The SFIC Green Guide

Embracing A Greener Furniture Industry

Contents

Foreword

For the past 20 years, the rise of globalization and increased consumption has been a consistent topic of discussion in global conferences. As the effects of environmental pressures become more visible to consumers, the imperative need for sustainability has led the manufacturing sector to relook their business practices and processes.

2012 marks an important move for the furniture industry when Rio+20, the United Nations Conference on Sustainable Development take place in June 2012. It calls for all to move towards a common vision of creating sustainable green economy whilst expanding the industry. Responsible and Innovative business strategies are key components for furniture companies to inculcate into their business model as the furniture industry charts its path towards a greener and more sustainable environment.

Mr James Goh

President of Singapore Furniture Industries Council (SFIC)

As the ‘Captain’ of Singapore’s furniture industry, SFIC has a vital part to play in championing the green movement by showcasing sustainable design at its finest through various initiatives and platforms. One such milestone which we will soon reach, will be the upcoming inaugural showcase of the Green Pavilion, at the annual International Furniture Fair in March 2012 which features innovative displays of sustainable pieces from the local furniture industry.

The continuous education on eco-friendly designs and manufacturing processes, as well as inspiring eco-consciousness among designers and industry players are two major aspects that SFIC hopes to demonstrate at 2012’s Furniture Design Awards. We introduced the theme, “LOVE, THINK, DESIGN GREEN”, based on the concept and execution of sustainable designs and through these various platforms, we hope to create opportunities to further translate the Green movement into consumer experiences and products.

Mr Ernie Koh

Chairman of the Singapore Furniture Industries Council (SFIC)

Green Initiative Committee

The global trend of sustainability is key in today's modern society as consumers have a greater awareness of the environment they live in. This transcends to furniture and home furnishings as there is a growing trend to make urban living more resource efficient and sustainable, while retaining good aesthetic value. The increasing popularity of green furniture and furnishings is excellent and timely for Singapore companies. Having already established a reputation for innovative, well-designed and high-quality furniture, they can now grow their eco-capabilities.

As the agency driving Singapore's external economy, International Enterprise (IE) Singapore is highly supportive of Singapore Furniture Industries Council (SFIC) and its initiatives to help Singapore's furniture industry scale new heights overseas. SFIC has championed international growth and competitiveness of the Singapore furniture industry through many of its activities and programmes such as Singapore Mozaic and the International Furniture Fair Singapore.

This Green Guide is another example of SFIC's efforts to guide our furniture industry on this upcoming niche area. I encourage our Singapore players to start or continue developing sustainable business practices and environmentally friendly products, not only for corporate social responsibility, but to innovate and stay competitive in the market. Green capabilities will greatly boost Singapore Furniture's brand equity as our products gain the confidence of both buyers and consumers alike. IE Singapore will continue to support companies achieve international green standards and certifications required in their target markets overseas.

I wish this Green Guide every success, and trust it will be a very useful tool for all our furniture companies.

Mr Lee Yee Fung

Group Director, Lifestyle Business Group

IE Singapore

As awareness of the need to sustain the Earth increases, so have demands on manufacturing companies to adopt environmentally-friendly practices. It is now unavoidable for furniture manufacturers to look into green technologies and products as major markets like North America and Europe continue to impose more stringent environmental standards on furniture imports.

Singapore furniture companies have recognised the need to develop sustainable business practices and environmentally-friendly products. Whether this is done as part of corporate social responsibility, or in anticipation of changing environmental regulations and customer expectations, they must still remain competitive. Our highly export-oriented furniture manufacturers have started their journey towards achieving internationally accepted green standards, especially in key markets where these are mandatory or preferred.

In an effort to upgrade and grow our furniture companies, SPRING Singapore is partnering the Singapore Furniture Industries Council (SFIC) to help them embark on their green initiatives through the Local Enterprise and Association Development (LEAD) Programme. Companies will be assisted to adopt international green certifications and standards, as well as develop eco-friendly products and processes. We encourage companies to be proactive in cultivating a mindset towards sustainability in various parts of its value chain, including designing, sourcing, procurement, manufacturing, packaging logistics and distribution.

In this pursuit of environmentally-friendly practices, however, companies face a few challenges. Firstly, international regulatory and technical frameworks are still evolving with little harmonisation or mutual recognition. As such, holistic and comprehensive understanding is lacking in this vast spectrum of green standards and certifications required by different countries. Secondly, most Singapore furniture companies are small and medium enterprises (SMEs) with limited resources to conduct their own research. Thirdly, there is currently no knowledge-sharing platform or information repository for companies to tap on.

These are the very reasons behind this first edition of the Green Guide. It is a first-step resource to help companies understand the various international green standards and certifications in the respective international markets. We believe that such a resource could possibly be the first of its kind in Southeast Asia, and would be especially useful for those who aspire to expand their export destinations.

The Green Guide will be updated on a regular basis, as more intelligence and insights are gathered from industry and international partners. In time, Singapore companies would gain more confidence to successfully establish their export propositions and perhaps even become role models in environmental sustainability practices.

Let the green journey begin now.

Mrs Kee Ai Nah

Group Director, Industry Development

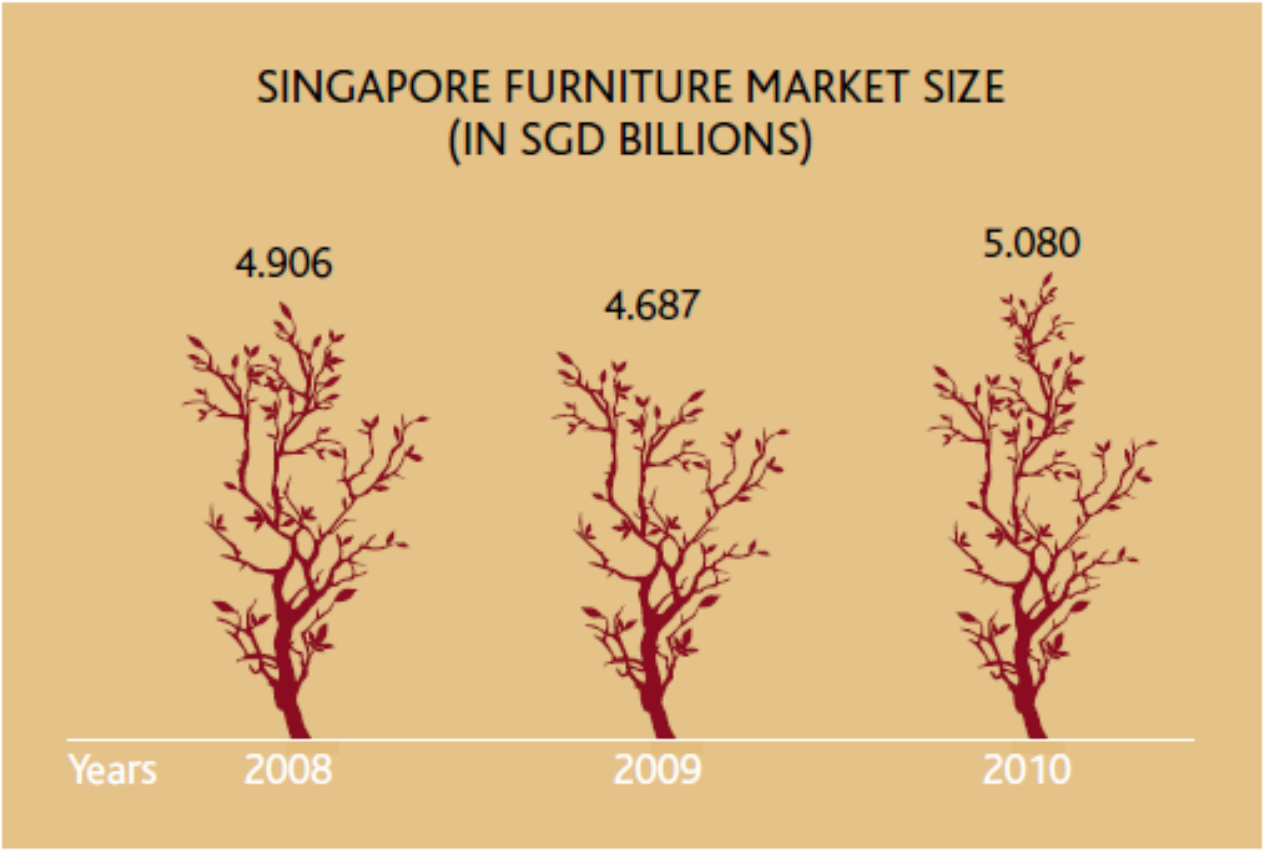
SPRING Singapore

1 Overview of Furniture Industry in Singapore

Singapore is a little red dot with big ambitions and is well connected to the world. This is aptly illustrated through Singapore's furniture industry, which strives to be different and to serve the world.

The furniture industry in Singapore comprise over 1,700 companies and employ close to 17,000 workers, and cover a wide range of furniture and furnishing products including wood products, office furniture, leather and upholstered furniture, metal fittings, laminates, and other products.

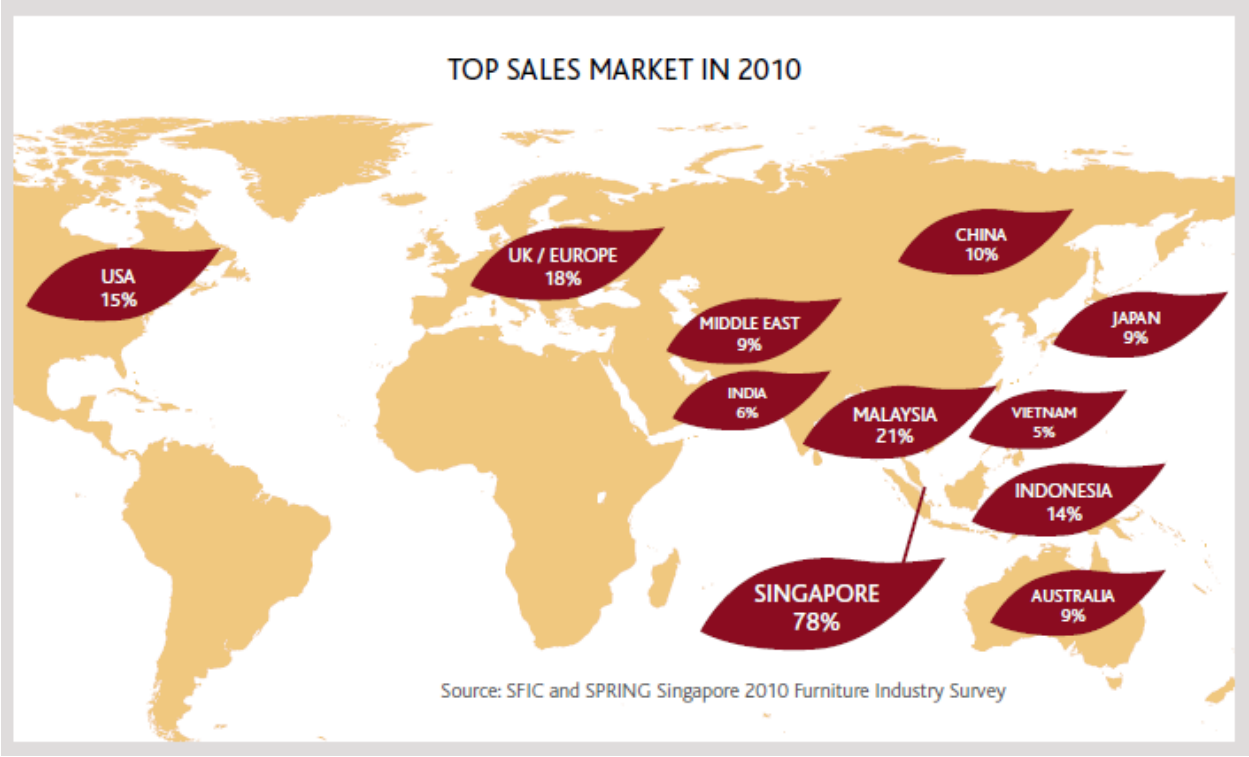
Despite the challenging market and financial conditions over the past few year, the Singapore furniture industry remain strong and resilient, growing 8% from S$4.7 billion in 2009 to S$5.1 billion in 2010. This is a result of the industry's efforts in differentiation and internationalisation.



Source: SFIC, SPRING Singapore 2010 Furniture Industry Survey

Singapore's furniture companies strive to be different and have maintained its lead among competitors with differentiation through quality business practices, innovative design, research and development of new materials and processes, and efficiency in the supply chain. Moving forward, green initiatives in the furniture industry could be a potential driver to further differentiate our companies from competitors in the region and leapfrog to the world.

The furniture companies in Singapore seek to serve the world and through active internationalisation, Singapore now accounts for about 1% of the global furniture market. Singapore furniture companies have actively expanded its markets and operations across the globe, both in developed markets such as the United States and Europe, and in developing markets such as Vietnam, India and China.



As environmental awareness grow around the world and more consumers demand for products that are better for both people and the planet, it is important for the furniture industry in Singapore to continue tapping on its twin engine of being different and serving the world. There are great opportunities for furniture companies to differentiate on being more sustainable in their processes and improving the environmental and health performance of their products, and also to serve the growing global market need for green products and services.

This Green Guide hopes to inspire and help Singapore's furniture industry to reach greater and greener heights.

2 Introduction to Sustainability

2012 is a special and important year for the environmental movement around the world.

20 years ago, the first United Nations Conference on Environment and Development, or more popularly known as the Earth Summit, was held in Rio de Janeiro, where countries and various stakeholders adopted an agenda to rethink economic growth, advance social equity and ensure environmental protection. Progress has been made on sustainable development over the past two decades, although more can and should be done.

This year, the United Nations is again bringing together governments, NGOs, businesses, and communities across the world back to the same place. The United Nations Conference on Sustainable Development, or Rio+20, will take place in Rio de Janeiro in June 2012.

United Nations Secretary-General Ban Ki-moon explains that: “Rio+20 will be one of the most important global meetings on sustainable development in our time. At Rio, our vision must be clear: a sustainable green economy that protects the health of the environment while supporting achievement of the Millennium Development Goals through growth in income, decent work and poverty eradication.”[1]

As the world community gather at Rio+20 soon to chart the path towards a green economy, the spotlight will be on businesses, and whether they can take the lead in a sustainable green economy, amid the financial and market downturn in recent years.

2.1 The Sustainability Imperative

Over the past 20 years, industrialisation, globalisation and overconsumption have strained our natural resources and created environmental pressures. The world population reached 7 billion last year, thus creating more challenges and pressures. Global negotiations on climate change are progressing slowly, and greenhouse gas emissions continue to rise. More than a billion people in the world do not have access to electricity, and almost a billion people go hungry every day.

At the same time, more companies are starting to embrace their corporate social and environmental responsibility, and they are also ensuring that their products and services have minimal impacts on the environment and the community. With the proliferation of green labels and certifications for products, services, and processes, thousands of products have met strict environmental standards. Consumers are starting to demand and choose these green products and services. There is also increasing investments in renewable energy, energy efficiency, and innovative green solutions.

What lies ahead for businesses? With both risks and opportunities along the horizon, sustainability is now an imperative, and not a fad. Companies need to manage sustainability as a key business strategy, and only those with the right vision and execution to navigate this sustainability imperative will come out ahead in a sustainable green economy, while those that do not will be swept aside.

Fundamental shifts in mindsets and ways of doing business are required. These are uncertain times with many challenges but there will also be opportunities and winners. Business-as-usual will be overthrown by innovative and responsible business thinking.

2.2 Threats and Opportunities

The sustainability imperative will bring threats and opportunities for the furniture industry, in terms of changing needs and demands from non-governmental organisations (NGOs), customers, government regulations, and supply chains.

NGOs and Customers

With the rise of globalisation and the Internet, environmental issues are often in the news, and companies now face greater scrutiny from their stakeholders, especially from NGOs and customers. The awareness on environmental issues is increasing among consumers all over the world. A recent TÜV SÜD Green Gauge 2010 research study shows that 94% of consumers in Singapore are somewhat or very interested in green issues. In addition, 91% of consumers said that the awareness of green issues somewhat or substantially increased in the past 5 years, and 81% of consumers said that green issues will become increasingly prominent in the next 5 years.[2]

Nowadays, it is easy for someone to look for information from the Internet and band together with others on social media channels to shine light on a company's bad behaviour and actions, and boycott its products and services. There is no place to hide in this globalised world. Companies have to actively embrace and practise corporate social responsibility (CSR).

For example, an international environmental NGO, Greenpeace, has been vocal in exposing companies who cause significant damages to the environment. Greenpeace has launched a campaign against Asia Pulp and Paper (APP), a subsidiary of the Sinar Mas Group in Indonesia, who has been accused of massive forest and peatland destruction in Indonesia. Greenpeace has successfully persuaded APP's customers such as Nestlé, Adidas, Kraft, Unilever, and Carrefour, to stop doing business with APP. If furniture companies use wood products from APP or from other companies that violate forest regulations in Indonesia, they might run into conflict with organisations such as Greenpeace.

Furniture companies can see this increased environmental awareness and greater scrutiny as threats to business-as-usual, or they could see them as opportunities for their business to take proactive action and differentiate themselves from the competition. If furniture companies are able to reduce their environmental impacts and make their products more sustainable, they would be seen in a better light by NGOs and customers and be recognised as a responsible business, thus leading to reduced risks and enhanced branding.

Government Regulations

Governments around the world are reacting to the increasing environmental challenges facing the planet, especially on climate change, and food, energy and water security. The more developed countries are putting in place government regulations with tougher environmental and health standards for companies, products and services.

For example, the California Section 01350 standard specification was developed by the State of California in 2002 to evaluate and reduce the impact of building materials on indoor air quality and health in buildings. The specification states testing methods and stringent volatile organic compounds (VOCs) emission limit for materials used in buildings. This specification is one of the most common and stringent criteria on indoor air quality in North America.

In France, the government is planning a nationwide eco-labelling law for products, and started a 12-month eco-labelling scheme trial in July 2011 with 168 companies volunteering 1000 products. The product eco-labels would be based on simplified Life Cycle Assessments (LCAs).

The new European Union (EU) Timber Regulation, which will come into force in March 2013, prohibits the sale of timber and timber products illegally harvested under the rules of the country of origin.

The EU is also exploring legislation that would require big companies to have Corporate Social Responsibility (CSR) reporting, which could be mandatory in the long term. This would mean that European companies have to be more careful in selecting their suppliers (many of whom are in Asia) and may require their suppliers to follow CSR practices too.

There is a trend for government regulations on the environment to become tougher in the future. It is important for furniture companies not just to ensure that they meet local standards and regulations, but also to be mindful of international regulations that would have an impact on their markets. Although changing regulations can be disruptive and difficult to meet, furniture companies that take steps to meet these government regulations would be able to export and sell in those markets, and also be able to gain trust from the governments and build relationships.

Supply Chain

More multi-national companies are starting to set internal requirements for their supply chain to be more sustainable and are looking for suppliers who meet their environmental and social standards. This would affect furniture companies who are supplying their products to large retailers.

For example, Walmart has provided its more than 100,000 global suppliers with a Supplier Sustainability Assessment survey to evaluate their sustainability. Suppliers are asked 15 questions in areas such as Energy and Climate; Material Efficiency; Natural Resources; and People and Community. This assessment survey helps Walmart to identify and reward suppliers who are committed to and leading in their sustainability efforts. If furniture companies score poorly in their assessment, they could lose out to other sustainable companies in supplying products to the world’s biggest retailer.

Another example is IKEA, who is requiring its suppliers of products and services to follow the IKEA code of conduct, called The IKEA Way on Purchasing Products, Materials and Services (IWAY). The IWAY states the supplier requirements relating to the environment, child labour, social and working conditions. Suppliers are responsible for communicating the content of the IWAY to their employees and sub-suppliers. Suppliers must also comply with a list of IWAY start-up requirements before being allowed to work with IKEA.

This growing demand from the supply chain means that smaller companies that supply to the bigger players in the market have to meet their requirements in order to be a supplier. Furniture companies that meet the internal environmental and social requirements of big retailers and show their commitment to sustainability would be preferred suppliers over their competitors, and be able to build partnerships with those retailers and work together on a long-term basis.

2.3 Benefits of Green Labels and Certifications

Green labels and certifications for businesses, products and services play an important role in helping companies take the lead in this age of sustainability imperative and address the threats and opportunities. Labels and certifications help companies to define standards, reduce impacts, and demonstrate commitment in environmental, health and social aspects across the business and product lifecycle. Green labels and certifications have proliferated over the years, and there are now about 430 ecolabels in 246 countries and 25 industry sectors, as compiled by the Ecolabel Index.[3]

Green labels and certifications provide a trusted, visual and easy way for consumers to choose products and services that have lesser environmental and health impacts, and to look for businesses that are committed to sustainability. This helps to drive demand for greener products and services, thus motivating more companies to produce more such sustainable products and services, and leading to a positive upward spiral.

Through compliance to the criteria of the green labels and certifications, manufacturers and organisations can improve on their environmental performance and achieve cost savings associated with efficient resource usage, energy reduction, waste minimisation and recycling, and reduced business risks and liabilities. In addition, green labels or certifications become a marketing tool for businesses, and help to improve corporate image and brand recognition.

Case Study: Herman Miller

Herman Miller, Inc. is one good example of a furniture designer and maker, which benefited from green labels and certifications, and sustainability initiatives in the company. Herman Miller's products include a wide range of furniture products, systems and accessories for the office, healthcare, and learning environments.

Herman Miller has an environmental policy of being committed to sustainable business practices in everything they do, and has created the Environmental Quality Action Team, a cross-functional committee to set the company's environmental direction and priorities and to measures results. The company considers various sustainability issues such as air emissions, hazardous and solid waste, process water and wastewater, energy conservation, carbon footprint, green building facilities, health and well-being, and community service.

Herman Miller uses the ISO 14001 certification standard for setting its Environmental Management System to monitor and manage its environmental impacts. In addition, Herman Miller products are certified with green labels and certifications such as the Cradle to Cradle and Level certifications, which looks at multiple environmental and social criteria over the product lifecycle; the GREENGUARD Indoor Air Quality certification for low volatile organic compounds (VOCs) emitting products; and the Forest Stewardship Council (FSC) Chain of Custody certification for wood products that are responsibly harvested.

A 2008 case study by Forrester Research shows that Herman Miller's sustainability initiatives have resulted in a 32% annual rate of return, and the company has reduced its landfill waste by 80%, hazardous waste by 91%, overall emissions by 87%, and water usage by 67%, all while doubling sales to more than US$2 billion in 2007.[4]

For its sustainability efforts, Herman Miller has won numerous awards and recognitions, and is included in the Dow Jones Sustainability World Index. The company is also ranked number 1 in the World's Most Admired Companies 2010 survey for the 'Home Equipment, Furnishings' industry, organised by FORTUNE magazine, which asked business leaders to vote for the companies that they admired most.

2.4 Issues of Concern

There are various local and international green labels and certifications that are relevant for the furniture industry, with different criteria and standards. Some common issues of concern covered in the labels and certifications include indoor air quality, green materials, and sustainable operations.

Indoor Air Quality

Several green labels and certifications have criteria regarding Indoor Air Quality (IAQ), which refers to the air quality inside our homes, offices, schools and indoor environment. The health and comfort of building occupants are affected when they breathe in pollutants, which could be volatile organic compounds (VOCs) and particulates from furniture and furnishing products, or microbial contaminants from our activities or outdoors.

VOCs are emitted as gases from certain solids or liquids containing organic chemicals. One common VOC is formaldehyde, which is usually present in composite wood products made using adhesives that contain urea-formaldehyde resins.

The short-term exposure to indoor air pollutants and VOCs could lead to effects such as headaches; eye, nose and throat irritation; allergic skin reaction; or nausea. Long term exposure could lead to damage to the organs and the central nervous system, or could cause cancer.

Green Materials

The green labels and certifications usually have criteria for green materials, which mean that the material should be a renewable resource or made from recycled materials. For example, wood furniture can be made from wood sourced and harvested from forests that are sustainably managed, with proper forest management and not clearing high conservation value forests. Wood furniture can also be made from recycled wood material that is processed from waste generated by residential, commercial or industrial facilities.

For plastics and metal, these materials are not renewable as they are sourced from limited supplies of steel, aluminium and hydrocarbons. Furniture should make use of recycled plastic or metal material that is processed from waste generated by residential, commercial or industrial facilities. It would be better if the plastics and metal parts in the furniture can be easily removed and separated for reuse or recycling.

Sustainable Operations

Several green labels and certifications consider the sustainable operations and processes for the product over its lifecycle, including the chemicals used in the product and for treatment, waste and water management, energy consumption and greenhouse gas management, and employee health and safety.

Other specific green labels and certifications apply to business operations and processes, and show the company's commitment to sustainability. This includes certifications for green offices and buildings, and for environmental, energy or greenhouse gas management.

2.5 Certification Process

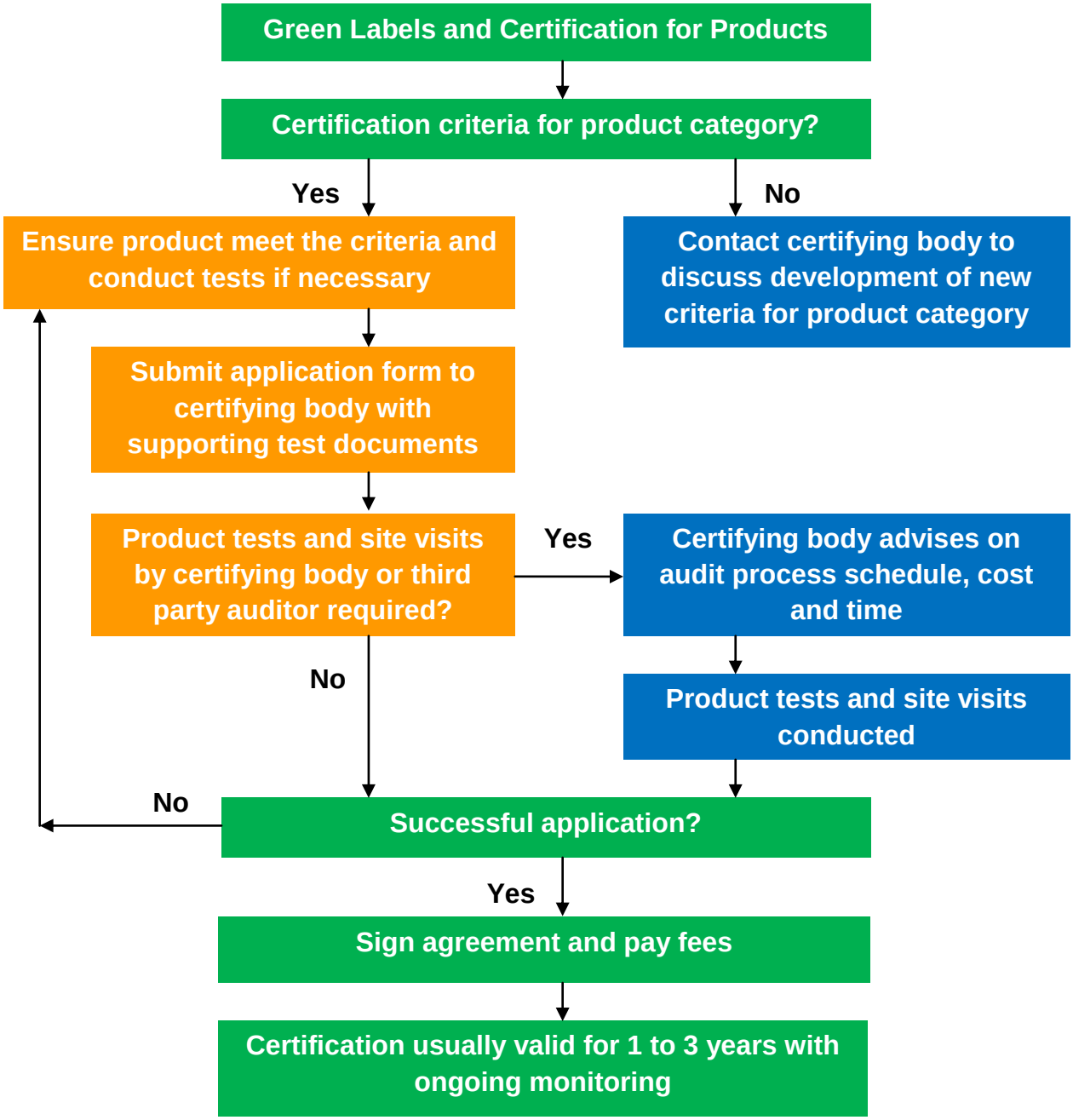
Before Certification

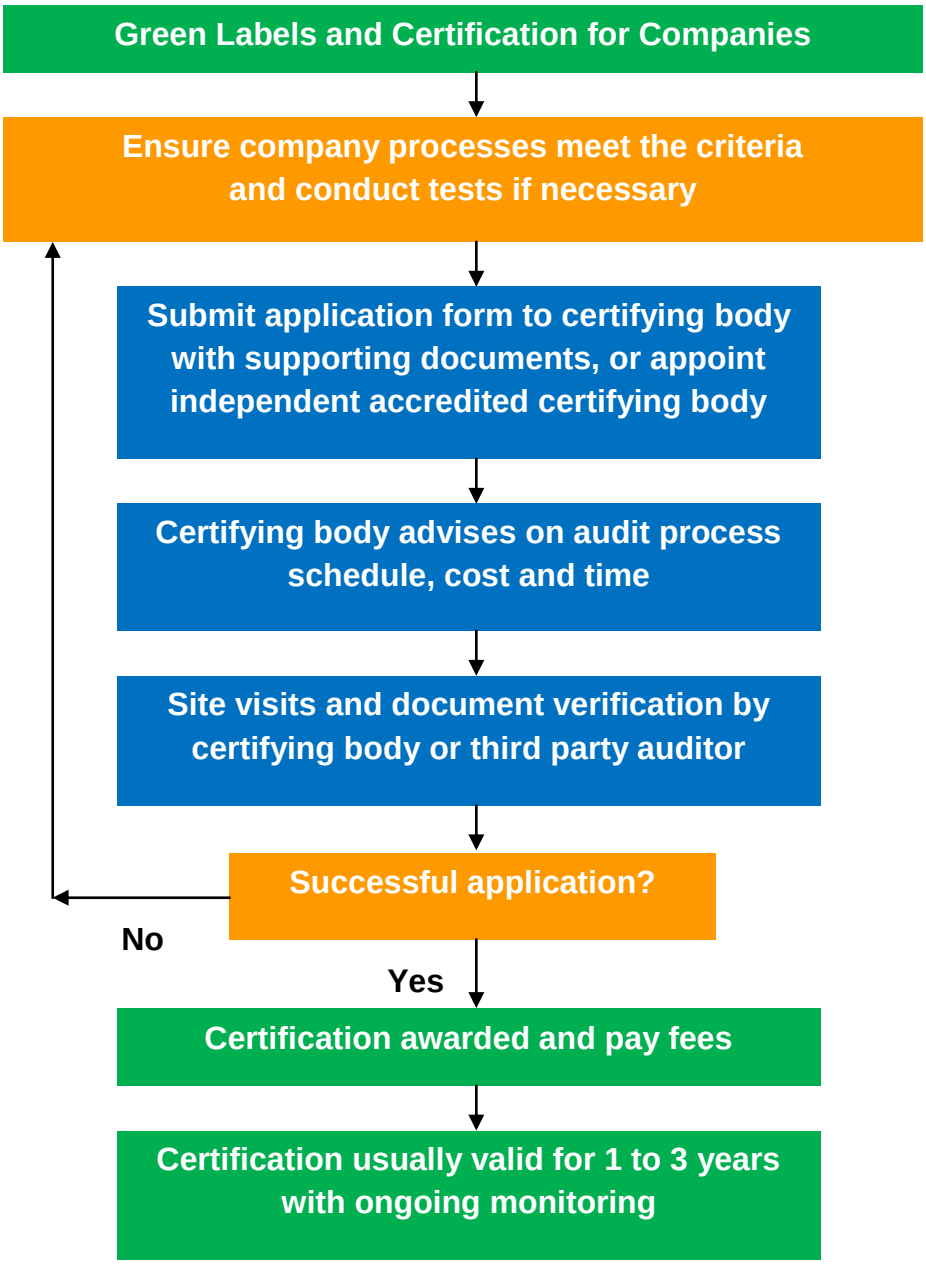
In order to assess whether your business should consider green certifications, and which green certification is suitable for your product or company, ask yourself the following questions:

- Which green certifications are common in your markets?
- Are your customers or supply chain requesting for green labels and certifications?
- Do your competitors have green certifications?
- Can the green certification help you gain a competitive advantage?
- Are government regulations or industry norms moving towards green certifications?
- How well is sustainability integrated in your business?
- Is the top management committed on sustainability?
- Is your company ready to invest time, money and manpower in certification efforts?
- Is your company ready to understand and transform your supply chain?
- Which product range should be certified?

Certification Application

Although the certification process is relatively complex and lengthy, the two flow charts below aim to summarise and outline the various stages during the process. The actual application process for different green certifications will vary according to the certification criteria, certifying bodies and the country of application. Any company wishing to apply for certification should read the following sections for details on green labels and certifications, and carry out the necessary research to confirm the process and costs involved.




Green Labels and Certification for Companies
Ensure company processes meet the criteria and conduct tests if necessary
Submit application form to certifying body with supporting documents, or appoint independent accredited certifying body
Certifying body advises on audit process schedule, cost and time
Site visits and document verification by certifying body or third party auditor
Successful application?
No
Yes
Certification awarded and pay fees
Certification usually valid for 1 to 3 years with ongoing monitoring

2.6 The Time is Now

Furniture and furnishing products are all around us, at home and at work. Each person comes into contact with at least a piece of furniture every day, which is why it is important and necessary for the furniture industry to become more sustainable through greening its companies and products. If we can turn our everyday furniture into greener products, the environmental and health benefits would be substantial.

The furniture industry has to understand that sustainability is now an imperative with increasing threats and opportunities. Green labels and certifications play an important role in helping to define standards, reduce impacts, and demonstrate commitment in environmental, health and social aspects across the business and product lifecycle. Both consumers and businesses would benefit from green labels and certifications.

As the world gather at Rio+20 this year, the time is now for the furniture industry to join the rest and start walking the path towards a sustainable green economy.

3 Green Labels and Certifications for Products

This is a list of common green labels and certifications across the world that applies to products meeting environmental and health performance.

3.1 Singapore

3.1.1 Singapore Green Building Product Certification

Description

The Singapore Green Building Product Certification Scheme was launched in 2010 to assess and certify sustainable building products in terms of safety, health, performance efficiency and environmental protection. It is a voluntary multi-criteria scheme that is technically robust and based on life cycle and impact assessment.

The scheme is managed by the Singapore Green Building Council (SGBC), an industry-led organisation dedicated to promote and drive environmental sustainability in Singapore's building and construction industry.

The scheme supports the BCA Green Mark Scheme, a rating scheme for green buildings by the Building and Construction Authority (BCA), in providing the building industry with trusted and certified green building products.

Country

Singapore

Furniture Category

Wood products; Laminates; Others

Criteria

The relevant assessment guidelines for furniture products are in these 3 categories: Interior Systems, Finishes, and Recycled Material. The products are assessed on multiple criteria, including Energy Efficiency; Water Efficiency; Resource Efficiency; Health and Pollution Control; and other requirements.

Currently, the available certification criteria for furniture products include:

- Interior Systems - Composite Wood
- Interior Systems - Panel Board
- Finishes - Wall Coverings

The detailed certification criteria are available from SGBC.

The certification score ranges from Certified (1 tick), Good (2 ticks), Excellent (3 ticks), to Leader (4 ticks).

How to Apply

If there is a certification criteria available for your product, download the application form at: http://www.sgbc.sg/images/uploads/adverts/SGBP_application_form.pdf. Submit the form with the necessary documents. It takes about 4 weeks to know the result of the product certification.

There is an administrative fee payable on application submission, and a certification fee payable upon successful product certification. The validity period of certification is based on 2 years.

If there is no available certification criteria for your product, contact SGBC for consideration of a new product criteria development.

Contacts

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Email: suliang_goh@sgbc.sg

Ms Serena Teo (Assistant Manager)

Email: serena_teo@sgbc.sg

SGBC Pte Ltd – SGBP Secretariat

Singapore Green Building Council

11 Bishan Street 21 #04-04A, Singapore 573943

Tel: 6634 5518, Email: certification@sgbc.sg

Website: http://www.sgbc.sg/index.php/certification/product_label/

Other Info

SFIC has signed an MOU with SGBC in March 2012 to collaborate on green building development. The collaboration includes developing a new furniture certification under the Singapore Green Building Product Certification Scheme.

The BCA Green Mark Scheme recognizes the green building products certified under the Singapore Green Building Product Certification Scheme.

3.1.2 Singapore Green Label

Description

The Singapore Green Labelling Scheme (SGLS) is Singapore's leading environmental standard and certification mark for consumer products. It helps consumers to identify eco-friendly products that meet the scheme's certification standards, and to encourage manufacturers to produce products in a more sustainable manner. The scheme offers an independent third party assessment of a product's environmental attributes based on life cycle analysis.

The SGLS was launched in 1992 by the Ministry of the Environment, and was handed over to the Singapore Environment Council (SEC) in 1999 to own and manage. SEC is a non-profit, non-governmental organisation that promotes environmental causes and greater environmental responsibility in Singapore. Over 2,000 products have been certified under the SGLS.

Country

Singapore

Furniture Category

Wood products; Laminates; Others

Criteria

There are specific certification requirements for different product categories. The relevant SGLS certification criteria for furniture products include:

- Products Made From Recycled/Renewable Fibres - http://www.greenlabel.sg/sgls/criterion/35
- Carpets (Modular) - http://www.greenlabel.sg/sgls/criterion/39
- Panel Boards - http://www.greenlabel.sg/sgls/criterion/41

- Wall Coverings - http://www.greenlabel.sg/sgls/criterion/42
- Products Made From 50% Recycled Materials - http://www.greenlabel.sg/sgls/criterion/43
- Mattresses - http://www.greenlabel.sg/sgls/criterion/58
- Textiles - http://www.greenlabel.sg/sgls/criterion/64

How to Apply

Ensure that your product meets the criteria available for the product category, and send it for testing to meet the requirements if necessary.

Submit the application online at http://www.greenlabel.sg/sgls/application with the necessary documents. The application will be processed usually within 3 to 4 weeks, if the supporting documents are complete. When the application is approved, the Singapore Green Label can be displayed on the product and is valid for a year.

The fee for a new application is $1,500 per product, and the renewal fee is $1,000 a year.

Contacts

Singapore Environment Council

1 Kay Siang Road, #04-02, Singapore 248922

Tel: 6337 6062, Email: greenlabel@sec.org.sg

Website: http://www.greenlabel.sg/

Other Info

SEC is a member of the Global Ecolabelling Network (GEN), an association of third-party, environmental performance recognition, certification and labelling organisations.

3.2 Asia Pacific

3.2.1 China Environmental Labelling

Description

The China Environmental Labelling (中国环境标志) program is the official environmental labeling program in China, and covers consumer and building products in more than 50 product categories.

It focuses on the idea of life cycle assessment and ensures that the certified products meet the environmental criteria in the process of manufacturing, usage and disposal. The program aims to enhance the awareness of environmental protection among consumers and manufacturers.

The China Environmental Labelling program was launched in 1993 by the State Environmental Protection Administration (SEPA). Since 2003, SEPA has authorised the China Environmental United Certification Center Co., Ltd (CEC), to manage the environmental labeling certification of products.

The program includes two types of environmental labels. Type I environmental labeling involves multi criteria and life cycle assessment, and third party certification. Type II environmental labeling involves self-declaration by the manufacturer or retailer.

Country

China

Furniture Category

Wood products; Office furniture; Leather furniture; Upholstered furniture; Metal fittings; Laminates; Others

Criteria

There are specific certification requirements for different product categories. The relevant China Environmental Labelling certification criteria for furniture products include:

- Furnitures (家具) - http://www.sepacec.com/Ixhjbz/hjbzbz2/201101/P020110106779815548373.pdf
- Kitchen furniture (厨柜) - http://www.sepacec.com/Ixhjbz/hjbzbz2/201101/P020110106740691914608.pdf
- Wooden doors and steel doors (木质门和钢质门) - http://www.sepacec.com/Ixhjbz/hjbzbz2/201101/P020110106805269849205.pdf
- Wood based panels and finishing products (人造板及其制品) - http://www.sepacec.com/Ixhjbz/hjbzbz2/201101/P020110106801514961265.pdf
- Wallpapers (壁纸) - http://www.sepacec.com/Ixhjbz/hjbzbz2/201101/P020110106799543214638.pdf

How to Apply

If your product falls into one of the existing certification criteria, download the application form at http://www.sepacec.com/Ixhjbz/gkwj/200807/t20080711_125570.htm and submit to CEC with the relevant business documents.

CEC will prepare the certification contract, and advise on the submission of details on the certification and test results. CEC would also arrange for site audit and sampling, and testing of the samples. If the criteria is met, the environmental certification is valid for 3 years, but subject to an annual monitoring audit.

There are several fees for the program: first-time application fee of 2000 RMB; audit fee of 3000RMB per man-day; certification and registration fee of 3000RMB; and annual fee of 5000 RMB for the use of the label. The product testing fee is charged separately by the testing facility. There is also a fee for the annual monitoring audit.

Contacts

China Environmental United Certification Center Co., Ltd

No. 1 Yuhuinanlu, Chaoyang District, Beijing 100029

Tel: 010-59205937 / 010-59205833, Email: sepacec@sepacec.com

Website: http://www.sepacec.com/lxhjbz/

Other Info

CEC is a member of the Global Ecolabelling Network (GEN), an association of third-party, environmental performance recognition, certification and labelling organisations.

3.2.2 Eco Mark (Japan)

Description

The Eco Mark program certifies a product as being useful for environmental preservation, and the criteria takes into account the life stage of the product including resource extraction, manufacture, distribution, use, disposal, and recycling.

The Eco Mark is intended to offer consumers with a wide choice of products with a lower environmental impact, and to guide the activities of business and consumers towards a sustainable society.

Since 1989, the Eco Mark program is managed by the Eco Mark Office under the Japan Environment Association, an organisation that enhances public awareness and assistance on environmental conservation activities.

Country

Japan

Furniture Category

Wood products; Office furniture; Leather furniture; Upholstered furniture

Criteria

There are specific certification requirements for different product categories. The relevant Eco Mark certification criteria for furniture products include:

- Furniture - http://www.ecomark.jp/english/pdf/130eC16.pdf
- Household Textile Products - http://www.ecomark.jp/english/pdf/104eC2.pdf
- Board Made of Wood or the Like - http://www.ecomark.jp/english/pdf/111eC21.pdf

How to Apply

If your product falls into one of the existing certification criteria, download the application form at http://www.ecomark.jp/english/m_kakikata.html and submit it with the relevant documents.

The Eco Mark Office will examine the submission and may request for the submission of an actual product, additional materials, or test by a third party institution, if needed. After the certification examination is completed, the company has to sign a Eco Mark Utilization Contract, before using the Eco Mark that is valid for a year.

There is an application fee of 21,000 yen for certifying a product. In addition, the Eco Mark Annual Fee is payable every year, and calculated based on the total amount of sales of the Eco Mark certified product every year.

Contacts

Ms Ikuko Yoshida

Eco Mark Office, Japan Environment Association

Bakurocho Daiichi BLDG.9F, 1-4-16 Nihonbashi

Bakurocho, Chuo-ku, Tokyo, 103-0002 Japan

Tel: +81-3-5643-6255, Email: ikuko.yoshida@ecomark.jp

Website: http://www.ecomark.jp/english/index.html

Other Info

Japan Environment Association is a member of the Global Ecolabelling Network (GEN), an association of third-party, environmental performance recognition, certification and labelling organisations.

3.2.3 Environmental Choice Australia Ecolabel

Description

The Environmental Choice Australia Ecolabel is the only environmental labeling program in Australia which looks at the environmental performance of a product across its life cycle, from sourcing, manufacturing, use and disposal.

The Ecolabel encourages consumers to purchase products with lower environmental impacts, and drives product manufacturers to improve the environmental impacts during production.

The Environmental Choice Australia Ecolabel is managed by the Good Environmental Choice Australia Ltd (GECA), a non-governmental, not-for-profit organisation that started work in 2000 to encourage sustainable production and consumption practices through developing standards for green products.

Country

Australia

Furniture Category

Wood products; Office furniture; Leather furniture; Upholstered furniture; Metal fittings; Laminates; Others

Criteria

There are specific certification requirements for different product categories. The GECA certification standards are available for these furniture and furnishing products: Furniture and Fittings; Outdoor Furniture; Panel Boards; Textiles; Carpets; and Floor Coverings.

- Furniture and Fittings - http://www.geca.org.au/products/standards/5/
- Outdoor Furniture - http://www.geca.org.au/products/standards/33/
- Panel Boards - http://www.geca.org.au/products/standards/14/

- Textiles - http://www.geca.org.au/products/standards/12/
- Carpets - http://www.geca.org.au/products/standards/32/
- Floor Coverings - http://www.geca.org.au/products/standards/17/
- Commercial Modular Tile Carpets - http://www.geca.org.au/products/standards/19/

How to Apply

If your product falls into one of the existing certification criteria, contact GECA for certification at http://www.geca.org.au/contact/.

GECA appoints a Conformance Assessment Body (CAB), which is an independent auditing firm, to audit the product documentation, perform site visits and product tests to verify that a product conforms to the GECA Standards.

An application fee of AUD$500 + GST is payable to GECA, and an audit fee is charged for the audit of your product for GECA certification (to be negotiated with the auditor). GECA license fees are payable annually and are based on one year's sales figures for the product.

Contacts

PO Box 348

Canberra City ACT2601

Suite 6A, Mezzanine Level

Atrium Centre in the Melbourne Building

51-57 Northbourne Avenue

Canberra City ACT2601

Tel: (02) 6287 3100, Email: info@geca.org.au

Website: http://www.geca.org.au/

Other Info

Building products that are GECA certified can earn points for Green Star, an environmental rating system for green buildings, launched by the Green Building Council of Australia.

GECA is a member of the Global Ecolabelling Network (GEN), an association of third-party, environmental performance recognition, certification and labelling organisations.

3.2.4 Environmental Choice New Zealand

Description

The Environmental Choice New Zealand is the official environmental labeling programme in New Zealand, and is initiated and endorsed by the government. It is a voluntary, multiple criteria based environmental labeling programme, and the product standards are based on life cycle research.

Environmental Choice provides a trusted and independent guide for consumers who are looking to purchase greener products, and recognises manufacturers who are reducing the environmental impacts of their products.

The Environmental Choice programme started in 1992 and is managed by the New Zealand Ecolabelling Trust, an independent, not-for-profit organisation.

Country

New Zealand

Furniture Category

Wood products; Office furniture; Leather furniture; Upholstered furniture; Metal fittings; Laminates; Others

Criteria

There are specific certification requirements for different product categories. The relevant Environmental Choice New Zealand certification criteria for furniture products include:

- Furniture and Fittings - http://www.environmentalchoice.org.nz/docs/publishedspecifications/ec3212_furniture_and_fittings.pdf

- Wool and Wool-rich Pile Carpet - http://www.environmentalchoice.org.nz/docs/publishedspecifications/ec_04_11_wool_carpets_specification.pdf
- Synthetic Carpets - http://www.environmentalchoice.org.nz/docs/publishedspecifications/ec3308_synthetic_carpet_specification0312.pdf
- Textiles, Skins and Leather - http://www.environmentalchoice.org.nz/docs/publishedspecifications/ec_31_11_textiles_skins_leather_jan_2012.pdf
- Floor Coverings - http://www.environmentalchoice.org.nz/docs/specifications/ec2812_floor_coverings.pdf
- Recycled Plastic Products - http://www.environmentalchoice.org.nz/docs/publishedspecifications/ec0612_recycled_plastic_products.pdf

How to Apply

To apply for a license to use the Environmental Choice label, download the application form at http://www.environmentalchoice.org.nz/docs/licence_application_form.pdf and submit it to the New Zealand Ecolabelling Trust.

The Trust will appoint an assessor, who is an independent and experienced environmental specialist, to assess the application, provide advice, and plan any on-site work needed to complete the assessment. The assessor will submit a report and recommendation to The Trust, who will decide whether to approve the license.

The application fee is NZD $250 (including GST) per product category. There is an assessment cost by the assessor, including an additional 5% admin fee by The Trust. In addition, the Annual Licence Fee will be charged based on the declared annual net sales value of all the licensed products.

Contacts

PO Box 56 533, Dominion Road, Mt Eden

Auckland 1003, New Zealand

Tel: +64 9 845 3330, Email: info@enviro-choice.org.nz

Website: http://www.enviro-choice.org.nz/

Other Info

Environmental Choice New Zealand is a member of the Global Ecolabelling Network (GEN), an association of third-party, environmental performance recognition, certification and labelling organisations.

3.2.5 Green Mark (Taiwan)

Description

The Green Mark (環保標章) certification in Taiwan certifies consumer products with a lower environmental impact, and considers the product life cycle in the criteria development.

The Green Mark program aims to promote green consumption and the concept of recycling, low pollution, and resource conservation. There are more than 3,000 consumer and building products certified under the Green Mark program.

The Green Mark certification in Taiwan was launched in 1992 by the Environmental Protection Administration, and is managed by the Environment and Development Foundation (EDF), a non-profit environmental organisation.

Country

Taiwan

Furniture Category

Wood products; Upholstered furniture; Others

Criteria

There are specific certification requirements for different product categories. The relevant Green Mark certification criteria for furniture products include:

- Wooden Furniture (木製傢俱) - http://greenliving.epa.gov.tw/GreenLife/green-life/file/CriteriaNoPDF/55.pdf
- Mattresses (床墊) - http://greenliving.epa.gov.tw/GreenLife/green-life/file/CriteriaNoPDF/97.pdf
- Products made from recycled wood (回收木材再生品) - http://greenliving.epa.gov.tw/GreenLife/green-life/file/CriteriaNoPDF/12.pdf

- Recycled Fabric and its Products (回收再生紡織品及其製品) - http://greenliving.epa.gov.tw/GreenLife/green-life/file/CriteriaNoPDF/44.pdf

How to Apply

The application for Green Mark is to be completed online. Apply for a user account at http://greenliving.epa.gov.tw/GreenLife/Anonymous/UserApply.aspx. Fill up the details online and submit the necessary documents. EDF will assess the application and verify the documentation and products, and conduct on-site audits.

It costs NT$20,000 per product certification for the first application by a company, and costs NT$15,000 when the company renews the certification.

Contacts

Chien-Hung Lin

Environment and Development Foundation

Hsinchu, Chutung, Chung-Hsin Road Section 4,

#195, Bldg.53, Rm212, TAIWAN 300

Tel: +886(3) 591-0008, Email: kuakua@edf.org.tw

Website: http://greenliving.epa.gov.tw/GreenLife/info/mark/mark.aspx

Other Info

EDF is a member of the Global Ecolabelling Network (GEN), an association of third-party, environmental performance recognition, certification and labelling organisations.

3.2.6 Hong Kong Green Label Scheme

Description

The Hong Kong Green Label Scheme (HKGLS) is a non-profit and voluntary scheme for the certification of environmentally preferable products. The scheme sets environmental standards and adopts a life cycle analysis in the product criteria development.

The scheme encourages consumers to choose and purchase products that are more environmental-friendly, and provides manufacturers with incentives to reduce the environmental impact of their products.

The HKGLS was launched in 2000 by Green Council, a non-profit environmental association in Hong Kong. The Green Council promotes public environmental education, and encourages the industrial and commercial sectors to include environmental protection in their production and management processes.

Country

Hong Kong

Furniture Category

Upholstered furniture; Laminates; Others

Criteria

There are specific certification requirements for different product categories. The relevant HKGLS certification criteria for furniture products include:

- Textile Products Using Recycled Materials - http://www.greencouncil.org/eng/doc/GL005007_rev2.pdf
- Wall coverings - http://www.greencouncil.org/hkgls/GL008003_rev3.pdf
- Carpeting Modular - http://www.greencouncil.org/hkgls/GL008005_rev3.pdf
- Flooring Materials - http://www.greencouncil.org/eng/doc/GL008002_rev3.pdf
- Ceramic Tile - http://www.greencouncil.org/hkgls/GL008007_rev2.pdf

How to Apply

To apply for the HKGLS label, download the application form at http://www.greencouncil.org/eng/doc/HKGLS_Application%20Form_rev3_out.doc, and send it to the Green Council with the necessary documents. If testing is necessary for product assessment, the test reports should be made available.

Green Council will assess the product application and verify the claims with interviews and site visits. The process usually takes about two months upon receipt of all the necessary information. If the application is approved, the license will be awarded for a three year period.

An Application Fee of HKD 8,000 is payable for the certification process, and a Renewal Application Fee of HKD 3,800 is payable upon each renewal of the 3-year license. An Evaluation Fee is payable based on the number of product certified under the same product criteria, ranging from HKD1,000 to HKD2,000 each.

If a site audit is required, the On-site Audit Fee of HKD8,000 per man-day will be charged instead of the Evaluation Fee. In addition, a License Fee based on the number of products awarded is charged, ranging from HKD2,000 to HKD4,000 for 3 years.

Contacts

Green Council

Room 710 New World Tower I

18 Queen's Road Central, Hong Kong

Tel: (852) 2810 1122, Email: info@greencouncil.org

Website: http://www.greencouncil.org/eng/greenlabel/intro.asp

Other Info

Green Council is a member of the Global Ecolabelling Network (GEN), an association of third-party, environmental performance recognition, certification and labelling organisations.

3.2.7 Korea Eco-Label

Description

The Eco-Labelling Program in Korea is a state-certified ecolabel that provides environmental information to consumers on eco-friendly products, and helps to encourage companies to produce products with less pollution or using less resources in its production and consumption.

The products with the Eco-Label should have less environmental pollution or conserve resources as compared to other products. More than 8,000 Eco-Label products ranging from household, office to industrial products, have been certified.

Since 1992, the Eco-Labelling Program in Korea is managed by the Korea Environmental Industry & Technology Institute (KEITI), a government institute that promotes the development of green technology and the environmental industry.

Country

South Korea

Furniture Category

Wood products; Office furniture; Leather furniture; Upholstered furniture; Metal fittings; Laminates; Others

Criteria

There are specific certification requirements for different product categories at http://el.keiti.re.kr/. The relevant Eco-Label certification criteria for furniture products include:

- Wooden Office Furniture
- Office Partitions

- Office and School Chairs
- Educational Wooden Furniture
- Chairs and tables for educational institutions
- Office and educational metal furniture
- Indoor Floor Coverings
- Finishing Materials for Wall or Ceiling
- Textile goods for Decoration
- Decorative Synthetic Leather
- Domestic Wooden Furniture
- Built-in Wooden Products
- Beds
- Reception Chairs

How to Apply

If the product can be certified under an existing criteria, download the certification application form and submit the application form and required documents to KEITI.

KEITI will assess the application and documents and arrange for an on-site audit to take product samples, which would be sent to a testing agency for test analysis. If the test results conform to the certification criteria, the application would be approved and the Eco-Label is valid for two years.

An application fee is payable, and the annual license fee is payable based on the annual sales amount of the certified product.

Contacts

Jin (Ju-young) Kim

Researcher, Environmental Standard & Certification Management Team

KEITI (Korea Environmental Industry & Technology Institute)

Tel: 82-2-3800-486, Email: kjysam@keiti.re.kr

Website: http://el.keiti.re.kr/

Other Info

KEITI is a member of the Global Ecolabelling Network (GEN), an association of third-party, environmental performance recognition, certification and labelling organisations.

3.3 Europe

3.3.1 EU Ecolabel

Description

The European Ecolabel is a voluntary scheme to allow consumers to identify green products easily, and to encourage businesses to market products that are better for the environment. The products bearing the EU Ecolabel logo can be marketed throughout and outside the European Union. The Ecolabel criteria are agreed at the European level.

The EU Ecolabel product criteria are based on multiple factors, and analyses the environmental impacts of the product over its life cycle, from raw material extraction to production, distribution and disposal. The label is awarded after verification that the product meets these environmental and performance standards.

The EU Ecolabel was launched in 1992 and managed by the European Commission at the EU level to ensure correct implementation of the Ecolabel Regulation. In each EU country, there are Competent Bodies, who are independent and impartial organisations responsible for implementing the Ecolabel scheme at the national level, and are members of the European Union Ecolabelling Board. The Competent Bodies are responsible for drafting the criteria, assessing applications and awarding the Ecolabel to companies.

Country

Europe

Furniture Category

Wood products; Upholstered furniture; Laminates; Others

Criteria

There are specific certification requirements for different product categories. The relevant EU Ecolabel certification criteria for furniture products include:

- Mattresses - http://ec.europa.eu/environment/ecolabel/documents/assessmentprocedures_1102.pdf
- Wooden furniture - http://ec.europa.eu/environment/ecolabel/documents/applicationpack_furniture.pdf
- Wooden coverings - http://ec.europa.eu/environment/ecolabel/documents/User_manual_wooden_covering.pdf
- Hard coverings - http://ec.europa.eu/environment/ecolabel/documents/user_manual_2009_Hard_floor.pdf
- Textile coverings - http://ec.europa.eu/environment/ecolabel/documents/User_manual_Textile_coverings.pdf

How to Apply

Contact a national Competent Body (CB) responsible for implementing the Ecolabel scheme at the national level and who will analyse your needs, provide technical support, and advise which testing and test results are required.

If your product is made in one of the EU Member States, contact the CB of that country. If your product is made outside Europe, contact the CB in the country where your product is sold.

Find a list of the CBs at:

http://ec.europa.eu/environment/ecolabel/competent-bodies.html

The application process is done online via the online tool, Ecat_admin, at https://webgate.ec.europa.eu/ecat_admin. Documents have to be submitted to the CB after the application. The CB will assess the performance criteria for your products, and a visit of the manufacturing facility may be organised to ensure compliance with the criteria.

If the product meets the criteria, the CB will sign a contract with the company and award the EU Ecolabel. The CB may carry out factory inspections and product tests at any time to ensure compliance.

There is an application fee ranging from EUR 200 to EUR 1,200 to cover the costs of processing the application, and an annual fee of maximum EUR 1,500 for the use of the Ecolabel.

Contacts

Contact the national Competent Body directly at:

http://ec.europa.eu/environment/ecolabel/competent-bodies.html

c/o BIO Intelligence Service S.A.S.

20-22 Villa Deshayes, 75014 Paris – France

Tel: +33 (0)1 53 90 11 75, Email: ecolabel@biois.com

Website: http://ec.europa.eu/environment/ecolabel/index_en.htm

Other Info

The products bearing the EU Ecolabel logo can be marketed throughout and outside the European Union.

3.3.2 Nordic Ecolabel

Description

The Nordic Ecolabel is the official ecolabel in the Nordic countries (Sweden, Norway, Iceland, Denmark and Finland), with stringent environmental criteria for 63 product groups, and has more than 6,000 ecolabelled products.

The Nordic Ecolabel provides consumers with a tool to help them choose among the best environmental-friendly products on the market. The criteria is developed by using a life-cycle perspective and considering the environmental effects of a product, including its energy and water usage, chemicals used, recycling and reuse of waste products.

The Nordic Ecolabel was established in 1989 by the Nordic Council of Ministers, and is managed by the Nordic Ecolabelling Board, which consists of members from each national Ecolabelling Board responsible for criteria development, licensing, marketing and audits. The members include Ecolabelling Denmark at Danish Standards Foundation, Ecolabelling Sweden AB, Finnish Standards, The Foundation for Ecolabelling in Norway, and the Environment Agency in Iceland.

Country

Sweden, Norway, Iceland, Denmark and Finland

Furniture Category

Wood products; Office furniture; Leather furniture; Upholstered furniture; Metal fittings; Laminates; Others

Criteria

There are specific certification requirements for different product categories. The relevant Nordic Ecolabel certification criteria for furniture products include:

- Furniture and fitments - http://www.svanen.se/en/Svanenmarka/Kriterier/Criteria/?productGroupID=28001
- Outdoor furniture and playground equipment - http://www.svanen.se/en/Svanenmarka/Kriterier/Criteria/?productGroupID=68001
- Panels for the building, decorating and furniture industry - http://www.svanen.se/en/Svanenmarka/Kriterier/Criteria/?productGroupID=2001
- Textiles, skins and leather - http://www.svanen.se/en/Svanenmarka/Kriterier/Criteria/?productGroupID=37001
- Durable wood - http://www.svanen.se/en/Svanenmarka/Kriterier/Criteria/?productGroupID=83001
- Floor coverings - http://www.svanen.se/en/Svanenmarka/Kriterier/Criteria/?productGroupID=25001

How to Apply

Companies should apply in the country in which the Ecolabelled products are primarily sold.

- Denmark - http://www.ecolabel.dk/inenglish/
- Finland - http://www.ymparistomerkki.fi/english
- Iceland - http://www.ust.is/the-environment-agency-of-iceland/
- Norway - http://www.ecolabel.no/english/
- Sweden - http://www.svanen.se/en/

For example, a company who wish to sell its products mainly in Sweden should apply for the Nordic Ecolabel by filling in the application form at http://www.svanen.se/PageFiles/73/ansokan_eng.pdf and submitting it to Ecolabelling Sweden.

The company should ensure that it has fulfilled the criteria requirements, with supporting documents. Ecolabelling Sweden will require an on-site audit and may require tests and documentation from suppliers, as part of the application process. If the criteria and documentation are satisfactory, a Nordic Ecolabel licence will be granted.

An application fee of 20,000 SEK (excluding VAT) is charged to cover the application administration and on-site audit. When the on-site audit is conducted outside the Nordic countries, an additional fee of 5,000 SEK is charged. If the production facility is outside the EU or Switzerland, an additional fee of 15,000 SEK is charged.

The company also has to pay an annual license fee of 0.3% of the company's turnover for products carrying the Nordic Ecolabel.

Contacts

Nordic Ecolabelling Board

Website: http://www.nordic-ecolabel.org/

Ecolabelling Denmark

Miljømærkning Danmark, Kollegievej 6 2920 Charlottenlund

Tel: 72 30 04 50, Email: info@ecolabel.dk

Website: http://www.ecolabel.dk/inenglish/

Finnish Standards

Urho Kekkosen katu 4-6 A, P.O.B 489, FI-00101 Helsinki

Tel: +358 424 2811, Email: joutsen@motiva.fi

Website: http://www.ymparistomerkki.fi/english

Environment Agency in Iceland

Suðurlandsbraut 24, 108 Reykjavík

Tel: 591-2000, Email: ust@ust.is

Website: http://www.ust.is/the-environment-agency-of-iceland/

The Foundation for Ecolabelling in Norway

Miljømerking, Tordenskiolds gate 6 B, 0160 Oslo

Tel: (+ 47) 24 14 46 00, Email: info@svanemerket.no

Website: http://www.ecolabel.no/english/

Ecolabelling Sweden

SE-118 80 Stockholm, Sweden

Tel: +46 8 555 524 00, Email: info@ecolabel.se

Website: http://www.svanen.se/en/

Other Info

The Nordic Ecolabelling Board is a member of the Global Ecolabelling Network (GEN), an association of third-party, environmental performance recognition, certification and labelling organisations.

3.3.3 The Blue Angel

Description

The Blue Angel (Der Blaue Engel) in Germany is the first eco-label in the world, and has set the standard for eco-friendly products and services since 1978. Products with The Blue Angel eco-label have less negative environmental impacts, help to conserve resources in production, require less resources in usage and disposal, and do not contain harmful substances.

The Blue Angel is awarded to companies for their commitment to environmental protection, and helps to promote environmentally conscious consumption among consumers. More than 11,000 products and services in 90 product categories carry The Blue Angel eco-label.

The Blue Angel eco-label is owned by the German Federal Ministry for the Environment Nature Conservation and Nuclear Safety, while the Federal Environment Agency develops the technical criteria. RAL gGmbH (RAL-German Institute for Quality Assurance and Certification) is responsible for awarding the Blue Angel ecolabel.

Country

Germany

Furniture Category

Wood products; Office furniture; Leather furniture; Upholstered furniture; Laminates; Others

Criteria

There are specific certification requirements for different product categories. The relevant Blue Angel certification criteria for furniture products include:

- Products made from Recycled Plastics - http://www.blauer-engel.de/en/products_brands/vergabegrundlage.php?id=158
- Low-Emission Wood Products and Wood-Base Products - http://www.blauer-engel.de/en/products_brands/vergabegrundlage.php?id=55
- Low-emission Composite Wood Panels - http://www.blauer-engel.de/en/products_brands/vergabegrundlage.php?id=12
- Low-emission Upholstery Leathers - http://www.blauer-engel.de/en/products_brands/vergabegrundlage.php?id=198
- Low-Emission Textile Floor Coverings - http://www.blauer-engel.de/en/products_brands/vergabegrundlage.php?id=155
- Mattresses - http://www.blauer-engel.de/en/products_brands/vergabegrundlage.php?id=140
- Low Emission Upholstered Furniture - http://www.blauer-engel.de/en/products_brands/vergabegrundlage.php?id=128

How to Apply

If there is an existing criteria matching your product, submit the application to RAL with the supporting documents listed in:

http://www.blauer-engel.de/_downloads/vergabegrundlagen_en/E-INT-ANTR.pdf

RAL will review the application for compliance with the criteria requirements. The company can use The Blue Angel eco-label if the application is approved and upon conclusion of a contract on the use of the eco-label.

For application, RAL charges a one-time handling fee of 250 Euros (plus 19% German VAT). For the use of the eco-label, the company have to pay a graded annual fee to RAL, and the amount depends on the total annual sales of the respective Blue Angel-labelled products or services.

Contacts

RAL gGmbH i.G (RAL-German Institute for Quality Assurance and Certification)

Siegburger Strasse 39, 53757 St. Augustin

Tel: + 49 (0)2241 - 25516 - 0, Email: Umweltzeichen@RAL-gGmbH.de

Website: http://www.blauer-engel.de/en/index.php

Other Info

The Federal Environment Agency is a member of the Global Ecolabelling Network (GEN), an association of third-party, environmental performance recognition, certification and labelling organisations.

3.4 North America and International

3.4.1 Cradle to Cradle

Description

The Cradle to Cradle (C2C) certification is a multi-attribute label by the McDonough Braungart Design Chemistry (MBDC), which assesses a product's safety to humans and the environment, and focuses on materials that can be recycled as technical nutrients or composted as biological nutrients.

The materials and manufacturing practices of each product are assessed in the following categories: Materials, Material Reutilization, Energy, Water, and Social Responsibility.

Cradle to Cradle certification applies to materials, sub-assemblies and finished products, and consists of Basic, Silver, Gold, and Platinum levels to reflect continuing improvement along the cradle-to-cradle trajectory.

MBDC is a global sustainability consulting and product certification firm, founded in 1995 by architect William McDonough and chemist Dr Michael Braungart, authors of the influential book, Cradle to Cradle: Rethinking the Way We Make Things.

Country

North America and International

Furniture Category

Wood products; Office furniture; Leather furniture; Upholstered furniture; Metal fittings; Laminates; Others

Criteria

The certification criteria for each product are assessed in five categories: Materials, Material Reutilization, Energy, Water, and Social Responsibility. Some of the requirements include:

Materials

- All material ingredients identified (down to the 100 ppm level)
- Defined as biological or technical nutrient
- All materials assessed based on their intended use and impact on Human/Environmental Health
- Product formulation optimized and strategy developed to optimize all remaining problematic ingredients/materials
- No wood sourced from endangered forests
- Meets Cradle to Cradle emission standards

Material Reutilization

- Defined the appropriate cycle for the product and developing a plan for product recovery and reutilization
- Well defined plan for developing the logistics and recovery systems for this class of product
- Recovering, remanufacturing or recycling the product into new product of equal or higher value
- Product has been designed/manufactured for the technical or biological cycle

Energy

- Characterized energy use and source(s) for product manufacture/assembly
- Developed strategy for using current solar income for product manufacture/assembly
- Using 50% current solar income for product final manufacture/assembly and for entire product

Water

- Created or adopted water stewardship principles/guidelines
- Characterized water flows associated with product manufacture
- Implemented water conservation measures
- Implemented innovative measures to improve quality of water discharges

Social Responsibility

- Publicly available corporate ethics and fair labor statement(s), adopted across entire company
- Identified third party assessment system and begun to collect data for that system
- Acceptable third party social responsibility assessment, accreditation, or certification

View the full criteria at http://mbdc.com/images/Outline_CertificationV2_1_1.pdf

How to Apply

To apply for Cradle to Cradle certification, fill in the Applicant Survey at:

http://mbdc.com/images/C2C%20Certification%20Applicant%20Survey.doc

and the Material Appendix at:

http://mbdc.com/images/Materials%20Appendix%202010.xls

Send the completed documents to MBDC for review, and if there is potential for certification, MBDC will provide the estimated cost and time needed. The cost ranges from US$5,500 to US$75,000, and the certification process ranges from 2 to 6 months, depending on the chemical complexity of the product.

MBDC will assign a project manager throughout the certification process to guide the applicant and collect all the data required for certification. MBDC will also conduct a site visit to the manufacturing facility. If all the certification criteria are met, MBDC will issue a certificate at the Basic, Silver, Gold, or Platinum level. Certification is valid for one year and must be renewed annually.

Contacts

MBDC

1001 E. Market Street, Suite 200

Charlottesville, VA 22902

Tel: 434.295.1111 ext 1, Email: certification@mbdc.com

Website: http://mbdc.com/detail.aspx?linkid=2&sublink=8

Other Info

Cradle to Cradle certified products are eligible to earn points in the LEED (Leadership in Energy and Environmental Design) Rating Systems for green buildings, developed by the US Green Building Council (USGBC).

3.4.2 EcoLogo (Canada)

Description

The EcoLogo Program is North America's largest and established multi-attribute environmental standard and certification mark based on the life cycle of a product. EcoLogo provides customers with assurance that the products meet stringent environmental standards that have been verified by a third party auditor.

EcoLogo helps customers find the most sustainable products in the market by certifying products in over 120 product categories, including Carpets, Chairs, Desk, Flooring, Filing Storage, Partitions, Tables, and Workstations.

The EcoLogo Program was founded in 1988 by the Government of Canada, and is now managed by the environmental consultancy, TerraChoice, since 1995. There are currently more than 7,000 EcoLogo certified products from more than 300 different companies and brands.

Country

North America and International

Furniture Category

Wood products; Office furniture; Laminates; Others

Criteria

There are two relevant certification criteria for furniture products: office furniture and panel systems, and flooring products.

The EcoLogo Program Certification Criteria Document - CCD-033: Office Furniture and Panel Systems refers to office furniture, including chairs and other types of seating, desks, tables, filing and storage cabinets, and their associated components and accessories. To view the full criteria, request for the standard at:

http://www.ecologo.org/en/seeourcriteria/details.asp?ccd_id=258

Some criteria for office furniture and panel systems include:

- Be accompanied by readily available information that actively promotes to the customer the option of remanufacturing once the product has served its end-use
- Not emit VOCs and formaldehyde which will result in an indoor air concentration of greater than 0.5 mg/m3
- If incorporating new wood components, be manufactured only from woods that have been harvested or traded in accordance with the Convention on International Trade in Endangered Species (CITES), where applicable
- Be manufactured at a facility that has carried out a solid waste audit, prepared a waste reduction action plan, and instituted a means to track progress towards waste reduction and diversion from disposal of materials.

The EcoLogo Program Certification Criteria Document - CCD-152: Flooring Products refers to flooring products, including bamboo flooring, commercial modular carpeting, commercial non-modular textile flooring, resilient flooring, flooring from other virgin wood substitutes, rubber-backed textile flooring and area rugs.

There are several specific requirements for the different flooring products. To view the full criteria, request for the standard at:

http://www.ecologo.org/en/seeourcriteria/details.asp?ccd_id=377

How to Apply

Submit an online application via the application request form at http://www.ecologo.org/en/certified/applyonline. If there is an existing standard for the product, the application will be assessed against the criteria. If there is no existing standard, one may be developed.

The application documentation will be sent to third-party auditors for review and an on-site audit may be conducted if required. If the independent auditor recommends the product for certification, TerraChoice will perform a final review. Successful applicants will receive the certificate to use the EcoLogo.

The costs depend on the specific product. The initial verification and audit cost ranges from US$1,500 to US$5,000, depending on the type and number of products. Subsequent verification for additional products ranges from US$250 to US$2,100. The travel cost by the auditor will be calculated separately. In addition, there is an annual license fee of 0.5% of product sales for EcoLogo certified products (minimum fee of US$2100 per product category).

Contacts

Tony Tran

The EcoLogo Program c/o TerraChoice Environmental Marketing

171 Nepean Street, Suite 400

Ottawa, ON, K2P 0B4, CANADA

Tel: 1-800-478-0399 ext: 235, Email: sales@ecologo.org

Website: http://www.ecologo.org/en

Other Info

TerraChoice is a member of the Global Ecolabelling Network (GEN), an association of third-party, environmental performance recognition, certification and labelling organisations.

3.4.3 FloorScore

Description

The FloorScore certification is for testing and certifying commercial and residential hard surface flooring and flooring adhesive products for compliance with strict indoor air quality and volatile organic compounds (VOCs) emission requirements set by California Section 01350, and meet rigorous quality management standards in manufacturing. Poor indoor air quality caused by excessive emissions of VOCs from surfaces and finishes can contribute to health problems.

FloorScore ensures that the flooring products have low concentrations of VOCs that do not exceed one-half the allowable concentration limits. Under the FloorScore program, manufacturers must also submit a quality control plan, which includes strict requirements for supply chain management.

FloorScore is developed by the Resilient Floor Covering Institute (RFCI) together with Scientific Certification Systems (SCS), and has certified products since 2005.

Country

North America and International

Furniture Category

Others

Criteria

The full certification requirements are found in the SCS EC 10.2-2007 Environmental Certification Program Indoor Air Quality Performance Standard at http://www.scscertified.com/docs/SCS-EC10.2-2007.pdf.

FloorScore tests to the California Section 01350 Specification, which includes the Chronic Reference Exposure Levels (CRELs) concentrations established by the California Office of Environmental Health Hazard Assessment and procedures developed by the US EPA.

FloorScore products must meet the following requirements:

- Formaldehyde – Less than or equal to 16.5 µg/m3
- Acetaldehyde – Less than or equal to 9 µg/m3
- All other organic chemicals with established CRELs – Less than or equal to 1/2 the CREL

How to Apply

Complete the application form at http://www.scscertified.com/applications/FS_APP_V1-1_072911.doc and submit to SCS. SCS will scope the assessment and provide a proposal and quote.

SCS will work with the applicant to review the product production and identify samples for testing, examine the VOC emission tests, audit documented control systems, and inspect manufacturing plants periodically.

Contacts

Stowe Hartridge-Beam, Program Manager

Scientific Certification Systems

2000 Powell Street, Suite 600, Emeryville, California 94608

Tel: 510.452.8000, Email: shartridgebeam@scscertified.com

Website: http://www.scscertified.com/gbc/floorscore.php

Other Info

FloorScore certified products are eligible to earn points in the LEED (Leadership in Energy and Environmental Design) Rating Systems for green buildings, developed by the US Green Building Council (USGBC).

3.4.4 Forest Stewardship Council (FSC)

Description

Forest Stewardship Council (FSC) is an international not-for-profit organisation established in 1993, to promote the responsible management of the world's forests. FSC consists of members representing the various social, economic and environmental interests, and its core activities include standard setting, accreditation program, and trademark assurance for stakeholders interested in responsible forestry.

FSC certification ensures that the forest products from companies and organisations are responsibly harvested and verified from the forest of origin through the supply chain, and also shows that the companies and organisations commit to the FSC Principles and Criteria.

There are 3 types of FSC certifications: Forest Management, Chain of Custody, and Controlled Wood. The certification process is carried out by independent certification bodies, who are accredited by FSC.

The FSC Forest Management (FM) certification is for forest managers or owners who want to prove that their forest operations and management are environmentally and socially beneficial. The FSC certificate is awarded if the forest management complies with FSC requirements, but to sell the forest products with the FSC label, the forest manager must also obtain the FSC Chain of Custody certification.

The FSC Chain of Custody (CoC) certification is for companies that manufacture, process or trade in forest products and who wish to show their customers that they use responsibly produced materials. FSC CoC tracks and verifies FSC certified material through the supply chain, from the forest to the manufacturing process, and to the consumer. FSC CoC certified operations are allowed to use the FSC label on their products.

FSC has also introduced the 'Mix' label which allows companies to mix FSC certified material with non-certified material. The non-certified portion has to comply with the FSC Controlled Wood criteria. Forest Management companies will be able to supply FSC Controlled Wood to FSC CoC operations if they comply with the criteria.

Country

North America and International

Furniture Category

Wood products

Criteria

The following 10 FSC Principles and Criteria describe how forests have to be managed, and form the basis for all the FSC forest management standards for certifications. If there are major failures in any individual Principles, it could lead to the disqualification of the FSC certification.

Principle #1: Compliance with laws and FSC Principles

Principle #2: Tenure and use rights and responsibilities

Principle #3: Indigenous peoples' rights

Principle #4: Community relations and worker's rights

Principle #5: Benefits from the forest

Principle #6: Environmental impact

Principle #7: Management plan

Principle #8: Monitoring and assessment

Principle #9: Maintenance of high conservation value forests

Principle #10: Plantations

Download details of the FSC Principles and Criteria at http://www.fsc.org/download.fsc-std-01-001-v4-0-en-fsc-principles-and-criteria-for-forest-stewardship.181.htm

The FSC Standard for Chain of Custody Certification provides the minimum requirements for Chain of Custody operations to comply with in order to demonstrate that materials and products labelled as FSC-certified are authentic. This is the main standard that applies for the certification of all Chain of Custody operations and may be combined with other complementary standards when necessary.

The standard defines and addresses the basic elements of a Chain of Custody management system, including: Quality management; Product scope; Material sourcing; Material receipt and storage; Production control; Sales and delivery; and Labelling.

Download the FSC Standard for Chain of Custody Certification at http://www.fsc.org/download.fsc-std-40-004-v2-1-en-fsc-standard-for-chain-of-custody-certification.197.htm

How to Apply

Choose from one of the FSC accredited certification bodies at http://www.accreditation-services.com/archives/standards/fsc, and check with the certification body on the requirements and cost for FSC certification.

The certification body will conduct a certification audit, and the company receives a FSC certificate if it is in full compliance. If not, the company can go for further audits after implementing the necessary changes. The FSC certificate is valid for five years, and the certification body will conduct annual surveillance audits.

Contacts

Felix Chan, FSC Asia Pacific Regional Office

10/F Blk A, Seaview Estate, 2 Watson Road, North Point, HongKong

Tel: +852 3557 6030, Email: f.chan@fsc.org

Website: http://www.fsc.org/index.htm

Other Info

FSC CoC certified products are eligible to earn points in the LEED (Leadership in Energy and Environmental Design) Rating Systems for green buildings, developed by the US Green Building Council (USGBC).

FSC certification can be used to demonstrate compliance with requirements for several ecolabels around the world, such as the EU Ecolabel criteria for furniture.

3.4.5 GREENGUARD

Description

The GREENGUARD Indoor Air Quality Certification is a third-party voluntary program for products used in office environments and other indoor spaces that meet strict chemical emissions limits. The products include building materials, furniture, furnishings, and finishes, cleaning products, electronics and consumer products.

The GREENGUARD certification standards follow the most comprehensive indoor air quality standard, and also use the most rigorous testing requirements. Manufacturers have to undergo annual re-certification testing and quarterly monitoring tests to ensure that product requirements are met consistently.

In addition, there is another GREENGUARD Children & Schools Certification Program, which offers stricter certification criteria for indoor air quality and is for products used in schools, daycares or other environments where children spend much time in.

The GREENGUARD Certification is managed by the GREENGUARD Environmental Institute (GEI), a third-party, not-for-profit organization founded in 2001, which aims to protect human health and quality of life, and provide resources for choosing healthier products and materials for indoor environments.

Country

North America and International

Furniture Category

Wood products; Office furniture; Leather furniture; Upholstered furniture; Laminates; Others

Criteria

The GREENGUARD IAQ Standard for Building Materials, Finishes and Furnishings establishes the requirements for building materials, finishes and furnishings to be certified as low-emitting products for indoor environments.

The emission criteria are established for total VOCs (TVOC), formaldehyde, total aldehydes, all individual VOCs with currently published Threshold Limit Values (TLVs), respirable particles and certain odorants and irritants.

Download the full standard at:

http://greenguard.org/Libraries/GG_Documents/GGPS_001_GREENGUARD_Standard_for_Building_Materials_Finishes_and_Furnishings_2.sflb.ashx

The GREENGUARD Children & Schools Standard establishes the requirements for building materials, finishes and furnishings to be certified as low emitting products for the indoor environment where children spend much time in.

The emission criteria are established for individual VOCs, formaldehyde, total VOCs, total aldehydes, total phthalates, and total particles.

Download the full standard at:

http://greenguard.org/Libraries/GG_Documents/GGPS_002_GREENGUARDChildrenandSchoolsStandard_1.sflb.ashx

How to Apply

For application, the applicant can complete the online form at:

http://greenguard.org/en/CertificationPrograms/CertificationPrograms_getCertified.aspx

GEI will work with a scientific partner to develop a certification plan for the applicant's product, manufacturing process and certification goals, which would take about 1-4 months. There are currently three approved scientific partners, Air Quality Sciences, Inc. (United States), Bureau VERITAS Consumer Product Services (United States) and TÜV Rheinland LGA (Germany).

If the applicant meets the certification compliance tests, the GREENGUARD certification will be awarded. GREENGUARD certified products must undergo both annual re-certification and quarterly quality monitoring to ensure ongoing compliance.

Contacts

Song Fei

GREENGUARD Air Quality Certification

Lido Daphne Suite 6011, Jiang Tai Road, Chaoyang District

Beijing, 100004, China

Tel: +8610 6436 6688, Email: sfei@greenguard.org; info@greenguard.org.cn

GREENGUARD Environmental Institute (GEI)

2211 Newmarket Parkway, Suite 110, Marietta, GA 30067

Tel: 800.427.9681 or 770.984.9903, Email: info@greenguard.org

Website: http://greenguard.org/en/index.aspx

Other Info

SPRING Singapore provides funding for GREENGUARD certification under the QUEST programme (see Chapter on Government Assistance).

GREENGUARD certified products are eligible to earn points in the LEED (Leadership in Energy and Environmental Design) Rating Systems for green buildings, developed by the US Green Building Council (USGBC).

3.4.6 Green Label Plus

Description

The Green Label Plus program is an independent voluntary testing program that certifies carpets and adhesives with very low emissions of VOCs, and helps improve indoor air quality.

To receive Green Label Plus certification, carpet and adhesive products must undergo a rigorous testing process, with emissions measured for a range of chemicals and testing administered by an independent laboratory. This ensures that certified carpets and adhesives are the lowest VOC emitting products available.

The Green Label Plus program is managed by the Carpet and Rug Institute (CRI), a nonprofit trade association in the United States The 20-year old program is accredited by the American National Standards Institute, and has set the standards for other building products and remains at the forefront of indoor air quality testing.

Country

North America and International

Furniture Category

Others

Criteria

For carpet products, tests are conducted on emission levels for 13 chemicals: Acetaldehyde; Benzene; Caprolactam; 2-Ethylhexanoic Acid; Formaldehyde; 1-Methyl-2-Pyrrolidinone; Naphthalene; Nonanal; Octanal; 4-Phenylcyclohexene; Styrene; Toluene; and Vinyl Acetate.

Download the emissions test criteria at:

http://www.carpet-rug.org/documents/glp/120101_GLP_Carpet_Criteria.pdf

For adhesive products, tests are conducted on emission levels for 15 chemicals: Acetaldehyde; Benzothiazole; 2-Ethyl-1-Hexanol; Formaldehyde; Isooctylacrylate; Methylbiphenyl; 1-Methyl-2 Pyrrolidinone; Naphthalene; Phenol; 4-Phenylcyclohexene (4-PCH); Styrene; Toluene; Vinyl Acetate; Vinyl Cyclohexene; and Xylenes (m-,o-,p-).

Download the emissions test criteria at:

http://www.carpet-rug.org/documents/glp/120101_GLP_Adhesive_Criteria.pdf

How to Apply

Contact CRI for the Green Label Plus application, who would advise on the certification process and costs. The products for the initial and annual tests are collected by a CRI contracted agent and shipped express to the US. There are currently two laboratories approved to conduct the evaluation - Materials Analytical Services (MAS) and Air Quality Science (AQS), both near Atlanta, GA. The laboratories are responsible for conducting the test and reporting the results to CRI.

CRI is responsible for validating that all program requirements have been met and that the results reported by AQS or MAS have met prescribed limits for the specific compounds, before approving the use of the label.

Contacts

Jeff Carrier, Carpet and Rug Institute

P.O. Box 2048, Dalton, Georgia 30722-2048, United States of America

Tel: 706-278-3176, Email: jcarrier@carpet-rug.org

Website: http://www.carpet-rug.org/commercial-customers/green-building-and-the-environment/green-label-plus/index.cfm

Other Info

Carpet systems that are certified under the Green Label Plus program are eligible to earn points in the LEED (Leadership in Energy and Environmental Design) Rating Systems for green buildings, developed by the US Green Building Council (USGBC).

3.4.7 Indoor Advantage

Description

The Indoor Advantage certification program certifies building materials, furnishings, finish systems, paints and coatings, adhesives and sealants, insulation, wall coverings, and residential products for compliance with strict indoor air quality (IAQ) emission standards. Poor indoor air quality caused by excessive emissions of volatile organic compounds (VOCs) from surfaces and finishes can contribute to health problems.

The Indoor Advantage certification applies to furnishings and qualifies for the BIFMA furniture emissions standard, while the Indoor Advantage Gold certification applies to furniture plus a broader range of interior building materials such as paint, carpet, and insulation. Gold-level certification meets the California Section 01350 IAQ standards for both residential and commercial application.

The Indoor Advantage certification program is developed by Scientific Certification Systems (SCS), a global leader in independent certification and verification of environmental performance.

Country

North America and International

Furniture Category

Wood products; Office furniture; Leather furniture; Upholstered furniture; Metal fittings; Laminates; Others

Criteria

The full certification requirements are found in the SCS EC 10.2-2007 Environmental Certification Program Indoor Air Quality Performance Standard at http://www.scscertified.com/docs/SCS-EC10.2-2007.pdf.

The Indoor Advantage emissions criteria for office furniture systems, components, and seating include:

- TVOC (toluene): <0.5 mg/m3 for Workstation Systems; < 0.25 mg/m3 for Seating
- Formaldehyde: < 50 ppb for Workstation Systems; < 25 ppb for Seating
- Total Aldehydes: < 100 ppb for Workstation Systems; < 50 ppb for Seating
- 4-Phenylcyclohexane (4 pch): < 0.0065 mg/m3 for Workstation Systems; < 0.00325 mg/m3 for Seating

The Indoor Advantage Gold emissions criteria include:

- Pass requirements listed for Indoor Advantage
- Formaldehyde – Less than or equal to 16.5 µg/m3
- Acetaldehyde – Less than or equal to 9 µg/m3
- All other organic chemicals with established CRELs – Less than or equal to 1/2 the CREL

How to Apply

Complete the application form and submit to SCS:

http://www.scscertified.com/applications/IAQ_APP_V3-0_080811.doc

SCS will scope the assessment and provide the applicant with a proposal and quote.

SCS will work with the applicant to review the product production and identify samples for testing, examine the VOC emission tests, audit documented control systems, and inspect manufacturing plants periodically.

Contacts

Ben Hafner, Account Manager, Environmental Certification Services

Scientific Certification Systems

2000 Powell Street, Suite 600, Emeryville, California 94608

Tel: 510.452.8011, Email: bhafner@scscertified.com

Website: http://www.scscertified.com/gbc/indooradvantage.php; http://www.scscertified.com/gbc/indooradvgold.php

Other Info

Indoor Advantage certified products qualify for the low-emitting material credits in the LEED (Leadership in Energy and Environmental Design) Rating Systems for green buildings, developed by the US Green Building Council (USGBC).

3.4.8 Level

Description

Level is a multi-attribute third-party product certification program by the Business and Institutional Furniture Manufacturers Association (BIFMA), and based on the ANSI/BIFMA e3 Furniture Sustainability Standard.

Level addresses how a product is sustainable from multiple perspectives, and addresses four categories: material use, energy and atmosphere impacts, human and ecosystem health, and social responsibility.

Level is applicable to all business and institutional furniture, which includes but is not limited to: Moveable walls, System furniture, Desking systems, Casegoods, Tables, Seating and accessories.

BIFMA is a not-for-profit organization founded in 1973 to advocate and develop standards for the office and institutional furniture industry in North America.

Country

North America and International

Furniture Category

Wood products; Office furniture; Leather furniture; Upholstered furniture

Criteria

The ANSI/BIFMA e3 Furniture Sustainability Standard standard (purchase at https://bifma.org/secure/orderform.html) is divided into four basic elements consisting of various prerequisites and credits that are available for achievement:

Materials

As a prerequisite, all participating organisations must have a design for environment (DFE) program in place. Credits are awarded in the following categories: climate neutral materials, life cycle assessment, efficient use of materials, rapidly renewable materials, bio-based renewable materials, recycled content, recyclable and biodegradable materials, extended product responsibility, solid waste management, and water management.

Energy & Atmosphere

It is a prerequisite for the organisation to develop an energy policy. Credits are awarded in the following categories: building energy performance baseline and rating, LEED certified facility, embodied energy, finished product energy consumption, transportation, on-site and off-site renewable energy, and greenhouse gases.

Human & Ecosystem Health

It is a prerequisite for the organisation to demonstrate compliance for key chemical, risk and environmental management system policies. Credits are awarded in the following categories: ISO 14001 or equivalent, chemical management plan, effects of product, process and maintenance chemicals, reduction or elimination of chemicals of concern, and low-emitting furniture.

Social Responsibility

It is a prerequisite for the organisation to account for employee health and safety, labor and human rights. Credits are awarded in the following categories: policy on social responsibility, external health and safety management standard, inclusiveness, engage in community outreach and involvement, social responsibility reporting, and supply chain.

The standard follows the structure of the USGBC's LEED rating system. Products can be awarded a Level 1, 2 or 3 compliance mark based on their contribution and points achieved. Level 3 is the highest award a product can achieve and is similar to a platinum ranking in the LEED rating system. Find an overview of the credits, and point structure at http://bifma.org/public/e3docs/level_overview.pdf.

How to Apply

To apply, the applicant must submit an application to a certification body that is approved to certify products according to the Level program. See the list of certifiers at http://levelcertified.org/thirdparty/. The certifying body will provide more information about the certification process.

The certifying body will evaluate and certify products according to the ANSI/BIFMA e3 standard, and if the product conforms to the Level standard, it will approve the applicant to use the Level certification mark.

The estimated costs involved will vary depending on what amount of work has been done to document conformance with the standard before it is brought to a certification body (the more work they have to do, the more costly the certification might be). Original estimates ranged from $5,000 to $50,000 but once an initial product has been certified, the costs of additional products start going down because much of the data needed to document things like energy usage and reductions at a facility would be the same for each subsequent product being assessed. Corporate points for policies put in place also extend from product to product so a certification body would automatically have that information when assessing subsequent products.

Contacts

Brad Miller

Director of Communications and Government Affairs

Business and Institutional Furniture Manufacturers Association (BIFMA) International

678 Front Ave. NW Suite 150, Grand Rapids, MI 49504

Tel: 616-285-3963, Email: bmiller@bifma.org

Website: http://levelcertified.org/

Other Info

Level certified products are eligible to earn points in the LEED (Leadership in Energy and Environmental Design) Rating Systems for green buildings, developed by the US Green Building Council (USGBC).

3.4.9 NSF Sustainability Certified Mark

Description

The NSF Sustainability Certified Mark programs include sustainability assessment for products across their entire product life cycle.

The products include Carpets, Resilient Floor Coverings, Commercial Furnishings Fabric, and Wallcovering Products. Based on life cycle assessment, the multiple performance criteria and quantifiable metrics ensure that the product is sustainable and trusted by customers.

The NSF Sustainability Certified Mark is managed by NSF International, a not-for-profit organization that provides standards development and product certification for public health and the environment.

Country

North America and International

Furniture Category

Leather furniture; Upholstered furniture, Laminates, Others

Criteria

There are relevant NSF Sustainability Certified Mark criteria for Carpets, Resilient Floor Coverings, Commercial Furnishings Fabric, and Wallcovering Products.

The NSF/ANSI 140 Sustainability Assessment for Carpet standard is to evaluate and certify the sustainability of carpet products across their entire product life cycle, in six key areas: Public Health and Environment; Energy and Energy Efficiency; Bio-Based, Recycled Content Materials or Environmentally Preferable Materials; Product Manufacturing; Reclamation and End-of-Life Management; and Innovation.

The NSF/ANSI 332 Sustainability Assessment for Resilient Floor Coverings standard and the NSF/ANSI 342 Sustainability Assessment for Wallcovering Products standard evaluates and certifies the sustainability of products across their entire product life cycle, in six key areas: Product Design; Product Manufacturing; Long-term Value; End-of-Life Management; Corporate Governance; and Innovation.

The NSF/ANSI 336: Sustainability Assessment for Commercial Furnishings Fabric standard incorporates life cycle assessment and addresses the environmental, economic and social aspects of furnishing fabric products commonly used in institutional, hospitality and office settings.

How to Apply

Contact NSF for the application and they would advise on the certification process, documents and cost. NSF will review the documents and may request for product samples.

The certification is based on a point system to achieve a Silver, Gold or Platinum level, and certified manufacturers can use the NSF Sustainability Certified Mark.

Contacts

Dennis M. Gillan

NSF International

Business Development Manager Sustainability

Tel: 734.476.2543, Email: dgillan@nsf.org

Website:
http://www.nsf.org/business/sustainability_products/existing_certprograms.asp?program=SustainabilityPro

Other Info

NSF Sustainability Certified products are eligible to earn points in the LEED (Leadership in Energy and Environmental Design) Rating Systems for green buildings, developed by the US Green Building Council (USGBC).

3.4.10 Programme for the Endorsement of Forest Certification (PEFC)

Description

The Programme for the Endorsement of Forest Certification (PEFC) is an international non-profit organisation promoting sustainable forest management through independent third-party forest certification and labelling of forest based products.

PEFC works by endorsing national forest certification systems, which are required to comply with the PEFC requirements. PEFC is currently the world's largest certification organisation representing over 230 million hectares of certified forests.

PEFC Chain of Custody (CoC) certification provides customers of forest based products with assurance that the wood originated from PEFC certified, sustainably managed forests. CoC certification outlines requirements for tracking certified wood from the forest to the final product. The PEFC logo can be displayed on the CoC certified product, when all the entities along the supply chain of the product are CoC certified.

PEFC Chain of Custody certification can help retailers and traders enhance their image with wood products from sustainable sources, and also help the wood processing industry enhance traceability and accounting.

Forest owners and managers can also look at the PEFC Sustainable Forest Management certification, which provides recognition of their sustainable forest management practices.

Country

North America and International

Furniture Category

Wood products

Criteria

Download the standard document, Chain of Custody of Forest Based Products – Requirements, which specifies the requirements that organisations must comply with in order to be able to obtain Chain of Custody certification:

http://www.pefc.org/standards/technical-documentation/pefc-international-standards-2010/item/673

In the standard, some minimum management system requirements for the organisation include:

- Operate a management system which ensures correct implementation and maintenance of the chain of custody process
- Management shall define and document its commitment to implement and maintain the chain of custody requirements
- Identify the personnel performing activities for the implementation and maintenance of chain of custody
- Establish written documented procedures for its chain of custody
- Establish and maintain records on its chain of custody to provide evidence of conformity and its effectiveness and efficiency
- Conduct internal audits at least annually covering all requirements of the standard and establish corrective and preventive measures if required

How to Apply

Set up the Chain of Custody system and ensure compliance with PEFC's requirements.

Choose a PEFC certification body in the applicant's country at http://register.pefc.cz/search3.asp and make an application. The certification body will advise on the process and costs.

The certification body will conduct a site visit to assess the applicant's Chain of Custody system and compliance with the PEFC International Chain of Custody Standard.

If the applicant's Chain of Custody system is compliant with certification requirements, the PEFC certification will be issued and valid for a period of three years. There is an annual surveillance audit to confirm compliance.

Contacts

PEFC International

10, Route de l'Aéroport, Case Postale 636, 1215 Geneva - Switzerland

Tel: +41 (22) 799 4540, Email: info@pefc.org

Website: http://www.pefc.org/

Other Info

Timber products that are PEFC certified are recognised by the Green Building Council of Australia (GBCA), and can earn points for Green Star, an environmental rating system for green buildings, launched by the GBCA.

3.5 Case Studies

This section includes examples of local and global companies who took the initiative to implement green labels and certifications for their products, and the benefits and challenges involved.

3.5.1 Local

The following 2 furniture companies in Singapore were interviewed for this guide and their names are kept confidential.

Company A

Company A produces wooden outdoor furniture, decking and flooring, using tropical hardwood from Indonesia. When the company was listed in the stock exchange, they had to ensure that the timber from Indonesia is legal, so they started to look at certifications and to make their company more sustainable. In addition, there is also increasing demand from European consumers for green certifications, so the company has to prepare early.

Some of the company's products are FSC and Singapore Green Label certified.

Benefits and Challenges

Company A won a major project because it was able to supply the FSC-certified outdoor furniture, which the client specifically required in the tender. Being certified also allows the company to track the wood used in its products from source through the supply chain, and be answerable to environmental NGOS and avoid legal disputes.

Company A noted that there are too many 3rd party certifications and labels in the market and the company has to find out which labels are required by their end customers. FSC is the most recognised but the supply of FSC-certified wood is limited, so the company has to rely on other labels such as SVLK or Smartwood certification.

The cost of certification is high and the company spent almost $2 million over the last 4 years on certification, auditing, manpower and consultancy fees. There are several audits per year under the different labels. The company has to pass the extra cost to customers as green certified products become more expensive.

The company has to go through the hurdles alone in achieving several certifications, but the government is not really endorsing the company in their green initiatives, and giving them recognition. Funding is also not available for the company as its manufacturing operations are overseas. Another challenge is that developers do not understand FSC-certified products and need more education.

Company B

Company B produces office furniture, and the main components include wood, fabric, metal and glass. The furniture is made in Malaysia and China, and sold mainly in Singapore.

The company's products are GREENGUARD certified. Four years ago, the company was looking for a green furniture product certification, but there were no local organisations providing eco labels for office furniture, so they have to look at overseas labels, such as GREENGUARD.

For green buildings that are certified under the USGBC LEED rating system, GREENGUARD-certified products are awarded points. So they decided to be certified under GREENGUARD.

Benefits and Challenges

The company estimated that the GREENGUARD certification has helped to increase their sales by 30%.

The cost for GREENGUARD certification is expensive, and is about $100,000 for yearly audits. There is no government funding to help them on certification, and also no recognition from the government for their efforts in going green. Government tenders also tend to favour companies with track records in working on big projects, and it is difficult for aspiring smaller companies to be successful in the tender process.

Like many other companies in the industry, Company B also lack the manpower and expertise to work on green design. Architects, designers and consultants have to explain clearly what green design is and what they want.

3.5.2 Global

Steelcase Inc. is a global leader in the office furniture industry and offers a portfolio of workplace products, furnishings and services. It is a global company with nearly 10,000 employees around the world and its headquarters is in Michigan. The company is committed to sustainability and considers the impacts of its work on the environment, through design, manufacture, delivery and product.

Steelcase's products have achieved several green certifications and labels such as Cradle to Cradle, FSC Chain of Custody, Level, and SCS Indoor Advantage.[5]

Steelcase offers more Cradle to Cradle certified products than any other company in any industry globally. The company worked with the McDonough Braungart Design Chemistry (MBDC), a leading sustainable design firm, to assess all the chemicals and materials used in its products and evaluated them against human and environmental health criteria. Steelcase took accountability for its products through the supply chain and reduced the environmental impact of its products.

Steelcase supports the FSC Chain of Custody program to ensure its customers that its wood products are from sustainable sources. The company's wood manufacturing facility is FSC Chain of Custody certified to provide customers with FSC certified products.

Steelcase introduced the first Level 3 certified product in the industry, which is the highest Level certification rating and meets strict criteria such as social responsibility, energy use, materials selection, and human and ecosystem health impacts. The company also has low-emitting products that meet strict indoor air quality criteria and certified with the SCS Indoor Advantage and Indoor Advantage Gold certifications.

Benefits and Challenges

Through its efforts over the years in reducing the environmental footprint of its products, Steelcase has reduced its VOC emissions by 95%, its waste by 80%, its water consumption by 73%, and its greenhouse gas emissions by 60%, from 2001 to 2010.[6]

Steelcase was recognised for its sustainability efforts in the Michigan Green Leader awards and Michigan's 101 Best & Brightest Sustainable Companies in 2012, and won the Green Achievement Award by the International Furnishings and Design Association at its annual Circle of Excellence Awards in 2010.

As Steelcase's products have several green certifications, the products qualify for credits under the LEED (Leadership in Energy and Environmental Design) Green Building Rating System developed by the US Green Building Council, in the categories of Materials and Resources, Indoor Environmental Quality, and Innovation. This would give Steelcase an advantage over its competitors as customers seeking LEED certification for their green buildings are more likely to choose products that meet the LEED criteria.

The main challenge in the certification process is to understand the materials and supply chain. In the case of the Cradle to Cradle certification, Steelcase had to research more than fifty different materials from twenty different suppliers, which took five months to complete. The company had to be very committed in understanding the supply chain and production process for each material, and to be prepared to address the issues uncovered. One of the biggest issues was in considering whether to eliminate the use of materials with potential long-term human and environmental health dangers, such as PVC.[7]

4 Green Labels and Certifications for Companies

This is a list of common green labels and certifications across the world that applies to business processes and operations, and shows the company's commitment to sustainability.

4.1 Singapore

4.1.1 BCA Green Mark Scheme

Description

The BCA Green Mark Scheme was launched in January 2005 by the Building and Construction Authority (BCA) to encourage more green buildings and sustainability in the built environment.

The Green Mark is a green building rating system to evaluate a building for its environmental impact and performance based on five key criteria: Energy Efficiency, Water Efficiency, Environmental Protection, Indoor Environmental Quality, Other Green Features and Innovation. Through the Green Mark process, it helps companies to reduce the environmental impacts of their buildings and provide a more sustainable workplace.

Under the Green Mark assessment system, buildings are awarded the Platinum, Gold Plus, Gold or Certified rating depending on the points scored. The current BCA Green Mark Scheme applies to:

- Office Interior: Applicable for office tenants in buildings
- Non-Residential New Buildings: Applicable for new buildings such as offices, commercial, industrial and institutional buildings
- Existing Buildings: Applicable to existing commercial, industrial and institutional buildings

Country

Singapore

Criteria

The full criteria for BCA Green Mark for Office Interior (Version 1.0) can be downloaded at: http://bca.gov.sg/GreenMark/others/GM_OI_V1.pdf

The points allocation are for the following categories:

- Energy Efficiency; Electricity Usage; Air-conditioning; Lighting; Office Equipment; Energy Efficient Features
- Water Efficient Fittings; Water Usage; Water Efficiency Improvement Plan
- Sustainable Office Design; Sustainable Material Selection; Office Operation; Post Occupancy Evaluation; Waste Management; Greenery; Public Transport Accessibility
- Indoor Environmental Quality Performance; Indoor Air Pollutants; Lighting Quality; Thermal Comfort; Internal Noise Level
- Green Features and Innovations

The full criteria for BCA Green Mark for New Non-Residential Buildings (Version 4.0) can be downloaded at: http://bca.gov.sg/GreenMark/others/gm_nonresi_v4.pdf

The points allocation are for the following categories:

- Thermal Performance of Building Envelope - ETTV; Air-Conditioning System; Building Envelope – Design/Thermal Parameter; Natural Ventilation / Mechanical Ventilation; Daylighting; Artificial Lighting; Ventilation in Carparks; Ventilation in Common Areas; Lifts and Escalators; Energy Efficient Practices and Features; Renewable Energy
- Water Efficient Fittings; Water Usage and Leak Detection; Irrigation System and Landscaping; Water Consumption of Cooling Towers
- Sustainable Construction; Sustainable Products; Greenery Provision; Environmental Management Practice; Green Transport; Refrigerants; Stormwater Management

- Thermal Comfort; Noise Level; Indoor Air Pollutants; Indoor Air Quality (IAQ) Management; High Frequency Ballasts
- Green Features and Innovations

The full criteria for BCA Green Mark for Non-Residential Existing Buildings (Version 2.1) can be downloaded at: http://bca.gov.sg/GreenMark/others/GM_NREB_V2.1.pdf

The points allocation are for the following categories:

- Energy Efficiency; System Energy Efficiency; Energy Monitoring; Energy Policy and Management; Renewable Energy / Energy Efficient Features
- Water Monitoring; Water Efficient Fittings; Alternative Water Sources; Water Efficiency Improvement Plans; Cooling Towers
- Building Operation and Maintenance; Post Occupancy Evaluation; Waste Management; Greenery; Public Transport Accessibility
- Indoor Air Quality Performance; Environmental Protection; Lighting Quality; Thermal Comfort; Internal Noise Level
- Other Green Features

How to Apply

The applicant can download the application forms for:

- Office Interior - http://bca.gov.sg/GreenMark/others/GMOI_ApplyForm.pdf
- New Buildings - http://bca.gov.sg/GreenMark/others/GM_ApplyForm.pdf
- Existing Buildings - http://bca.gov.sg/GreenMark/others/GMEB_ApplyForm.pdf

The applicant should submit the application form to BCA with the necessary documents. BCA will brief the applicant on the assessment, which includes design and document reviews and site verification. The assessment fees can be found at http://www.bca.gov.sg/GreenMark/others/fees.pdf.

Contacts

For general enquiries on application and fees:

New Development - Janice Lim; Tel: 6325 5198; Email: janice_lim@bca.gov.sg

Existing Buildings - Ms Rohana Haron; Tel: 6325 5083; Email: rohana_haron@bca.gov.sg

For enquiries on the schemes:

Office Interior - Ms Lee Sui Fung; Email: lee_sui_fung@bca.gov.sg; Ms Ong Hui Wen; Email: ong_hui_wen@bca.gov.sg

Non-Residential Buildings - Dr Gao Chun Ping; Email: gao_chun_ping@bca.gov.sg; Mr Lim Chan Boon; Email: lim_chan_boon@bca.gov.sg; Mr Leow Yock Keng; Email: leow_yock_keng@bca.gov.sg

Existing Buildings - Mr Md Halim Anapi; Email: md_halim_anapi@bca.gov.sg ; Mr Joe Tsai; Email: joe_tsai@bca.gov.sg; Mr Lee Jang Young; Email: lee_jang_young@bca.gov.sg

Website: http://www.bca.gov.sg/GreenMark/green_mark_buildings.html

Other Info

There has been an exponential increase in Green Mark buildings over the past few years and to-date, there are more than 940 green building projects, translating to 12% of Singapore's total gross floor area. The government has set a target of greening at least 80% of the buildings in Singapore by 2030.

4.1.2 Eco Office Label

Description

Launched in 2002, the Eco Office Label is a certification to help companies continuously improve on their environmental practices in the office, and to promote environmental awareness and cultivate eco-friendly habits among employees. The label certification is based on the Eco-Office Rating System, which assesses the environmental policy and initiatives in the office.

Using the online Eco-Office Rating System, companies can conduct a self-audit based on the questions and simple metrics listed in the system, and assess their environmental performance over time. Companies can decide whether to apply for the Eco Office Label if they meet the criteria.

The Eco Office Label scheme is managed by the Singapore Environment Council (SEC), a non-profit, non-governmental organisation that promotes environmental causes and greater environmental responsibility in Singapore.

Country

Singapore

Criteria

The criteria in the Eco-Office Rating System looks at various aspects of the environmental initiatives in the office and includes: Environmental Policy and Commitment; Purchasing Practice; Paper Use; Printer, Photocopier and Fax Cartridges; Waste Reduction Measures; Recycling; Office Kitchen; Office Furniture; Energy Conservation; Water Conservation; Indoor Air Quality; Signs; and Travel.

How to Apply

Create an online account at http://www.ecooffice.com.sg/app/users/register.php and complete the online Eco-Office Rating System. If the company achieved at least a Good rating after completing the questions, the office can qualify for the Eco Office Label (the rating ranges from Poor, Average, Good, Very Good to Excellent).

Contact SEC to indicate your company's interest in applying for the Eco Office Label, and SEC will arrange a third-party auditor to verify your records according to the answers submitted for the Eco-Office Rating System.

The Eco Office Label is valid for two years, and costs between $1,200 to $1,800, based on the size of the office and employees.

Contacts

Singapore Environment Council

1 Kay Siang Road, #04-02, Singapore 248922

Tel: 6337 6062, Email: info@ecooffice.com.sg

Website: http://www.ecooffice.com.sg/

Other Info

In the 2009 Sustainable Singapore Blueprint, it was stated that government offices have to achieve the Eco Office Label by FY2011.

4.2 International

4.2.1 ISO 14001 Environmental Management Systems

Description

The internationally recognised ISO 14001 standard published by the International Organisation for Standardisation (ISO) since 1996, specifies requirements for an Environmental Management System (EMS), which enables an organisation to implement an environmental policy, and identify and manage the environmental aspects of its activities, products and services.

The ISO 14001 standard does not set absolute environmental performance requirements, but serves as a framework to help organisations develop their own management system to continuously improve their environmental performance.

ISO 14001 is applicable to any organisation that wishes to implement an environmental management system, and the standard enables organisations to control and minimise their environmental impacts. Organisations can ask an independent certification body to audit and verify that they meet the requirements specified in the ISO 14001 standard.

Country

International

Criteria

A copy of the SS ISO 14001:2004 Environmental management systems - Requirements with guidance for use, can be bought at:

http://www.singaporestandardseshop.sg/product/productview.aspx?id=e433fb49-e7c7-40f8-a7b6-72a372b74898

The ISO 14001 EMS standard covers the following requirements:

- Develop an environmental policy that is documented and communicated to employees and the public, and which includes a commitment to continual improvement and regulatory compliance

- Formulate a plan to identify the environmental aspects of the organisation's activities and legal requirements, and establishment of a program for achieving targets and objectives
- Implementation and operation, including communication of roles and responsibilities, and provision of documentation for control procedures and operational controls
- Checking procedures for monitoring and measurement of operations and activities
- Management review to ensure the suitability, adequacy and effectiveness of the EMS

How to Apply

If the company meets the requirements specified in the ISO 14001 standard, it can ask an independent accredited certification body to audit and verify the EMS for compliance to the standard.

A list of certification bodies can be found at:
http://www.isoguide.com/Classifications_MG.aspx?catiD=91&dirid=144&classid=12221&name=Certification+Bodies&mid=1079

The certification body will provide details on the audit process and cost.

If the company complies with the standard, the certification body will award the ISO 14001 certification, which is valid for 3 years.

Contacts

Contact an accredited certification body directly for certification. A list of certification bodies is available at:
http://www.isoguide.com/Classifications_MG.aspx?catiD=91&dirid=144&classid=12221&name=Certification+Bodies&mid=1079

Website: http://www.iso.org/iso/catalogue_detail?csnumber=31807

Other Info

ISO 14001 is a popular and well-known certification usually requested to demonstrate a company's commitment to environmental performance.

4.2.2 ISO 14064-1 Greenhouse Gases

Description

The ISO 14064-1 standard published by the International Organisation for Standardisation (ISO) since 2006, specifies the principles and requirements at the organisation level for quantification and reporting of greenhouse gas emissions and removals.

ISO 14064-1 details the design, development, management, reporting and verification of an organisation's greenhouse gas (GHG) inventory. It provides a transparent and consistent way for GHG accounting, and would help a company manage and reduce its GHG emissions, and meet mandatory or voluntary reporting requirements. The standard does not set absolute GHG reduction requirements.

The ISO 14064 standards provide a set of tools for GHG accounting and verification, and comprises two other standards - one for the project level (ISO 14064-2), and the other for managing the validation and verification of GHG assertions (ISO 14064-3).

Country

International

Criteria

A copy of the ISO 14064-1:2006 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals, can be bought at:

http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=38381.

The ISO 14064-1 standard provides guidelines on:

- Setting the organisational boundary and determining which facilities and operations should be included in the GHG inventory (emissions and removals)
- Quantifying the GHG inventory including Direct Emissions (Scope 1), Energy Indirect Emissions (Scope 2), and Other Indirect Emissions (Scope 3)

- Managing and monitoring GHG information and documentation, and GHG reporting and verification

How to Apply

If the company meets the requirements specified in the ISO 14064-1 standard, it can ask an independent accredited certification body to verify the GHG reporting for compliance to the standard.

A list of certification bodies can be found at:
http://www.isoguide.com/Classifications_MG.aspx?catiD=91&dirid=144&classid=12221&name=Certification+Bodies&mid=1079

The certification body will provide details on the verification process and cost.

Contacts

Contact an accredited certification body directly for certification. A list of certification bodies is available at:
http://www.isoguide.com/Classifications_MG.aspx?catiD=91&dirid=144&classid=12221&name=Certification+Bodies&mid=1079

Website:
http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=38381

Other Info

SPRING Singapore provides funding for ISO 14064-1 under the QUEST programme (see Chapter on Government Assistance).

4.2.3 ISO 50001 Energy Management Systems

Description

The ISO 50001 standard published by the International Organisation for Standardisation (ISO) in 2011, specifies requirements to enable an organisation to establish, implement, maintain and improve an Energy Management System. The standard helps an organisation to measure, document and report on energy, and to achieve continual improvement in energy performance.

The ISO 50001 standard does not set absolute energy performance requirements, but serves as a framework to help organisations manage and continuously improve their energy efficiency and consumption, thus helping organisations to reduce energy and save costs.

ISO 50001 is applicable to any organisation that wishes to implement an energy management system, and organisations can ask an independent certification body to audit and verify that they meet the requirements specified in the ISO 50001 standard.

Country

International

Criteria

A copy of the SS ISO 50001:2011 Energy management systems - Requirements with guidance for use, can be bought at:

http://www.singaporestandardseshop.sg/product/productView.aspx?id=507a3f71-5ae9-44e4-bbce-6a98e777e209

Some of the requirements under the ISO 50001 standard include:

- Develop an energy policy with commitment from the top management
- Identify a management representative to lead the implementation, together with a team of representatives from key functional areas
- Decide on the boundaries of the energy management system

- Conduct an energy review to identify significant energy uses and consumption, and establish an energy baseline
- Identify energy performance indicators for tracking energy, and set energy objectives, energy targets and energy management action plans
- Implementation and operation, including communication of roles and responsibilities, and provision of documentation for control procedures and operational controls
- Check procedures for monitoring and measurement of operations and activities
- Management review to ensure the suitability, adequacy and effectiveness of the energy management system

How to Apply

If the company meets the requirements specified in the ISO 50001 standard, it can ask an independent accredited certification body to audit and verify its energy management system for compliance to the standard.

A list of certification bodies can be found at:
http://www.isoguide.com/Classifications_MG.aspx?catiD=91&dirid=144&classid=12221&name=Certification+Bodies&mid=1079

The certification body will provide details on the audit process and cost.

Contacts

Contact an accredited certification body directly for certification. A list of certification bodies is available at:
http://www.isoguide.com/Classifications_MG.aspx?catiD=91&dirid=144&classid=12221&name=Certification+Bodies&mid=1079

Website:
http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=51297

Other Info

SPRING Singapore provides funding for ISO 50001 under the QUEST programme (see Chapter on Government Assistance).

4.3 Case Studies

This section includes examples of local and global companies which took the initiative to implement green labels and certifications for their organisation or business processes, as well as the benefits and challenges involved.

4.3.1 Local

City Developments Limited (CDL)

City Developments Limited (CDL) is a Singapore-listed property and hotel company involved in real estate development and investment, hotel ownership and management, facilities management and hospitality solutions. CDL is one of Singapore's biggest landlords, having developed over 22,000 homes in Singapore, and possessing over 7 million square feet of office, industrial, retail, residential and hotel space locally and globally.[8]

CDL is recognised as a leading sustainability and CSR leader in Singapore, and it is also taking the lead in shaping Singapore's green building scene.

ISO 14001

Since 2003, CDL has been using the ISO 14001 Environmental Management System (EMS) to implement its Environmental, Health and Safety Policy, so as to minimise its environmental impacts. CDL has its core divisions and supporting operations conforming to ISO 14001 EMS. The EMS organisation structure is chaired by CDL's Managing Director while a Management Representative champions the implementation and maintenance of the EMS across the company. The Heads of Department within CDL are responsible for the operational management of the EMS.

Based on the Plan-Do-Check-Act cycle, the EMS is an integral part of CDL's overall management system and is used as a structured approach to do the following: identify and control the environmental impacts of its activities, products or services; continually improve its environmental performance and implement a systematic approach to set and measure environmental objectives and targets.[9]

In the EMS, CDL evaluates the significant environmental aspects at its work sites, investment buildings and corporate offices. These environmental aspects include energy use, water use, waste generation, carbon emissions, safety management, noise, biodiversity, paper use and waste paper recycling.

Eco Office Label

Since 2005, CDL has been a recipient of SEC's Eco Office Label, which it helped to launch. Through the "Let's Work Green" programme at its offices, CDL has instilled a sense of the 3Rs of environmental conservation – Reduce, Reuse and Recycle – to every staff. Green awareness posters and stickers are found in strategic locations within the CDL offices to encourage staff to recycle paper, and conserve water and electricity. New staff are introduced to the company's green culture through a "Let's Work Green" pamphlet that provides useful eco-friendly tips for them to practise in their workplace.[10]

Green Mark

CDL has been supportive of the BCA Green Mark Scheme demonstrated in several ways. CDL is the most decorated Green Mark private developer with an extensive number of Green Mark building projects and it also possesses the most number of Platinum properties. Under the Green Mark Scheme, it has about 16 Platinum, 16 Gold Plus, 18 Gold, and 3 Certified-rated green building properties. CDL currently invests between 2% and 5% of the construction cost of a development on green design and features.[11]

Benefits and Challenges

CDL's sustainability and CSR efforts have enhanced its reputation and brand image for the company, leading to increased international investor interest, revenue growth and share price. CDL was awarded the President's Award for the Environment in 2007; it was the only developer to be awarded the Built Environment Leadership Platinum Award in 2009 and Green Mark Platinum Champion Award in 2011 by BCA. CDL is also listed on the Dow Jones Sustainability Indexes, FTSE4Good Index Series, and the Global 100 Most Sustainable Corporations in the World ranking.

CDL has also reduced its environmental footprint over the years through its green initiatives. As shown in its Sustainability Report 2011, some of CDL's achievements include [12]:

- Reduced total carbon intensity emissions (measured in tonnes CO_2/m^2) by 11% from baseline year 2007 which also means less carbon was being produced per square metre of leased area
- The new green office generated a total of 170,229 kWh of renewable energy in 2010
- Energy reduction of 20% for corporate office from 2006 to 2010, contributed by installing energy efficient fittings and equipment, timers, motion sensors, LED lights, diffusers and central air-conditioning system
- Conserved 163,974 m^3 of potable water at work sites in 2010 and used 123,344 m^3 of NEWater for operations that do not require potable water
- Achieved a 14% reduction in paper usage in 2010 by utilising email, e-filing, double sided photocopying and printing, and reusing paper

While its sustainability and CSR efforts have created many benefits, CDL also faced several challenges during its initial journey [13], these include:

- Insufficient knowledge and operational difficulties in integrating sustainability and CSR into the business activities
- Difficulty in finding like-minded suppliers, contractors and consultants who value environmental sustainability
- Difficulty in finding green experts and support in construction
- Customers were generally indifferent about sustainability and CSR initiatives, and the company struggled to justify the additional costs of those initiatives

However, CDL succeeded in overcoming these challenges with the support of the top management and a never-give-up spirit.

4.3.2 Global

Morgan Furniture is a small and medium-sized enterprise (SME) in the UK, which designs and manufactures seating and tables for the contract market, and uses mainly timber, foam and fabric in its products. The company achieved the ISO 14001 certification in 2009.

Since 2004, Morgan has been proactive in its environmental efforts rather than just striving to meet regulations. It is committed to be an environmental leader and has established an environmental policy to reduce its overall impact on the environment. These include the consumption of raw materials, energy usage, VOCs, landfill waste recovery and disposal, and water usage.[14]

In designing furniture, Morgan would reduce the product's overall environmental impact throughout its life cycle. For example, timber is sourced from sustainable managed sources with PEFC certification. Also, waste is reduced at source through efficient design and quality control. In addition, used furniture is being reupholstered and recycled rather than discarded.

Benefits and Challenges

Through the implementation of the ISO 14001 environmental management system, Morgan improved on efficiency which resulted in reduction in waste and cost, and at the same time improved service and product quality to the customer.

Examples of operation efficiency includes a 44% reduction in lighting energy through investment in new technology, and a reduction in water consumption by 1000 litres per annum through improvement in the flushing system.[15] The company believes that the ISO14001 certification would give it an added edge in the extremely competitive contract market.

For its sustainability efforts, Morgan won the 2008 Chichester District Council Green Business of the Year. The company also won a British Airways contract to supply seating for the Terminal 5 First and Business Class Lounges at Heathrow due to its environmental credentials being significantly better than other UK manufacturers.[16]

The main challenge, however, is to demonstrate that going green is core to the company's philosophy and intrinsic to the way business is run on a daily basis. In order to achieve success, it takes hard work and commitment, and for green business practises to be embraced by every single team member.[17]

5 Government Assistance

This is a list of government assistance grants and funding for environment-related initiatives.

5.1 Quality for Enterprises through Standards (QUEST) by SPRING

Description

SPRING Singapore, the national standards body in Singapore, introduced the Quality for Enterprises through Standards (QUEST) programme in 2011. QUEST provides grants for companies to implement standards in emerging projects and encourages companies to use standards to enhance their productivity and competitiveness. QUEST would help companies adopt the new standards as a competitive business advantage and gain market access.

Currently, QUEST provides grants for Singapore companies to implement standards in new areas such as energy efficiency, carbon reduction, and low-emitting furniture. Companies can use the grants to help defray the costs of implementing the new standards, which could include changing processes and equipment, or engaging consultants. The ISO 14064 standard for greenhouse gas accounting, the ISO 50001 standard for energy management system, and the GREENGUARD certification, is supported for funding under QUEST.

Criteria

To apply for the QUEST programme, companies must be registered or incorporated in Singapore with minimum 30% local shareholding, and the company's group annual sales turnover should be less than S$100 million or the company's group employment size should be less than 200 workers.

The QUEST programme supports the following costs for implementing the new standard: manpower and training; consultancy and professional services; equipment (hardware, software, materials and consumables); intellectual property rights; and other project-related costs.

These three standards and certifications are supported for funding under QUEST:

ISO 14064-1 Greenhouse Gases

The ISO 14064-1 standard specifies the principles and requirements at the organisation level for quantification and reporting of greenhouse gas emissions and the removal of greenhouse gases. It provides a transparent and consistent way for greenhouse gas accounting, and it would help a company manage and reduce its emissions. The grant amounts to S$42,000 or 70% of the total cost (whichever is lower) and the application period is till 31 December 2012.

ISO 50001 Energy Management Systems

The ISO 50001 standard specifies requirements to enable an organisation to establish, implement, maintain and improve on an Energy Management System. It helps an organisation to measure, document and report on energy, and to achieve continual improvement in energy performance. The grant amounts to S$30,000 or 70% of the total cost (whichever is lower) and the application period is till 30 September 2012.

GREENGUARD

GREENGUARD certification is for products and materials with low chemical emissions, and helps to ensure healthier products and materials for indoor environment. The criteria is based on established criteria from key public health agencies. The grant amounts to S$56,000 or 70% of the total cost (whichever is lower) and the application period is till 15 January 2013.

How to Apply

- If your company meets the eligibility criteria, contact SPRING for an initial consultation to discuss the potential project and obtain the application form.
- Submit the application form and supporting documents to SPRING. If your application is successful, you will receive a Letter of Offer.
- Start the project within 6 months of receiving the Letter of Offer, and keep proper project and financial records.
- Pay all project expenses before submitting your claim for reimbursement.
- SPRING will verify that the project is completed and deliverables are met before reimbursing the company.

Contacts

SPRING Singapore

1 Fusionopolis Walk, #01-02 South Tower, Solaris, Singapore 138628

Tel: 6898 1800; Email: enterpriseone@spring.gov.sg

Website: http://www.spring.gov.sg/qualitystandards/std/pages/quality-for-enterprises-through-standards.aspx

5.2 Innovation & Capability Voucher (ICV) by SPRING

Description

The Innovation & Capability Voucher (ICV) by SPRING Singapore aims to encourage local SMEs to enhance their capabilities in technology innovation, productivity, human resources development and financial management. All SMEs can apply for a voucher worth S$5,000 from SPRING, which can be redeemed for supported services at any of the service providers participating in the ICV scheme.

The technology innovation services include technical feasibility studies and technical support services. One example of a service provider is the Centre of Innovation in Environmental and Water Technology (EWT COI) at Ngee Ann Polytechnic, which can provide environmental technology related market research, feasibility study for product development, research and assessment of new technology for commercialisation.

Criteria

The company must be physically present and registered in Singapore, have at least 30% local shareholding, and the company's group annual sales should be less than $100 million or the company's group employment size should be less than 200 workers.

How to Apply

Find a list of supported services at:

http://spring.gov.sg/EnterpriseIndustry/BC/Documents/ICV_List_of_supported_services.pdf

Choose and select a service provider with the relevant expertise and services to work on an innovation project. For environmental technology projects, consider the Centre of Innovation in Environmental and Water Technology (EWT COI) at Ngee Ann Polytechnic. See the list of innovation service providers at:

http://spring.gov.sg/EnterpriseIndustry/BC/Pages/ICV_Innovation_SP.aspx

Complete the Application Form at:
http://spring.gov.sg/EnterpriseIndustry/BC/Documents/ICV_Appln_Form.xls and sent it to:

Attn: SPRING – ICV application

1 Fusionopolis Way, #20-01 Connexis South ,Singapore 138632

Upon successful application, the applicant would receive the Letter of Offer and voucher from SPRING. Submit the voucher to the service provider to commence the project. Upon completion of the project, the company and the service provider are required to endorse the project report and submit it to SPRING.

Contacts

Environmental and Water Technology Centre of Innovation @ NP

Mrs Bettie Chiew

Tel: 6460 8168; Email: csn2@np.edu.sg

Website: www.np.edu.sg/coi/ewt/

SPRING Singapore

1 Fusionopolis Walk, #01-02 South Tower, Solaris, Singapore 138628

Tel: 6898 1800; Email: enterpriseone@spring.gov.sg

Website: http://spring.gov.sg/EnterpriseIndustry/BC/Pages/innovation-capability-voucher.aspx

5.3 Energy Efficiency Improvement Assistance Scheme (EASe) by NEA

Description

The National Environment Agency (NEA) provides a co-funding scheme called the Energy Efficiency Improvement Assistance Scheme (EASe), to help companies in the manufacturing and building sectors engage accredited Energy Services Companies (ESCOs) to conduct energy audits and recommend energy saving measures.

An energy appraisal or assessment is carried out in a building or facility to identify and quantify areas where energy savings can be made, including improvements to facility design and installation, operation and management.

Criteria

The facility or building for which the energy appraisal is being carried out must be located in Singapore, and the owner or operator must be registered in Singapore.

The appointed ESCO must be accredited by the National Environment Agency. See a list of accredited ESCOS at:

http://app.e2singapore.gov.sg/Programmes/ESCO_Accreditation_Scheme.aspx.

The company must not have signed a contract with the ESCO for the detailed energy appraisal at the time of application.

The qualifying costs include: Salaries; Use of instrumentation and evaluation tools; Expendables; and Overheads. Funding is provided up to 50% of the qualifying costs of engaging an ESCO and capped at S$200,000 for a single facility or building over a five-year period. The grants will be made on a reimbursement basis.

How to Apply

The applicant must have conducted a preliminary energy assessment at the time of application.

Download the application form at
http://app.e2singapore.gov.sg/DATA/0/docs/EASe%20application%20form%20v4.doc

and submit to NEA with the supporting documents:

EASe Coordinator c/o Director (Energy Efficiency & Conservation Department)
National Environment Agency
40 Scotts Road #11-00, Singapore 228231

Contacts

Mr Choon Yeow Yhee

Tel: 6731 9608; Email: choon_yeow_yhee@nea.gov.sg

Mr Tan Guan Qun

Tel: 6731 9425; Email: tan_guan_qun@nea.gov.sg

Website:
http://app.e2singapore.gov.sg/Incentives/Energy_Efficiency_Improvement_Assistance_Scheme.aspx

5.4 Grant for Energy Efficient Technologies (GREET) by NEA

Description

The Grant for Energy Efficient Technologies (GREET) by NEA provides funding for the Singapore-registered owner or operator of existing or proposed industrial facilities to encourage them to invest in energy efficient equipment or technologies that result in measurable and verifiable energy savings.

Criteria

The industrial facility must be located in Singapore, and the owner or operator must be registered in Singapore. The company must be a partner under the Energy Efficiency National Partnership (EENP) programme and have implemented an energy management system.

The proposed project must involve the installation and use of energy efficient equipment or technologies with a proven track record of energy savings, and it must result in measurable and verifiable energy savings.

The project must not have commenced at the time of application, and should be completed within 36 months.

The qualifying costs include: Manpower cost; Equipment and materials; and Professional services. Funding is provided up to 20% of the qualifying costs and capped at S$4 million per project. The grants will be made on a reimbursement basis.

How to Apply

Download the application form at:

http://app.e2singapore.gov.sg/DATA/0/docs/GREET/GREET%20application%20form.docx

and submit to NEA with the supporting documents:

GREET Coordinator c/o Head (Energy Efficiency Programme Office)
National Environment Agency
40 Scotts Road #11-00, Singapore 228231

Contacts

Ms Lu Honghong

Tel: 6731 9529; Email: lu_honghong@nea.gov.sg

Ms Eunice Koh

Tel: 6731 9739; Email: Eunice_koh@nea.gov.sg

Website:
http://app.e2singapore.gov.sg/Incentives/Grant_for_Energy_Efficient_Technologies.aspx

5.5 Innovation for Environmental Sustainability (IES) Fund by NEA

Description

The Innovation for Environmental Sustainability (IES) Fund is managed by NEA and it helps companies to implement innovative environmental projects. The proposed project must have strong innovation and early adoption elements, and help Singapore meet its goal of environmental sustainability.

The IES fund is targeted at projects at the applied research and test-bedding stage of technology development. The focus areas include: Waste Management Systems; Pollution Control Solutions; Meteorological Services and Research; Public Health; Unconventional Water Resources, Water Conservation and Wastewater Treatment and Recycling; and Energy Efficiency.

Criteria

The fund is open to all Singapore-registered companies. The project should be conducted in Singapore and should not have commenced at the time of application.

The IES Fund provides funding to cover some of the qualifying cost of the project, up to a maximum of S$2 million.

How to Apply

Applicants can download the IES Application Form at:

http://app2.nea.gov.sg/data/cmsresource/20100802179962798868.doc

Submit the IES application and supporting documents to:

IES Secretariat

Environment Technology Office, National Environment Agency

40 Scotts Road #11-00, Singapore 228231

Contacts

Mr Seow Teow Gay

Tel: 6731 9465; Email: seow_teow_gay@nea.gov.sg

Ms Eang Pee Yan

Tel: 6731 9702; Email: eang_pee_yan@nea.gov.sg

Website: http://app2.nea.gov.sg/funds_ies.aspx

6 Green Trends and Opportunities for the Industry

This chapter explores several sustainability trends that are relevant to the furniture industry, and the potential business opportunities that furniture companies can tap on.

6.1 Sustainable Design and Design Thinking

Designers and manufacturers around the world are starting to design and manufacture sustainable products that are durable and non-toxic. They are also beginning to use less materials and resources during its entire life cycle, and the materials used can be reused, repaired or recycled.

Several sustainable design principles have been developed over the years, such as: Biomimicry, Cradle to Cradle, and Life Cycle Assessment. For the furniture industry, designers or manufacturers can learn and adopt these sustainable design principles in developing their furniture products.

Biomimicry

Biomimicry is a new science and design principle developed by Janine Benyus, the author of *Biomimicry: Innovation Inspired by Nature*. Biomimicry is about learning from nature and studying what works in nature, and then imitating these best ideas, designs and processes to solve our problems.

One company that embraces biomimicry as a design concept is InterfaceFLOR, a market leader in modular floor covering products and a pioneer in sustainable manufacturing and business practices.

The lead designer for InterfaceFLOR, David Oakey, explains that Entropy was the first modular carpet product by InterfaceFLOR that was inspired by biomimicry, and it makes up around 50-60% of products sold. In the past, carpets were monolithic, uniform and generally, identical-looking. These traits created problems in the manufacturing process as the carpets have to be identical, by making one mistake means that the company would lose the whole batch since it does not match with the rest, and these carpets have to be either recycled or disposed at a landfill site.

In contrast, biomimicry is inspired by nature's inclination to strive on diversity rather than conforming to notions of monolithic or uniformity. Based on the principle that carpets could look slightly different in colour and design, David worked with Janine to design the Entropy carpet tiles based on how nature designs a forest floor. Each tile has its unique pattern and colour, thus installers can put the tiles in different directions. By encouraging the idea on diversity, there is also no waste when a mistake occurs and replacement of tiles becomes easier.

Designers interested in biomimicry can explore Ask Nature at http://www.asknature.org/, a free open source database by The Biomimicry Institute, where they can search for nature's best solutions and bio-inspired products, and network with the biomimicry community.

Cradle to Cradle

In 2002, William McDonough and Michael Braungart wrote the classic book, *Cradle to Cradle: Remaking the Way We Make Things*, which popularised the cradle to cradle design principles. The Cradle to Cradle (C2C) principle offers a framework in which the effective, regenerative cycles of nature provides models for positive human designs. Within this framework, C2C materials circulate in closed-loop cycles, providing nutrients for nature or industry after their end of life.[18]

Materials which can be broken down and returned safely to the environment to nourish living systems are known as biological nutrients. Materials designed to be circulated in a closed-loop cycle of production, recovery, and remanufacture, are known as technical nutrients.

An example of a biological nutrient material is the upholstery fabric, Climatex Lifecycle, which is a hybird of pesticide-free wool and organically grown ramie, dyed and processed entirely with non-toxic chemicals. The fabric trimmings are used as mulch for growing fruits and vegetables, returning the textile's biological nutrients to the soil.

An example of a technical nutrient material is the carpet yarn Zeftron, which is made of recyclable nylon 6 fiber. Zeftron is designed to be reclaimed and re-polymerised (taken back to its constituent resins) to become a new material for new carpets.

Life Cycle Assessment

Life Cycle Assessment (LCA) is a methodological tool that applies life cycle thinking and assesses the environmental aspects and impacts associated with a product, process, or service. LCA estimates the environmental impacts resulting from all stages in the product life cycle from raw material extraction, production, transportation, usage to disposal.

Companies that are interested in life cycle assessment for their products could seek help from the Sustainable Manufacturing Centre under the Singapore Institute of Manufacturing Technology (SIMTech).

Design Thinking

While sustainable design principles can help the furniture industry to develop more green products, it does not mean that the green furniture products would suit consumers' needs. Furniture companies could also look at design thinking as a process to complement sustainable design, when developing new furniture products.

Tim Brown, CEO and president of a design and innovation consulting firm, IDEO, defines design thinking as "a human-centred approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success." Design thinking brings together what is desirable from a human point of view with what is technologically feasible and economically viable.[19]

Design thinking involves observing how people behave and how the context of their experience affects their emotional reaction to products or services, and identifying their needs and translating them into opportunities. It is an iterative process that emphasises observation, visualisation of ideas, and rapid prototyping.

Herman Miller, the furniture designer and maker, is one example of how a company uses design thinking to design a new kind of chair - the iconic Aeron chair. The chair was designed by Bill Stumpf and Don Chadwick in 1994; they redefined the work chair and became the first who did not make use of foam in work chairs. Before Stumpf and Chadwick drew their design sketches, they visited many offices and spoke to people who sat in chairs all day. They observed and studied how different tasks were performed by people while sitting on the chair, how the chairs work as they move, and the subtle discomfort and shifts of position as the seat got too warm.

They found out that conventional upholstery retained too much heat, and thus, they designed the Aeron chair that had no padding or upholstery, and instead uses a porous screen-like material called Pellicle that makes up the chair's seat back.[20] The Aeron design was tested for comfort and refined through research and opinions from ergonomists and specialists.

The result of this design thinking process was a chair that is human-centred and sustainable, two-thirds of the chair is made using recycled material and almost the entire chair is recyclable. The Aeron chair is also certified according to GREENGUARD, Level, and Cradle to Cradle green certifications.[21]

6.2 Green Buildings

Green buildings are gaining momentum around the world. This includes Singapore which is recognised as a green building leader in the Asia-Pacific region. In 2011, the Building and Construction Authority (BCA) was conferred the inaugural Regional Leadership Award by the World Green Building Council for its exceptional Green Building Masterplan and efforts in steering the construction industry towards sustainable development in Singapore, and leadership in the green building movement in Asia Pacific.[22]

BCA introduced the Green Mark scheme in 2005, which is the first green building rating system developed to suit the tropical climate, and it sets minimum standards for buildings on environmental performance such as Energy Efficiency, Water Efficiency, Environmental Protection, Indoor Environmental Quality, Green Features and Innovation. BCA also developed a Green Building Masterplan that sets out specific initiatives to achieve the national target of greening at least 80% of the buildings in Singapore by 2030.

In the first year of the Green Mark scheme, only 17 buildings were certified. As of December 2011, there are more than 940 green building projects, translating to a gross floor area of about 28 million m^2, or 12% of the nation's total gross floor area.[22] Over the next decade, Singapore would see more green buildings being certified and the proliferation of green building products, as the building industry strives towards the 80% national target.

Global Industry Analysts, a research firm, estimated that the world market for green building materials would reach US$406 billion by the year 2015.[23] The interest in green buildings is likely to lead to an increase in the demand for green building materials, furniture and furnishings. As building developers build more green buildings for

certification according to rating systems such as Green Mark or the LEED (Leadership in Energy and Environmental Design) Green Building Rating System developed by the US Green Building Council, they would start looking at green furniture and furnishings that could help them to earn points and achieve a higher green building rating.

For example, the Green Mark Schemes for Office Interior and Parks award points for sustainable products and materials, such as furniture and furnishings. For the LEED system, credits are awarded for:

- Commercial Interiors: furniture and furnishings with recycled content or rapidly renewable materials, certified wood furniture, and low-emitting system furniture and seating
- New Construction: Furniture with recycled content or certified wood
- Existing Buildings: Sustainable purchasing of furniture

Tapping on this growing trend towards green buildings, SFIC has signed an MOU with the Singapore Green Building Council (SGBC) in March 2012 to collaborate on green building development. The collaboration includes developing a new furniture certification under the SGBC's Singapore Green Building Product certification scheme. This would help to introduce green furniture to the building industry, and encourage developers and contractors to adopt green furniture products for their green buildings.

6.3 LOHAS

LOHAS stands for 'Lifestyles Of Health And Sustainability'; it is a marketing term that originated in the year 2000 in the United States to describe a group of consumers who are environmentally, socially and health conscious, and believes in a lifestyle that benefits both people and planet. The LOHAS concept quickly spread to Japan, and then to Taiwan and South Korea.

LOHAS goes beyond "green" consumers and looks at the converging market of consumers who are interested in the environment, health and fitness, personal development, sustainable living, and social justice. According to the LOHAS official website, there is an estimated US$290 billion LOHAS market in the United States, and approximately 13-19% of the adults are LOHAS consumers.[24]

The typical LOHAS consumer is the earliest adopter of green or socially-responsible products and the most loyal, and is always looking for better products and more information. LOHAS consumers are lifestyle-oriented and they are driven by values and concern for personal, planetary and society's health.[25]

In 2009, a Singapore-based social enterprise, Asia-Pacific LOHAS, was set up to promote LOHAS in Singapore and the region. Asia-Pacific LOHAS aims to educate millions of consumers in Asia that consumption can be done in a better way and to help facilitate the growth of the LOHAS business community to serve these consumers.

Asia-Pacific LOHAS also conducted the first LOHAS research study in 2009 with the Natural Marketing Institute based in the United States. The study surveyed more than 18,000 consumers across ten Asia-Pacific countries – Australia, China, Hong Kong, India, Indonesia, Malaysia, the Philippines, Singapore, South Korea, and Thailand. This research provides an in-depth survey of the LOHAS consumer, the general consumer, and marketplace.

The results of the LOHAS study for the Singapore market show that[25]:

- 15% of the consumers in Singapore are LOHAS consumers
- 91% of the LOHAS consumers would buy more environmentally friendly products and services if there was more selection available where they shop
- 45% of the LOHAS consumers are willing to pay 20% more for products which are made in an environmentally friendly and sustainable way

In addition, the LOHAS consumers in Singapore are influenced by certifications of products and a company's corporate social responsibility (CSR). 88% of LOHAS consumers agree that a seal or certification indicating a product is environmentally friendly increases the likelihood that they would buy it. 89% of LOHAS consumers agree that it is important for companies to not just be profitable, but to be mindful of their impact on the environment and society.[25]

As LOHAS consumers are more likely to choose eco-friendly and non-toxic indoor and outdoor furnishings, companies in the furniture industry could target this consumer market, and meet their demanding needs for environmental, social and health benefits.

6.4 Collaborative Consumption

Collaborative Consumption refers to the trend of sharing that is empowered by technology and social networks, and how it changes consumption and the way businesses operate. Sharing also covers renting, swapping, lending, trading, exchanging, bartering, and gifting. The advantages of sharing are that fewer resources are used to make and ship products, and less waste are generated and disposed.

The term Collaborative Consumption was first described in 2010 in the book *What's Mine Is Yours: The Rise of Collaborative Consumption* by Rachel Botsman and Roo Rogers. Botsman believes that the consumer peer-to-peer rental market will become a US$26 billion sector and the sharing economy in total is a US$110 billion-plus market.[26]

Collaborative Consumption is an important and emerging idea because consumers are starting to realise that they can share rather than buy more stuff. This is motivated by greater environmental awareness and cost consciousness, the proliferation of mobile peer-to-peer technologies and social networks, and the need to be part of a community.

In the book *What's Mine Is Yours*, the authors describe a few systems of Collaborative Consumption such as Product Service Systems, and Redistribution Markets. Product Service Systems is where a person pays for and enjoys the benefit of using a product without having to own the product. For example, a peer-to-peer renting service could allow people to search online and exchange or rent out unwanted furniture.

Another example could be a furniture company providing a web-based furniture rental service for expatriates who are working in Singapore for a few years. It allows the foreigner to search for furniture without going to the showroom. The foreigner rents and uses the furniture without having to pay the full cost of buying them.

The second system of Collaborative Consumption is Redistribution Markets, where a person transfers used or unwanted stuff to somewhere or someone where they are wanted. For example, a company could provide an online waste exchange which facilitates the exchange of waste materials and unwanted items from companies that no longer need them to recycling businesses and non-profit organisations that can utilise them.

Unwanted furniture could be refurbished and donated to non-profit organisations, or used carpets could be recycled into new carpets or other products. This reduces waste and keeps valuable resources out of the incineration plants and landfills while helping companies save time, money and reduce their environmental impacts.

While Collaborative Consumption is still in its infancy in Singapore, this idea could gain more interest in the coming years. More companies around the world are starting to explore the business opportunities of sharing and to make full use of technology and social networks to better enhance sharing.

If consumers start to buy less furniture and share, rent or exchange more, how would that affect the furniture industry? Could furniture be sold as a service and not as a product? Could the lifespan of used furniture be extended by making it easier to disassemble, repair or recycle?

6.5 Radical Transparency

Daniel Goleman in his book, E*cological Intelligence: The Coming Age of Radical Transparency*, explains that "if we knew the hidden impacts of what we buy, sell, or make with the precision of an industrial ecologist, we could become shapers of a more positive future by making our decisions better align with our values. All the methods for making that data known to us are already in the pipeline. As this vital knowledge arrives in our hands, we will enter an era of what I call radical transparency."[27]

With the help of life cycle assessments and tech applications, radical transparency will introduce an openness about the environmental consequences of the things consumers buy, and allows consumers to vote with their money. This transparency forces companies to better align with public and environmental well-being, and to be more responsible in the products they sell and how they conduct business.

An example of a tool that enables radical transparency is GoodGuide, which provides authoritative information about the health, environmental and social performance of products and companies, through its website and mobile applications. GoodGuide helps consumers make purchasing decisions that reflect their preferences and values, and its 0 to 10 rating system helps consumers quickly evaluate and compare products. GoodGuide includes chemists, toxicologists, nutritionists, sociologists, and lifecycle analysis experts, who rate the products and companies on their health, environmental and social performance.[28]

In the coming age of radical transparency, the furniture industry would have to ensure that they meet the environmental and social requirements of customers.

7 Sustainable Business Practices and Tips

This section describes how companies can take steps to reduce the environmental impacts of their business by minimising risks and costs, energy, waste, water and transport. Companies can also start surveying the needs of their customers, and green their existing products, or design new innovative green products, so as to increase their revenue.

In addition, companies are advised on greenwashing, a term used to describe a company misleading consumers regarding its environmental practices or the environmental benefits of its product or service, and how companies can avoid greenwashing and minimise negative feedback from consumers and environmental activists.

7.1 Reducing Environmental Impacts

There is a growing interest in companies wanting to introduce green concepts in their business, but real action is slow as they usually lack the knowledge and resources to do so. If your company wishes to be more sustainable, here are some simple tips for you to take the first few steps in reducing your environmental impacts.

7.1.1 Risks and Costs

Firstly, look at the aspects of your business that has environmental impacts. It could be the use of resources such as energy, water, fuel, chemicals and materials, or discharges to the environment such as wastewater, air and chemical emissions, and waste disposal.

If these resources and discharges are not handled properly, they could pose a risk to your business due to the increase in costs of resources, over-dependency on suppliers, change in government regulations, change in consumer demands, legal issues and liabilities and hazards to employees.

Start by identifying your environmental risks and costs, monitoring them regularly and reducing those risks and costs over time. Some questions that you might ask:

- How much energy, water, fuel, materials and chemicals are we using?
- Which are the chemicals that are toxic and how are they handled?
- How do we dispose or discharge wastewater, air emissions, waste, and used chemicals?
- Are we meeting government regulations and how do we anticipate future regulations to change?
- Are there incidents of leaks and spills of chemicals, and how can they be prevented?
- Are our fuel, material and chemical usage, water and electricity consumption, and waste disposed higher than the industry norms?
- What happens if costs of the resources increase or disposal fees increase?
- Do we depend only on resources from one or few suppliers, and are those resources sustainable and non-toxic?
- Are our customers demanding for greener products or are more environmentally conscious?
- What happens to our products after being used by our customers?

Your company should keep track of those questions above and other relevant risks and costs over time. Appoint an employee or a team to monitor the potential risks and costs, and take immediate actions to solve the important issues. Find ways to increase the efficiency and productivity of your operations so as to reduce the use of energy, water, fuel, materials and chemicals.

7.1.2 Energy

Conducting an Energy Audit

Your company can start managing the energy consumption in your offices and facilities by conducting an energy survey. An energy survey is a simple assessment of the energy use in your organisation and the aim is to identify and correct bad energy habits and practices.

Form a small team to conduct the energy survey, appoint an energy manager as the team leader and recruit staff from different departments as team members. The team will conduct the energy survey by taking a walk around the offices, building and facilities to observe what is happening on the ground, identify bad and wasteful energy use and habits, and identify opportunities for energy saving.

The survey should be conducted at different timings so as to find out the different energy usage throughout the day and at different periods. Surveys can be carried out:

- At a normal weekday during office hours
- At busy and peak hours
- At lunchtime
- After office hours
- During weekends

Use past and current utility bills, meter data, maintenance records and other energy information to help keep track of the energy usage in your organisation. Here are some areas to take note of during the energy survey:

Office Equipment

- Is office equipment left on standby after office hours and during weekends? Can we switch them off easily?
- Do the computers, printers, photocopiers and other equipment have built-in energy saving features? Are we using these features and do we know how to use them?
- Can we use software to switch equipment off after office hours?
- Are vending machines and water coolers left on at night? Can we use timers to switch them off after office hours?

Lighting

- Are lights switched off in unoccupied areas or when there is sufficient daylight? Can we reduce unnecessary lighting?
- Can we use motion sensors for the stairs and car park?
- Are lights switched off when no one is in the room or office? Who is responsible to switch off the lights after office hours?
- Are external and facade lighting switched off during the day? Can we adjust the timers to switch off the lighting earlier?
- Are light fittings arranged strategically and light switches labelled properly?
- Are we still using inefficient lighting? Can we change to energy efficient light bulbs and tubes?

Air-Conditioning and Ventilation

- Is the office too warm or cold? Can we adjust the air-conditioning temperature to about 23 to 25 degree Celsius?
- When is the air conditioning switched off and on during the day?
- Are the windows and doors open when the air-conditioning is on?
- Are the air-conditioning and ventilation system maintained and serviced regularly? Are the settings optimised and correct?
- Are there obstructions at air inlets and outlets?

After the energy survey, look at the findings and decide what measures should be taken. Implement the no-cost or low-cost actions first, such as educating employees, changing habits and practices, proper maintenance of equipment, changing energy settings and removing unnecessary lighting. Next, consider the higher-cost actions such as installing new energy efficient lighting and equipment, and using energy saving technologies.

Energy Efficient Office Equipment

Choose energy efficient air-conditioners and refrigerators with a higher rating Energy Label. The Energy Label is issued by the National Environment Agency (NEA) and a refrigerator or air-conditioner with a higher tick rating means that it is more energy efficient. A database of energy efficient air-conditioners and refrigerators is available at http://els.nea.gov.sg/mels/aircon.asp.

Computers, printers, photocopiers, and lighting are currently not included under the Energy Label scheme, but you can look for ENERGY STAR qualified equipment and lighting instead. The ENERGY STAR is a United States labelling program to identify and promote energy efficient products. A database of energy efficient products is available at http://www.energystar.gov/index.cfm?c=products.pr_find_es_products.

When your company is purchasing new computers, choose laptops instead of desktops as a laptop uses less energy. For desktops, choose those with flat panel LCD monitors instead of CRT monitors, as a LCD monitor is more energy efficient and lasts longer. Also remember to choose the right-sized monitor to meet the office's needs. A bigger monitor uses more energy.

Remember to switch off all the computing equipment when leaving the office or when they are not in use, and do not leave them on standby mode as the standby mode still consumes energy. Some simple energy saving tips:

- Connect different equipment to a power strip so that you only need to turn off one switch
- Use plugin timers to switch off equipment after office hours
- Use the power management mode on your computer to turn off the computer after some time of inactivity

When the computing equipment is in use, you can reduce energy consumption by:

- Setting photocopiers, printers and other equipment on energy saving mode
- Reducing the brightness of the computers to cut energy consumption as the factory default setting may be brighter than necessary
- Disabling the computer's screen saver as the screen-saving mode uses more energy than in standby mode
- Using the power management mode on your computer and enable the energy saving features

7.1.3 Waste

Start a recycling programme in your company to minimise waste and encourage recycling at your workplace. First, you would need to form a team and get commitment from your top management and colleagues. Conduct a waste audit and find ways to minimise waste through reduce and reuse. Next, start a recycling programme and educate your staff on how to recycle. Finally, remember to gather feedback, review and improve your recycling programme.

6 Steps to Start a Recycling Programme

1 Get Commitment and Form a Team

Highlight the benefits of waste minimisation and recycling to your top management and colleagues, and get their commitment and support. Form a team to be in-charge of the waste minimisation and recycling programme, and ensure that resources are allocated to implement the programme.

2 Conduct a Waste Audit

A waste audit involves finding out the type and quantity of waste generated, and how the waste are generated and disposed. This audit would help you to identify the problems and opportunities for waste reduction. You can conduct a simple waste audit by:

- Sorting the waste in the waste bins to find out the waste type and quantity
- Checking the material purchasing records and waste disposal records to learn where the waste comes from and where it ends up
- Walking around the site and checking with your staff to identify where and how the waste are generated

3 Minimise Waste through Reduce and Reuse

Based on the waste audit, identify the major waste types and find ways to minimise the waste generation. Reduce them at the source of generation or divert them from disposal through reuse.

4 Set up a Recycling Programme

After your waste minimisation efforts, identify the remaining waste that can be recycled. Find a recycling contractor to provide recycling bins and collection services. You can first approach your current waste contractor and check whether they can provide recycling services. If not, you can find a list of recycling collectors from NEA's website at http://app2.nea.gov.sg/topics_collectrade.aspx.

For commercial buildings and industrial estates with recycling programmes, recycling bins or open-top containers are usually placed at certain locations and the recyclables are collected by the recycling contractor for a fee.

5 Educate Staff on How to Recycle

Educate your staff on the new recycling programme – the location of recycling bins, what can be recycled, and where the recyclables end up. The education could be conducted through events, talks and through posters.

6 Review and Improve

Gather feedback about the recycling programme from your staff and conduct checks on the recycling bins to ensure that the correct items are recycled. Monitor the amount of waste generated and recycled. Adjust and improve the recycling programme if necessary.

For more information on waste minimisation and recycling, you can refer to NEA's Guidebook on Waste Minimisation for Industries. The guidebook contains information on how to conduct a waste audit, and how to introduce a waste minimisation programme through tips and case studies. The guidebook is available for download at http://app2.nea.gov.sg/topics_guidewastemin.aspx.

Reducing Paper Waste

In Singapore, paper is the most common type of waste generated, and there is a need to eliminate the excessive use of paper and try to reduce paper waste where possible. There are many ways to reduce the use of paper in the office. Here are a few examples:

Avoid Printing Emails and Web Pages

Avoid printing emails and web pages unnecessarily. Instead, archive your emails and bookmark your web pages for easy reference. If you need to print web pages often, adjust your page and printer settings to minimise the number of pages before printing.

Use an email signature with the words: "Please consider the environment before printing this email". This is a good way to remind the email recipient to think first before printing.

Use Email Instead of Fax

Use email instead of fax for sending documents. Just attach the document as a word or pdf file in your email. Or you can scan the document and attach it in your email. If you really need to use the fax, avoid using a cover page.

Print and Photocopy on Both Sides of the Paper

Change the setting of your printer or photocopier to allow double-sided printing or photocopying. If you have unused paper that is printed only on one side, you can also use the manual feed to print and copy on the empty side.

Switch to Electronic Invoicing

By switching to electronic invoicing, your company can reduce paper invoices, envelopes, postage and cut costs. The government has also introduced electronic invoicing, and suppliers billing the ministries, statutory boards and schools can submit invoices electronically via the Vendors@Gov portal.

Reuse Old Envelopes for Internal Mail

Used envelopes in good condition can be reused again for internal mail. Just strike off the old address and write down the new address of the receiving department in your company or organisation.

Go Paperless with Electronic Bills and Statements

Your company receives phone bills, bank statements, and other utilities or government agencies' statements on a regular basis through the mail. These envelopes, paper bills and statements often end up in the recycling bins or simply thrown away. To prevent the paper waste from being created in the first place, aim to reduce the amount of paper used for the bills, statements and envelopes.

The best way would be to opt for electronic bills and statements instead of receiving the paper copies through the mail. Check with your current billing companies and organisations on whether they provide such electronic services.

7.1.4 Water and Transport

There are opportunities to reduce unnecessary water wastage and inefficient water practices in your business. Here are some tips:

Use Water Saving Products

The Water Efficiency Labelling Scheme by PUB helps to identify water efficient taps, flushing cisterns and urinals. A database of the water efficient products is found at http://www.pub.gov.sg/WELS/PRODUCTS/Pages/default.aspx. You can choose to install Water Efficiency labelled products in your toilets and pantry to help save water.

Alternatively, you can install thimbles in existing taps or adjust the valves to reduce water flow. For toilets, you can use a low-capacity or dual-flush toilet that allows you to choose a low flush that uses less water.

Monitor Water Consumption

Monitor your facility's main water meter regularly for any abnormal increase in water consumption. Install sub-meters at different locations such as toilets, cooling towers, water tanks and outdoor irrigation, to monitor the water usage if necessary. Check the meters regularly and fix any water leaks immediately as water that is dripping away is money lost.

Educate and Engage Employees

Appoint a water manager to drive water conservation efforts and lead a team to oversee water issues in the company. The team would educate employees on the need to save water through talks and publicity materials, and engage employees to contribute water saving ideas.

Transport Management

Here are some tips to help your company reduce the carbon emissions from transport:

- Encourage or incentivise your employees to take public transport or carpool to work
- Arrange for company transport to ferry employees

- Use more videoconferencing to replace the need for business trips overseas
- Educate company drivers on good driving habits and maintenance of their vehicles
- Plan your transport needs to consolidate delivery orders and reduce delivery frequency
- Plan your driving journey to reduce driving time and distance
- Use more fuel efficient vehicles and green vehicles such as CNG vehicles, or use cleaner fuel such as biodiesel

7.2 Greening Products

More consumers are increasingly aware of environmental issues, and some of them would even choose eco-friendly products over the normal ones, even though it costs more. The demand for green products presents new opportunities for businesses willing to explore this growing green market. By being proactive to meet this need, business owners can gain a competitive advantage by offering greener alternatives first, and thus increasing their revenue. Here are some tips for greening your products:

Survey the Needs

First, you have to survey the needs of your existing customers (or even potential new customers) and find out whether there is a need for greener products. When developing green products, it is important to meet a need that actually exists and not be caught up with the latest green material or technology. In addition, remember that your product still needs to do what it is supposed to do.

Green Your Existing Products

Next, look at your products and assess whether it is possible to make them more sustainable or even design new greener products. To green your existing products, find ways to reduce the environmental impacts of the product throughout its life cycle and across the supply chain. You would need to track the environmental footprint of the product including raw materials and suppliers, manufacturing, distribution, customer use, and end of life. A life cycle assessment is usually required if the product is to meet the certification requirements of green labels.

Design New and Innovative Green Products

If you need to design a new product, design it for the environment by developing a manufacturing process that uses less energy and resources, minimising the use of materials, using non-toxic materials, and making it easy to disassemble and recycle. You can also consider adopting sustainable design principles such as Biomimicry or Cradle to Cradle.

Finally, explore the potential for innovative green products. Ask the tough and radical questions for your product, business and the industry. For example, the questions could be: what if your furniture is 100% recyclable and generates no waste in its production? What if consumers decide to build their own furniture?

These questions would push you to think of possibilities and alternatives, and find new ways of doing things. Look beyond your industry to broaden your perspective, and explore partnerships with researchers. All these creative approaches could help you to think of an innovative green product.

7.3 Danger of Greenwashing

As more companies jump on the green bandwagon and declare that they are green, there are some companies which are not being honest or overstate their so-called green practices or products. Greenwashing is a term used to describe the perception of consumers that they are being misled by a company regarding the environmental practices of the company or the environmental benefits of a product or service.

The increasing problem of greenwashing was brought to the public's attention in 2007 by TerraChoice, an environmental marketing agency, which published a study of the environmental claims in the North American consumer market called, The Six Sins of Greenwashing. The study found that 99% of the 1,018 consumer products surveyed were guilty of greenwashing.[29]

The study identified the common patterns in greenwashing and called them the Six Sins of Greenwashing:

- Sin of the Hidden Trade-Off: A claim that a product is "green" based on certain environmental attributes without attention to other important environmental issues.
- Sin of No Proof: A claim that cannot be substantiated by easily accessible supporting information, or by a reliable third-party certification.

- Sin of Vagueness: A claim that is so poorly defined or broad that its real meaning is likely to be misunderstood by the intended consumer.
- Sin of Irrelevance: A claim that may be truthful but is unimportant and unhelpful for consumers seeking environmentally preferable products.
- Sin of Lesser of Two Evils: A claim that may be true within the product category, but that poses a risk to distract the consumer from the greater environmental impacts of the category as a whole.
- Sin of Fibbing: A claim that is simply false.

Principles for Companies to Avoid Greenwashing

If your company would like to prevent the danger of greenwashing, there are 5 simple principles to apply in your green marketing, so as to reduce the possibility of consumers or environmentalists accusing your company of greenwashing.

1 Do Your Homework

Find out the green expectations of environmentalists and your consumers. Ensure that the green claims of your business, product or service are true and consistent with their expectations. It is also important to look at your entire business chain and check whether any aspect of your operations contradict your green claims.

2 Be Honest and Humble

If your company or product is not 100% green, admit it. Acknowledge the areas of your product or business that are not yet green and commit to work on it, do not wait for others to point out the discrepancies. State your green claims as it is and do not exaggerate. Let your consumers, the media, NGOs and environmentalists tell your green story and blow your trumpet.

3 Keep it Transparent

Make it easy for your customers to understand and check the green claims you are making. Are your green claims certified based on established green labels, or by trusted methods and experts? The information on your green claims and relevant details should be made accessible to the public.

4 Work with Stakeholders

Engage your stakeholders, both internal and external, in a dialogue on your green marketing. Are your green claims acceptable to your staff, suppliers, customers, NGOs and the community? Gather feedback from them on whether your company is on the right track or seen to be greenwashing.

5 Focus on the Journey

Emphasise in your green marketing that going green in your business or product is a journey and not the end. Acknowledge areas that are environmentally unacceptable, commit to improve those areas, and seek feedback and help from your customers and the public on your green journey.

Remember and apply these 5 principles when your company is marketing green practices, businesses, products or services. The principles are not meant to be comprehensive but if you use them effectively, you would have less worry about being accused of greenwashing.

8 Conclusion

Remember that sustainability is a journey, not a destination. If your company decides to take the first step to be more sustainable, or to start exploring green labels and certification for your products or your business processes, this is only the beginning of a long journey.

As environmental challenges and pressure increase, and green certification standards become more stringent, it is important to continuously improve the environmental performance of your products and processes.

Similarly, this Green Guide is also an evolving document that will help you along your sustainability journey.

Credits

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BCA Green Mark Scheme, Building and Construction Authority

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