Canada (TP 13617 E)</td>
<td>The purpose of the Regulations is to protect waters under Canadian jurisdiction from non-indigenous aquatic organisms and pathogens that can be harmful to ecosystems and introduced by ships. The Regulations are intended to minimize the probability of future introductions of harmful aquatic organisms and pathogens from ships’ ballast water, while protecting the safety of ships.</td>
<td>Carnival complies with the Canadian ballast water requirements.</td>
</tr>
<tr>
<td>Port State Control Requirements: United States</td>
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<tr>
<td>National Marine Sanctuaries Act (NMSA)</td>
<td>Under the NMSA, certain marine environment areas are designated as national marine sanctuaries and are protected due to their national significance, recreational, ecological, historical, scientific, cultural, archeological, educational or esthetic values. The NMSA requires permits for certain commercial operations and includes more stringent discharge restrictions.</td>
<td>Carnival complies with the NMSA.</td>
</tr>
<tr>
<td>The Oil Pollution Act of 1990 (33 U.S.C. 2701–2761) (&quot;OPA 90&quot;)</td>
<td>OPA 90 amended the Clean Water Act, and it created a comprehensive prevention, response, liability and compensation regime regarding oil pollution in U.S. navigable waters caused by vessels and facilities. OPA 90 increased federal oversight of maritime oil transportation and increased environmental safeguards by: • establishing new requirements for vessel construction and crew licensing and manning; • mandating contingency planning; • enhancing federal response capability; • expanding the scope of enforcement authority; • increasing penalties and liabilities; and • increasing the scope of financial responsibility requirements.</td>
<td>Carnival complies with OPA 90.</td>
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*S Port State Requirements include those rules and regulations from the countries and other geographic areas where Carnival’s ships operate that may differ from those already summarized in this table. Carnival complies with Port State requirements of those countries in which its ships call.
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<td>U.S. Environmental Protection Agency’s Vessel General Permit (“VGP”)</td>
<td>The VGP, issued pursuant to the Clean Water Act, regulates discharges incidental to the normal operation of vessels. Each vessel is required to apply for an authorization to discharge in accordance with VGP requirements. The VGP regulates 26 specific discharge streams and contains inspection, monitoring, recordkeeping and reporting requirements.</td>
<td>Carnival complies with the VGP. Despite the VGP’s 1 NM restriction on discharges of gray water, Carnival’s Corporate Standard requires that any discharges of gray water be outside 4 NM from the nearest land. Despite the VGP’s 1 NM restriction on discharges of bilge water, some of Carnival’s Operating Lines require that treated bilge water discharges be outside 12 NM from the nearest land.</td>
</tr>
<tr>
<td>U.S. Resource Conservation and Recovery Act (“RCRA”)</td>
<td>RCRA requires hazardous waste management from “cradle-to-grave.” This includes the generation, transportation, treatment, storage, and disposal of hazardous wastes. RCRA also sets forth a framework for the management of non-hazardous solid wastes.</td>
<td>Carnaval voluntarily follows the intent of the RCRA as it pertains to the generation and storage of hazardous waste while the waste is on board the vessel. Carnival complies with RCRA and its implementing regulations once waste is landed ashore, including transportation requirements such as packaging, labeling, manifesting, and recordkeeping and reporting.</td>
</tr>
<tr>
<td>U.S. Coast Guard Ballast Water Regulations</td>
<td>Ballast Water Management reduces the threat to the world’s oceans, and resultant environmental, economic and public health impacts from invasive aquatic species by addressing the transfer of harmful aquatic organisms and pathogens in ships’ ballast water. These requirements include ballast water management, exchange, reporting and recordkeeping.</td>
<td>Carnival complies with international, federal and state ballast water management requirements and aims to minimize any discharges of ballast water. Carnival monitors the levels of fuel, potable water, gray water and black water, and uses those tanks when possible to stabilize the vessel as opposed to taking on or discharging ballast water. Carnival coordinates fuel and potable water bunkering in such a way as to reduce the need for ballast water tank usage. Two of Carnival’s Operating Lines, Carnival Cruise Line and Princess Cruises worked with U.S. Coast Guard Shipboard Technology Evaluation Program (STEP). This program provides incentive to shipowners and operators to install and operate experimental or prototype treatment systems with demonstrated potential for effective removal or destruction of organisms in ballast water.</td>
</tr>
<tr>
<td>Maritime Transportation Security Act of 2002 (“MTSA”)</td>
<td>The MTSA is U.S. legislation implementing the International Ship and Port Facility Security Code (ISPS) described above. It: • establishes a maritime security framework including U.S. vessel and port facility security requirements and standards; and • provides for U.S. Coast Guard enforcement of such provisions, including security assessments, security plans, training and drills.</td>
<td>Carnival’s ships, which all have valid International Ship Security Certificates confirming compliance with the ISPS Code, also comply with the requirements of MTSA.</td>
</tr>
<tr>
<td>Intelligence Reform and Terrorism Prevention Act of 2004</td>
<td>This post 9-11 Act requires cruise ship operators to provide certain passenger and crew information to the U.S. Department of Homeland Security (DHS) to enable DHS to compare this information to watch lists to prevent suspected or known terrorists and their associates from boarding, or to subject them to additional security scrutiny.</td>
<td>Carnival complies with the requirements of this Act.</td>
</tr>
<tr>
<td>Cruise Vessel Security and Safety Act (“CVSSA”) of 2010</td>
<td>This Act, which applies to passenger vessels that are authorized to carry at least 250 passengers and have on-board sleeping facilities: • promotes the safety and security of cruise vessel passengers and crew; • requires cruise vessels to adopt basic reporting, safety and security measures; and • mandates that cruise vessels adopt several other basic security measures, including: • updated ship design; • providing public access to information regarding crime on board cruise ships; • improved precautions, response and medical care and support for victims of sexual assault; and • preservation of evidence necessary to prosecute criminals.</td>
<td>Carnival complies with the requirements of this Act.</td>
</tr>
<tr>
<td>Alaska Cruise Ship Legislation; Title XIV “Certain Alaskan Cruise Ship Operations”</td>
<td>Sets federal effluent standards for black water and allows continuous discharge if treatment standards are met and confirmed via sampling.</td>
<td>Carnival complies with the Alaska Cruise Ship Legislation.</td>
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<tr>
<td>Endangered Species Act (&quot;ESA&quot;) and The Marine Mammal Protection Act (&quot;MMSPA&quot;)</td>
<td>The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the U.S. Fish and Wildlife Service and the Commerce Department’s National Marine Fisheries Service (NMFS). The MMPA prohibits, with certain exceptions, the “take” of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. Pursuant to the Right Whale Ship Strike Reduction Rule, vessels 65 feet or longer must travel at 10 knots or less in certain locations (SMAs) along the east coast of the U.S. Atlantic seaboard at certain times of the year to reduce the threat of ship collisions with critically endangered North Atlantic right whales.</td>
<td>Carnival complies with the ESA and MMPA. In 2006, Holland America Line partnered with the U.S. National Oceanic and Atmospheric Administration (NOAA) to train navigators to identify different whale species and predict their behaviors in order to avoid collisions with ships. This program was licensed to NOAA and is freely distributed to shipping companies around the world to help train their personnel to avoid whale strikes.</td>
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</table>

Key U.S. State Requirements: |
- Alaska State Cruise Ship Legislation:  
  Alaskan State Law AS 46.03.460–46.03.490 Establishes effluent limits for gray and black water, describes non-hazardous and hazardous solid waste requirements, and reporting requirements. Carnival complies with the Alaska State Cruise Ship Legislation. |
- Alaska State Regulation 18 AAC 50.070.—Marine Vessel Visible Emission Standards Establishes visible emissions requirements. Some Operating Lines have installed opacity meters as an additional tool for monitoring air quality. |
- Alaska Ocean Ranger Program Alaskan Department of Environmental Conservation (DEC) program, which became law on December 17, 2006, requires U.S. Coast Guard licensed marine engineers on board certain cruise vessels to act as independent observers monitoring state environmental and marine discharge requirements. Ocean Rangers also check that passengers and crew are protected from improper sanitation, health and safety practices. Carnival complies with the Ocean Ranger Program. |
- Hawaii State Cruise Ship Legislation—Act 217, Commercial Passenger Vessels Discharges The Hawai'i State Cruise Ship Legislation establishes standards for the discharge of treated sewage and air emissions from cruise ships and commercial passenger vessels. It prohibits the discharge of untreated sewage from commercial passenger vessels, and it includes specific recordkeeping and monitoring requirements. Carnival complies with the Hawaii Cruise Ship legislation and some of our Corporate Standards exceed these requirements. |
- State Ballast Requirements:  
  California Code of Regulations, Title 2, Division 3, Chapter 1, Articles 4.5–4.8 Ballast Water Management reduces the threat to the world’s oceans and resultant environmental, economic and public health impacts from invasive aquatic species, by addressing the transfer of harmful aquatic organisms and pathogens in ships’ ballast water. Carnival complies with State Ballast Requirements. |
- California State Limits on Sulfur Content in Fuel California requires the use of marine gas oil with 1.5% sulfur or less or marine diesel oil with 0.5% sulfur or less within 24 NM. Carnival complies with the California requirements. Several of Carnival’s Operating Lines have installed shore power connections, which operate in the ports of Juneau, Seattle and Long Beach in the U.S. Carnival ships operating in California participate in the Port of Long Beach’s Voluntary Vessel Speed Reduction Program, which is aimed at reducing vessel speed in an effort to help reduce air pollution. |

Flag State Regulations: |
- Flag State Requirements Rules and regulations that generally implement international conventions from which Carnival’s ships are registered: Bahamas, Bermuda, Italy, Malta, the Netherlands, Panama, Portugal and the United Kingdom. Carnival complies with all Flag State requirements. |

State and Trade Association Voluntary Guidelines: |
- Voluntary Guidelines:  
  a) Memorandum of Understanding —Cruise Operations in Washington State  
  b) Florida Department of Environmental Protection Memorandum of Understanding  
  c) Cruise Lines International Association Waste Management Practices and Procedures These are voluntary guidelines related to environmentally responsible handling and disposal of various waste streams, including hazardous wastes, agreed upon by specific states and cruise lines to prevent pollution. Carnival’s Corporate Standards meet or exceed the levels recommended by the Guidelines, for example, by requiring discharge of treated black water and bilge water outside 12 NM. |
  d) The Venice Blue Flag Agreement Adopted in 2007, this requires ships and ferries that transit from the Lido Port to the Maritime Station to voluntarily use fuel with 0.1% or less sulfur prior to entering the Venice lagoon. Carnival complies with the voluntary Blue Flag agreement. |

* There are numerous state requirements that apply to Carnival’s ships; only select State requirements are included here as examples. Certain states, including, but not limited to Washington, Oregon, Alaska and California have more extensive requirements than those under federal regulations.
GOVERNANCE, COMMITMENTS AND ENGAGEMENTS

COMMITMENTS TO EXTERNAL INITIATIVES–MEMBERSHIPS
Carnival and our subsidiary Operating Lines are members of, and actively participate in, the following organizations. The members of these organizations work together and with key stakeholders to address a broad range of sustainability issues in the cruise industry, in the broader maritime industry and with companies representing other industries:

- Cruise Lines International Association (CLIA) (www.cruising.org)
- Florida Caribbean Cruise Association (FCCA) (www.f-cca.com)
- European Cruise Council (ECC) (www.european cruisecouncil.com)
- International Chamber of Shipping (ICS)/International Shipping Federation (ISF) (www.marisec.org)
- European Community Shipowners’ Associations (ECSA) (www.ecsa.eu)
- The U.K. Chamber of Shipping (www.ukchamberofshipping.com)
- Ship Emission Abatement and Trading (SEAaT) (www.seaat.org)
- Global Environmental Management Initiative (GEMI) (www.gemi.org)
- Sustainable Shipping Initiative (SSI) (www.ssi2040.org)
- Sustainable Travel Leadership Network (STLN) (http://sustainabletravel.org/projects/sustainable-travel-leadership-network)

STAKEHOLDER ENGAGEMENT AND RESULTS
Carnival and its subsidiary Operating Lines regularly and proactively engage with a broad range of stakeholder groups that have interests in our sustainability policies, standards and performance. Such stakeholder groups include:

- guests,
- employees,
- home and destination port communities,
- travel professionals,
- suppliers,
- media,
- non-governmental organizations (NGOs),
- government agencies,
- investors, and
- business organizations.

Carnival has identified the issues and stakeholders that appear to be most important for long-term success. Through active, ongoing communications, we develop common understandings of the issues relevant to the challenges we face, including industry-specific aspects and technical terminology.

There is usually mutual agreement on the type of engagement between Carnival and stakeholders, such as types of meetings (group meetings, one-on-ones), meeting frequency, information exchange, roles of each party, etc. The engagement process ensures that all stakeholders can voice their concerns. The results of the engagement process are reported to the stakeholders involved.

The contents of this Sustainability Report reflect the key topics and concerns that have been raised through our stakeholder engagements and how Carnival has responded to these topics and concerns.
MANAGEMENT APPROACH AND PERFORMANCE

5

MEASURING OUR PERFORMANCE
ENVIRONMENT

ENVIRONMENTAL IMPACT MITIGATION (EN 26)
At Carnival we understand and embrace our role as a global corporate citizen who is dependent on the health of the world’s oceans. Implicit in this role is our responsibility to help protect the environment in which we operate. As an industry leader and pioneer, we have established our own benchmarks in terms of climate and environmental protection, often exceeding regulatory mandates.

Carnival’s environmental footprint is defined by the significant environmental aspects associated with the operation of our cruise ships. These include our use of fuel, water and food, as well as the discharge of wastewaters, generation and disposal of solid wastes, and emissions from combustion and refrigeration equipment. We also recognize that all of these factors can affect the biodiversity of the areas in which we operate. We continue to seek opportunities to reduce the environmental impacts from our operations by reducing our emissions and the generation of waste. In fact, we have set a Corporate target of 20 percent reduction by 2015, from our 2005 baseline, in the intensity of carbon dioxide emissions from shipboard operations.

MANAGEMENT APPROACH
Carnival has invested in a number of environmental initiatives, and we have been involved in research projects and initiatives for our existing ships and new ships under construction. These initiatives and projects include:
• creating an energy-efficient design of new ships;
• installing Advanced Wastewater Purification Systems (AWWPS);
• setting wastewater discharge limits;
• deploying water-use reduction technologies (e.g. special shower heads, flow regulators, infrared switches);
• monitoring low sulfur fuel use and, in some cases, using fuel with lower sulfur than required by regulations;
• examining and testing various types of exhaust gas cleaning systems (scrubbers);
• utilizing water-lubricated shaft-bearing systems;
• using JETS vacuum (reduced-water usage) sewage systems;
• reducing and, in some cases, eliminating dry-cleaning chemicals (PERC);
• using refrigerant-recovery units;
• using biodegradable oils;
• installing technology required to use shore power in ports where it is available (“cold ironing”);
• training shipboard staff who are key to implementing initiatives;
• participating in a German government-sponsored research project on heat recovery and fuel cells (“e4ships”);
• incorporating an innovative “Air Lubrication System,” which creates bubbles between the ship’s hull and water to reduce friction;
• using variable-frequency ventilation drive fans;
• selecting enhanced hull coating and paints;
• using waste heat in evaporators to produce fresh water;
• increasing efficiency of heating, ventilation and air conditioning (HVAC) systems; and
• installing ship trim optimization systems.

Each Operating Line has implemented an Environmental Management System (EMS) in accordance with International Organization for Standardization (ISO) Standard 14001. ISO is an international standard-setting body that produces worldwide industrial and commercial standards. ISO 14001, an EMS standard that was developed to help organizations manage the environmental impacts of their processes, products and services, presents a structured approach to setting environmental objectives and targets. It provides a framework for any organization to apply these broad conceptual tools to their own business and processes.

An independent, third-party organization audits and certifies the EMS of each of our Operating Lines in accordance with ISO 14001. As part of their respective EMSSs, each Operating Line establishes annual objectives, targets and plans to improve its environmental performance. Implementation of an ISO 14001 EMS by each Operating Line since 2006 has enabled us to reduce our environmental footprint. The performance indicators disclosed in this section demonstrate some of the measurable results of this approach.

Climate change is one of the major challenges facing nations, governments, businesses and individuals over future decades. In response, organizations have developed and implemented initiatives to limit greenhouse gas (GHG) concentrations in the Earth’s atmosphere. Such GHG initiatives rely on the quantification, monitoring, reporting and verification of GHG emissions. Carnival has developed a GHG Inventory Management Plan (GHG IMP) in accordance with the requirements of the ISO 14064-1:2006 and The Greenhouse Gas Protocol. The plan also enables LRQA, Carnival’s independent third-party GHG verifier, to certify our GHG emissions inventory.

Carnival’s GHG IMP describes the policies, procedures and other management system elements that are used to design and develop, collect, calculate, verify, manage and report information about Carnival’s GHG inventory and emissions. The GHG IMP applies to material shipboard and shore activities that result in GHG emissions.
MANAGEMENT APPROACH AND PERFORMANCE

The Sustainability Reports published by some of our subsidiary Operating Lines provide further details on our efforts to reduce our overall environmental footprint and the actions we are taking to mitigate environmental impacts. Even though the impacts of our shoreside operations are small when compared with those associated with our ship operations, we are working on mitigating those environmental impacts, as well.

CORPORATE ENVIRONMENTAL STANDARDS
Guided by the Corporate Health, Environmental, Safety & Security (HESS) Policy and Standards, the Operating Lines monitor, manage and continuously improve our environmental performance. These standards extend considerably beyond the requirements of current environmental laws and regulations, and address:

- refrigeration technician training;
- refrigerant recovery units;
- black and gray water management;
- bilgewater and oily waste management;
- underwater paint coatings;
- grease trap—grease/oil/residue disposal;
- waste management;
- hazardous materials management and hazard communications;
- Environmental Management System (EMS) Certification;
- environmental organization and reporting structure;
- environmental awareness and training;
- Corporate environmental auditing and monitoring;
- environmental accountability and reporting; and
- reporting of ship and shore facility incidents.

GREENHOUSE GAS EMISSIONS

DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS (EN 16)
Climate change is at the top of the priority lists for many governments, businesses and individuals. Carnival actively participates in, and contributes to, the process of determining our industry’s role in addressing climate change. Since 2007, Carnival has disclosed our carbon footprint via the Carbon Disclosure Project (CDP).

Greenhouse gases (GHG) greatly affect the temperature of the Earth. Experts say that the greenhouse gases that are major contributors to global warming are carbon dioxide (CO₂), methane (CH₄), nitrogen oxide (N₂O) and chlorofluorocarbons (CFC).

Carnival monitors our direct and indirect GHG emissions. Direct emissions, also known as Scope 1 emissions, are from sources that are owned or controlled by the reporting organization. For example, direct emissions related to combustion would arise from burning fuel for energy on our ships.

Indirect, or Scope 2, emissions result from the activities of the reporting organization at sources owned or controlled by another organization, such as an electricity company. In the context of this indicator, indirect emissions refer to GHG emissions from the generation of electricity, heat or steam that is imported and consumed by our ships and facilities.

In fiscal year 2011, Carnival’s direct GHG emissions accounted for 99.5 percent of our total GHG emissions. The emissions due to the ship’s fuel consumption represented the bulk of the direct GHG emissions, specifically 97.1 percent. The bulk (86.8 percent) of Carnival’s indirect GHG emissions were attributed to shore activities. See EN 16 tables and charts for further details.

GHG emission data collection and calculations were performed in accordance with:

- Carnival’s Greenhouse Gas Inventory Management Plan;
- ISO 14064-3:2006, Greenhouse gases—Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions; and

Emissions calculations were based primarily on default values¹ obtained from published industry documents and/or current database values maintained by Carnival. Direct emissions reported for ship operations also include the CO₂e impact from fugitive releases of shipboard refrigerants.

Carnival has some GHG emission sources whose contribution to the consolidated total is not material and whose quantification is not technically feasible or cost effective. These “de minimis” sources include:

- fuel combustion emissions from emergency generators used in shore facilities (Direct—Scope 1);
- combustion emissions from burning waste in shipboard incinerators (Direct—Scope 1);
- fugitive release of sulfur hexafluoride (SF₆) gas from shipboard circuit breakers (Direct—Scope 1);
- fugitive release of methane (CH₄) gas from shipboard marine sanitation devices or advanced wastewater treatment plants (Direct—Scope 1);
- fugitive refrigerant gas releases from shore hotels and offices (Direct—Scope 1);
- electricity consumption from shore offices smaller than 8,000 square feet (Indirect—Scope 2);
- small watercraft at private islands (Direct—Scope 1); and
- releases of halons and CO₂ from shipboard fire-suppression (emergency-use) systems (Direct—Scope 1).

¹ Default values for calculating CO₂ emissions from marine fuels are from IMO MEPC/Circ. 471: HFO = 3.114 t CO₂/t fuel; MDO/MGO = 3.206 t CO₂/t fuel. GWP values for other GHG emissions from marine fuel are from the IPCC Fourth Assessment Report: Methane = 25; Nitrous oxide = 298, where CO₂ = 1.0.
TABLE 5.1 (EN 16)—DIRECT AND INDIRECT GREENHOUSE GAS (GHG) EMISSIONS BY WEIGHT

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct GHG Emissions</td>
<td>Metric Tonnes CO₂e</td>
<td>10,255,943</td>
<td>10,264,098</td>
<td>10,700,266</td>
<td>10,949,844</td>
</tr>
<tr>
<td>Indirect GHG Emissions</td>
<td>Metric Tonnes CO₂e</td>
<td>61,874</td>
<td>53,123</td>
<td>48,370</td>
<td>53,228</td>
</tr>
<tr>
<td>Total GHG Emissions</td>
<td>Metric Tonnes CO₂e</td>
<td>10,317,817</td>
<td>10,317,221</td>
<td>10,748,636</td>
<td>11,003,072</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; the figures exclude refrigerant GHG emissions from Ibero Cruises for the period 2008–2009 as refrigerant release data was unavailable.

FIGURE 5.1 (EN 16)—DIRECT AND INDIRECT GREENHOUSE GAS (GHG) EMISSIONS BY WEIGHT

Table 5.1 (EN 16) and Figure 5.1 (EN 16) show the direct, indirect and total greenhouse gas emissions (GHG), by weight in tonnes of CO₂ equivalent from sources controlled by Carnival.

TABLE 5.2 (EN 16)—DIRECT GREENHOUSE GAS (GHG) EMISSIONS BY WEIGHT (SHIP AND SHORE)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship Direct GHG Emissions</td>
<td>Metric Tonnes CO₂e</td>
<td>10,221,210</td>
<td>10,236,642</td>
<td>10,677,839</td>
<td>10,924,006</td>
</tr>
<tr>
<td>Shore Direct GHG Emissions</td>
<td>Metric Tonnes CO₂e</td>
<td>34,732</td>
<td>27,456</td>
<td>22,428</td>
<td>25,838</td>
</tr>
<tr>
<td>Total Direct GHG Emissions</td>
<td>Metric Tonnes CO₂e</td>
<td>10,255,942</td>
<td>10,264,098</td>
<td>10,700,267</td>
<td>10,949,844</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; the figures exclude refrigerant GHG emissions from Ibero Cruises for the period 2008–2009 as refrigerant release data was unavailable.

FIGURE 5.2 (EN 16)—DIRECT GREENHOUSE GAS (GHG) EMISSIONS BY WEIGHT (SHIP AND SHORE)

Table 5.2 (EN 16) and Figure 5.2 (EN 16) show the total direct GHG emissions broken down by ship operations and shore activities by weight in tonnes of CO₂ equivalent from sources controlled by Carnival.
TABLE 5.3 (EN 16)—SHIP DIRECT GREENHOUSE GAS (GHG) EMISSIONS BY WEIGHT

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship Fuel GHG Emissions</td>
<td>Metric Tonnes CO₂e</td>
<td>10,001,638</td>
<td>10,019,771</td>
<td>10,477,851</td>
<td>10,686,274</td>
</tr>
<tr>
<td>Ship Refrigerant GHG Emissions</td>
<td>Metric Tonnes CO₂e</td>
<td>219,572</td>
<td>216,870</td>
<td>229,988</td>
<td>237,732</td>
</tr>
<tr>
<td>Total Ship Direct GHG Emissions</td>
<td>Metric Tonnes CO₂e</td>
<td>10,221,210</td>
<td>10,236,641</td>
<td>10,677,839</td>
<td>10,924,006</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; the figures exclude refrigerant GHG emissions from Ibero Cruises for the period 2008–2009 as refrigerant release data was unavailable.

FIGURE 5.3 (EN 16)—SHIP DIRECT GREENHOUSE GAS (GHG) EMISSIONS BY WEIGHT

Table 5.3 (EN 16) and Figure 5.3 (EN 16) show the total ship direct GHG emissions broken down by ship fuel GHG emissions and ship refrigerant GHG emissions by weight.

TABLE 5.4 (EN 16)—INDIRECT GREENHOUSE GAS (GHG) EMISSIONS BY WEIGHT (SHORE AND SHIP)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shore Indirect GHG Emissions</td>
<td>Metric Tonnes CO₂e</td>
<td>56,660</td>
<td>47,488</td>
<td>44,591</td>
<td>46,222</td>
</tr>
<tr>
<td>Ship Indirect GHG Emissions</td>
<td>Metric Tonnes CO₂e</td>
<td>5,214</td>
<td>5,635</td>
<td>3,779</td>
<td>7,006</td>
</tr>
<tr>
<td>Total Indirect GHG Emissions</td>
<td>Metric Tonnes CO₂e</td>
<td>61,874</td>
<td>53,123</td>
<td>48,370</td>
<td>53,228</td>
</tr>
</tbody>
</table>

FIGURE 5.4 (EN 16)—INDIRECT GREENHOUSE GAS (GHG) EMISSIONS BY WEIGHT (SHORE AND SHIP)

Table 5.4 (EN 16) and Figure 5.4 (EN 16) show the total indirect GHG emissions broken down by shore activities and ship operation by weight in tonnes of CO₂ equivalent from sources controlled by Carnival.
GREENHOUSE GAS (GHG) REDUCTIONS (EN 18)

Fuel consumption is the most significant contributor to Carnival’s carbon footprint. We have set a Corporate target of 20 percent reduction by 2015, from our 2005 baseline, in intensity of carbon dioxide emissions from shipboard operations (as measured in grams of CO₂e per ALB-km). Measuring our GHG emission rate permits us to make meaningful GHG emissions reduction comparisons that take into account changes in fleet size, itineraries and guest capacity. We expect to achieve this target primarily by reducing energy consumption by our ships.

Ships’ absolute fuel consumption and related GHG emissions increased over the period from 2005–2011, due to new ships entering service and the addition of ships through the 2007 acquisition of Ibero Cruises. Although our absolute GHG emissions increased, our GHG emissions rate declined over the same period, indicating that we are increasing our fuel efficiency. The trend depicted in Figure 5.5 (EN 18) clearly shows that we are moving in a positive direction, which is reducing the rate of GHG emissions because of the efforts described in the Energy Savings (EN 6) section of this Sustainability Report.

Carnival’s GHG emissions for 2011 have been independently verified by LRQA in accordance with ISO 14064-3:2006, “Greenhouse gases—Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions.”

### TABLE 5.5 (EN 18)—TOTAL SHIP FUEL GREENHOUSE GAS (GHG) EMISSIONS AND SHIP FUEL GHG EMISSION RATE

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Ship Fuel GHG Emissions</td>
<td>Metric Tonnes CO₂e</td>
<td>8,576,713</td>
<td>8,750,741</td>
<td>9,546,678</td>
<td>10,001,638</td>
<td>10,019,771</td>
<td>10,447,851</td>
<td>10,686,274</td>
</tr>
<tr>
<td>Ship Fuel GHG Emission Rate</td>
<td>Grams CO₂e/ ALB-Km</td>
<td>347</td>
<td>338</td>
<td>335</td>
<td>327</td>
<td>315</td>
<td>303</td>
<td>298</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; the figures exclude refrigerant GHG emissions from Ibero Cruises for the period 2008–2009 as refrigerant release data was unavailable.

### FIGURE 5.5 (EN 18)—TOTAL SHIP FUEL GREENHOUSE GAS (GHG) EMISSIONS AND SHIP FUEL GHG EMISSION RATE

Table 5.5 (EN 18) and Figure 5.5 (EN 18) show the total ship fuel GHG emissions by weight and ship fuel GHG emission rate in terms of grams of CO₂e per ALB-Km. The reductions achieved are reflected in the decreasing intensity of GHG emissions.
OTHER EMISSIONS

Ozone-Depleting Substances (EN 19)
The earth’s ozone layer filters out most of the sun’s biologically harmful ultraviolet (UV-B) radiation. Ozone-depleting substances (ODS) released into the atmosphere destroy this ozone layer. These substances include:

- chlorofluorohydrocarbon (CFC) refrigerants,
- hydrochlorofluorocarbon (HCFC) refrigerants,
- hydrofluorocarbon (HFC) refrigerants, and
- halon (a shipboard fire-extinguishing medium).

Considering the different Ozone Depletion Potential (ODP) of the various refrigerant gases, the method of calculation involves conversion into CFC-equivalent (CFC-11e). CFC-equivalent is a measure of the amount of CFC-11 gas that would have had the same ozone-depleting effect as the total quantity of the different gases released. The conversion factors to obtain the amount of CFC-equivalent from the various types of refrigerant gases are those given in the Montreal Protocol Technical Papers.

The variables affecting this indicator are essentially the amount of freon released during the year and the ODP of these refrigerants (i.e., their composition).

### TABLE 5.6 (EN 19)—SHIP FUGITIVE REFRIGERANT RELEASES AND EMISSIONS OF OZONE-DEPLETING SUBSTANCES BY WEIGHT

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship Fugitive Refrigerant Releases</td>
<td>Kilograms</td>
<td>117,772</td>
<td>123,010</td>
<td>124,376</td>
<td>127,170</td>
</tr>
<tr>
<td>Ship Ozone-Depleting Substance (ODS) Emissions</td>
<td>Kg CFC-11e</td>
<td>3,288</td>
<td>2,004</td>
<td>1,975</td>
<td>6,172</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; the figures exclude refrigerant GHG emissions from Ibero Cruises for the period 2008–2009 as refrigerant release data was unavailable.

### FIGURE 5.6 (EN 19)—SHIP FUGITIVE REFRIGERANT RELEASES AND EMISSIONS OF OZONE-DEPLETING SUBSTANCES BY WEIGHT

Table 5.6 (EN 19) and Figure 5.6 (EN 19) show the total quantities of fugitive refrigerant releases and ODS emissions in terms of CFC-11 equivalent by weight from our ships.

Note: For fiscal year 2011, the CFC-11e shows a higher value than in 2010. This is because the fiscal year 2011 CFC-11e values include accidental halon releases. Excluding these accidental releases, the total CFC-11e released for fiscal year 2011 is 1,652 kilograms.
NOx, SOx AND PM EMISSIONS (EN 20)

Air pollutants can have adverse effects on humans, animals, and land and marine ecosystems. The volume of such emissions may have direct cost implications for Carnival.

The volume of nitrogen oxide (NOx), sulfur oxide (SOx) and particulate matter (PM) emissions depend on the quantities of the different types of fuel consumed by the ships. Carnival uses types of fuel that are required by international, regional, national and port regulations. The type of fuel consumed, and engine design, operation and maintenance, can all affect PM emissions. We are continually working to control and reduce these air emissions by evaluating all feasible marine solutions.

From fiscal year 2010 to fiscal year 2011, we experienced a slight increase (less than 0.7 percent) of our SOx emissions rate, but it still remains below fiscal year 2008 levels. One of the reasons for this reduction is the use of marine fuel that had lower weighted-average sulfur content.

**TABLE 5.7 (EN 20)—TOTAL SULFUR OXIDES (SOx) EMISSIONS BY WEIGHT AND SOx EMISSION RATE**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total SOx Emissions</td>
<td>Metric Tonnes</td>
<td>131,732</td>
<td>134,683</td>
<td>140,218</td>
<td>145,480</td>
</tr>
<tr>
<td>SOx Emissions Rate</td>
<td>Kg SOx/NM</td>
<td>16.1</td>
<td>16.0</td>
<td>15.2</td>
<td>15.3</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; however, for the period 2008–2009, the figures exclude Ibero Cruises as fuel sulfur content and distance traveled data was unavailable.

**FIGURE 5.7 (EN 20)—TOTAL SULFUR OXIDES (SOx) EMISSIONS BY WEIGHT AND SOx EMISSION RATE**

Table 5.7 (EN 20) and Figure 5.7 (EN 20) show the total SOx air emissions by weight and the SOx emission rate in terms of weight-per-nautical mile of distance traveled by the ships. The SOx weight calculations take into account the weighted-average sulfur content of the fuel consumed and the default emission factors\(^4\). Using emissions rates normalized by distance traveled allows us to compare our pollutant reduction efforts over the reporting periods.

\(^4\) The default emission factor used for calculating SOx value is 0.95 x 20 x 0.96, where S is the fuel sulfur content.
MANAGEMENT APPROACH AND PERFORMANCE

Our ships use two fuel types:
• heavy fuel oil (HFO) and
• marine diesel oil/marine gas oil (MDO/MGO).

At Carnival, HFO is broken down into two categories:
• high sulfur fuel oil (HSFO); and
• low sulfur fuel oil (LSFO), a much cleaner fuel than HSFO.

For 2010, Carnival defined LSFO as HFO with a sulfur content of less than or equal to 1.5 percent. Our environmental footprint is determined in part by the types of fuel we use. In prior reporting periods, we used LSFO, but we did not track it as a separate fuel category. In 2010, we began to track and report LSFO as a separate fuel type. In addition, from 2009 to 2011, we also consumed more MDO/MGO, which results in lower SOx emissions than HFO.

TABLE 5.8 (EN 20)—SHIP FUEL BREAKDOWN BY TYPE IN PERCENT OF TOTAL FUEL

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Sulfur Fuel Oil (HSFO)</td>
<td>Percent</td>
<td>96.7%</td>
<td>96.9%</td>
<td>87.1%</td>
<td>87.8%</td>
</tr>
<tr>
<td>Low Sulfur Fuel Oil (LSFO)*</td>
<td>Percent</td>
<td>N/A</td>
<td>N/A</td>
<td>8.0%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Marine Diesel Oil/Marine Gas Oil (MDO/MGO)</td>
<td>Percent</td>
<td>3.3%</td>
<td>3.1%</td>
<td>4.9%</td>
<td>5.2%</td>
</tr>
</tbody>
</table>

*We were using Low Sulfur Fuel Oil (LSFO) in fiscal year 2008 and 2009, but began monitoring and reporting LSFO as a separate HFO fuel category in fiscal year 2010.

FIGURE 5.8 (EN 20)—SHIP FUEL BREAKDOWN BY TYPE IN PERCENT OF TOTAL FUEL

Table 5.8 (EN 20) and Figure 5.8 (EN 20) show the breakdown in percent for the different types of marine fuel consumed over the reporting period.
From 2008 through 2011, we achieved a reduction in our NOx and PM$_{2.5}$ emission rate. One of the reasons for this reduction is that we improved our fuel efficiency per distance traveled.

### TABLE 5.9 (EN 20)—TOTAL NITROGEN OXIDES (NOx) EMISSIONS BY WEIGHT AND NOx EMISSION RATE

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total NOx Emissions</td>
<td>Metric Tonnes</td>
<td>206,607</td>
<td>206,988</td>
<td>215,719</td>
<td>220,624</td>
</tr>
<tr>
<td>NOx Emissions Rate</td>
<td>Kg NOx/NM</td>
<td>24.8</td>
<td>24.2</td>
<td>23.4</td>
<td>23.2</td>
</tr>
</tbody>
</table>

The NOx emission rate figures exclude Ibero Cruises for 2008–2009 because distance traveled data was unavailable.

### FIGURE 5.9 (EN 20)—TOTAL NITROGEN OXIDES (NOx) EMISSIONS BY WEIGHT AND NOx EMISSION RATE

Table 5.9 (EN 20) and Figure 5.9 (EN 20) show the total NOx air emissions by weight and the NOx emission rate in terms of weight-per-nautical mile of distance traveled by the ships. The NOx weight is calculated based on default emission factors. Using emission rate normalized by distance traveled allows us to compare our pollutant reduction efforts over the reporting periods.

---

$^5$ The default emission factor used for calculating NOx value is 65 kilograms of NOx per tonne of fuel consumed.
**TABLE 5.10 (EN 20)—TOTAL PARTICULATE MATTER (PM$_{2.5}$) EMISSIONS BY WEIGHT AND PM$_{2.5}$ EMISSION RATE**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Particulate Matter (PM$_{2.5}$) Emissions</td>
<td>Metric Tonnes</td>
<td>3,814</td>
<td>3,821</td>
<td>3,983</td>
<td>4,073</td>
</tr>
<tr>
<td>Particulate Matter (PM$_{2.5}$) Emission Rate</td>
<td>Kg PM/NM</td>
<td>0.46</td>
<td>0.45</td>
<td>0.43</td>
<td>0.43</td>
</tr>
</tbody>
</table>

PM$_{2.5}$ refers to particles with diameters between 2.5 and 10 micrometers. The PM$_{2.5}$ emissions rate figures exclude Ibero Cruises for 2008–2009 because distance traveled data was unavailable.

**FIGURE 5.10 (EN 20)—TOTAL PARTICULATE MATTER (PM$_{2.5}$) EMISSIONS BY WEIGHT AND PM$_{2.5}$ EMISSION RATE**

Table 5.10 (EN 20) and Figure 5.10 (EN 20) show the total PM$_{2.5}$ air emissions by weight and PM emission rate in terms of weight-per-nautical mile of distance traveled by the ships. The PM$_{2.5}$ weight is calculated based on default emission factors$^6$. Similar to SOx and NOx, using emission rate normalized by distance traveled allows us to compare our pollutant reduction efforts over the reporting periods.

$^6$ The default emission factor used for calculating PM$_{2.5}$ value is 1.2 kilograms of PM$_{2.5}$ per tonne of fuel consumed.
MANAGEMENT APPROACH AND PERFORMANCE

ENERGY
Direct Energy Use (EN 3)
We measure our ability to use direct energy efficiently by calculating the amount of primary source energy we consume. Reduction of fuel consumption by our ships, the main energy source, is one of the key objectives of each of our Operating Lines. Carnival recognizes that combustion of fossil fuels is a major source of GHG emissions, and we are controlling our GHG emissions by efficiently managing our shipboard energy consumption.

Carnival also has operational control over a number of shoreside stationary and mobile activities that consume non-renewable energy sources. The primary energy sources consumed by these activities are diesel, gasoline, heating oil, aviation fuel, natural gas and coal.

The energy consumption by these shoreside stationary and mobile activities is small compared with the total fuel consumed by our ships. In fiscal year 2011, our ships consumed approximately 99.8 percent of our total direct energy consumption.

Measuring and reporting our normalized energy consumption rate allows us to make meaningful energy reduction comparisons that take into account changes in fleet size, itineraries and guest capacity. Carnival’s absolute ship energy consumption increased over the period from fiscal year 2008 to fiscal year 2011, due to growth from building new ships. The rate trend shows that we are moving in a favorable direction. This improvement in our energy consumption rate is a direct result of our energy conservation efforts. See Table 5.11 (EN 3) and Figure 5.11 (EN 3).

Table 5.11 (EN 3)—Direct Energy Consumption by Users (Ship and Shore) and Total Energy Consumption Rate

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship Energy Consumption</td>
<td>Gigajoules</td>
<td>129,881,214</td>
<td>130,109,891</td>
<td>135,785,273</td>
<td>138,902,224</td>
</tr>
<tr>
<td>Shore Energy Consumption</td>
<td>Gigajoules</td>
<td>484,226</td>
<td>369,529</td>
<td>286,656</td>
<td>337,923</td>
</tr>
<tr>
<td>Total Energy Consumption</td>
<td>Gigajoules</td>
<td>130,365,440</td>
<td>130,479,420</td>
<td>136,071,929</td>
<td>139,240,147</td>
</tr>
<tr>
<td>Total Energy Consumption Rate</td>
<td>Kilojoules/ALB-Km</td>
<td>4,267</td>
<td>4,106</td>
<td>3,948</td>
<td>3,887</td>
</tr>
</tbody>
</table>

Figure 5.11 (EN 3)—Total Energy Consumption by Users (Ship and Shore) and Total Energy Consumption Rate

Table 5.11 (EN 3) and Figure 5.11 (EN 3) show the direct energy consumption by our shipboard and shoreside operations in gigajoules (GJ) and the total energy consumption rate in kilojoules per ALB-Km. The ALB-Km is reported from our ship operations. (Note: Ibero Cruises was acquired in 2007; however, for the period 2008–2009, the energy consumption rate excludes Ibero Cruises as distance-traveled data was unavailable.)
Carnival measures and reports the ship fuel consumption rate in terms of grams of fuel per Available Lower Berth Kilometer (ALB-Km). This indicator enables us to make meaningful fuel consumption comparisons that take into account changes in fleet size, itineraries and guest capacity. The trend clearly shows that we are moving in a favorable direction, improving consumption rates and efficiency as a result of our efforts.

**TABLE 5.12 (EN 3)—TOTAL SHIP FUEL CONSUMPTION AND SHIP FUEL CONSUMPTION RATE**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Ship Fuel Consumption</td>
<td>Metric Tonnes</td>
<td>2,728,052</td>
<td>2,783,421</td>
<td>3,033,318</td>
<td>3,178,569</td>
<td>3,184,434</td>
<td>3,318,750</td>
<td>3,394,214</td>
</tr>
<tr>
<td>Ship Fuel Consumption Rate</td>
<td>Grams Fuel/ALB-Km</td>
<td>111</td>
<td>107</td>
<td>106</td>
<td>104</td>
<td>100</td>
<td>96</td>
<td>95</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; however, for the period 2007–2009, the fuel consumption rate excludes Ibero Cruises as distance traveled data was unavailable.

**FIGURE 5.12 (EN 3)—TOTAL SHIP FUEL CONSUMPTION AND SHIP FUEL CONSUMPTION RATE**

Table 5.12 (EN 3) and Figure 5.12 (EN 3) show the total ship fuel consumption quantity and the ship fuel consumption rate. Carnival is working diligently to decrease the energy consumed by our ships by building more energy-efficient ships and by improving the energy efficiency of the existing fleet (see EN 6 for more details).
**INDIRECT ENERGY USE (EN 4)**

Carnival purchases indirect energy from external sources in the form of electricity and very small quantities of steam for use in our shore-side offices, hotels, cruise terminals, ships, shore power connection (“cold ironing”), and during dry dock and other shore facilities.

In fiscal year 2011, the electricity purchased for our shore operations was approximately 86 percent of total electricity purchased.

**TABLE 5.13 (EN 4)—INDIRECT ENERGY CONSUMPTION BY USERS (SHORE AND SHIP)**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shore Purchased Electricity</td>
<td>MWh</td>
<td>83,855</td>
<td>68,724</td>
<td>64,021</td>
<td>66,463</td>
</tr>
<tr>
<td>Ship Purchased Electricity</td>
<td>MWh</td>
<td>7,298</td>
<td>8,071</td>
<td>6,418</td>
<td>10,697</td>
</tr>
<tr>
<td>Total Purchased Electricity</td>
<td>MWh</td>
<td>91,153</td>
<td>76,795</td>
<td>70,439</td>
<td>77,160</td>
</tr>
</tbody>
</table>

**FIGURE 5.13 (EN 4)—INDIRECT ENERGY CONSUMPTION BY USERS (SHORE AND SHIP)**

Table 5.13 (EN 4) and Figure 5.13 (EN 4) show the indirect energy consumption by user (i.e., shore operations and ship operations).

In most ports, we operate the ships’ generators to produce electricity to supply on-board power needs while the ship is docked. In a limited number of ports, however, we are able to shut down our generators and connect to and purchase electricity from shore-based sources, when electrical power is available. This process is called “cold ironing.” In order to use this shore electrical power, a number of our ships have been outfitted with special electrical connections. Carnival continues to invest in “cold ironing” by designing and building new ships and outfitting existing ships with the ability to use shore power when it is available in our ports-of-call.

Electricity in some of the ports-of-call, such as Juneau, Alaska; Seattle, Washington; and Vancouver, British Columbia, is generated by hydroelectric power, which produces minimum emissions of conventional pollutants and greenhouse gases. Currently, electricity purchased from these renewable energy sources represents a small fraction of our total electricity consumption.
ENERGY-SAVINGS INITIATIVES AND RESULTS (EN 6)

Our Operating Lines set annual energy savings objectives and targets ranging from 0.25–2.5 percent, in accordance with their respective ISO 14001 Environmental Management Systems, including reducing energy consumption, which yields corresponding CO₂ and CO₂e emissions reductions.

The efforts to save energy are managed by a Corporate-level working group with both Operating Line and Corporate senior management participation. The goal of this group is to identify both current and long-term opportunities for saving fuel.

Carnival is investing in a broad range of voluntary energy reduction initiatives that considerably surpass the requirements of current laws and regulations. Reducing fuel and driving energy efficiency takes multimillion-dollar investments and a multipronged strategy that includes:

- **Designing Our Ships for Greater Efficiencies**
  Effective fuel conservation starts with efficient ship design. Carnival builds new ships, implementing fuel conservation-related design strategies that include:
  - optimizing hull design and coating systems to minimize drag;
  - selecting fuel-efficient combustion equipment;
  - installing equipment to use waste heat; and
  - installing energy-efficient on-board equipment, including lighting.

- **Maintaining Our Vessels**
  Carnival continuously refurbishes and updates vessels to make them more efficient and to reduce fuel consumption and air emissions. We are realizing some key energy reductions through:
  - optimizing diesel generator use at sea and in port;
  - managing our evaporator;
  - using fluorescent and LED lighting;
  - utilizing automatic heating ventilation and air-conditioning (HVAC) control systems;
  - changing chiller additives;
  - applying silicone-based anti-fouling marine hull coatings;
  - cleaning propellers and hulls periodically;
  - optimizing plant energy consumption;
  - increasing use of waste heat from engine exhaust for fresh water production and steam generation; and
  - using vessel shore power installations (“cold ironing”).

- **Minimizing Fuel Use and Engine Emissions**
  We also examine ways to increase energy efficiency through fuel homogenizers, which improve combustion and reduce fuel consumption. In addition, we optimize the use of diesel generators on board to improve efficiency, and we use heat generated by the ships’ engines to heat water instead of relying on the ships’ boilers. We also reduce the power required by engine room ventilation fans, through use of variable-frequency fan-drive motors and related pressure and temperature control systems.

- **Implementing Other Energy-Saving Initiatives**
  Carnival is introducing other energy-saving measures, including:
  - designing more fuel-efficient itineraries,
  - using voyage optimization tools,
  - increasing energy use awareness through education and training of guests and crew,
  - developing our ability to use alternative fuels,
  - using vessel shore power installations, and
  - researching and developing emissions-reduction technologies.

Our long-term energy-savings strategy is to meet our emissions reduction target. We are achieving this target primarily by continuing to reduce the fuel consumption of our existing ships and by designing more energy-efficient ships that will enter our fleet in the future.
ENVIRONMENTAL OFFICERS

Carnival’s Operating Lines offer distinct cruising options, and each offers our guests a truly unique and memorable experience. As different as our Operating Lines are, they all share a commitment to preserving the beautiful and often pristine environments in which we cruise. Because of this shared sense of responsibility, Carnival carefully manages environmental activities and addresses environmental stewardship at every level of our organization. Our Corporate Maritime Policy (CMP) Department evaluates environmental risks, develops standards and procedures, and raises the bar on our environmental leadership and performance. The management teams of Carnival’s Operating Lines identify and manage environmental aspects and impacts, supervise the environmental performance of the ships, and ensure implementation of the environmental statutory requirements, best management practices and Corporate standards. Most importantly, the dedicated ships’ Officers and crew carry out our policies and procedures on board. Each ship in our fleet has a full-time Environmental Officer (EO), who oversees environmental compliance and implementation of procedures. Each EO reports directly to the ship’s Captain, and has a direct line of communication to the Operating Line’s shoreside Environmental Management Executive or his/her designated representative.

The EO’s responsibilities include:

- evaluating new methods to minimize the ship’s environmental impact (waste minimization, water and energy conservation, and other measures);
- assisting the crew in addressing environmental concerns and questions related to Carnival’s Environmental Management System and applicable laws;
- aiding the Captain, Engine Department and government officials, in the event of accidental releases or spills, and coordinating all related communications;
- reviewing ship document management and record keeping;
- responding to inquiries or complaints of any crew members, guests or government officials regarding environmental practices and operations;
- participating in shipboard management meetings and ensuring that environmental matters are always addressed, as needed;
- managing mandatory environmental shipboard training of crew and contractors who have environmental responsibilities; and
- collecting and monitoring data for environmental performance indicators.

The scope of EO responsibility has evolved over time in some of our Operating Lines to include oversight of health and occupational safety, as well as environmental management and compliance. For these Operating Lines, their titles reflect these additional duties.

Today, our Operating Lines also encourage our guests to be aware of their own impact on the environment. We provide, for example, environmental awareness information to passengers in a range of media, including pamphlets, videos and posters. Our Operating Lines also proactively provide guests with ways to care for the environment by recycling waste, reusing towels and conserving energy. Our EOs are glad to provide in-depth insight into maritime environmental management for interested guests.

As an Environmental and Occupational Safety Officer, my role is to oversee our compliance with environmental standards and to provide guidance to our Officers and crew members on work-related safety. My daily routine includes ensuring that we adhere to local and international environmental laws and that on-board practices comply with established regulations. My responsibilities are diverse and range from conducting workplace safety rounds and inspections, assessing risk, training, regularly reviewing the ship’s logs and records relative to environmental management, protection and on-board waste management. Ensuring that passengers and crew are sailing in a safe environment is a complex assignment that requires thorough knowledge of laws, policies and procedures. My goals are passenger satisfaction, crew and contractor welfare, and environmental protection—while maintaining the personal touch that makes cruising fun.

MARINA BONGI
Occupational Safety & Environmental Officer
Princess Cruises

My job includes collecting, evaluating and processing important environmental-protection data, which helps us to optimize our strategies and prepare detailed environmental reports. I’m also the key environmental contact for our crew and guests. It’s gratifying when guests ask me to provide them with an in-depth look into our environmental management and practices. It’s a good feeling to receive their consistently favorable feedback on our practices.

SVEN HEITMANN
Environmental Officer
AIDA Cruises

I view my position as a personal growth opportunity and a unique and enriching adventure—especially when I realize that I have had a hand in protecting the environment. It’s all about educating our people about the need for this protection. Our ability to achieve this was exemplified recently at a port-of-call, when plastic debris floated in on the current and got trapped between our ship and the pier. Though it was not our debris, our crew members jumped into action and spontaneously collected the garbage and disposed of it in a responsible way. This kind of response has become a way of life, and I’m proud of the role I have played in advancing our environmental protection practices.

SIMONE MASSIMELLO
Environmental Officer
Costa Cruises
MANAGEMENT APPROACH AND PERFORMANCE

We work hard to educate our crew members about the need to protect our planet and environment. Our goal is to foster a responsible attitude, communicate the need for environmental sensitivity, and build a team-based approach toward creating a sustainable relationship with the earth and the sea. This effort makes me feel as though I am doing my part to protect the beauty of the places we visit—while doing something worthwhile for future generations.

DANIEL AVRAM
Environmental Officer
Ibero Cruises

One of my most challenging and rewarding experiences took place in Egypt, when a fuel spill was inaccurately attributed to our ship. The Captain, the Chief Engineer and I worked with the authorities to prove that the spill was not produced by our ship by showing pictures, providing fuel samples of the ship and reviewing on-board documents. This demonstrated the importance of keeping accurate records.

ARIADNA MAYORAL
Environmental Compliance Officer
Cunard

Our ships sail every day in different waters, and our team is constantly encountering new experiences and challenges. That’s why we need to have a thorough understanding of environmental regulations. We never stop asking questions and learning more—and we end every day with a smile for a job well done.

DANIEL NIKOLOV
Safety and Environmental Officer
Seabourn Cruises

The best part of my job is the ability to visit natural treasures such as the Great Barrier Reef Marine Park in Australia and the fjords of New Zealand. These pristine sites are composed of fragile ecosystems, and it’s our responsibility to implement environmental policies for our Company that preserve them for generations to come. What’s particularly rewarding is to see how engaged our crew and passengers become in helping us protect these beautiful areas.

SIMONE BIAGINI
Occupational Safety & Environmental Officer
P&O Cruises (Australia)

My primary role as an Environmental Officer was Environmental Management and Compliance. However, during a Senior Management Conference in 2009, Holland America Line asked the Environmental Officers to take on additional responsibilities for overseeing occupational safety and the public health aspects of our ship’s operations. While there have been many challenges associated with this new and expanded role, we’ve all learned a lot along the way. I’m proud that Holland America Line trusted us and asked us to take on these additional important responsibilities to protect the health and safety of our guests and our colleagues.

KEES KANT
Safety, Environmental and Health Officer
Holland America Line

I see myself as the social responsibility backbone for the entire ship. I monitor our environmental compliance with regulations and best management practices, applying my technical knowledge of the operations while maintaining good personal relationships with our crew and guests. As travelers become even more environmentally conscious, our interaction with our guests increases exponentially. Our goal is to create and maintain a safe environment on board and preserve the pristine conditions of the water in which we sail. The best reward is to know that we are having a positive influence on guests and crew.

KSHITIJ SARAN
Environmental & Occupational Safety Officer
Carnival Cruise Lines

My main responsibility as an Environmental Compliance Officer is managing my time to meet shipboard operational requirements and stakeholder needs and ensuring any follow-up actions are completed on time. One particular challenge is coordinating landing ashore all waste streams and recycling materials within a very narrow timeframe at designated ports-of-call while also receiving supplies. I enjoy the strategic thinking involved to help run the ship efficiently and sustainably. By establishing a good relationship with port agents and vendors and doing some forward planning, I am able to consistently manage this offload process effectively, while making sure we meet or exceed all environmental regulations.

JOHN BROOKES
Environmental Compliance Officer
P&O (UK)
WATER

WATER CONSUMPTION (EN 8)

Water is the unifying natural resource that creates complex interdependencies between companies, communities and natural ecosystems. We all rely on clean water to survive. Yet, changing climate patterns are threatening water bodies, and key sources that we tap for drinking water are being overdrawn or tainted by pollution.

Managing water usage is important. For Carnival, the water used on board our ships is either generated from seawater or purchased while in port. In regions where water sources are highly restricted, our water consumption patterns may also influence relations with our stakeholders. We produce approximately 70 percent of the water we use on board our ships; the remaining 30 percent is bunkered from the ports and from water companies in the ports where we call. This percentage varies considerably from ship to ship, depending on itineraries. Water is bunkered from ports where water is abundant, of high quality and cost effective to purchase.

Since water consumption is a vital issue, we systematically monitor and strive to improve the efficient use of water on board Carnival ships. Reducing water use is also essential for Carnival to remain economically sustainable, as it is more cost effective to use less water than to continuously purchase, desalinate and treat water.

Over time, Carnival has increased the percentage of water we produced on board to the total water bunkered, which helps us to reduce the risk associated with disruption of water supplies in the ports-of-call where we bunker water. The absolute value of the water quantities withdrawn from shoreside sources or seawater has increased due to fleet expansion. We continue to drive efficiencies, implement conservation programs and monitor our impact on local water sources. While the overall water consumption rate increased in fiscal year 2011, the percentage of water purchased from shoreside sources continued to decrease.

### TABLE 5.14 (EN 8)—WATER WITHDRAWAL BY SOURCE AND WATER CONSUMPTION RATE

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Purchased (From Shore)</td>
<td>Metric Tonnes</td>
<td>5,984,082</td>
<td>6,345,896</td>
<td>6,375,849</td>
<td>6,624,805</td>
</tr>
<tr>
<td>Water Produced (From Sea)</td>
<td>Metric Tonnes</td>
<td>15,194,695</td>
<td>15,782,019</td>
<td>17,250,210</td>
<td>18,378,197</td>
</tr>
<tr>
<td>Total Water Consumption</td>
<td>Metric Tonnes</td>
<td>21,178,777</td>
<td>22,127,915</td>
<td>23,626,059</td>
<td>25,003,002</td>
</tr>
<tr>
<td>Water Consumption Rate</td>
<td>Liters/Person-Day</td>
<td>247</td>
<td>243</td>
<td>237</td>
<td>245</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; however, for the period 2008–2009, the water figures exclude Ibero Cruises as data was unavailable.

### FIGURE 5.14 (EN 8)—TOTAL WATER CONSUMPTION AND WATER CONSUMPTION RATE

Table 5.14 (EN 8) and Figure 5.14 (EN 8) show the quantities of water withdrawal by source, total water consumption and the water consumption rate.

Carnival’s water consumption rate is normalized by the total number of guests and crew we carry on board our ships. This permits us to make meaningful water-use comparisons that show the positive results of our efforts to reduce water consumption.

The quantity of water consumed by our shore offices and operations is small compared with our shipboard water consumption. As a result, we have not gathered shoreside water-consumption data.
MANAGEMENT APPROACH AND PERFORMANCE

WASTEWATER MANAGEMENT (EN 21)
Promoting efficient water management helps us to decrease the amount of wastewater we generate on board. This Sustainability Report includes wastewater generated as a result of operating our ships. The quantity of wastewater generated by our shoreside offices and operations is small compared with our shipboard wastewater generation. Carnival takes great care to properly remove and dispose of wastewater to avoid marine impacts and to protect the health and safety of our workers.

Designated tanks located throughout our ships are used to collect specific wastewater streams. The types of wastewater streams generated by our ships include:

- bilge water,
- gray water,
- black water,
- biomass/sewage sludge, and
- ballast water.

**Bilge Water**
Bilge water is wastewater normally generated in the machinery spaces of the engine room during vessel operation.

All bilge water from Carnival ships is discharged only when the ships are underway at sea and proceeding at a speed of no less than six knots. The bilge water is processed through approved oil filtering equipment so that the oil content of the treated bilge water without dilution does not exceed 15 parts per million (ppm). Such discharges are in strict compliance with applicable international and national laws and regulations, and often contain less than five ppm of oil.

On all of our ships, processed bilge water is discharged to sea through a “white box,” a voluntary and proprietary system that is considered fail-safe for control of overboard discharges of processed bilge water. If the white box reading indicates 15 ppm or greater of oil in the system, it will sound an alarm and automatically stop the discharge, redirecting the flow to on-board storage tanks. Oil not meeting discharge criteria and oil residues/sludge must be offloaded for shoreside disposal.

**TABLE 5.15 (EN 21)—BILGE WATER DISCHARGED TO SEA AND BILGE WATER SEA DISCHARGE RATE**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilge Water Discharge to Sea</td>
<td>Metric Tonnes</td>
<td>242,781</td>
<td>272,656</td>
<td>244,609</td>
<td>255,045</td>
</tr>
<tr>
<td>Bilge Water Sea Discharge Rate</td>
<td>Liters/NM</td>
<td>29.6</td>
<td>32.4</td>
<td>26.5</td>
<td>26.8</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; however, for the period 2008–2009, the figures exclude Ibero Cruises as bilge water discharge data was unavailable.

**FIGURE 5.15 (EN 21)—BILGE WATER DISCHARGED TO SEA AND BILGE WATER SEA DISCHARGE RATE**

Table 5.15 (EN 21) and Figure 5.15 (EN 21) show the bilge water discharged to sea by weight and the bilge water discharge rate in terms of volume-per-nautical mile of distance traveled by the ships.
Gray Water
Gray water is wastewater from sinks, showers, galleys, laundry and cleaning activities. Gray water from our ships is discharged only while the ship is underway and proceeding at a speed of not less than six knots.

Gray water is not discharged in port and at a minimum not within four nautical miles from shore or such other distance provided for by local law or as agreed with the authorities that have jurisdiction, except in case of an emergency.

Though gray water on most ships is not treated unless an Advanced Wastewater Purification System (AWWPS) is used, we monitor materials in gray water to minimize contaminants.

Table 5.16—Gray Water Discharged by Destination and Gray Water Discharge Rate

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gray Water Discharged to Sea</td>
<td>Metric Tonnes</td>
<td>14,070,260</td>
<td>15,299,010</td>
<td>16,115,456</td>
<td>16,223,973</td>
</tr>
<tr>
<td>Gray Water Discharged to Shore</td>
<td>Metric Tonnes</td>
<td>107,512</td>
<td>137,502</td>
<td>164,982</td>
<td>315,374</td>
</tr>
<tr>
<td>Total Gray Water Discharged</td>
<td>Metric Tonnes</td>
<td>14,177,772</td>
<td>15,436,512</td>
<td>16,280,438</td>
<td>16,539,347</td>
</tr>
<tr>
<td>Gray Water Discharge Rate</td>
<td>Liters/Person-Day</td>
<td>165</td>
<td>169</td>
<td>163</td>
<td>162</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; however, for the period 2008–2009, the figures exclude Ibero Cruises as gray water discharge data was unavailable.

Figure 5.16—Total Gray Water Discharged and Gray Water Discharge Rate

Table 5.16 and Figure 5.16 show the gray water discharged by destination in metric tonnes and the total gray water discharge rate normalized in terms of liters per person-day. This normalization takes into account the actual number of guests carried and the total number of crew on board our ships for the entire year, providing a more meaningful comparison.

Black Water
Black water is sewage and liquid waste from medical facilities. Prior to discharge, all black water from our ships is processed through a sewage treatment plant called a Marine Sanitation Device (MSD) that is approved in accordance with applicable international and national regulations. Discharges of treated black water take place only when the ship is at a distance of more than 12 nautical miles from the nearest land and when the ship is travelling at a speed of not less than six knots.

On more than one-third of our ships, black water and gray water are treated in Advanced Wastewater Purification Systems (AWWPS) that utilize technologies designed to produce a higher effluent quality that meets or surpasses standards for secondary and tertiary effluents, and reclaimed water.

The above distance and speed limits do not apply to black water or gray water discharges that have been processed through an AWWPS. However, such discharges comply with all applicable international and national laws and regulations.
**TABLE 5.17 (EN 21)—BLACK WATER DISCHARGED BY DESTINATION AND TOTAL BLACK WATER DISCHARGE RATE**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treated Black Water Discharged to Sea</td>
<td>Metric Tonnes</td>
<td>6,714,180</td>
<td>6,688,436</td>
<td>6,995,178</td>
<td>7,701,161</td>
</tr>
<tr>
<td>Treated Black Water Discharged to Shore</td>
<td>Metric Tonnes</td>
<td>16,438</td>
<td>34,627</td>
<td>54,875</td>
<td>50,762</td>
</tr>
<tr>
<td>Untreated Black Water Discharged to Sea</td>
<td>Metric Tonnes</td>
<td>1,721</td>
<td>2,065</td>
<td>16,138</td>
<td>20,567</td>
</tr>
<tr>
<td>Untreated Black Water Discharged to Shore</td>
<td>Metric Tonnes</td>
<td>1,036</td>
<td>578</td>
<td>9,610</td>
<td>3,599</td>
</tr>
<tr>
<td>Total Black Water Discharged</td>
<td>Metric Tonnes</td>
<td>6,733,375</td>
<td>6,725,706</td>
<td>7,075,801</td>
<td>7,776,089</td>
</tr>
<tr>
<td>Black Water Discharge Rate</td>
<td>Liters/Person-Day</td>
<td>78.5</td>
<td>73.8</td>
<td>71.0</td>
<td>76.3</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; however, for the period 2008–2009, the figures exclude Ibero Cruises as black water discharge data was unavailable.

**FIGURE 5.17 (EN 21)—TOTAL BLACK WATER DISCHARGED AND TOTAL BLACK WATER DISCHARGE RATE**

Table 5.17 (EN 21) and Figure 5.17 (EN 21) show the black water discharged by quality and destination in metric tonnes and the total black water discharge rate normalized in terms of liters per person-day. This normalization takes into account the actual number of guests carried and the total number of crew on board our ships for the entire year, providing a more meaningful comparison.
Biomass/Sewage Sludge

The different types of wastewater treatment systems installed on board our ships produce treated wastewater effluent along with partially treated organic waste. These treatment systems include Advanced Wastewater Purification Systems (AWWPS) and Marine Sanitation Device (MSD) systems.

- AWWPS: The biological treatment portion of an AWWPS requires routine testing to determine the concentration of microbes and other solids in the tank. If the solids exceed a set limit, this portion of the treatment system will not perform optimally, reducing the quality of the permeate discharge. When this limit is reached, the tank must be emptied to recreate optimum conditions for the microbes. This partially treated wastewater is called biomass and is discharged more than 12 nautical miles from shore while the vessel is traveling more than six knots, or it is landed ashore.
- MSD: Sewage sludge accumulates at the bottom of an MSD and is periodically cleaned out. It is discharged from the system when the vessel is more than 12 nautical miles from shore and traveling at a speed of more than six knots, or it is landed ashore.

**TABLE 5.18 (EN 21)—BIOMASS/SEWAGE SLUDGE DISCHARGED BY DESTINATION AND DISCHARGE RATE**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomass/Sewage Sludge Discharged to Sea</td>
<td>Metric Tonnes</td>
<td>272,645</td>
<td>258,816</td>
<td>289,855</td>
<td>272,753</td>
</tr>
<tr>
<td>Biomass/Sewage Sludge Discharged to Shore</td>
<td>Metric Tonnes</td>
<td>412</td>
<td>4,888</td>
<td>1,185</td>
<td>3,113</td>
</tr>
<tr>
<td>Total Biomass/Sewage Sludge Discharged</td>
<td>Metric Tonnes</td>
<td>273,057</td>
<td>263,704</td>
<td>291,040</td>
<td>275,866</td>
</tr>
<tr>
<td>Total Biomass/Sewage Sludge Discharge Rate</td>
<td>Liters/Person-Day</td>
<td>3.18</td>
<td>2.89</td>
<td>2.92</td>
<td>2.71</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; however, for the period 2008–2009, the figures exclude Ibero Cruises as biomass/sewage sludge discharge data was unavailable.

**FIGURE 5.18 (EN 21)—TOTAL BIOMASS/SEWAGE SLUDGE DISCHARGED AND TOTAL BIOMASS/SEWAGE SLUDGE DISCHARGE RATE**

Table 5.18 (EN 21) and Figure 5.18 (EN 21) show the biomass/sewage sludge water discharged by destination in metric tonnes and total biomass/sewage sludge discharge rate normalized in terms of liters per person-day. This normalization takes into account the actual number of guests carried and the total number of crew on board our ships for the entire year, providing a more meaningful comparison.

Ballast Water

Ballast water is seawater that is intentionally pumped into and carried in tanks to adjust a ship’s draft, buoyancy, trim, list and stability under various operating conditions. Carnival is conscious of the impacts of non-indigenous, invasive species introduced through ballast water transferred from one body of water to another.

Aquatic invasive species may impact biodiversity in the world’s coastal and inland waters because they often have no natural predators and may out-compete native species for food in their new environment. Cruise ships do not use large amounts of ballast water compared with other sections of the maritime industry. Understanding the impacts of ballast water, we minimize its use by managing other on-board liquids (e.g., fuel, potable water, wastewater), using them as much as possible in lieu of ballast water.

At certain times, based on the ship’s itinerary and other operational and design factors, we do not discharge ballast water. Carnival, through our Research and Development (R&D) group, proactively evaluates emerging treatment technologies that can meet both international and U.S. Coast Guard ballast water treatment standards. Specifically, Carnival Cruise Lines and Princess Cruises submitted pilot programs to the U.S. Coast Guard’s Shipboard Technology Evaluation Program (STEP), which evaluates ballast treatment technologies for vessels entering U.S. waters. Princess has completed the application process and is testing the system.
WASTE

Wastes generated by our operations and activities of our guests and crew mirror the waste generated by hotels and resort complexes, requiring us to provide the same type of waste-management services.

Carnival collects and manages information on waste generation to assess the level of progress we are making in waste reduction. This helps us to identify potential opportunities for improvements in the efficiency of waste management.

In addition, Carnival’s shipboard waste is disposed of in strict accordance with Corporate environmental standards that are designed to meet or exceed internal, national, regional and local environmental regulatory requirements and industry standards. Corporate standards at a minimum comply with the CLIA Industry Standard, “Cruise Industry Waste Management Practices and Procedures.”

WASTE MANAGEMENT (EN 22)

All of our ships have a garbage management plan that specifies how we manage each type of waste on board. In addition, we record all waste management operations in designated record books and logs.

It is a challenge to report waste data in terms of weight in the maritime industry because MARPOL specifies an internationally recognized volumetric unit of measurement—cubic meters. Therefore, we use standard density factors for the various waste types to convert the amounts of waste normally measured and reported in cubic meters to metric tonnes.

“Hazardous” waste is waste that poses a risk to human health or to the environment. We classify shipboard waste as hazardous based on the requirements of the jurisdiction where the waste is offloaded for disposal. Some jurisdictions classify oily sludge as hazardous waste. In jurisdictions that classify oily sludge as hazardous waste, oily sludge makes up the majority of hazardous waste offloaded for disposal.

Hazardous waste disposal is normally less than five percent of total waste disposal and is transferred to licensed shoreside waste contractors for correct disposal.

TABLE 5.19 (EN 22)—TOTAL WEIGHT OF WASTE BY TYPE AND DISPOSAL METHOD

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous Waste Disposed to Shore</td>
<td>Metric Tonnes</td>
<td>13,429</td>
<td>16,829</td>
<td>6,394</td>
<td>8,780</td>
</tr>
<tr>
<td>Hazardous Waste Recycled to Shore</td>
<td>Metric Tonnes</td>
<td>1,300</td>
<td>1,429</td>
<td>17,919</td>
<td>24,164</td>
</tr>
<tr>
<td>Non-Hazardous Waste Disposed to Shore</td>
<td>Metric Tonnes</td>
<td>192,666</td>
<td>161,842</td>
<td>135,067</td>
<td>144,709</td>
</tr>
<tr>
<td>Non-Hazardous Waste Recycled</td>
<td>Metric Tonnes</td>
<td>25,281</td>
<td>50,670</td>
<td>109,099</td>
<td>86,842</td>
</tr>
<tr>
<td>Non-Hazardous Waste Discharged to Sea</td>
<td>Metric Tonnes</td>
<td>103,803</td>
<td>107,030</td>
<td>123,760</td>
<td>132,278</td>
</tr>
<tr>
<td>Non-Hazardous Waste Incinerated Shipboard</td>
<td>Metric Tonnes</td>
<td>180,588</td>
<td>109,519</td>
<td>96,836</td>
<td>97,154</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; however, for the period 2008–2009, the figures exclude Ibero Cruises as waste data was unavailable.

Table 5.19 (EN 22) shows the total weight of waste by type and disposal method generated from our shipboard operations.
We use four main methods to manage shipboard waste:
• waste minimization,
• disposal ashore,
• incineration, and
• discharge to sea.

Waste Minimization
Our waste minimization program consists of reducing, reusing and recycling.
• Reducing: We work to reduce the volume and toxicity of our waste.
  ♦ We reduce our waste by:
    ▪ bulk purchasing;
    ▪ acquiring only what we need when we need it;
    ▪ working with suppliers to reduce packaging;
    ▪ using alternative products to accomplish the same job; and
    ▪ treating waste on board to minimize volume by stacking, shredding, crushing and incinerating.
  ♦ We reduce the toxicity of our waste by:
    ▪ purchasing non-toxic products;
    ▪ controlling material purchases with an “approved chemicals list;” and
    ▪ replacing older equipment with new equipment, designed for non-toxic products.
• Reusing: We seek new opportunities to reuse materials and equipment on board or find others who can use things that are in good condition that we no longer need. This extends the use of many items. For example:
  ♦ Our ships donate tons of usable items, including mattresses and clothing, at ports-of-call around the world.
  ♦ Carnival receives certain supplies in plastic and metal drums, which we reuse as waste receptacles, thereby avoiding the need to purchase waste containers.
• Recycling: We strive to recycle as many items as possible. We place recycling collection containers throughout the ship so our guests and crew can segregate the various recycling materials. We offload collected materials for recycling at ports around the world, including:
  ♦ plastic,
  ♦ glass,
  ♦ paper,
  ♦ cardboard,
  ♦ aluminum,
  ♦ toner cartridges,
  ♦ batteries,
  ♦ fluorescent lamps,
  ♦ silver,
  ♦ scrap metal,
  ♦ oily sludge, and
  ♦ used cooking oil.

Disposal Ashore
• We label, collect and store waste on board in designated areas.
• Authorized vendors remove materials from our ship and dispose of them at approved shoreside facilities.
• Landed waste is disposed of in landfills, incinerated or recycled, depending on the type of waste.

Incineration on Board
• Shipboard incinerators substantially reduce the volume of combustible materials.
• We sort waste to ensure that only proper materials are introduced into the incinerator.
• Incinerator ash is tested annually to confirm that it is not a hazardous waste.

Discharge at Sea
• Only food waste and ground glass are discharged to the sea from Carnival ships.
• These materials are discharged at more than 12 nautical miles (nm) from shore, or three nm if the food waste is ground to no more than 25 millimeters.
• Wastewater discharges are included in the water section of this Sustainability Report.
TABLE 5.20 (EN 22)—HAZARDOUS AND NON-HAZARDOUS WASTE AND TOTAL WASTE RATE

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous Waste</td>
<td>Metric Tonnes</td>
<td>15,212</td>
<td>19,091</td>
<td>25,463</td>
<td>34,068</td>
</tr>
<tr>
<td>Non-Hazardous Waste</td>
<td>Metric Tonnes</td>
<td>501,855</td>
<td>428,228</td>
<td>463,612</td>
<td>459,858</td>
</tr>
<tr>
<td>Total Waste</td>
<td>Metric Tonnes</td>
<td>517,067</td>
<td>447,319</td>
<td>489,075</td>
<td>493,926</td>
</tr>
<tr>
<td>Total Waste Rate</td>
<td>Kilograms/Person-Day</td>
<td>6.0</td>
<td>4.9</td>
<td>4.9</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; however, for the period 2008–2009, the figures exclude Ibero Cruises as waste data was unavailable.

FIGURE 5.19 (EN 22)—TOTAL HAZARDOUS AND NON-HAZARDOUS WASTE AND TOTAL WASTE RATE

Table 5.20 (EN 22) and Figure 5.19 (EN 22) show the hazardous, non-hazardous waste and total waste by weight, and the total waste rate in terms of kilograms per person-day. The waste rate is normalized by the number of persons on board. This normalization takes into account the actual number of guests carried and the total number of crew on board our ships for the entire year, providing a more meaningful comparison.

The quantity of waste generated by our shore offices and operations is small compared with our shipboard waste generation. We have not, therefore, gathered shoreside waste data.
Table 5.21 (EN 22)—Non-Hazardous and Hazardous Waste Recycled

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Hazardous and Hazardous Waste Recycled</td>
<td>Percent</td>
<td>5.14</td>
<td>11.6</td>
<td>26.0</td>
<td>22.5</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; however, for the period 2008–2009, the figures exclude Ibero Cruises as waste data was unavailable.

Figure 5.20 (EN 22)—Non-Hazardous and Hazardous Waste Recycled

Table 5.21 (EN 22) and Figure 5.20 (EN 22) show the amount of non-hazardous and hazardous waste recycled as a percentage of the total waste generated by our ships. Included in the waste recycled is sludge oil that accounts for the highest percentage of our recycled waste.

Regulatory Compliance (EN 23, EN 28 and SO 8)

As indicated in our Corporate HESS Policy, Carnival and our Operating Lines are committed to fully complying with or exceeding all legal and statutory requirements related to health, environment, safety and security in all of our business activities. To implement this policy, we promptly report and investigate all health, environmental, safety and security incidents, and take appropriate action to prevent recurrence.

Significant Spills

Carnival recognizes that spills of fuels, oils, chemicals, wastewater and other materials can have negative impacts on the environments in which we operate. We work hard to protect water quality and prevent spills, but when a spill occurs, we work just as hard to clean it up.

We have a rigorous internal incident-reporting system that requires the reporting of unintended or unexpected spills, releases or discharges into the bilge or overboard of chemicals, oils, refrigerants or other ozone-depleting substances (ODS), solid waste/materials, and non-hazardous liquid waste. Spills, releases or discharges are reported to external authorities as required by applicable regulations.

Typically, spills occur due to the accidental discharge or operational leaks of fuel oil, hydraulic oil, paint or chemicals. Most spills are inadvertent releases of hydraulic oil or lubricating oil from our shipboard equipment and systems. These systems operate under high pressure, while their repeated operation causes wear that sometimes results in leaks.

Carnival had no “significant spills” in fiscal year 2011. A significant spill is defined as a spill for which the monetary sanctions are $100,000 or greater, and which is reportable in the Carnival Corporation & plc Annual Report on Form 10-K. For internal reporting purposes, Carnival has defined a “reportable spill” as a release that is in excess of 0.5 liter (500 ml). We comply with the spill reporting requirements of all jurisdictions in which we operate.
TABLE 5.22 (EN 23)—TOTAL NUMBER AND VOLUME OF REPORTABLE SPILLS

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Significant Spills</td>
<td>Number</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Number of Reportable Spills</td>
<td>Number</td>
<td>55</td>
<td>54</td>
<td>26</td>
<td>32</td>
</tr>
<tr>
<td>Total Volume of Reportable Spills</td>
<td>Liters</td>
<td>2,294</td>
<td>4,333</td>
<td>984</td>
<td>3,363</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; however, for the period 2008–2009, the figures exclude Ibero Cruises as spill data was unavailable.

FIGURE 5.21 (EN 23)—TOTAL NUMBER AND VOLUME OF REPORTABLE SPILLS

Table 5.22 (EN 23) and Figure 5.21 (EN 23) show the total number and volume in liters of significant and reportable spills of chemicals, oils and fuels reported in accordance with Carnival’s incident reporting standard.
Fines and Sanctions
During fiscal year 2011, Carnival did not receive any non-monetary sanctions for non-compliance with non-environmental laws and regulations. During fiscal year 2011, Carnival paid fines of $380,342, the bulk of which was in relation to irregularities in paperwork for crew on one of our ships.

**Table 5.23 (EN 28)—Monetary Value of Fines and Total Number of Non-Monetary Sanctions for Non-Compliance with Environmental Laws and Regulations**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Units</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Non-Monetary Sanctions</td>
<td>Number</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Monetary Value of Fines</td>
<td>US Dollars($)</td>
<td>4,750</td>
<td>48,957</td>
<td>0</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Ibero Cruises was acquired in 2007; however, for the period 2008–2009, the figures exclude Ibero Cruises as this data was unavailable.

**Figure 5.22 (EN 28)—Monetary Value of Fines and Total Number of Non-Monetary Sanctions for Non-Compliance with Environmental Laws and Regulations**

Table 5.23 (EN 28) and Figure 5.22 (EN 28) show the total monetary value of fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.
Biodiversity

Habitats We Protect and Restore (EN 13)

Our obligation to protect the earth’s biodiversity drives Carnival to minimize water and air pollution, dispose of waste responsibly and effectively manage our environmental impacts. Carnival complies with international, national and local environmental laws and regulations wherever our ships sail. We implement operational requirements that exceed mere compliance with regulations.

Carnival’s biodiversity strategy includes a number of elements that collectively help to prevent, manage and remediate damage to natural habitats. We are involved in several initiatives intended to prevent or redress negative impacts on habitats, thus ensuring their integrity and stabilizing the surrounding natural environment. These initiatives include:

- Ensuring a Healthy Future
- Initiatives to Limit Wastewater Discharges
- Marine Mammal Protection
- Sustainable Seafood Program

Ensuring a Healthy Future

Carnival works with local communities to ensure that the presence of our ships and guests is as beneficial and non-intrusive as possible. Destinations visited by Carnival ships are located in unique ecosystems such as the Bahamas, the Baltic Sea, the Caribbean, the Gulf of Mexico, Alaska, Hawaii, the Mediterranean and Australia’s Great Barrier Reef.

We endeavor to ensure that our guests have safe, enjoyable vacation experiences, while keeping the destination healthy and attractive to future guests. Carnival’s Operating Lines, for example, organize beach cleanups at various ports-of-call. We also review all concerns or potential concerns reported to us at ports-of-call. For example, in the case of animal excursions on land, we have responded to our guests’ concerns by working with independent experts to evaluate and report on the conditions under which animals are held and how they are treated. Depending on the findings of these reports, we have encouraged our tour operators to implement the recommendations. We discontinue these tours if we cannot resolve the issues.
One of our greatest potential impacts on biodiversity is a risk that can be introduced through ballast water, which is seawater that is intentionally pumped into and carried in tanks to adjust a ship’s draft, buoyancy, trim, list, and stability under various operating conditions. Water transferred from one geographic location to another may introduce invasive, non-indigenous species to the waters where we sail. Invasive aquatic species constitute a significant threat to biodiversity in the world’s coastal waters because they often have no natural predators and may out-compete native species for food in their new environment. Therefore, we avoid and/or minimize the use of ballast water by monitoring the levels of fuel, potable water, gray water and black water, and using those whenever possible instead of ballast water. In addition, some of our Operating Lines have worked with technology manufacturers and regulatory bodies to develop and improve ballast water treatment systems by installing and testing systems on board various ships in our fleet.

Initiatives to Limit Wastewater Discharges
Around the world, Carnival ships operate in or near numerous environmentally sensitive regions, where biodiversity and habitat protection are particularly crucial. Such areas include:

- MARPOL-defined “Special Areas” and “Particularly Sensitive Sea Areas,”
- marine-protected areas,
- marine sanctuaries,
- no-discharge zones,
- national parks, and
- other areas where discharges are restricted or subject to local agreements.

In addition to complying with applicable regulations, Carnival also participates in a number of voluntary initiatives to limit wastewater discharges in areas where such discharges could impact biodiversity. Carnival generally discharges beyond the outer boundary of these areas based on the ships’ containment capacities.

Marine Mammal Protection
Marine mammal strikes are rare, and we have comprehensive policies and processes to avoid these incidents. We have clear and established requirements to follow if marine mammals are sighted nearby, including altering the ship’s course, reducing speed, utilizing additional bridge lookouts and notifying appropriate authorities and shore personnel. Reporting the positions of marine mammals, such as whales, assists researchers who study these animals. Reports are especially helpful when the animals are spotted in locations where they are not typically found. We have encountered these situations during El Niño and La Niña weather conditions. We also monitor feeding and migration patterns of whales known to be found in areas where we operate, and we adjust course and reduce speed as needed. We comply with voluntary seasonal shipping lane changes and speed restrictions to avoid whale strikes.

In addition, designated positions are required to take a whale protection training program that was developed by Holland America Line in conjunction with the U.S. National Oceanic and Atmospheric Administration (NOAA). This is a computer-based training program to train navigators to identify different whale species and predict their behaviors in order to avoid collisions with ships.

In order to protect a particularly sensitive species, such as right whales, ship’s bridge watch leaders must be familiar with whale identification and reporting requirements prior to entering protected areas, especially those in the northern and southern Atlantic Ocean. In order to protect seals during seal-pupping season (early May to mid-June), our ships do not approach closer than 500 yards from the ice floes where seals reside. At all other times, ships stay at least 100 yards away from seals.
Other efforts to protect biodiversity include our involvement and sponsorship in several voluntary efforts, including:

<table>
<thead>
<tr>
<th>ORGANIZATION</th>
<th>CARNIVAL’S INVOLVEMENT AND SPONSORSHIP EFFORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The SeaKeepers Society</td>
<td>Carnival established an alliance with the International SeaKeepers Society to house scientific data-gathering devices on five Carnival Cruise Lines and Holland America Line ships (Carnival Triumph, Carnival Spirit, Carnival Legend, Carnival Miracle and ms Amsterdam) to monitor ocean water quality. Developed under the direction of scientists at the University of Miami’s Rosenstiel School of Marine and Atmospheric Science, the devices gather a wide range of data to aid in assessing ocean pollution and researching global climate change and cyclical weather patterns. The data collected on board our ships are transmitted via satellite to the University of Miami and then to various environmental groups, government agencies and universities. In addition to providing ships as platforms for the required equipment, Carnival has also supported the organization with annual contributions of $50,000 since 2008.</td>
</tr>
<tr>
<td>SISTeR Detectors on Queen Mary 2</td>
<td>Sea Surface Temperature (SST) is considered one of the essential climate variables and is crucial in the understanding of how oceans exchange energy with the atmosphere. Not only are SST’s important in understanding climate change but they are also used as input parameters to the meteorological models that are used to generate accurate weather forecasts. A partnership between Carnival UK and the U.K.’s Science and Technology Facilities Council has culminated in the installation of an instrument developed by the Rutherford Appleton Laboratory on board Queen Mary 2. The SST monitoring instrument, SISTeR (Scanning Infrared Sea Surface Temperature Radiometer), is a project aimed at validating satellite measurements and improving climate records.</td>
</tr>
</tbody>
</table>
| The Florida Ocean Alliance | Carnival Cruise Lines has been a sponsor of the Florida Ocean Alliance since 2000. The Alliance is a non-partisan organization dedicated to bringing together government, academic and private sector organizations in Florida to protect and enhance Florida’s coastal and ocean resources for continued social and economic benefits. Specifically, it serves as a clearinghouse for information on key ocean and coastal issues facing the state in both the public and private sectors, as well as by monitoring and publicizing actions related to the oceans and coasts. The Alliance’s main activities include:  
   • conducting outreach and educational activities for the public and policy makers in Florida,  
   • coordinating conferences,  
   • developing economic studies and issuing papers on ocean and coastal policies in Florida, and  
   • providing testimony to national or state agencies and commissions concerned with ocean or coastal policy in Florida. |
| The Carnival Foundation | The Company’s wide-ranging charitable and philanthropic contributions are coordinated through the Carnival Foundation, whose mission is to provide financial and in-kind support to non-profit organizations dedicated to enhancing the quality of life in our homeport communities. Some of the many organizations and agencies that the Carnival Foundation supports related to biodiversity include:  
   • Coast Guard Foundation, a 501(c)(3) non-profit organization that supports projects that enhance the education, welfare and morale of Coast Guard personnel  
   • Florida International University’s School of Hospitality & Tourism Management  
   • Zoological Society of Florida, a non-profit support group for Zoo Miami (formerly Miami Metro Zoo) in Miami-Dade County  
Carnival Foundation also supports community programs and local initiatives, such as the Coral Reef Task Force and beach cleanups.  

**Sustainable Seafood Program**  
Sustainable seafood is seafood that is either caught or farmed in ways that consider the long-term vitality of harvested species and has minimal environmental impact on the surrounding ecosystems. Some of our Operating Lines have incorporated sustainable seafood programs into their food-sourcing requirements. In particular, in 2010 Holland America Line, in partnership with the Marine Conservation Institute (MCI), implemented a sustainable seafood program where MCI reviews all seafood proposed to be procured under contract. MCI’s professional staff makes a determination about whether a marine species (fish crustacean or shell fish) product is sustainable after reviewing third-party certification that a marine species will be sourced from a sustainable fisheries. In cases where there is not a certified sustainable source, MCI reviews information about where and how the marine species is caught or farmed. It also looks into general marine species stock health, environmental impacts of the harvesting or farming methods, and potential by-catch issues.  
MCI uses myriad online resources and its professional judgment to make this evaluation on behalf of Holland America Line.
LABOR

WORKFORCE (LA 1)
Carnival employs approximately 77,000 crew members on board our 99 ships at any given time. Our shoreside operations have approximately 9,800 full-time and 4,500 part-time/seasonal employees. Due to the highly seasonal nature of our Alaskan and Canadian operations, Holland America Princess Alaska Tours increases its workforce during the late spring and summer months in connection with the Alaska cruise season, employing additional seasonal personnel, who are included in the workforce numbers already mentioned. We source our shipboard Officers primarily from Italy, the U.K., Holland, Germany and Norway. People from around the world fill the remaining crew positions. We utilize various staffing agencies in many countries and regions to help source our shipboard crew.

TABLE 5.24 (LA 1)—WORKFORCE OVERVIEW

<table>
<thead>
<tr>
<th>Employee Group</th>
<th>Employee Type</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipboard</td>
<td>Crew</td>
<td>75,000</td>
<td>77,000</td>
</tr>
<tr>
<td>Shoreside</td>
<td>Full-Time</td>
<td>10,200</td>
<td>9,800</td>
</tr>
<tr>
<td></td>
<td>Part-Time</td>
<td>4,000</td>
<td>4,500</td>
</tr>
</tbody>
</table>

Figures 5.23 (LA 1) through 5.28 (LA 1) show the demographics of Carnival’s shipboard and shoreside employee workforce, including:
- labor-sourcing areas,
- gender distribution,
- shipboard department populations, and
- shoreside full-time and part-time employee status.
EMPLOYEE TURNOVER (LA 2)
Our employees are crucial to our success. We are committed to offering opportunities for career development, rewarding performance, providing a safe and healthy work environment, and supporting our diverse culture.

Carnival management monitors and measures employee turnover rates to assess the levels of job satisfaction among our employees. We recognize that employee turnover results in changes to the Company’s human and intellectual capital, which can impact productivity and have direct cost implications, especially in terms of recruiting, replacement and training expenses.

We utilize a number of strategies to reduce our shipboard employee turnover. While recruiting top candidates is a strategic priority, retaining them is even more important. Like many other companies, we face the challenge of keeping our best performers. Younger professionals are typically more mobile and seek rapid career advancement. They are also less accepting of the demands of a seafaring lifestyle, which traditionally requires Officers and crew to leave their families and friends for months at a time.

To help improve officer and crew retention, Carnival’s Operating Lines have taken steps such as altering sailing schedules and improving communications with their fleets. Such steps have helped to ensure that existing personnel and prospective new hires are aware of their benefits, incentives, contractual provisions and key Company initiatives. They also endeavor to enhance employee understanding of the knowledge and skills required for advancement. In addition, our Operating Lines have formal systems in place to ensure that they properly compensate their employees for the hours they work and that they receive adequate time for rest and recreation.

We also face employee turnover challenges in our shoreside operations. Although the state of the economy in recent years has helped to reduce employee turnover rates, we still study the reasons that our employees leave so that we can identify the causes and take appropriate action to reduce future attrition. We attempt to raise satisfaction rates among our employees: freedom of association and participation in collective bargaining. Freedom of association is a human right as defined by International Labour Organization (ILO) Conventions 87 and 98, and in the ILO Maritime Labour Convention 2006.

The percentage of employees covered by collective bargaining agreements varies among Carnival’s Operating Lines. Collective Bargaining Agreements are agreements between employers and a group of employees that are aimed at regulating working conditions. Our policies, such as our Code of Business Conduct and Ethics and our Corporate Health, Environmental, Safety & Security (HESS) Policy, as well as procedures and other established mechanisms such as safety committees, address our commitments to maintaining and improving our work environments. We have entered into agreements with unions covering certain employees in our hotel, transportation and shipboard operations. We consider our employee and union relations generally to be good.

Seafarer Employment Agreements set forth basic conditions of employment, including position, wages, work hours and duration of contracts for shipboard employees. They also inform the seafarer of his or her rights concerning grievances and the right to arbitrate any claims against Carnival.

We believe that the pay and benefits packages for Carnival’s non-union shipboard employees meet or exceed the benefits available to Carnival’s unionized employees and employees of other cruise lines. Carnival complies with working and living condition requirements that meet or exceed international standards.

To address potential labor issues, we train and provide support to our Officers and Managers. This includes implementing systems to prevent, report, investigate and resolve employee and crew member complaints.

**TABLE 5.26 (LA 4)—PERCENTAGE OF EMPLOYEES COVERED BY COLLECTIVE BARGAINING AGREEMENTS (CBA)**

<table>
<thead>
<tr>
<th>Employee Group</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipboard</td>
<td>24.4%</td>
<td>30.2%</td>
</tr>
<tr>
<td>Shoreside</td>
<td>13.7%</td>
<td>14.0%</td>
</tr>
</tbody>
</table>

Table 5.26 (LA 4) shows the percentages of shipboard and shoreside employees represented by collective bargaining agreements.
HEALTH, SAFETY AND TRAINING (LA 6, LA 7, LA 10, AND SO 3)
Carnival’s management measures safety performance to determine how well we are doing in achieving one of the aims of our HESS Policy: Protecting the health, safety and security of our guests, employees and all others working on behalf of the Company. We recognize the relationship between low injury rates and positive trends in employee morale and productivity, and we measure these rates to assess whether health and safety management practices that we implement actually result in fewer occupational health and safety incidents.

The key shipboard occupational safety risks include manual and mechanical material handling, falls, weather-related accidents and, in extreme cases, fire and collision. The challenge is maintaining safety awareness among a large, diverse shipboard workforce whom we employ on a contractual basis. We face an additional challenge because our workers live and work on board our ships, extending our responsibility for their safety to a sphere larger than a traditional workplace. We manage these challenges through Safety Management Systems, certifications, workplace safety committees that meet regularly, and continuous standardized training.

Safety Management Systems (SMS)
The SMS in each Carnival Operating Line ensure that safety is an integral part of the managerial process that must be considered at the same level and along the same lines as any other managerial process. Each SMS establishes lines of safety accountability throughout the organization and integrates regulatory and managerial safety requirements established by the International Safety Management (ISM) Code for the Safe Operation of Ships and for Pollution Prevention. The ISM Code, among other things, requires that vessel owners obtain a safety management certification for the Company system and for each vessel that they manage.

Certifications
Several of our Operating Lines have also obtained additional certification in accordance with OHSAS 18001:2007. OHSAS 18001 is a standard for occupational health and safety management systems. This standard is intended to help organizations control occupational health and safety risks and is one of the world’s most recognized occupational health and safety management system standards. Our OHSAS certifications recognize and demonstrate that our Operating Lines have the elements in place for effective occupational health and safety management systems.

Safety Committees
The vast majority of Carnival’s total workforce is represented in formal joint management-worker health and safety committees. Carnival’s shipboard safety committees serve as the conduit between the Captain and the crew of each ship. Carnival’s shipboard employees are represented on joint worker health and safety committees. The safety committee, under the leadership of a ship’s senior Officer, includes Officers and crew from the different shipboard departments.

During regularly scheduled meetings, shipboard safety committees review and address specific workplace safety topics. The committees play a key role in reducing shipboard accidents through hazard assessment, accident reviews and inspections. These sessions also serve as a forum for raising, discussing and recommending solutions for shipboard safety issues and promoting safety awareness. Safety representatives in Operating Line shoreside departments communicate and share experiences and best practices throughout their respective fleets.
Standardized Training
Our Corporate HESS Policy describes our commitment to providing appropriate health, environmental, safety and security; training; advice; and information to employees and others working on behalf of the Company. This commitment includes implementation of policies and standards related to treatment of shipboard and shoreside employees, ensuring that employees have the knowledge and skills necessary to perform their jobs properly; and providing appropriate employee benefit programs. In addition, we provide regularly scheduled specialized training to management and staff to help enhance their service-delivery skills, safe work practices and understanding of their operational roles and responsibilities.

Training in Anti-Corruption Policies and Procedures
Adherence to the rule of law, ethical working practices, good Corporate governance and transparency are extremely important to our guests, employees and investors, and they are central to our sustainable business success. We have strong Corporate policies and safeguards in place, and a long history of adhering to the law and promoting high ethical standards.

Every Carnival employee is responsible for adhering to business practices that are in accordance with the letter and spirit of the law, and with ethical principles that reflect the highest standards of Corporate and individual behavior. Integrity of performance is a Carnival standard wherever we do business.

Table 5.27 (LA 6) shows the percentages of shipboard and shoreside employees represented by health and safety (H&S) committees.

<table>
<thead>
<tr>
<th>Employee Group</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipboard</td>
<td>82%</td>
<td>82%</td>
</tr>
<tr>
<td>Shoreside</td>
<td>67%</td>
<td>70%</td>
</tr>
</tbody>
</table>

We inform Carnival employees of our Code of Business Conduct and Ethics when they are hired. In addition, all shoreside employees at the Director level and above, or the local equivalent, complete and sign a Business Ethics Disclosure Form at least once annually, indicating that they have read, understood and agreed to comply with our Code of Business Conduct and Ethics.

To reinforce the Company’s commitment to ethical business behavior, Carnival introduced mandatory ethics training during 2011. All employees must complete the Code of Business Conduct and Ethics training biannually, while the anti-corruption and anti-trust training is based on employee position and responsibilities. Certain employees in sensitive roles receive anti-corruption training annually, instead of biannually.

### TABLE 5.28 (LA 7)—WORKPLACE ACCIDENT RATES

<table>
<thead>
<tr>
<th>Workplace</th>
<th>Injuries</th>
<th>Injuries as % of Workforce</th>
<th>Accidental Deaths</th>
<th>Deaths as % of Workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 Shipboard</td>
<td>1,965</td>
<td>2.7</td>
<td>4</td>
<td>0.006</td>
</tr>
<tr>
<td>2010 Shoreside</td>
<td>233</td>
<td>1.3</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>2011 Shipboard</td>
<td>1,978</td>
<td>2.6</td>
<td>1</td>
<td>0.001</td>
</tr>
<tr>
<td>2011 Shoreside</td>
<td>112</td>
<td>0.8</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

### TABLE 5.29 (LA 7)—SHIPBOARD ACCIDENTS

<table>
<thead>
<tr>
<th>Accident Type</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Injuries</td>
<td>1,163</td>
<td>1,121</td>
</tr>
<tr>
<td>Serious Injuries</td>
<td>461</td>
<td>487</td>
</tr>
<tr>
<td>Major Injuries</td>
<td>341</td>
<td>370</td>
</tr>
<tr>
<td>Accidental Deaths</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>1,969</td>
<td>1,979</td>
</tr>
</tbody>
</table>
Table 5.29 (LA 7) and Figure 5.29 (LA 7) show the severity levels of fiscal year 2011 shipboard deaths and injuries. Section 7, Glossary, defines injury severity levels.

**TABLE 5.30 (LA 10)—SHIPBOARD DEPARTMENT TRAINING**

<table>
<thead>
<tr>
<th>Department</th>
<th>2010 Training Hours</th>
<th>2010 Training Hours per Employee</th>
<th>2011 Training Hours</th>
<th>2011 Training Hours per Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deck</td>
<td>551,235</td>
<td>71</td>
<td>641,866</td>
<td>72</td>
</tr>
<tr>
<td>Engine &amp; Technical</td>
<td>497,568</td>
<td>60</td>
<td>578,987</td>
<td>65</td>
</tr>
<tr>
<td>Hotel</td>
<td>4,840,897</td>
<td>54</td>
<td>4,834,462</td>
<td>55</td>
</tr>
<tr>
<td>Total</td>
<td>5,944,240</td>
<td>56</td>
<td>6,055,315</td>
<td>57</td>
</tr>
</tbody>
</table>

Total shipboard training hours and the distribution of shipboard training by department are shown on Table 5.30 (LA 10).

**TABLE 5.31.1 (LA 10)—SHORESIDE TRAINING 2010**

<table>
<thead>
<tr>
<th>Employee Type</th>
<th>Training Hours</th>
<th>Training Hours per Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-Time</td>
<td>64,865</td>
<td>5</td>
</tr>
<tr>
<td>Part-time</td>
<td>3,055</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>67,920</td>
<td>4</td>
</tr>
</tbody>
</table>

**TABLE 5.31.2 (LA 10)—SHORESIDE TRAINING 2011**

<table>
<thead>
<tr>
<th>Employee Type</th>
<th>Training Hours</th>
<th>Training Hours per Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-Time</td>
<td>55,455</td>
<td>6</td>
</tr>
<tr>
<td>Part-Time</td>
<td>2,379</td>
<td>0.5</td>
</tr>
<tr>
<td>Total</td>
<td>57,834</td>
<td>4</td>
</tr>
</tbody>
</table>

*Partial data only. Not all training data is available for the reporting period.

Total shoreside training hours and the distribution of shoreside training by employee type are shown on Table 5.31.1 (LA 10) and Table 5.31.2 (LA 10).
EMPLOYEE PERFORMANCE AND CAREER DEVELOPMENT (LA 12)
Carnival recognizes that appraising employee performance against common targets helps individual employees to develop their personal knowledge and skills. It also helps Company management to assess employee skills in relation to business requirements and to develop the organization’s human capital.

Appraising performance can also enhance employee satisfaction, which improves organizational performance.

Carnival conducts performance reviews of all employees using both informal and formal processes. Performance reviews help us to determine how effectively we monitor, maintain and improve employee competencies. These competencies, which include the knowledge, skills and behaviors employees need to do their jobs, are in position descriptions on which performance reviews are based. Our informal performance reviews are routine activities, whereby managers and supervisors meet regularly with their subordinates, sometimes daily, and use observation, communication, checking of work and immediate feedback. The more formal performance review systems that we use involve documenting employee strengths and weakness, recording of objectives, describing any necessary training, and annual completion of forms. We are actively increasing the usage of more formal performance appraisal processes, and enhancing the related tracking systems.

CREATING POSITIVE WORK ENVIRONMENTS (HR 4)
As a responsible global citizen, Carnival has established ethics and compliance policies and systems to facilitate conduct that conforms with the Company’s expectations that apply equally to all employees, irrespective of geographic locations and boundaries. As a leading member of the international cruise industry, we employ and engage with a diverse community of individuals, which provides us with many opportunities to enjoy multicultural experiences. Sometimes these experiences engender difficult situations where we may not know how to react. Our Code of Business Conduct and Ethics shows us how to navigate these situations and respond with integrity when dealing with fellow employees, guests, global communities, government agencies, consultants, vendors, distributors and other business partners. By following our Code of Business Conduct and Ethics when interacting with these valued stakeholders, we maintain our reputation for integrity and uphold the standards of our Company.

We also work to ensure that our workplace is free from harassment, which would include any form of unwelcome conduct by one person toward another that has the purpose or effect of creating an intimidating, hostile or offensive work environment. While the definition of harassment may vary in the locations where we do business, our Company does not tolerate any form of harassing behavior.
Carnival is a diverse organization. We recognize that maintaining a diverse workforce promotes an open, tolerant, and positive work environment where everyone’s different talents and strengths can be utilized. We encourage such diversity, and we treat each other in a respectful, professional and friendly manner.

All Carnival employees are encouraged to report any harassment or discrimination concerns immediately. We investigate these reports and take appropriate corrective actions. Employees do not face retaliation for making a report in good faith.

Carnival has established a website (www.carnivalcompliance.com) that allows employees to report suspected issues of non-compliance and to have their report reviewed and investigated by the Company.

CHILD LABOR (HR 6)
As part of our comprehensive Corporate Health, Environmental, Safety & Security Policy and related commitments in our Code of Business Conduct and Ethics, we condemn all forms of child exploitation and forced labor. We do not recruit child labor. In accordance with the ILO Maritime Labour Convention, and related Flag State regulations, our Operating Lines do not employ any crew members younger than 18 years of age. As permitted by such regulations, however, Officer trainees (Cadets) younger than 18 may be employed within shipboard Deck and Technical Departments.
SOCIO-ECONOMICS AND PRODUCT RESPONSIBILITY

IMPACTS ON THE COMMUNITY (EC 1 AND SO 1)
Carnival takes the lead in enhancing our communities, both in our homeports and in the destinations that our ships regularly visit throughout the world. We recognize the inextricable link between the health of our business and the vitality and sustainability of our communities. We understand that there may be some impact on sustainability when we enter, operate in, or cease operating in a community. We continually strive to contribute a positive social and economic impact on our communities, working in conjunction with trade associations, tourism organizations and other community stakeholders.

Below is a list of areas we consider to maximize our positive impact on communities:

- planning itineraries,
- selecting new ports,
- operating in port communities,
- assessing community economic impacts,
- managing environmental impacts,
- supporting local economies, including in natural disasters, and
- implementing reorganizations and other significant operational changes.

See the 2010 Sustainability Report for further details.

Spending by Carnival, our guests and our crews generate employment, income and other economic benefits for communities where our businesses are located, in the ports where our cruises originate and ships visit, and in the home communities of our crew members.

These economic benefits arise from:

- spending by guests and crew for cruise-related goods and services, including travel between their places of residence and the ports of embarkation, and pre- and post-cruise spending;
- shoreside staffing by our Operating Lines for their headquarters, marketing and tour operations;
- expenditures for goods and services necessary for cruise operations, including fuel, food and beverages, hotel supplies and equipment, and navigation and communications equipment;
- expenditures for services at ports-of-embarkation and ports-of-call;
- expenditures for the purchase of ships, ship maintenance and repair, and capital expenditures for port terminals, office facilities and other capital equipment; and
- philanthropy and support of charitable and cultural organizations in our communities.

For example, according to an independent study commissioned by CLIA, the cruise line industry generated more than $40 billion in total economic activity to the U.S. economy in 2011, a 6.8 percent increase from 2010. This economic activity generated 347,787 jobs, paying $16.5 billion in wages to American workers.

Carnival strives to make a positive difference, both nationally and internationally. For example, during times of crisis, Carnival works closely with various national and international relief organizations, coordinating Corporate and employee donations for emergencies such as hurricanes in the U.S. and Caribbean. Over the years, these and many similar efforts have created extraordinary pride among our employees and made Carnival a stronger company. Carnival supports the accomplishments of our employees and will continue our efforts to build better and stronger communities throughout the world.

Please visit the Community Relations section of our Corporate website and our Operating Line websites for information on our philanthropic activities.

<table>
<thead>
<tr>
<th>TABLE 5.32 (EC 1)—DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED†</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Years Ended November 30</strong></td>
</tr>
<tr>
<td><strong>(in US$ Millions)</strong></td>
</tr>
<tr>
<td><strong>2009</strong></td>
</tr>
<tr>
<td>Revenues</td>
</tr>
<tr>
<td>Operating Costs</td>
</tr>
<tr>
<td>Payroll and Related</td>
</tr>
<tr>
<td>Dividends</td>
</tr>
<tr>
<td>Interest Expense, Net</td>
</tr>
<tr>
<td>Net of Capitalized Interest</td>
</tr>
<tr>
<td>Income Tax Expense, Net</td>
</tr>
</tbody>
</table>

†As of November 30, 2011 Annual Report on Form 10-K
**PUBLIC POLICY POSITIONS (SO 5)**

Carnival establishes our public policy positions and participates in public policy development and lobbying on behalf of Carnival’s subsidiary Operating Lines through the organizations listed below. Details of Carnival’s public policy positions on significant issues beyond those disclosed in this Sustainability Report are addressed on the websites of these organizations.

<table>
<thead>
<tr>
<th>ORGANIZATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cruise Lines International Association (CLIA)</td>
<td>Carnival is a member and Board Member of, and actively participates in, CLIA, the world’s largest cruise association. CLIA exists to promote all measures that foster a safe, secure and healthy cruise ship environment; educate and train its travel agent members; and promote and explain the value, desirability and affordability of the cruise vacation experience. CLIA has an Environmental and Safety Committee, composed of representatives from most cruise lines, who meet regularly with groups such as the Port State Authorities and regulators to discuss issues related to compliance and best management practices. CLIA also works with NGOs, universities, regulators and scientists around the globe.</td>
</tr>
<tr>
<td>Florida Caribbean Cruise Association (FCCA)</td>
<td>Carnival is a member of, and actively participates in, the FCCA, a not-for-profit trade organization composed of 15 member cruise lines operating more than 100 vessels in the waters of Florida, the Caribbean and Latin America. By fostering an understanding of the cruise industry and its operating practices, the FCCA seeks to build cooperative relationships with its partner destinations and to develop productive bilateral partnerships with every sector. The FCCA works with governments, ports and all private/public sector representatives to maximize cruise passenger, cruise line and cruise line employee spending, as well as enhancing the destination experience and the amount of cruise passengers returning as stay-over visitors.</td>
</tr>
<tr>
<td>European Cruise Council (ECC)</td>
<td>Carnival is a member of, and actively participates in, the ECC, which represents the leading cruise companies operating in Europe and aims to promote the interests of cruise operators with the European Union institutions (European Parliament, Council of the European Union, and European Commission) in all matters of shipping policy and ship operations.</td>
</tr>
<tr>
<td>International Chamber of Shipping (ICS)/International Shipping Federation (ISF)</td>
<td>Carnival actively participates in the International Chamber of Shipping (ICS) and the International Shipping Federation (ISF). ICS is the principal international trade association for the shipping industry, representing all sectors and trades. It is concerned with all technical, legal and policy issues that may have an impact on international shipping. ISF is the principal international employers’ organization for the shipping industry, representing all sectors and trades. It is concerned with labor affairs, manpower and training, and seafarers’ health and welfare issues that may have an impact on international shipping. ICS and ISF enjoy close relationships with national maritime authorities throughout the world and with relevant departments and agencies of the European Union.</td>
</tr>
<tr>
<td>European Community Shipowners’ Associations (ECSA)</td>
<td>Carnival participates in ECSA, which is composed of the national shipowners’ associations of the EU and Norway. ECSA works through a permanent Secretariat in Brussels and a Board of Directors, as well as a number of specialized committees. Its aim is to promote the interests of European shipping so that the industry can best serve European and international trade and commerce in a competitive free enterprise environment to the benefit of shippers and consumers. Most ECSA members are also members of ICS.</td>
</tr>
<tr>
<td>The Chamber of Shipping (UK)</td>
<td>Carnival is an active member in The Chamber of Shipping, the trade association for the U.K. shipping industry, which works to promote and protect the interests of its members both nationally and internationally. With 144 members and associate members, the Chamber represents more than 860 ships of about 23 million gross tonnes and is recognized as the voice of the U.K. shipping industry. The Chamber works with government, Parliament, international organizations, unions and the general public on behalf of the sectors that make up the shipping industry (including deep-sea bulk, short-sea bulk, containers, ferry, cruise, offshore support and specialized operators) to ensure that the U.K. continues to be a global center for shipping business with world-class standards and an internationally competitive and consistent fiscal and policy environment.</td>
</tr>
<tr>
<td>Ship Emission Abatement and Trading (SEAaT)</td>
<td>Carnival is a sponsoring member of SEAaT, a unique, proactive and self-funding cross-industry group, whose mission is to encourage and facilitate efficient reduction of harmful emissions to air from shipping. SEAaT raises awareness and promotes acceptance of solutions for emissions reductions that are sustainable, cost effective and achievable. Founding sponsors include shipping and oil companies committed to exploring and implementing cost-effective methods of reducing emissions. SEAaT membership represents the broad shipping community and includes shipowners, brokers, technology companies and fuel suppliers. SEAaT campaigns for a flexible regulatory framework that allows abatement and emissions trading as options for shipowners to choose the most cost-effective way of reducing emissions. SEAaT works to raise awareness and acceptance of cost-effective solutions for the reduction of shipping emissions. SEAaT focuses on developing and disseminating material to educate and inform about the benefits of abatement technologies and emissions trading. SEAaT is actively engaged with IMO, European Union and U.S. policy makers to inform about cost-effective solutions. SEAaT participates in studies and practical demonstrations, bringing together legislators and the industry to apply solutions for shipping emissions.</td>
</tr>
</tbody>
</table>
GUEST HEALTH, SAFETY AND SECURITY (PR 1)

Carnival and our Operating Lines place the highest priority on guest health, safety and security. With more than nine million guests cruising on our ships in fiscal year 2011, we go to great lengths to ensure that they are safe, have fun and enjoy their vacation experience. We maintain an excellent health, safety and security record, and we constantly strive to improve our health, safety and security standards and procedures.

Cruising is one of the most popular vacation options, in large part because of its excellent safety record and the high level of quality service provided on board cruise ships. We are committed to providing a secure environment for all of our guests and will continue to work with all appropriate national, state and local agencies to ensure the safety and welfare of all guests on our vessels.

Occasionally, however, situations arise that have the potential to seriously affect our guests. An example is the engine room fire on Carnival Splendor that occurred at sea on November 8, 2010. While there were no injuries to crew or guests, the fire disrupted many routine services and required tug assistance to return the ship to port, ending the cruise. Splendor returned to service more than two months later, following extensive repairs. Based on our investigation into the causes of this incident, we have taken specific actions to mitigate the risk of similar incidents in the future. These actions include improvements to standards and procedures for fire prevention, firefighting, training and drills.

The following is a brief list of measures that apply to all of the ships in the combined fleets of Carnival’s Operating Lines, including:

• safety inspections,
• safety training,
• security on board,
• security standards,
• security training and support,
• crime prevention, and
• guest health and medical care.

COMPLIANCE WITH HEALTH AND SAFETY STANDARDS (PR 2)

Health and Sanitation

All Carnival Operating Lines manage public health programs, taking into account worldwide public health and sanitation regulations, best practices and guidance. This includes compliance with the U.K. Health Protection Agency, Health Canada and U.S. Centers for Disease Control and Prevention (CDC), among others. These programs and their implementation are audited both internally by public health specialists and externally by Officers from the various national and port health authorities worldwide.

In the U.S. for example, we voluntarily work with the CDC, an agency of the U.S. Department of Health and Human Services, which oversees
health and sanitary conditions on all passenger vessels visiting U.S. ports. The CDC provides guidelines, reviews plans and conducts on-site inspections during all new ship builds or renovations. We continue to work with the CDC throughout a ship’s life to maintain the ship through regular inspections, crew training and guest education.

Every Carnival ship that calls on a U.S. port is also subject to unannounced, twice-yearly inspections by Environmental Health Officers (EHO) of the CDC’s Vessel Sanitation Program (VSP). Through the VSP, the CDC assists the cruise ship industry in preventing and controlling the introduction, transmission, and spread of illnesses on cruise ships.

Typically two EHOs are assigned to conduct the inspection to determine if it complies with the public health standards found in the VSP 2011 Operations Manual. The inspection may take from five to eight hours, depending on the size and complexity of the ship.

The major areas that CDC inspects include the following parts of the ship:

- medical facilities: for gastrointestinal illness surveillance documentation and medical logs;
- potable water systems: for source to storage, distribution, protection and any cross-connection, and the disinfection process;
- swimming pools and whirlpool spas: for filtration, disinfection, general maintenance and safety;
- galleys and dining rooms: for food protection during sourcing, provisioning, storage, preparation, and service. Employee health and personal hygiene are evaluated, as well as facility equipment maintenance and dishwashing;
- child activity centers: for properly equipped diaper-changing stations, toilets, and hand-washing stations; facility disinfection; infection control for ill children;
- hotel accommodations: for routine cleaning sequences and infection control procedures during outbreaks of gastrointestinal illness, including the use of appropriate disinfectants and outbreak policies;
- ventilation systems: for maintenance and cleaning of air-handling systems; and
- common areas of the ship: for integrated pest management strategies, general cleanliness, and maintenance.

At the conclusion of each inspection, CDC inspectors meet with ship management to discuss the inspection and any violations and provide them with a draft report. Within two weeks of the inspection, CDC sends a final copy of the inspection report to the corresponding cruise line.

**TABLE 5.33 (PR 2)—CDC VSP INSPECTION RESULTS**

<table>
<thead>
<tr>
<th>CDC VSP Inspections</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of inspections</td>
<td>117</td>
<td>118</td>
</tr>
<tr>
<td>Ships scoring 100%</td>
<td>24</td>
<td>23</td>
</tr>
<tr>
<td>Ships scoring 86–99%</td>
<td>93</td>
<td>94</td>
</tr>
<tr>
<td>Ships scoring &lt; 86%</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
MANAGEMENT APPROACH AND PERFORMANCE

Within the wider global vacation industry, cruise companies compete for the discretionary income spent by vacationers, and a 2011 Nielsen Global Consumer Confidence Survey found that after providing for savings and living expenses, the number-one global spending priority is for vacations. Cruise guests tend to rate their overall satisfaction with a cruise vacation higher than comparable land-based hotel and resort vacations. For example, according to industry surveys, North American cruise guests have a total satisfaction rating of 94 percent, with nearly 45 percent of cruise guests stating that they are extremely satisfied with their cruise experience, which is the highest satisfaction rating of any vacation alternative. Based on our internal surveys, our European cruise guests are also typically very satisfied with their cruise vacations, compared with other vacation alternatives.

The global cruise business and our passenger capacity have increased at a compound annual growth rate of 5.6 percent and 6.9 percent, respectively, from 2006 to 2011. As a result of these and other favorable cruise business characteristics, we believe that the cruise business has opportunities for growth.

Guest Feedback and Complaint Resolution
While pre-cruise and post-cruise service is important, guests’ overall satisfaction with their on-board cruise experience is by far the most important component of Carnival’s success. Each of Carnival’s Operating Lines continues to upgrade and enhance the vacation experiences it offers with new features as part of our effort to attract first-time cruisers and keep our product fresh for repeat guests.

Although the vast majority of guests are satisfied with their Carnival vacation, there are occasional complaints. Each Carnival Operating Line has undertaken a number of initiatives to reduce on-board complaints and to provide guests with expedient resolutions to their issues.

Guests have different means available to convey their opinions and their degree of satisfaction to the Company. A common tool is a guest comment/survey form handed out to guests at the end of the cruise, on which the guests may express their opinions about the various aspects of the service and assign a performance score to each aspect. Email surveys are also used.

Carnival’s Operating Lines actively engage in the collection of complaints and suggestions from their guests on how to improve the services offered. Guests wishing to complain about unsatisfactory service while they are still on board can do so by approaching the appropriate crew member, by phoning the Front/Reception Desk, or by filling out a complaint form.

Resolving issues in an expedient manner during the cruise, rather than having guests wait until they return home to make contact, enables guests to more fully enjoy their vacations. This approach also provides Operating Line management with a valuable on-the-spot learning tool that supports improvement of policies, procedures and cruise product. Guests who are not satisfied with the service received on the ship can send their complaints to the Company, either directly by letter, email or phone, or indirectly through their travel agencies.

GUEST PRIVACY (PR 8)
Carnival Corporate Privacy Program
Carnival has established standards and guidelines that each Operating Line must include in their respective privacy program.

Each Operating Line has developed processes, policies, procedures and a privacy incident response plan to support the principles established in the privacy policy. They provide training to employees to create and maintain awareness of our privacy practices.

Carnival’s privacy standards require the performance of annual reviews of the adequacy of the privacy program that address key issues such as estimated losses incurred by Carnival or our guests due to breaches, training status of employees, attempted and actual unauthorized access to personal information, and management response.
SHARING OUR DISCLOSURE STATEMENTS
Our Sustainability Report is based on the Global Reporting Initiative (GRI) Reporting Framework. The GRI G3.1 Guidelines on application levels guides a reporting company to state its reporting level indicating how much of the G3.1 Guidelines and other GRI Reporting framework components have been applied in preparing the report. Following these guidelines, we self-declare our report at level B.

The table below shows how to classify the level of a Sustainability Report using the G3.1 Guidelines.

<table>
<thead>
<tr>
<th>REPORT APPLICATION LEVEL</th>
<th>C</th>
<th>C+</th>
<th>B</th>
<th>B+</th>
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<td>Management Approach Assured</td>
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<tr>
<td>PERFORMANCE INDICATORS &amp; Sector Supplement</td>
<td>Report fully on a minimum of any 10 Performance Indicators, including at least one from each of: social, economic, and environment.**</td>
<td>Report fully on a minimum of any 20 Performance Indicators, at least one from each of: economic, environment, human rights, labor, society, product responsibility.***</td>
<td>Report on each core and Sector Supplement* Indicator with due regard to the materiality Principle by either: a) reporting on the indicator or b) explaining the reason for its omission.</td>
<td>Report Externally Assured</td>
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*Sector supplement in final version

**Performance Indicators may be selected from any finalized Sector Supplement, but seven of the 10 must be from the original GRI Guidelines

***Performance Indicators may be selected from any finalized Sector Supplement, but 14 of the 20 must be from the original GRI Guidelines
DECLARATION OF THE GRI G3.1 AND EXTERNAL ASSURANCE

Assurance Statement:

Terms of Engagement:
This Assurance Statement has been prepared for Carnival Corporation & plc.

LRQA Americas Sustainability, Inc. (LRQA) was commissioned by Carnival Corporation & plc (Carnival) to assure its GHG Emissions Inventory for the fiscal year 2011 (December 1, 2010 to November 30, 2011) (hereafter referred to as “the GHG Inventory”).

Management Responsibility
Carnival’s management was responsible for preparing the GHG Inventory 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 Inventory in accordance with our contract with Carnival. Ultimately, the GHG Inventory has been approved by, and remains the responsibility of Carnival.

LRQA’s Approach
LRQA’s verification has been conducted in accordance with ISO/IEC 30000:2006 “Specification with guidance for verification of greenhouse gas assertions” to provide limited assurance that the GHG Inventory for Carnival Corporation & plc has been prepared in accordance with ISO14064-1:2006 “Specification with guidance at the organizational level for quantification and reporting of greenhouse gas emissions and removals”.

To form our conclusions the assurance was undertaken as a sampling exercise and we have:
- Visited three Carnival Operating Line headquarters;
- Interviewed key personnel responsible for, and reviewed processes related to the management of GHG data, information and records, and for the preparation of the GHG Inventory; and
- Verified the historical GHG data and information related to the GHG Inventory for the fiscal year 2011.

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 lead us to believe the total direct and indirect GHG emissions for the fiscal year 2011, as recorded in the GHG Inventory, are not materially correct or that the GHG inventory has not been prepared in accordance with ISO 14064-1:2006.

Signed: [Signature]

Dated: 17th May 2012

On behalf of Lloyd’s Register Quality Assurance
LRQA Americas Sustainability, Inc.
1216 State Street, 5th Floor
Santa Barbara, CA 93101-2601

LRQA Reference: 400000000002

This document is subject to the provision below:
This Assurance Statement is only valid when published with this GHG Inventory to which it refers.

Lloyd’s Register Quality Assurance Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the Lloyd’s Register Group. The Lloyd’s Register Group 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 its omission, provided, unless that person has signed a contract with the relevant Lloyd’s Register Group entity for the provision of this information or advice in that case, any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Because of the 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 weaknesses 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 statement is the only valid version. The Lloyd’s Register Group assumes no responsibility for versions translated into other languages.
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UNDERSTANDING OUR TERMINOLOGY
GLOSSARY

A
Audit
Systematic, documented, periodic and objective assessment of an organization’s performance, management systems and processes.

Available Lower Berth (ALB)
Guest beds available on a cruise ship, assuming two people occupy a cabin.

Azipod
An electric propulsion unit in which a variable speed electric motor drives a fixed pitch propeller in a submerged pod outside the ship’s hull. The pod may be configured to be rotated around its vertical axis, providing thrust in any direction. Ships with azips do not need rudders, stern transverse thrusters or long propulsion shafts inside the ship’s hull.

B
Ballast Water
Seawater that is taken on board a ship and stored in tanks to control draft, list, trim and stability.

Bilge Water
Water from equipment maintenance and minor leaks that collects in the lowest part of the ship.

Black Water
Wastewater from toilets, urinals and medical sinks.

Bunkered Water
Potable water that is purchased from a municipal or private system at a port and stored on board in tanks.

By-Catch
This term is usually used for fish caught unintentionally in a fishery while intending to catch other fish. By-Catch consists of a different species, undersized individuals of the target species, or juveniles of the target species.

C
CFC-11 Equivalent
A measure used to compare various substances based on their relative ozone depletion potential. The reference level of 1 is the potential of CFC-11 and CFC-12 to cause ozone depletion.

Chlorofluorocarbons (CFCs)
Commonly known by the trade name “freon”, used primarily as a refrigerant in air-conditioning and refrigeration systems and equipment. CFCs are known to have destructive effects on the ozone layer. For this reason their use has now been banned by legislation.

CO₂ (Carbon Dioxide)
A naturally-occurring chemical compound composed of two oxygen atoms covalently bonded to a single carbon atom. It is a gas at standard temperature and pressure, and it exists in Earth’s atmosphere in this state, as a trace gas at a concentration of 0.39 percent by volume.

D
Direct Emissions (Scope 1 Emissions)
Emissions from sources that are owned or controlled by the reporting organization. For example, direct emissions related to combustion would arise from burning fuel for energy within the reporting organization’s boundaries.

E
Energy Saved
The reduced amount of energy needed to carry out the same processes or tasks. The term does not include overall reduction in energy consumption from reduced organizational activities.

Environmental Aspect
Element of Company activities that may have a significant impact on the environment directly and/or indirectly.

Environmental Impact
How an environmental aspect may affect the environment.

Environmental Management System (EMS)
An EMS refers to the management of an organization’s environmental programs in a comprehensive, systematic, planned and documented manner. It includes the organizational structure, planning and resources for developing, implementing and maintaining policy for environmental protection.

F
Footprint
The amount of environmental impact related to a specific resource.

G
Global Reporting Initiative (GRI)
A network-based organization that produces a comprehensive sustainability reporting framework that is widely used around the world. GRI is committed to the framework’s continuous improvement and application worldwide. GRI’s core goals include the mainstreaming of disclosure on environmental, social and governance performance.

Global Warming Potential (GWP)
A relative measure of how much heat a greenhouse gas traps in the atmosphere. It compares the amount of heat trapped by a certain mass of the gas in question to the amount of heat trapped by a similar mass of carbon dioxide. A GWP is calculated over a specific time interval, commonly 20, 100 or 500 years.

Governance
The set of rules (laws and corporate regulations), organizational structures, processes and relationships that affect the way a company is directed and administered. The concept of governance also embraces the structure used to decide corporate objectives and the means to achieve and measure results.
Glossary

Gray Water
Wastewater that is generated from activities such as laundry, bathing, cooking and dishwashing.

Greenhouse Gas (GHG)
A gas in the atmosphere that absorbs and emits radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect, which many believe is the cause of global warming. The primary greenhouse gases in the Earth’s atmosphere are water vapor, carbon dioxide, methane, nitrous oxide and ozone. Greenhouse gases greatly affect the temperature of the Earth; without them, Earth’s surface would be on average about 33 degrees C (59 degrees F) colder than at present. The greenhouse gases thought to be major contributors to global warming are carbon dioxide (CO₂); methane and biomethane emissions (CH₄); nitrogen oxide (N₂O) and chlorofluorocarbons (CFC).

Greenhouse Gas (GHG) Protocol Initiative
The Greenhouse Gas Protocol Initiative’s vision is to harmonize greenhouse gas emission accounting and reporting standards internationally. It aims to provide a multi-stakeholder framework ensuring that different trading schemes and other climate-related initiatives adopt consistent approaches to GHG accounting.

H
Heating, Ventilation and Air-Conditioning (HVAC) System
The technology used for indoor environmental climate control.

Heavy Fuel Oil (HFO)
A type of blended oil used in ship’s engines, made from the residues from various refinery distillation and cracking processes.

I
Indicator
A means used to measure the effects of sustainability management initiatives or the condition of environmental, social or governance issues.

Indirect Emissions (Scope 2 Emissions)
Emissions that result from the activities of the reporting organization, but that are generated at sources owned or controlled by another organization. In the context of this indicator, indirect emissions refer to greenhouse gas emissions from the generation of electricity, heat or steam that is imported and consumed by the reporting organization.

Indirect Energy
Energy produced outside the reporting organization’s boundary that is consumed to supply energy for the organization’s energy needs (e.g., electricity, or for heating and cooling). The most common example is fuel consumed outside the reporting organization’s boundary in order to generate electricity to be used inside the organization’s boundary.

Injury Severity Levels
Work-related crew member and contractor injuries are classified as major, serious, or minor, based on the following criteria:

- Major injury: Any fracture, loss of any body part, loss of vision (temporary or permanent), dislocation of a joint or a ruptured ligament or tendon, hypothermia or hyperthermia secondary to environmental exposure that requires medical treatment, an injury resulting in trauma that requires advanced life support or any other injury requiring hospitalization on board or on shore for more than 24 hours following the injury.
- Serious injury: Any injury, other than a major injury, which results in time off work for more than three consecutive days following the injury, or that results in disembarkation without return on board.
- Minor injury: Any injury that is not a serious or major injury and that results in time off work of 24 hours or more following the injury.

International Labour Organization (ILO)
The United Nations’ agency that seeks the promotion of social justice and internationally recognized human and labor rights.

International Maritime Organization (IMO)
The United Nations’ agency responsible for improving maritime safety and preventing pollution from ships.

International Organization for Standardization (ISO)
An international standard-setting body composed of representatives from various national standards organizations. An ISO Standard is an international specification that establishes a common framework of reference or a common technical language between suppliers and customers, thus facilitating trade and the transfer of technology.

International Safety Management (ISM) Code
International code for the safe management and operation of ships and for pollution prevention.

ISO 14001
Global standards for Environmental Management System developed by the ISO.

International Ship and Port Security (ISPS) Code
A part of SOLAS that prescribes responsibilities of governments, shipping companies, shipboard personnel, and port/facility personnel to “detect security threats and take preventative measures against security incidents affecting ships or port facilities used in international trade.”

M
Marine Sanitation Devices (MSD)
A system that employs filtration, maceration and chlorination technologies to treat black water.

An international treaty that provides comprehensive rights and protection at work for the world’s seafarers. The convention sets out seafarers’ rights to decent conditions of work on a wide range of subjects and aims to be globally applicable, easily understandable, readily updatable and uniformly enforced.

MARPOL
The International Convention for the Prevention of Pollution from Ships. MARPOL is one of the most important marine environmental conventions, which was designed to minimize pollution of the seas.

Metric Tonne
1 metric tonne = 2,204.62 pounds (lbs.) = 1,000 kilograms.
N
NOx
Oxides of nitrogen that are a family of gases released from the combustion of fuel.

O
Ozone Depleting Potential (ODP)
The relative potential of various gases to deplete the ozone in the atmosphere.

Ozone-Depleting Substance (ODS)
Any substance with an ozone depletion potential greater than zero that can deplete the stratospheric ozone layer. Most ozone-depleting substances are regulated under the Montreal Protocol and its amendments, and include CFCs, HCFCs, halons and methyl bromide.

P
Primary Source
The initial form of energy consumed to satisfy the reporting organization’s energy demand. This energy is used either to provide final energy services (e.g., space heating, transport) or to produce intermediate forms of energy, such as electricity and heat.

Protected Area
A geographically defined area that is designated, regulated, or managed to achieve specific conservation objectives.

R
Refrigerants
Gases that are used in HVAC systems on board.

Renewable Energy
Renewable energy is derived from natural processes that are replenished constantly. This includes electricity and heat generated from solar, wind, ocean currents, hydropower, biomass, geothermal resources or biofuels, as well as hydrogen derived from renewable resources.

S
Safety Management System (SMS)
ISM code-certified system that informs employees how to perform their duties in accordance with all safety and environmental laws.

Safety of Life at Sea (SOLAS) Convention
The most important and comprehensive international treaty governing the safety of merchant ships.

Significant Air Emissions
Air emissions that are regulated under international conventions and/or national laws or regulations, including those listed on environmental permits for the reporting organization’s operations.

Solid Waste
All used and discarded solid material produced on board during ship operations.

SOx
Oxides of sulfur are a family of gases produced by the combustion of fuel which contains sulfur. The quantity of oxides of sulfur is proportional to the quantity of sulfur in the fuel.

Stakeholder
Any individual or group, within or outside a company, that has an interest in or may be impacted by that company, and that accordingly has expectations, requires information or holds legitimate economic interests.

STCW
The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, which sets qualification standards for masters, Officers and watch personnel on seagoing merchant ships.

T
Total Water Withdrawal
The sum of all water drawn into the boundaries of the reporting organization from all sources (including surface water, ground water, rainwater, and municipal water supply) for any use over the course of the reporting period.

Turnover
The ratio of the number of terminations to the average employee count during the reporting period.
NAVIGATING OUR REPORT
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<th>STATUS</th>
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<td>4.7</td>
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