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# Sony...on the “Road to Zero”

Sony recognizes the importance of preserving the natural environment that sustains life on earth for future generations and helps humanity to attain the dream of a healthy and happy life. In order to realize this dream, Sony strives to achieve a zero environmental footprint throughout the lifecycle of its products and business activities.

## Sony...on the “Road to Zero”

### *Introduction*

Sony Corporation was founded in Tokyo in 1946 by a group of entrepreneurs including two of the most famous figures in Japanese business history, Ibuka Masaru and Morita Akio. Part of their purpose in establishing the business in the immediate aftermath of the Second World War was to help contribute to society and rebuild the Japanese economy. From this small beginning came today’s Sony, which in 2010 had 168,200 members of staff worldwide, and consolidated sales and operating revenue of 7.18 trillion yen. Sony produces audio and video equipment, televisions, information and communications technology, semiconductors and electronic components.

Along with the strong social principles that have characterized the company from its inception, Sony also recognizes that its business activities have direct and indirect impact on the environment. As a result of this, Sony has set out an Environmental Vision, the goal of which is a ‘zero environmental footprint’ by 2050. In order to turn the dream of a sustainable society into reality, Sony has set up detailed environmental management plan and management system. This case examines Sony’s ‘Road to Zero’, with particular emphasis on China. The recently published 12<sup>th</sup> Five-Year Government Plan of China has a strong focus on energy saving, and also on climate change and other environmental issues. In this case we shall see how Sony has responded to these issues by focusing on green supply chain management, reduction of greenhouse gas emissions and the introduction of green products.

### **A Glimpse into the Corporate Environment Management System**

In April 2010 Sony launched its ‘Road to Zero’ environmental plan. This plan has four key environmental aspects: climate change, resource conservation, chemical substances management and biodiversity conservation. Sony also set out in detail how it intended to realize the integrated “zero environmental footprint” in those four key environmental areas. In order to achieve its targets by 2015, Sony has set specific goals each stage in the product lifecycle. Specifically, Sony has set quantified targets in key stages including product planning and design, procurement, operations, logistics, recycling.



In line with the entire Sony Group, Sony China<sup>1</sup> has set its own targets. These new targets were set when Sony achieved the targets set out in the ‘Green Management 2010’ mid-term environmental plan, including a reduction of more than 30 per cent in global CO<sub>2</sub> emissions across across its business sites (compared with fiscal 2000 levels).

Since 1998, Sony has formulated uniform environmental mid-term targets that encompass its operations around the world, and has revised these targets every few years. "Green Management 2010" mid-term environmental plan was introduced by Sony as a mid-term environmental plan to reduce the Company’s environmental impact over five years from fiscal 2006 through 2010. At the end of fiscal 2009, Sony formulated "Green Management 2015", a set of new mid-term targets that will serve as a yardstick for the environmental activities of Sony Group companies and divisions worldwide until fiscal 2015.

### Sony China Targets for Green Management 2015

Road to Zero” is Sony’s new environmental plan. The plan includes a long-term goal of achieving a zero environmental footprint by 2050, and mid-term environmental targets toward 2015 that were set applying backcasting method. The plan includes specific targets across four perspectives through the entire product lifecycle. The environmental vision is Sony’s aim to achieve a zero environmental footprint throughout Sony’s business activities and product lifecycle by 2050. The plan to realize this vision is “Road to Zero” and 2015 mid-term targets were announced as part of this plan.

Research and Development	<ul style="list-style-type: none"> <li>▪ Actively concentrate on R&amp;D investment in environmental energy.</li> <li>▪ Cooperate with Chinese research organizations to develop environment-related technologies.</li> </ul>
Product planning and design	<ul style="list-style-type: none"> <li>▪ Reduce annual average energy consumption by 30% from the 2008 level (achieved)</li> <li>▪ Strive to achieve energy conservation evaluation values on Chinese energy-saving standard products.</li> <li>▪ Reduce average weight per product by 10 per cent from 2008 levels.</li> <li>▪ Continue to promote chemical substances management based on Management Regulations for Environment-related Substances to be controlled which are included in Parts and Materials” (SS-00259: Established by Sony on 2002.03.29; Now 10<sup>th</sup> version)</li> </ul>
Procurement	<ul style="list-style-type: none"> <li>▪ Establish a mechanism for determining suppliers' greenhouse gas emissions.</li> <li>▪ Conduct biodiversity assessments at resource extraction and harvesting sites.</li> </ul>

<sup>1</sup> In 1996 Sony set up a wholly owned foreign enterprise (WOFE), Sony (China) Ltd based in Beijing to coordinate and manage all business activities in China. The main purposes of this company are investing in information systems, market development, after-sales services, and coordinating and managing business activities across affiliated companies in China. Sony China intends to create a comprehensive platform incorporating product planning, design, R&D, sales and services.

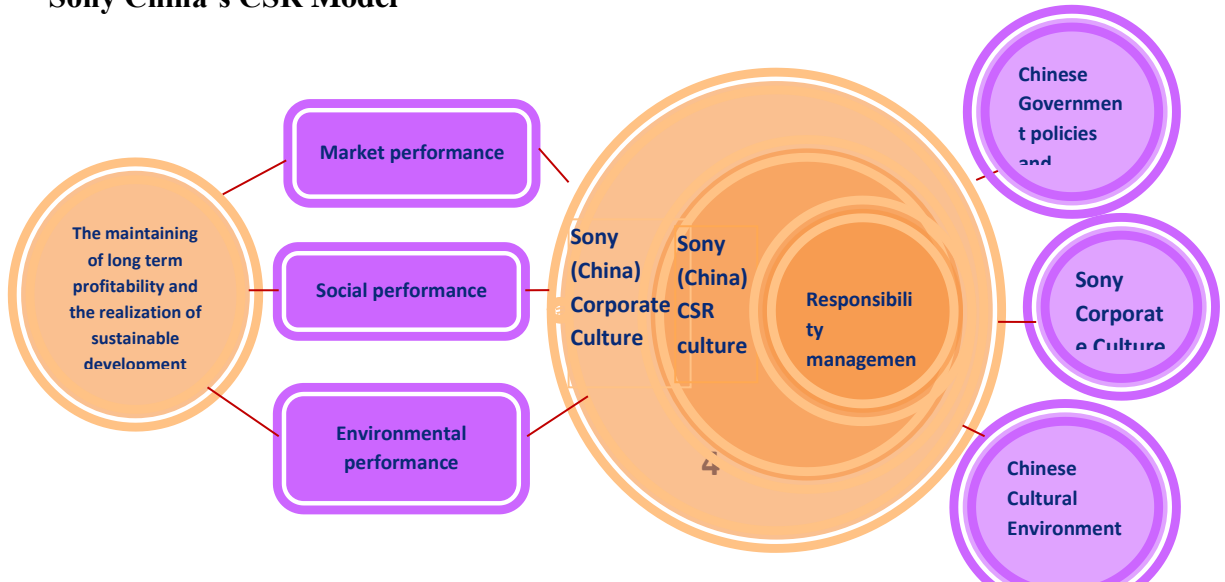
Operations	<ul style="list-style-type: none"> <li>▪ Reduce greenhouse gas emissions by an absolute value of 30 per cent from 2000 levels.</li> <li>▪ Achieve an absolute reduction in the total volume of water used by 30 per cent from 2000 levels.</li> <li>▪ Achieve an absolute reduction in waste from sites of 50 per cent from 2000 levels.</li> <li>▪ Factories and offices across China to carry out annual regional environmental contribution activities that respond to the needs of local communities.</li> </ul>
Logistics	<ul style="list-style-type: none"> <li>▪ Reduce CO<sub>2</sub> emissions created by logistics by 14 per cent from 2008 levels.</li> <li>▪ Reduce waste from packaging for incoming parts by 16 per cent from 2008 levels.</li> </ul>
Take back and Recycling	<ul style="list-style-type: none"> <li>▪ Work with recycling factories to develop recycling systems.</li> <li>▪ Continue to design products that are easy to recycle.</li> </ul>

Source: *Sony China 2011 CSR Report*

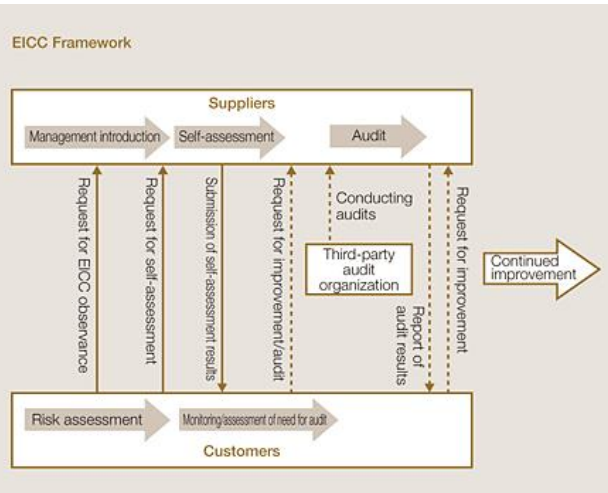
Sony China is expected to play a major role in achieving the overall environmental goals of the Sony Group. First, production facilities in China are an important part of the Sony Group (8 manufacturing facilities out of 50 in total globally) – and these plants contribute a significant amount of the company’s total CO<sub>2</sub> emissions. The green products manufactured and sold in China have a significant influence on Sony Group’s global environmental strategy. China is a second biggest market after US and before Japan. By the end of 2005 Sony had acquired integrated ISO 14001 certification for the all manufacturing plants in China. Thirdly, China represents a major supply base for Sony. Fourthly, Sony China collaborates with Chinese research institutions and co-creates the environmental solutions therefore becomes a major source of innovative products.

While working together with other companies to develop a common framework of CRS performance, Sony China is also seeking to introduce Corporate Social Responsibility (CSR) procurement, namely, CSR management programmes through the supply chain that include legal compliance, employment, occupational health and safety, and environmental protection.

**Sony China’s CSR Model**



The Electronic Industry Citizenship Coalition (EICC) was established in 2004 with the aim of improving CSR performance in the electronics supply chain. Sony, as one of the member companies, participates in the activities of EICC. In 2006, Sony China informed all suppliers about the Sony supplier code of conduct, which is centered on the premise that since suppliers are engaged in the manufacture of Sony products, they should adhere to the Code and comply with Sony's standards. As part of its effort to assess compliance with the Code, Sony has introduced self-assessment questionnaires and briefing meeting. Some of Sony's suppliers have also been selected to undergo audits based on EICC standards. Sony requests all potential new suppliers to comply with the Code. If the existing suppliers don't pass the renewal audit, Sony asks the supplier to take corrective actions and report back on progress until full compliance has been achieved. Sony China's principles of CSR practice are shown below.



### Sony China's Principles of CSR Practice

As an integrated part of Sony Group	As a multinational corporation operating in China	As an enterprise pursuing outstanding performance	As a company aiming at achieving sustainable operation
<ol style="list-style-type: none"> <li>1. Follow Sony Group Code of Conduct , Strategy, Policy;</li> <li>2. Reflect Sony Group's standard requirements and actions;</li> <li>3. Implement best practice in reflecting the group's principle in China.</li> </ol>	<ol style="list-style-type: none"> <li>1. Follow "rooted in China, long term development principle;</li> <li>2. Consider the background of China promoting sustainable development;</li> <li>3. Pay attention to key areas of social responsibility in China;</li> <li>4. Meet local requirements and adapt to local features.</li> </ol>	<ol style="list-style-type: none"> <li>1. Integrating CSR management into the whole business processes including procurement, product design, manufacturing, sales and marketing and services;</li> <li>2. Integrate CSR principles into Sony's culture;</li> <li>3. Align CSR practise being with overall strategy and business operations.</li> </ol>	<ol style="list-style-type: none"> <li>1. Pay attention to and respond to the hot global CSR topics;</li> <li>2. Establish forward looking and long term CSR planning.</li> </ol>

In 2004, Sony China established a regional environmental office (REO). As the branch of HQ Environmental Affairs Department, Sony China Regional Environmental Office was set up in 2004.



Main responsibility is to manage and audit all environmental affairs in China region. Such as, to guide and audit the implement of Sony Group guidelines and directions; to collect China regional environmental information and updates of China environmental regulation so as to the HQ can formulate the suitable environmental policy and guidelines.

The REO works other corporate functions including product quality, customer satisfaction, occupational health and safety and disaster prevention in order to achieve a standard effective environmental management system.

### Green Supply Chain Management

The product and service quality of suppliers and sub-contractors are closely associated with that of Sony because strict control of potentially hazardous chemical substances in the hundreds or thousands of parts in each of Sony’s electronic products is critical in preventing environment pollution.

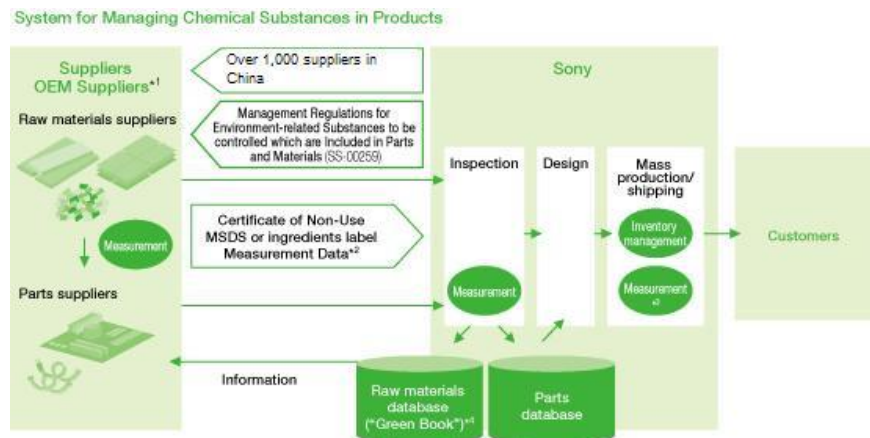
With the aim of encouraging suppliers to introduce green environmental management systems, Sony China has promoted the Sony Green Partner Environmental Quality Approval Program, which began in 2002. So far over 1,000 local suppliers have become Sony Green Partners and their products now meet the most advanced and strict environmental requirements. This both assists these suppliers when seeking international business in markets such as Europe where environmental standards are very high, and has a positive impact on the local environment.

The ‘Green Partner’ program was introduced in 2002 to ensure that Sony only procures from green partners who have successfully passed the audit. Sony’s suppliers in China are audited by Sony each year to ensure that their environmental management systems are working properly. Sony is one of the first companies to introduce this system, which has now been adopted by other large corporations around the world.

In 2010, Sony China implemented the reform proposal which put the biannual renewal audit into one factory. This project has played a significant role in promoting the Sony Green Partner Standards, especially in optimising the allocation of audit resources and stabilising audit quality. Also in 2010, Sony China conducted an investigation of 332 companies supplying eight Sony plants in China. Among those suppliers, 61 were new suppliers and 271 suppliers for updating audit. The result of the investigation indicated that all the suppliers complied with Sony supplier code of conduct.

Sony China also applies Sony’s global standards for the management of chemical substances when procuring raw materials and parts.

In China Sony strictly complies with Chinese government’s ‘Management Methods on the Pollution Control of Electronic Information Products’. By applying the green partner environmental quality approval programme, Sony makes sure that manufactured products do not contain harmful chemical substances. Meantime, the Green



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Partner environmental quality approval programme helps partners to improve their own environmental management practices.

## **The Green Product Life Cycle**

### ***Green supply chain and logistics***

In order to reduce impact on the environment during the transport of products, Sony strives continually to improve packaging, modes of transportation and transportation efficiency.

Sony Supply Chain Solutions (Shanghai) has worked with product design, manufacturing and other departments to provide light-weight product manuals, high-strength lightweight packaging materials and smaller boxes. Sony China has also introduced and expanded the use of ‘milk runs’, regular round trips to collect or deliver goods. In the program, products and parts are collected by Sony’s own vehicles and transported following the best designed routes to



Sony’s sites. This significantly reduces the number of transport vehicles and their mileage. These vehicles are equipped with advanced GPS positioning system in order to keep track of vehicles’ condition, select the best transportation routes, measure punctuality and make accurate pick-ups and deliveries.

On supply management, Sony China explains, ‘We have a set of criteria for selecting suppliers. In particular, we select suppliers from a sustainable development perspective. We periodically audit our suppliers on-site, monitor the production environment of our suppliers’ Sony China also collaborates continuously with its suppliers. ‘We are a leader in terms of managing the chemical substances in our products. We were also the first to set up green partners system. Many companies have learned from us and introduced similar systems.’

Sony China organizes an annual suppliers’ conference, at which the company educates its suppliers on environmental issues in order to achieve the common goal of zero environmental footprint. As Sony China sees it:

If we only send our suppliers a notice or a set of standards without explaining them, it is difficult for them to implement. The solution we adopted was not to ask our suppliers [to do it] but to do it with our suppliers together. This happens in two ways. First, we communicate with top management of our suppliers. Second, we educate top management and other responsible individuals who are responsible about our standards, including on-site education. Our suppliers have been very cooperative.

The green partnership programme has been integrated into the procurement procedure. Each supplier is looked after by a particular Sony plant, which normally educates the supplier concerned.

### ***Green Products***

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Sony strives to minimize the impact on the environment through product research and design. Through technology innovation, Sony continues to improve product energy efficiency and actively looks for alternatives of risk problem materials to minimize the use of hazardous substances, minimize the consumption of plastic, metal and glass and promote the application of renewable materials and recycling materials.

To achieve the best energy-saving performance in the industry, Sony considers how to reduce the impact of its products on the environment right from the product planning and design phase. For example, in 2011 the new Bravia LCD TV has continued the Bravia brand's philosophy which has consistently focused on environmental protection. In 2011 too, the number of low energy consumption LED product lines has been expanded from 20 to 26 which represents X % of Sony product lines .

As Ann Wu says at Sony:

Bravia LCD TV has many energy saving functions such as movement detection sensors, which can detect any movements of either one person or several persons in a certain distance from the TV. If one leaves the screen or falls into sleep without moving, it will shut off the TV and even cut off the power automatically. As a result, energy is saved. In addition, if you shut the previous versions of TVs, a small amount of electricity is still consumed while plugging. While for Bravia TV, even if you don't unplug, the electricity consumption is nearly zero.

This technology is very effective for energy saving. Some high-end models contains motion sensor which could automatically restore to ECO setting according to changes in human movement. For example, when the motion sensor detects no human movement, the sensor will switch off the power.

### ***Reducing Greenhouse Gas Emissions at Sites***

Sony's carbon reduction is managed throughout the lifecycle of Sony's products and business processes, ranging from technology research, product design, procurement, manufacturing, logistics and customer usage to the recycling of waste products. All of Sony's business units in China have been involved in carrying out energy-efficient facilities improvements, building a special energy-saving platform and promoting best energy saving initiatives. Through these efforts Sony China aims to reduce greenhouse emissions and achieve its 2015 targets.

In order to reach these targets Sony China conducts energy-saving assessments and improvements and has built special environmental communication platforms to share energy-saving initiatives and actively promoted energy monitoring. This includes the management and replacement of air conditioner, energy-efficient lighting and construction of Sony's building and the updating of production equipment. Through these efforts, Sony strives to reduce greenhouse emissions.



- Since 2008, many Sony sites in China have been reducing energy consumption by air conditioners by replacing their R22 refrigerants with R418A. This has resulted in a combined reduction of 620 tons in CO<sub>2</sub> emissions.
- Sony continues to promote the installation of high-efficiency inverters at its sites in China. In 2010, as well as adding inverter controls to its existing chiller pump systems, Sony Electronics Huanan installed a single new energy-efficient inverter chiller unit. Together, these measures are expected to support a reduction of 780 tons in the company's annual CO<sub>2</sub> emissions.



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## Sustainable Innovation: Barriers and Enablers for Sony China

The Chinese market offers many strategic opportunities for Sony to implement its strategy of sustainable innovation. The China has had a stable political and economic environment, progressive economic policy and a more receptive society (especially after the Green Olympics Games of 2008 in Beijing). Moreover, the Chinese government has begun to emphasize CO<sub>2</sub> emission reduction since the 11<sup>th</sup> five-year plan (2006-2010). Now China is implementing the 12<sup>th</sup> five-year plan and environmental protection is more important than ever. China's economy is also growing at a fast pace. Public ability and willingness to pay for goods has increased as people spend less on food and basic livelihood. The rapid development of technology creates more opportunities for Sony in areas such 3D technology, tri-networks integration and high speed mobile telephone networks.

But at a more fundamental barrier there are major barriers as well. For example, inferior counterfeit products infringe Sony's brand and harm brand equity and market share. The likelihood that the renminbi will appreciate also affects Sony's plans for business expansion in China. Labour costs in the country are rising. Pressure to protect the environment and manage resources is increasing but the rules are rarely enforced.

The real situation in China is that "neither Customs houses nor State Administration for Industry and Commerce of the People's Republic of China is responsible for the monitoring and enforcement of environmental laws and regulations" according to Anna Wu.

Locally, regulations are often not administered equally in terms of monitoring and enforcement –foreign companies are often 'the only focus of monitor' i.e. domestic players are treated more lightly.

At the same time, the Chinese central government started to pay more and more attention to the environmental issues and made policies in *all industries* helping companies improve their environmental protection systems. However, the environmental solutions require investment, some of which cannot produce returns immediately. Thus it is difficult for many companies (including Sony) to implement innovative solutions when it is clear that these will only increase costs. Along with the financial issues, there are administrative and structural impediments as well. For example, the market for power supply is not free, which means that there is no point in Sony China implement projects related to renewable energy. In Japan, Sony's plants have their own power generators generating electrical power and are connected to the national grid. In China, it is impossible to connect to the National Grid of China but these innovative solutions helped reduce company's energy bills and were especially helpful for certain areas of China where there is a lack of electricity.

In July 2006, Sony joined the Climate Savers Programme, which partners the World Wide Fund for Nature (WWF). Through the Climate Savers Programme, Sony has established targets for reducing annual energy consumption and absolute emissions of the greenhouse gases. Progress toward these targets is monitored by WWF.

*....and the last word....*

Since the beginning of its operations in China, Sony has focused on contributing to China's CO<sub>2</sub> emission reduction programme. Sony aims to improve its operational efficiency and profitability through implementing innovative solutions. In China, consumers, NGOs and the media have started to pay more attention to corporate CO<sub>2</sub> emission. Sony China aims to continue its efforts and further contribute into building a culture of environmental protection in Chinese society.