

# Fact Sheet



## Marina Bay Sands Green Initiatives

For Marina Bay Sands, protecting the environment requires our long-term commitment. Since our construction days, we have implemented eco-friendly operational processes to ensure that our property is an environmentally-responsible, energy-efficient and healthy place to live and work in.

Marina Bay Sands' sustainability efforts paid dividends in February 2012 when the Building and Construction Authority (BCA) in Singapore awarded the integrated resort with the Green Mark Gold Award.

We have also ramped up our sustainability drive through Sands Eco360<sup>®</sup>; a global sustainability strategy that crosses all of Las Vegas Sands' businesses. The program integrates the company's best practices, technologies and methodologies in the area of sustainability across all properties.

It consists of four priorities: **Green Building, Environmentally Responsible Operations, Green Meetings and Sustainability Education and Outreach.**

### Green accolades

Marina Bay Sands' first green accolade in Singapore follows the lead of Las Vegas Sands in the United States, where The Venetian and The Palazzo together form the largest LEED-certified building in the world. In October 2012, Las Vegas Sands ranked 128<sup>th</sup> in the U.S. and 239<sup>th</sup> globally on *Newsweek's* Green Rankings, which ranks the 500 most eco-friendly U.S. and global companies. Its U.S. ranking marks a 238 rank jump from 2011, the largest improvement for any company in 2012.

In May 2012, Marina Bay Sands joined EarthCheck in its internationally leading benchmarking and certification programme for environmental sustainability. With this programme, Marina Bay Sands will take a scientific approach to benchmarking and is committed to report our environmental footprint based on an internationally recognized standard.

In July 2013, Marina Bay Sands achieved the Level One Certification to the American Society for Testing and Materials (ASTM) Standard pertaining to the Evaluation and Selection of Venues for Environmentally Sustainable Meetings, Events, Trade Shows, and Conferences. The integrated resort is the first event and conference venue outside the US to be certified for its outstanding initiatives in green meetings.

In September 2013, Las Vegas Sands achieved a leadership position through the CDP Global 500 Climate Change Report 2013, which tracks how the world's largest listed companies are acting in response to a changing climate. Las Vegas Sands scored 98 out of 100 and a performance band of A-.

### Powering an Eco-friendly Building:

At the core of Marina Bay Sands' green initiatives is a S\$25 million Intelligent Building Management System, which allows automated control over lighting, heating and water supplies for the entire integrated resort, thus conserving precious resources.

### Did you know?

- Marina Bay Sands is the largest single Green Mark Building in Singapore to be certified.

- Marina Bay Sands uses regenerative drives on our lifts, which require 40 percent less energy than comparative non-regenerative lifts.
- Marina Bay Sands has removed over 700 light bulbs in our heart-of-house and common areas to optimize lighting levels. This has reduced energy consumption by roughly 3,000 kWh per year.
- Marina Bay Sands has installed over 12,000 energy-efficient fluorescent and LED lights throughout the property.
- Marina Bay Sands has been recognized as a “Water Efficient Building” by the Public Utilities Board (PUB) in Singapore.
- Marina Bay Sands has installed 461 fittings under the Water Efficient Labeling Scheme. These fittings yield water savings of more than 6,700m<sup>3</sup> per year.
- Marina Bay Sands recycles over 160 tons of aluminum, plastic, paper, cardboard and glass each month.

### Energy Efficiency

- Marina Bay Sands uses an Intelligent Building Management System with over 60,000 control points, allowing automated controls over lighting, heating and water supplies for the entire building.
- Marina Bay Sands is connected to a District Cooling System to use energy more efficiently. Our air-conditioning makes use of water-cooled chillers, which are about 80 percent more efficient than air-cooled models.
- Furthermore, heat emitted from the chillers is reclaimed by heat pumps to provide hot water to the hotel and some restaurants to reduce energy consumption.
- A computerized control system automatically dims or brightens lighting depending on the time of the day and weather conditions.
- The hotel rooms are equipped with an advanced eco-mode system so that guests can play their part in protecting the environment. An “Eco” button on the remote control gives guests the option of bringing up the room temperature by a few degrees when the room is empty to save electricity.
- The curtains are programmed to close in unoccupied rooms to keep them cooler.
- The hotel room balcony doors are installed with sensors that automatically turn off the room air-conditioning if the balcony doors are open for an extended period of time.
- “Green roofs”, with landscaping on roof decks, are located throughout the development. The Sands SkyPark, crowning the three hotel towers, is a 12,400 m<sup>2</sup> green oasis of 250 trees and 650 plants, some up to eight metres tall.
- In the casino, enthalpy wheels recover cool air in the building exhaust to help pre-cool the incoming fresh air and cut down on energy use.
- The building’s glass façade maximizes the use of abundant natural daylight to illuminate indoor areas, thus displacing the need for energy-intensive lights.

### Every Drop Counts

- Marina Bay Sands installed delayed-action, self-closing taps and constant flow regulators in the bathrooms within the public areas to minimize water usage, reducing water consumption by more than 350 million litres of potable water annually in comparison to conventional fixtures and fittings. The amount of water saved is enough to supply the annual water needs for more than 800 average Singaporean households.

- Rainwater is collected on the roof of the ArtScience Museum in a rain harvesting system and cascades into a pool below. The water collected is recycled in the building's flush water toilet systems.
- A drip irrigation system is also used to water plants and shrubs, thereby avoiding wasteful spraying or evaporation.

### Ensuring Quality Air

- The basement car park is equipped with carbon monoxide sensor monitoring to reduce the power used by exhaust fans when there are fewer vehicles.
- Carbon dioxide monitoring facilities are also used in some areas, such as the casino and meeting rooms, to regulate the amount of fresh air to meet the needs of the building.

### Towards a Greener Building

As one of the biggest properties in Singapore, Marina Bay Sands undertook several steps to cut waste to a minimum during our construction phase.

- Non-toxic eco-paints were used to reduce the amount of toxic fumes released into the air. These eco-paints frequently incorporate recycled or leftover paints, which would normally go to the landfill.
- We segmented waste into organic and construction waste for proper disposal.
- We minimized waste with recycling and reusing of wood, metal and excavated earth.
- As part of PUB's Keep Marina Bay Clean Campaign, we have adopted Marina Bay and will help ensure that the bay is clean and provide an emergency response if needed to minimize pollution.

### Green Meetings

As an environmentally responsible venue, Marina Bay Sands provides meeting organisers with sustainable options to achieve their green meeting goals. Several sustainable practices under Sands Eco360 include:

- **Green Meeting Concierge**, adedicated service personnel who will help clients craft sustainable meetings using the **Sands ECO360 Meetings Planning Tool**.
- **Sands ECO360 Event Impact Statement** provides a post-event sustainability report that captures an event's sustainability highlights and provides a comprehensive summary of energy and water consumption at a glance.
- **Green Harvest Menu** offers sustainable food and beverage options for meeting organisers.

### Spreading Awareness

Marina Bay Sands has a company-wide education programme to raise awareness of sustainability and encourage environmentally-friendly behaviour. Launched in February 2012, the programme includes paper reduction challenges, recycling drives, switch-off-the-light campaigns and home tips for energy efficient practices.

In a recent paper recycling drive in July 2013, we saw 910 Team Members participate, which resulted in a total of 1,920 litres of paper recycled. This is equivalent to almost 40 trees from being cut down.

Marina Bay Sands also participates in Earth Hour, an annual worldwide event organised by the World Wide Fund for Nature (WWF). The campaign encourages consumers from around the world to turn off non-essential lights for one hour.

Marina Bay Sands' commitment went beyond Earth Hour 2013:

- 20 retailers joined Marina Bay Sands in switching off non-essential façade and outdoor lighting during Earth Hour 2013
- 20 vendors joined Marina Bay Sands in raising the air-conditioning by 1 °C during Earth Hour 2013

- Marina Bay Sands inspired over 2,000 team members to meet the challenges posed by 33 senior executives. The challenges ranged from reducing energy consumption, food wastage to taking public transport to work.
- Marina Bay Sands will continue to switch off all non-essential façade lighting on the first Tuesday of every month for one hour, as well as raise air-conditioning by 1 °C in our back-of-house offices and various public areas.

*\* The Leadership in Energy and Environmental Design (LEED) Green Building Rating System is the nationally accepted benchmark for the design, construction and operation of high-performance green buildings in the United States.*