Green Economy Guideline Manual

2014

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Foreword

Malaysia's commitment to sustainable development is articulated through its national development plans including the "Tenth Malaysia Plan, The New Economic Model" which underlines the long term development framework for Malaysia. At the Earth Summit in 1992, Malaysia pledged to keep at least 50% of its land area as forest cover, and has maintained its commitment with forest cover in 2012 being at 56.4% of total land area.

Leaders of governments at the United Nations Conference on Sustainable Development (Rio+20, Rio di Janeiro, 2012) resolved to act on addressing challenges in achieving sustainable development through the development of 'Green Economy' in their countries. The Government of Malaysia at Rio+20 re affirmed its commitment to sustainable development, and its voluntary reduction commitment (announced at the15th meeting of Conference of Parties, Copenhagen, 2009) of greenhouse gas emissions intensity of GDP by up to 40% by 2020, compared to 2005 levels. Our Prime Minister has also launched our Low Carbon Society Blueprint (at the 18th meeting of Conference of Parties, Doha, 2012) as our commitment to building a green economy at Iskandar Malaysia.

Climate change is no longer a myth but a reality that affects all of us. The Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) has stated that an increase of 0.85°C in the global average surface temperature could wreak havoc upon our environment. Earlier in 2014, Malaysia experienced one of its worst dry spells, triggering the Malaysian cabinet to consider calling a state of emergency in 15 areas in Malaysia that had not experienced rainfall in more than 20 days.

We have developed this Green Economy guidelines (GEG) manual which provides a checklist for businesses to address areas of procurement, operations and supply chain management in order to minimize impact on the environment. The development of these guidelines included consultations with ministries and government agencies, business associations, local bodies, international agencies and IRDAs own business teams.

The goal of the GEG manual is to help businesses and industries to study, evaluate, adopt and inculcate environmentally sustainable economic behavior leading to building a prosperous, resilient, robust and globally competitive

green economy in Iskandar. This is in line with IRDA's vision of becoming a "Strong and Sustainable Metropolis of International Standing". The LCS Blueprint has 3 main themes – Green Economy, Green Community and Green Environment. This manual is an output of the first theme and focuses on the **creative industry.**

We hope businesses in Iskandar in the creative industry will find these guidelines relevant and useful in evaluating and adopting more innovative and sustainable practices, contributing to Green Economy in Iskandar.

In closing, I would like to thank and congratulate all parties involved in the production of this manual. I would also like to make a special mention of the advice and support given by the Working Group to the IRDA team and consultant Ernst & Young's Climate Change and Sustainability Services team in putting together this manual.

Y. Bhg. Datuk Ismail Ibrahim
Chief Executive IRDA

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Glossary

BBC	British Broadcasting Corporation
BEMS	Building Energy Management Systems
CAGR	Compound Annual Growth Rate
CFL	Compact fluorescent lighting
EEV	Energy-efficient vehicle
EPS	Expanded Polystyrene
ESG	Environmental, social and governance
GBI	Green Building Index
GDP	Gross Domestic Product
GeSI	Global e-Sustainability Initiative
GGP	Government Green Procurement
GHG	Greenhouse Gases
GRI	Global Reporting Initiative
HRV	Heat recovery ventilation
HVAC	Heating, Ventilation and Air-Conditioning
ICT	Information and communications technology
IM	Iskandar Malaysia
IRDA	Iskandar Regional Development Authority
ISO	International Standard Organization
KeTTHA	Malaysia's Ministry of Energy, Green Technology and Water
LED	Light-emitting diode
LEED	Leadership in Energy and Environmental Design
LEP	Light-emitting plasma
NAP	National Automobile Policy
NKEA	National Key Economic Areas
PIMS	Pinewood Iskandar Malaysia Studios

PLA	Polylactic acid
TVD	Fox Television Distribution
UN	United Nations
VOC	Volatile organic compound

Creative Industry

1. Industry Overview

The concept of a "creative industry" has varying definitions among different countries (UNCTAD, 2010). In this guideline, it is defined in alignment with Iskandar Malaysia's (IM) four primary sub-sectors (Figure 1) and six secondary sub-sectors (Figure 2) (IRDA, 2013).

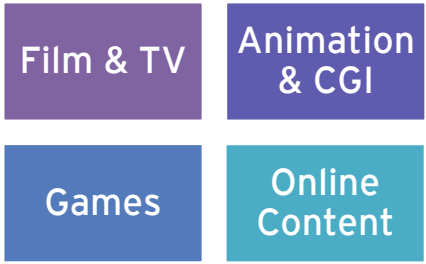

Figure 1: IM Creative Industry Primary Sub-Sectors

1. Advertising
2. Music
3. Publishing
4. Arts (Performing, Crafts)
5. Architecture and Interior Design
6. Fashion

Figure 2: IM Creative Industry Secondary Sub-Sectors

The global creative industry is expanding at a Compound Annual Growth Rate (CAGR) of approximately 5.6% over 2013 to 2017, wherein the publishing, advertising and TV & radio sectors account for more than 80%. Within the four primary sub-sectors, the gaming sector is experiencing the fastest growth rate, growing at approximately 8.1% from 2012 to 2017.

In Malaysia, the huge economic potential in the country's creative industry has spurred Iskandar Regional Development Authority's (IRDA) aspiration to become "Asia's New Creative Destination" (IRDA, 2013). While the local creative industry contributed RM9.4 billion or 1.3% to the national Gross Domestic Product (GDP) in 2012, that is still relatively low in contrast to countries such as Singapore (5.6%) and Canada (7.4%). If the sector continues to grow at 11% per annum, its contribution to GDP is expected to increase to RM33 billion by 2020.

Nevertheless, the government is committed to developing the industry by facilitating investment in the industry. In the Tenth Malaysia Plan (2011-2015), the government outlines its strategies to boost investment in key economic growth engines or the National Key Economic Areas (NKEA) to become a high-income economy by 2020. To achieve this

goal while maintaining a sustainable fiscal environment, 92% of total investments in NKEA are expected to be contributed by the private sector (PEMANDU, 2010).

With such potential for growth and the government's commitment to facilitate investments, IM has received a RM550 million investment by the government's investment arm, Khazanah Nasional Berhad, to build the region's largest independently-owned integrated media production studio facility with Pinewood Studios. Officially launched in June 2014, the Pinewood Iskandar Malaysia Studios (PIMS) is expected to attract RM1.9 billion worth of expenditure by international productions and create 11,300 freelance jobs by 2020 (Bernama, 2013).

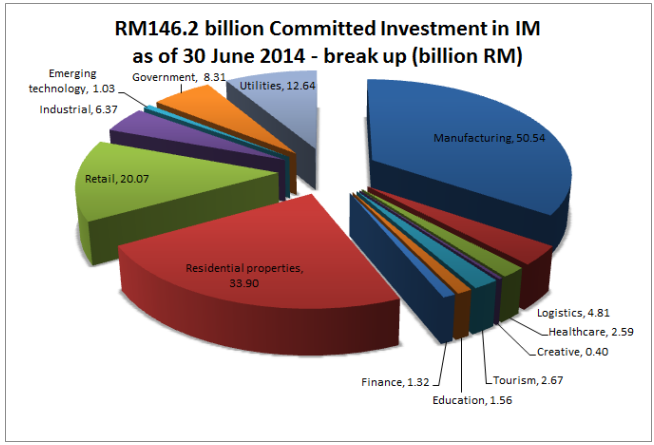

Figure 3: Cumulative Investment in IM (Low & Kasmuri, 2014)

1.1. Environmental Impact

A case study on environmental impact was done for the screen industry in London and published in 2009. The study found that the annual carbon footprint of local screen production in the UK is approximately 125,000 tonnes. This figure does not include emissions from international or employee travel, or those associated with distribution, sales and exhibition of films and programmes (Film London, 2009).

2. Identifying Green Opportunities

2.1. Areas of Intervention

As the creative industry is broad in scope, this guideline will focus on the four primary sub-sectors in IM as identified in Figure 1.

This guideline will suggest areas where environmental performance improvements could be effected at every stage of a production. From the moment research begins, scripts are printed, sets constructed - through to capture and post production. In order to reduce the direct footprint of the creative industry, we have identified seven broad issues, namely studios and office, water management, equipment use, waste management, transportation and logistics, creative persuasion, and technology and innovation. Aside from the benefits of reducing carbon emissions and water use, addressing these direct impacts reduces utility costs and is hence beneficial for business.

The part creative industry can play in shaping a sustainable future is not confined to reducing direct emissions alone, but also includes their potential in influencing consumer behaviour through creative persuasion and utilizing green technologies in our daily lives.

'Creative Persuasion' refers to the process of influencing and inspiring the general public through architecture, film, design, art, and music. This influence may also help in promoting sustainable behaviour by raising awareness of environmental issues.

The Information and communications technology (ICT) sector draws parallels with the creative industry and enables creative innovation (Forum for the Future, 2010). This guideline outlines how technology, especially ICT, can contribute to greening the economy as an enabler for spurring the development of new products, services, distribution channels and business models (Technology Strategy Board, 2009).

2.2. Potential Options

In line with the seven broad issues identified above, this guideline suggests the following specific aspects of actions for creative industry (Table 1):

Issue	Aspects
Facility Efficiency	1. HVAC efficiency 2. Lighting efficiency
Waste Management	3. Disposal and recycling 4. Reducing bottled water
Transportation and Logistics	5. Travel emissions
Water Management	6. Reducing water use
Equipment Use	7. Equipment efficiency (IT and AV equipment)
Creative Persuasion	8. Environmental awareness and influence
Technology and Innovation	9. Green technologies

Table 1: Summary of Actions

3. Recommended Actions for Strategic Direction and KPIs

3.1. Facility Efficiency

In the screen industry, studio emission contributes to the highest greenhouse gases (GHG) emissions of approximately up to 40% a year, followed by production activities (28%), location shoots (17%) and post production emission (15%) (Film London, 2009). Hence, improving energy efficiency in studio facilities can play a significant role in minimizing the environmental footprint of a production.

Improving facility efficiency can be achieved by implementing a range of technologies, from improved heating, ventilation and air-conditioning (HVAC), lighting efficiency, monitoring (enabled by Building Energy Management Systems (BEMS) and Smart Metering) to implementing sustainable building designs.

3.1.1. HVAC Efficiency

Action: Installing efficient HVAC systems

According to Carbon Trust, a 1°C decrease in internal building temperature results in 10% energy consumption savings which would automatically lead to decrease in GHG

emissions (CarbonTrust, 2002)Recommended actions that can improve energy efficiency include (University of Twente, Unilever, 2013):

- Insulation: If some rooms are too hot or too cold, inadequate air sealing or insufficient insulation could be the cause. Cavity wall insulation is used to reduce heat loss by filling the air space with material that inhibits heat transfer. It is often used in doors, which are the primary culprits of air leaks in the building. Adding additional insulation (double-glazing) around the interior of the building and installing air curtains will also contribute to reducing energy usage.

- Infrared assessment: To identify areas of energy wastage, infrared imaging is a valued tool in identifying problems related to energy loss, inadequate insulation, inefficient HVAC systems, radiant heating, water damage on roofs, and much more. Conducting an infrared inspection on leak tightness and coldness infiltration can detect potential areas for additional insulation. Professional energy auditors can be employed to carry out this process.

- Heat Recovery Ventilation (HRV): HRV is an energy recovery ventilation system which uses heat exchangers to heat or cool incoming fresh air, recapturing 60-80% of the conditioned temperatures that would otherwise be lost. Instead of opening a window for ventilation, the HRV system is able to provide fresh air without any heat loss or gain. In climates such as Malaysia with warm, humid weather, HRVs can also remove humidity before it enters the air ducts to keep the interior comfortable and prevent the HVAC system from having to work harder.

- Alarm for warehouse doors: Alarms of annunciators indicate when doors are open and prevent unwanted heat loss or gain. This simple yet efficient measure has proven to be very cost effective in many cases.

- Green façade and roofs: Vegetation or plant cover on roofs over a water-proof membrane is known to reduce building heating and cooling needs. In addition, it can retain rainwater for other uses if an efficient drainage system is installed. This measure qualifies for Leadership in Energy and Environmental Design (LEED) points.

Action: Maintaining efficient HVAC systems

Dirt and neglect are the top causes of heating and cooling system inefficiency and failure. It is important to have a qualified technician perform regular maintenance on the HVAC system every year. Maintenance activities include (US EPA, 2009):

- Lubricate moving parts. Electrical devices that lack lubrication can cause friction in motors and increase the amount of electricity consumption. Lack of lubrication can also cause equipment to wear out more quickly, requiring more frequent repairs or replacements.

- Check the condensate drain in the air-conditioner. If plugged, stagnant water in the drain may damage the hose, affect indoor humidity levels, and breed bacteria and mold.

- Inspect, clean, or change the air filter in your central air conditioner. A contractor can demonstrate how to do this for company maintenance staff to do so on a more regular basis.

- Clean the air-conditioner blower components and

coils. Proper airflow over the coils allows your system to run efficiently, reducing energy costs and lengthening equipment lifespan.

- Check the central air conditioner refrigerant charge and adjust it if necessary to ensure it meets manufacturer specifications. Too much or too little refrigerant charge can damage the compressor, reducing the shelf life and increasing costs.

Action: Glazing

Transparent and clear glass panes used in buildings are prone to increase the heat gain inside buildings and hence additional air conditioning (higher capital and operating costs) becomes necessary. Proper selection of glazing properties helps improving energy efficiency in buildings as a good glazing will reduce solar heat gain from both direct and diffuse solar radiation (BSEEP, 2013). Better glazing efficiencies can be achieved by taking into consideration the following key factors (and other considerations as deemed appropriate for the building)

- Choosing the glazing with appropriate visible light transmission, low solar heat gain coefficient
- Single and double glazing low-E value coatings
- Reduction of glazing area, where possible

Action: Wall Insulation

Malaysia has a mild climate with outdoor dry bulb temperatures reaching 26.9^{0}C during day time and 24^{0}C during night time. Heat is both conducted from the outside into the building and as well as from inside of the building to the outside. While the impact of insulation on building energy reduction may not be very significant, the effect on reduction in peak cooling load is certain. A feasibility study on the economics of insulation materials should be done before embarking on the installation of insulation systems (BSEEP, 2013).

Action: Roof Insulation

Energy efficiency brought about by different types of roofs varies for each type, operating hours and the space immediately below the roof. Ideally an insulated roof during day time to prevent heat gain and non-insulated roof during night time to cool the building would be the most appropriate one for Malaysian climate. However, business needs (office / hospital / warehouse / cold storage), occupant comfort, wind velocity, rains, etc. are the key decisive factors in determining the roof type and materials used. In a simulation study carried out while developing *The Building Energy*

Efficiency Technical Guideline for Passive Design (2013) suggests that provision of 25mm of insulation provided maximum incremental savings. Keeping in mind that electricity tariffs in Malaysia are bound to increase with time, businesses need to evaluate the energy consumption, return on investment, business needs of roof insulation and proceed accordingly.

Action: Zoning and Infiltration control

Zoning is the process of positioning air-conditioned spaces in a building in a coherent fashion such that wastage of conditioned air is minimized. In general it is done by locating rooms according to the leakage flow of air-conditioned air from the coldest room will benefit other spaces before it completely escapes out of the building.

Zoning the most air-conditioned areas at the core of the buildings surrounded by comparatively lesser air-conditioned areas, optimizing window areas, converting glazed areas to opaque, etc. are among the widely practiced techniques to achieve energy efficiency.

Infiltration is the process of out-door air entering the air-conditioned space introducing sensible and latent (moisture)

heat into the building, which increases the energy requirements. Sealing cracks in walls, window panes, controlling window/door operation with sensors, door pumps and air curtains could be adopted to minimize infiltration losses. Please refer the *Building Energy Efficiency Technical Guideline for Passive Design (2013)* for case studies on various scenarios of simulation conducted for more information on avoiding infiltration losses.

3.1.2. Lighting Efficiency

Action: Daylight harvesting

Malaysia being located close to the equator, with lesser seasonal variation has reliable day light available for about ten hours a day. Natural daylight harvesting is amongst the most efficient method to improve energy efficiency in buildings because diffused light is not much affected by the sun appearing in the sky/hiding behind the clouds. To achieve better utilization of daylight harvesting, appropriate tropical climate daylight harvesting techniques need to be deployed to gain the optimum benefits.

- Utilizing daylight to combine with artificial lighting is a simple, efficient way to reduce lighting.

- Analyzing the location, layout and orientation of windows (west / east), Incorporating skylights into roofing and utilizing transparent weather-resistant material that can maximize natural light passage is one of the key measures to maximize use of daylight.

- Skylights that can be operated to open and close can additionally lead to savings in energy used for ventilation or cooling.

- Solar heat gain minimization, glare protection, deep daylight penetration, uniform daylight distribution, etc., needs to be investigated thoroughly, and addressed before implementation of a well-designed daylight harvesting system to optimize performance.

Action: Switching to energy-efficiency lighting

In 2010, the British Broadcasting Corporation (BBC) carried out a quantitative energy analysis and identified solid-state light-emitting plasma (LEP), light-emitting diode (LED) and fluorescent lighting as the most energy-efficient sources without compromising on performance for television productions (BBC, 2011). The appropriate applications of the

different TV production lighting technologies studied are as shown in Table 2.

Type of Lighting	Applications
Solid-state LEP	Key lighting Moving lights Follow spot
White LED matrix	Key lighting Soft lighting
White LED chip	Key Lighting
Colour LEDs	Cyclorama effects Set dressing
Fluorescent	Soft lighting Cyclorama

Table 2: Applications of Production Lighting

LED is one of today's most energy-efficient and rapidly-developing lighting technologies. LEDs are "directional" light sources, which mean they emit light in a specific direction unlike traditional light sources which emit light and heat in all directions. For this reason, LED lighting is able to use light and energy more efficiently in many applications. Residential LEDs use at least 75% less energy, and last 25 times longer, than incandescent lighting (US Department of Energy, 2014).

As a cheaper alternative, high efficiency compact fluorescent lighting (CFL) consumes only 25% of the energy of an incandescent bulb and lasts nine times as long, or up to 7 years (Tufts University, 2014). Aside from its lower cost, CFL bulbs are known to be versatile. They can be applied nearly anywhere where incandescent lights are used, and are particularly suitable for area lighting.

Figure 4: Comparison of Lighting Types

Action: Optimizing lighting performance

Many minor steps can be taken to improve lighting performance. For example, regular cleaning of light bulbs can also improve energy efficiency, as two years' worth of accumulated dust can reduce luminosity by as much as 50% and increase operating costs by 15% (Carbon Trust, 2012).

Utilizing daylight in combination with artificial lighting is another simple yet efficient way to reduce energy costs. Analyzing the location, layout and orientation of windows (west / east) can maximize the natural light passage.

To supplement this, motion sensors can also help to optimize lighting usage in a facility. Sensors switch off lights when an area is not occupied, and may also dim lights according to the required output (University of Twente, Unilever, 2013).

Action: Shades

Shades are primarily used to reduce solar heat gain, widely practiced across the world and Malaysia as well. External shades are being replaced by advancements in glazing technologies and internal shades are still the most economical solution (but with regular maintenance/replacement). Different types of horizontal and vertical shades are utilized; however thermal comforts, brightness control, glare protection, privacy, view out, and durability are the key factors that need to be considered before the installation of shades. Please refer the *Building Energy Efficiency Technical Guideline for Passive Design (2013)* for more information on application of shades, various advantages and disadvantages.

Action: Applying for building certifications

Industry associations can play a vital role in providing guidelines and standards on building energy measures. In Malaysia, companies can consider applying for the Green Building Index (GBI), which assesses new and existing buildings for their environmental performance according to a range of key criteria.

IRDA has set out in its Green Building Road Map to utilize the GBI as a rating tool for buildings in the region to promote sustainability in the built environment. In July 2013, a luxury condominium in IM, Molek Pine 4, became the second residential project in the country to achieve the highest GBI rating.

Key Performance Index

Key Performance Index	Objective	Ease of implementation
Energy savings from measures to increase efficiency	Higher	Easy
Cost savings from measures to increase efficiency	Higher	Easy

Amount and % of reduction in carbon emissions in weight	Higher	Moderate
Building certifications (e.g. GBI)	Lower	Moderate

In this section, this guideline provides measures to reduce energy consumption in facilities and to lower GHG emissions. Areas to target are HVAC and lighting, where most of the energy is consumed.

Facility efficiency is principal to a green economy, and this is acknowledged by both the Malaysian federal government as well as IM. Malaysia follows the Low Carbon Cities Framework & Assessment System, developed by the Ministry of Energy, Green Technology and Water (KeTTHA), which recommends specific carbon reduction solutions in buildings and infrastructure. Malaysia also launched the GBI to rate commercial and residential buildings. Both buyers and builders of green buildings stand to benefit from this scheme. Some of the benefits that businesses could enjoy include:

- Investment Tax Allowance for purchase of Green Technology Equipment Businesses could receive tax allowance of up to 100% of qualifying capital

expenditure in relation to approved green technology projects or acquisition of green asset

- Income Tax Exemption on the use of Green Technology Services and System Businesses could receive tax exemption of up to 100% for a period of 5 years in respect of the use and provision of green technology services and systems

More information on incentives can be found at GBI website, KeTTHA website and Malaysia Budget 2015 speech by YAB Dato' Sri Mohd Najib Tun Abdul Razak. Relevant website links can be found at the end of the manual.

IM aims to be an internationally recognized sustainable metropolis, and has imposed a building rating system alongside GBI for their new developments to identify and monitor building sustainability. Businesses may refer to IRDA's Low Carbon Society Blueprint and Actions for a Low Carbon Future that promote adoption of green building designs and features. Some of the benefits that businesses stand to receive from the policies include:

- An adjustment to tax rate on fixed asset tax
- Tax incentives on green development
- Low interest loans for energy-efficient building

projects

- Subsidy for adopting photovoltaic power (Iskandar Regional Development Authority, 2014)

More information on incentives available from IRDA can be found at www.irda.com.my.

3.2. Waste Management

3.2.1. Disposal and recycling

Action: Implement recycling schemes

Consider implementing recycling schemes for items such as:

Image 1: Set and prop production (Source: *Wikipedia commons*)

- Sets, props and costumes, as these can often be sold and reused. Borrow or rent them instead of purchasing if possible
- Batteries, as these release toxic materials in landfill
- Light bulbs and lamps

Encourage the arts department to find methods of set construction which enable easy dismantling and recycling.

Where possible, avoid the use of unrecyclable materials, such as polystyrene and expandable foam.

Action: Carry out proper waste disposal

Dispose of electrical and electronic waste (e-waste) in a proper manner. As a signatory to the *Basel Convention on the Transboundary Movements of Hazardous Waste and Their Disposal*, Malaysia subscribes to the requirements of the Convention on the importation and exportation of e-waste. The disposal of e-waste is regulated nationally under the Environmental Quality (Scheduled Wastes) Regulations 2005. When purchasing electronic equipment, ensure the supplier specifies in the contract how these items need to be disposed at the end of their life cycle (Department of Environment, 2010).

3.2.2. Reducing bottled water

Due to the mobile nature of the creative industry, crew members and artistes are often provided with plastic water bottles for personal consumption. The environmental impact of such bottles is devastating. Plastic water bottles take hundreds of years to bio-degrade and if incinerated, produce toxic fumes. The total amount of energy embedded in our use of bottled water can be as high as the equivalent of filling a

plastic bottle one quarter full with oil. In addition to the water sold in plastic bottles, it is estimated that twice as much water is used in the production process. Hence, seeking to reduce plastic water bottle usage would contribute significantly to reducing environmental impact (Pacific Institute, 2007).

Action: Encourage personal water bottles

Encourage the crew and artistes to purchase a good quality water bottle for personal use. Alternatively, consider purchasing one for the main cast as a gesture of goodwill. The more durable and practical the bottle, the more likely they are to use them throughout the shoot. Also, if the name of the user can be inscribed or printed on the water bottle, reduction in mix-ups of individual's bottles can be avoided and the likelihood of its continued use would be higher.

For days which require a large number of background actors, request for the extras casting company to send a memo to the background actors informing them of your water policy and requesting them to bring along their own bottles.

To allow for refills, consider using a water cooler or dispenser which removes chlorine and other contaminants. If cups are needed, choose cups made with paper or biodegradable corn-

based plastics.

Action: Switch to environmentally-friendly alternatives

If packaged water is essential, consider Tetra Pak "boxed" water or polylactic acid (PLA) plant-based bottles when available.

Polystyrene is very slow to biodegrade and often abundant as litter especially in its foam form (styrofoam) in the outdoor environment, particularly along shores and waterways as marine debris. The most preferred action should be elimination of its use. However, in the creative industry, its use could be unavoidable in the creation of certain props or when received as part of equipment packaging. Hence, the safe disposal of polystyrene material after its use becomes even more critical. Other than traditional hazardous waste recyclers and

PT. Beton Elemenindo Putra's EPS Insulation (b-panel, 2012)

PT. Beton develops an environmentally friendly Expanded Polystyrene (EPS) insulation from recycled material called the b-panel®. The product is made of recycled regular EPS foam mixed with fire-retardant EPS foam to produce the fire-retardant b-panel®.

re-users, businesses may consider disposal for innovative uses such as for use as insulation for pre-cast concrete walls.

Key Performance Index

Key Performance Index	Objective	Ease of implementation
Amount of recycled waste by weight (kg)	Lower	Moderate
Amount of waste with proper disposal	Higher	Easy
% reduction in plastic water bottles	Higher	Moderate

3.3. Transportation and Logistics

Action: Improve driving efficiency

Road vehicle fuel usage depends on the driving habits of the drivers. Decreasing speeds and eco-driving measures are few of the key options and these should be communicated to the drivers by holding training sessions. Major leading companies such as UPS and FedEx are training their drivers to eco-drive and monitor their driving patterns through (ICT) (UPS, 2012; FedEx, 2013). Monitoring driver habits will discourage drivers to operate in a fuel-consuming manner and allow identification of measures that can reduce fuel consumption.

For instance, limiting maximum rpm or minimizing idling time.

Companies should make sure new and existing drivers are educated. This option offers an environmentally effective, low-cost strategy.

Action: Using energy-efficient cars

In Malaysia, vehicle manufacturers are set to capitalize on the government's incentives under the national automobile policy (NAP) for energy-efficient cars. Honda launched the country's first hybrid facility in January 2014 to assemble small models and hybrid vehicles for regional markets. Leading local automobile manufacturer Proton is also set to compete in the energy-efficient vehicle (EEV) market, with the planned production of its own hybrid model.

Action: Reduce travel

The study by Film London had found that transportation to location (63%) makes up the highest proportion of GHG emissions from the film industry. Pinewood Studios is intending to build international street studios in London, which will have "atmospheric streetscapes" inspired by various filming locations from New York, San Francisco,

Amsterdam and Paris. By eliminating the need for travel, this initiative is expected to bring 77% reduction on emissions compared to traditional filming methods (Film London, 2009).

Key Performance Index

Key Performance Index	Objective	Ease of implementation
% reduction in GHG emissions from transport	Higher	Moderate
Total mileage travelled	Higher	Moderate

3.4. Water Management

Water availability is increasingly becoming a global issue. The United Nations Environment Program (UNEP) has identified water shortage as one of two major environmental issues that the globe is facing today (Monash University Malaysia, 2014). Water-rich Malaysia, too, is not impervious to this impact of climate change on water security. The *New Straits Times* has reported that the Klang Valley water rationing in June 2014 has affected 3 million consumers. This incident is not localized either; other areas, such as Gombak, Kuala Lumpur and Petaling, were faced with the same predicament.

As it is, Malaysia registers as one of the high water consuming populations in the region. At an individual level, *Business Insider Malaysia* has estimated that Malaysians use 226 litres per person per day. This is significantly higher than Singaporeans, who register 154 litres per person per day, and Thais, who register 90 litres per person per day. Malaysians need to reduce their water intensity level by 37% to achieve the recommended 165 litres per person per day.

Businesses should play key role in conserving water because water scarcity directly affects their operations. During Malaysia's water crisis in early 2014, *Bloomberg* has reported that Malaysia's Top Glove Corporation had expected a cost increase as much as 10 times due to water shortages. *Bloomberg* has also found that another electrical products company in Malaysia had lost a RM40 million order due to uncertainty in water supplies.

One of the reasons to explain this water intensity level is the low to free water tariffs that create a wasteful habit. This habit could translate into increased wastages in work environment as well. Not only do businesses suffer from paying additional costs, the sheer volume of water consumed by industry exponentially worsen the situation, leading to accelerated water scarcity.

Action: Installing sensors, switching equipment into low flow mode and other water-saving fixtures

In the creative industry, large quantities of water are used for toilet flushing and washing purposes. Low flow fixtures installed on taps and showerheads and high efficiency dual flush toilets reduce water consumption.

Action: Re-using greywater for flushing and irrigation

Greywater systems recycle water by collecting water that has been used for one purpose, and then using it for another, thus reducing the amount of fresh water required, and therefore reduces the volume of wastewater produced.

Key Performance Index

Key Performance Index	Objective	Ease of implementation
Water intensity	Lower	Easy
Utilisation of greywater	Higher	Moderate

3.5. Equipment Usage

Action: Reduce equipment energy use.

With heavy use of IT and AV equipment, such as computers, monitors, photocopiers and video cameras, reducing energy use in equipment can significantly reduce energy consumption and GHG emissions from buildings. Employees should be encouraged to turn off all electrical devices when not in use or set them to energy-saving / stand-by mode. When purchasing technical equipment, enquire about more efficient ways of usage. Whenever possible, consider using digital processes for filming and recording (Film London, 2009).

Action: Install energy-efficient equipment

Energy-efficient equipment contributes significantly to the cost-savings in business operations. As explained above, energy-efficient equipment, such as HVAC equipment and servers, stands to reduce energy consumption to a large extent. This energy savings definitely translates into cost savings for businesses.

However, energy-efficient equipment is not limited to only instruments like HVAC equipment and servers. Significant

energy consuming equipment such as escalators, elevators, motors and pumps are also potential areas for cost-savings.

There are many ways to identify energy-efficient equipment in the market. One of the easiest ways is to look for energy-efficient marker in the equipment, such as the ENERGY STAR tick marks. Energy-saving certifications, such as ENERGY STAR, assure consumers of the energy efficiency of the product. However, consumers should still conduct due diligence on the value proposition and energy savings of equipment before any purchase.

Example of energy-efficient escalator

Hitachi's VX Series escalators have automatic switch-off system that switches itself off when not in use. It also has a load detection system that promptly adjusts its conveyor speed to optimize usage. The combined energy-saving features enable the escalator to register up to 48% in energy savings when compared to conventional escalators (Hitachi, 2014).

Key Performance Index

Key Performance Index	Objective	Ease of implementation
Energy consumption from equipment use	Lower	Easy

% of equipment with energy saving certifications (e.g. from ENERGY STAR)	Higher	Easy

3.6. Creative Persuasion

Creative industry can play a vital role in improving awareness and changing perception of the society. Public awareness is essential in increasing enthusiasm and support, and stimulating self-mobilization and action (European Commission, 2011). The role of awareness raising campaigns, as a measure of communication strategy, is to inform society regarding the issue of climate change. There are various ways in which the messages can be communicated, including internet, television and newspapers, etc. Therefore, the role for creative industry is significant.

Action: Improve Awareness / Change Perception

Industries can engage in creating programs, campaigns, even designs that raise awareness of society on the current environmental issues to change their lifestyle, perception and behaviour. These can be in the form of TV series, adverts, columns on newspapers, campaigns, designs etc.

Various industries are taking part in the action. In the fashion industry for instance, Esthetica, which is a sustainable fashion campaign, aims to incorporate sustainability factors into fashion. Furthermore, the Centre for Sustainable Fashion by London College of Fashion calls for collaboration on balancing ecology, society and culture when designing fashion.

Media can also play a vital role by broadcasting documentaries, advertisement and campaigns, and informing the seriousness of climate change and environmental issues. For instance, documentaries *Years of Living Dangerously*, produced by Showtime and *Climate Wars* by BBC, explore the human impact of climate change. Films, such as *An Inconvenient Truth*, by Al Gore had a positive effect on raising public awareness (European Commission, 2011). On the other hand, BBC One's *Africa* series had negative influence on public acceptance and increased scepticism due to errors in data and exaggeration of climate change effects (Guardian, 2013). Leading publishers, such as *Earthscan* and *Fragile Earth*, are writing about climate change and sustainable development to inform readers on current pressing issues.

Closer to home, the Kuala Lumpur Eco Film Festival started in 2008 to promote local environmental content, especially in

the form of short films, documentaries, or feature films. Since then, it has garnered more than 157 local and 293 international entries, raising the bar for interest in environmental film production and pushing local issues into the global arena.

Key Performance Index

Key Performance Index	Objective	Ease of implementation
Number of awareness increasing creations produced (in terms of programs, campaigns, designs etc.)	Higher	Easy

3.7. Monitoring and Reporting

Action: Development/ adoption of green technologies.

Continuous development in technology by creative industries can mitigate the environmental impacts of creative industries themselves and other industries that may deploy similar technologies. Innovating and harnessing technology for sustainable solutions could expect to be strongly supported by the government if sufficient evidence is provided. UK demonstrates a model example, where the government has pledged £1 billion to set up a green investment bank to invest

in global clean-tech ventures (Forum for the Future, 2010).

Technology, especially ICT, can be an enabler of stimulating sustainability in not only creative industries but also, in other sectors. This guideline encourages development and adoption of technologies that can promote sustainability.

The ICT-enabling effect involves the introduction or improvement of ICT to reduce environmental impact and/or greenhouse gas emissions. For instance, the development of video conferencing has reduced the need for corporate air travel as meetings can be done through video conferences.

Development towards sustainable business models and capabilities such as live-streaming of concerts/shows and online galleries/catalogues do reduce the need for travel of audience and cuts down carbon footprint and consumption. An analysis by Global e-Sustainability Initiative (GeSI) found that ICT is crucial to mitigating climate change and could enable emissions reductions of 7.8 $GtCO_2e$, or 15% of GHG emissions (GeSI, 2008). Adopting and developing ICT can help with environmental initiatives and cutting costs.

In the United Kingdom, the Arts Council England works with their strategic partner Julie's Bicycle to measure the environmental impact of companies in the creative industry.

Their *Creative Industry Green* tools are internationally applicable, and have been tailored for specific use in five different aspects: festivals, offices, production, tours, and venues.

Action: Make a 'carbon budget' during pre-production planning

The carbon footprint of a production is usually determined during the pre-production stage through the numerous decisions made in lighting, staging, set design and so on (Film London, 2009).

For a production, setting a carbon budget, as a company would for its financial costs, is a good way to manage energy, materials use and carbon emissions. Film London and the Carbon Trust have developed a *TV and Film Carbon Calculator* to measure an initial carbon footprint for a broadcast production and highlight potential areas of carbon emission savings. The carbon calculator is available for download at the Film London website here: http://filmlondon.org.uk/assets/documents/carbon_calculator_ms_excel.

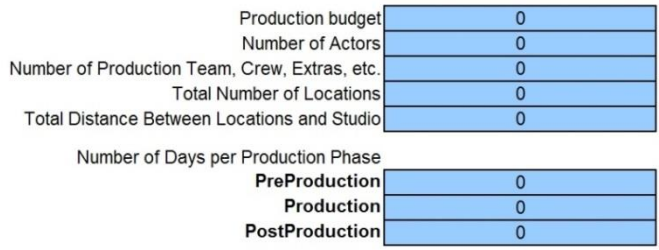

Figure 5: Carbon calculator sample summary page

Action: Measuring and monitoring environmental indicators

BEMS is a computer-controlled automation system which aims to create the safest, most comfortable environment possible at the lowest possible cost. On average, BEMS saves about 10% of overall annual building energy consumption, and more than half of all buildings in the US larger than 100,000 square feet have one (Brambley, 2005). This is achieved through:

- Building system automation: This can be done according to time, type of day, or environmental conditions. For example, the BEMS can control lighting to avoid unnecessary use of energy outside normal working hours or when ambient daylight levels are adequate (Sustainable Energy Authority of Ireland, 2014).

- Provide energy monitoring and management information. The BEMS provides users with easily available data on energy flows, consumption, trends and overall building performance. Companies such as Siemens even have professionals at their operations center to evaluate the data collected and create comprehensive reports to identify ways to improve energy usage and achieve additional savings.

Key Performance Index

Key Performance Index	Objective	Ease of implementation
Number of records of energy consumption	Higher	Moderate
Total cost of carbon budget	Lower	Moderate
Energy reduction from utilizing/developing new technologies	Lower	Moderate

3.8. Educating and Training Employees

Employees are the drivers of businesses on the ground. A well-intentioned environmental strategy from the management without the support of the employees to implement it correctly would subvert the effectiveness of the

strategy. Similarly, eco-friendly equipment in the hands of an untrained employee will be ineffective. Hence, it is essential to have an educated and trained workforce that shares the management's concerns and ambitions to build a green and sustainable business.

Businesses should embark on strategic programs and initiatives to build on their capacity for improving environmental performance. Activities to educate and train the company's employees on environmental issues, such as climate change, could motivate employees to be more involved and committed to greening the company and thereby contributing to green economy in IM. For example, an understanding of the deleterious health effects of GHG enables employees to support the management's goal to reduce GHG emissions. Employees could become more dedicated and actively participate in sustainable development activities realizing that their welfare is directly affected by such emissions.

It is essential for employees to be made aware that they too have an impact on the environment. Firms could introduce a system that reveals to employees their impact on the environment. For instance, Woh Hup Pte. Ltd. in Singapore has implemented an environmental management system that

monitors on a daily basis the energy, water and generated by the company. These figures are on display in prominently visible areas, such as lift lobbies and pantries, so that employees are reminded of their daily environmental footprint. Individual electric meters were also issued to staff to monitor personal electrical consumption per day. In this manner, employees could relate to their environmental performance, monitoring in real time the impact of their consumption or savings.

Employees could also participate in seminars and conferences as a way for sharing and learning opportunities. For instance, Universiti Utara Malaysia organized the International Conference on Management and Business Sustainability in 18-19 August 2014 that aimed to facilitate exchange of ideas to attain sustainability through business transformation (Universiti Utara Malaysia, 2014). Alternatively, business owners could conduct in-house training with the assistance of IRDA's environment team or other experts such as the Malaysian Green Technology Corporation to customize training specifically to business operations.

Ultimately, businesses should aim to have a workforce educated and trained in sustainability topics as a matter of

business strategy. With adequate awareness and training, employees would be better equipped to contribute to developing successful solutions. Finally, businesses are the beneficiaries of the cost-savings and subsequent profits generated by such an environmentally-conscious workforce.

Key Performance Index

Key Performance Index	Objective	Ease of implementation
Number of hours of sustainability training per employee	Higher	Easy
Number of training sessions organized by company	Higher	Easy

3.9. Compliance to Local Regulations

As a commercial entity present in Malaysia, businesses should as a first and essential requirement abide by the rules and regulations of the country. Compliance to regulations is a non-negotiable requirement before businesses can fully benefit from this guideline to further improve on the sustainability and green initiatives of business operations.

Malaysia has numerous prevailing national standards and

also international standards that businesses are encouraged to adopt. Compliance to authorized standards acknowledged by the Malaysian government is complementary to the recommended actions proposed in this manual. Some examples of recommended standards that businesses are encouraged to comply with are the MS1525, ISO14001, ISO18001 and ISO50001. In addition, businesses can also look to have their products certified MyHijau and disclose their GHG emissions performance through MYCarbon reporting.

The MS1525 is a code of practice pertaining to energy efficiency and use of renewable energy for non-residential buildings. Developed by the Department of Standards, Malaysia, this code primarily focuses on energy efficiency in buildings. In general, the code distinguishes between passive measures and active measures that building owners could adopt. Passive measures consist of recommendations relating to architectural and passive design strategies and the building envelope. Active measures correspond with lighting, power and distribution, air conditioning and mechanical ventilation and energy management systems. The adoption of the recommendations in MS1525 would help businesses to eventually reduce energy consumption and minimize use of non-renewable energy sources while maintaining a safe,

healthy and comfortable environment for building occupants.

Businesses may also adopt the international standards from the International Standard Organization (ISO) as an alternative to the Malaysian Standards. The ISO is not only an independent non-governmental membership organization; it is also the world's largest voluntary developer of international standards, covering more than 19,500 standards across all industries. Common ISO standards that businesses adopt are the ISO 14000 (environmental management), ISO 18000 (occupational health and safety) and ISO 50001 (energy management system). This manual encourages business to consult and consider the ISO standards in addition to the Malaysian Standards.

Moreover, businesses with green features built into their products can look to be certified under MyHijau for enhanced consumer confidence and to demonstrate their commitment to sustainable development. The MyHijau Mark is an internationally-recognized environmental and ecological label. Products labelled MyHijau can be featured in the MyHijau directory which helps businesses to promote their environmentally-friendly goods (Malaysia Green Technology Corporation, 2013).

Businesses could also seek disclose their GHG emissions performance through MYCarbon. The Ministry of Natural Resources and Environment Malaysia has instituted the MYCarbon Programme, which acts as the National Corporate GHG Reporting Programme for Malaysia. The advantage of engaging in a reporting exercise includes creating the awareness in business owners of the importance of measuring and reporting on emissions. This could also eventually lead to efforts put into management of the measureables, such as GHG emissions or energy use, creating better products, services and operations.

3.10. Case Study

3.10.1. 21st Century Fox

In 2007, 21st Century Fox made a bold commitment to embed the values of energy efficiency and environmental sustainability into all of its 15 businesses. Since then, the company has saved millions of dollars by improving the energy efficiency of its day-to-day operations and developed robust carbon footprinting standards and tools for film, television, sports, and event production. In 2011, 21st Century Fox announced its first major sustainability milestone: the first company of its kind to become carbon neutral across all of its global operations.

In its long-term sustainability roadmap, 21st Century Fox sets out to:

- Grow its business without growing its carbon footprint
- Power its operations with clean electricity
- Minimize solid waste to landfill from its production operations
- Engage audience, customers, and partners on

sustainability issues through programs and content of the highest calibre.

To achieve these targets, the company is working to address its environmental impacts through several key areas of its business, comprising of (1) audience, (2) distribution, (3) employees, (4) facilities, (5) productions, and (6) suppliers. Selected examples of 21st Century Fox's environment initiatives to address these areas will be summarized below (21st Century Fox, 2013).

a. Office Energy Consumption

21st Century Fox's energy efficiency projects pay for themselves in less than two years, on average, and span from simple solutions like lighting retrofits and automatic PC shut-down to systemic changes like installing telepresence and videoconferencing technology to reduce the need for air travel.

One of its European television networks, Sky Italia, has been able to reduce their overall CO_2 emissions by a yearly average of 3,400 tonnes. This achievement can be largely attributed to refurbishing the chiller plants at the main branch to capture the heat being extracted and using it to heat their offices. After a few years of refining the project,

the team calculated that energy consumption for heating had fallen by 95% since 2009, nearly eliminating the need for Sky Italia to buy energy from the grid. Moving forward, this initiative is expected to save more than RM2 million and 7.1 million kWh per year.

b. Production Energy Consumption

24, the Emmy award-winning series from Twentieth Century Fox Television, a member of the 21st Century Fox, became the first-ever carbon neutral television series in its 7th season.

The team set out to calculate the carbon footprint from production and collected data for all of its operations. From this, it was found that the largest source of emissions for *24* is fuel used in transport vehicles, special effects and onsite generators. Switching to alternative fuels such as bio-diesel and driving hybrid vehicles on set has contributed to reducing more than 1,300 gallons of gasoline during the season.

The second largest source of emissions was electricity consumption from the production team's office spaces, stages and sets. By purchasing renewable energy, the company was able to reduce the show's overall carbon footprint by over 850,000 kg of CO_2. The remaining amount

of CO_2 after these initiatives will be offset through the purchase of carbon credits.

c. Creative Persuasion

Throughout its sustainability journey, 21st Century Fox has also stuck to what it does best: engaging audience around the world with film and television productions such as *Avatar* and *Ice Age* embedded with sustainability messages. The company's leadership in this area has been recognized, with *Avatar* winning the Environmental Media Association's 2010 Award.

Image 2: *Rio 2*, a 21st Century Fox production, is an environmentally-themed blockbuster movie for kids. 21CF partnered with WWF to help raise environmental issues in the Amazon (21st Century Fox, 2013)

The National Geographic Channel launched the *Preserve our Planet* initiative, featuring content that will enable people to better understand their environmental impact as well as provide them with sustainable alternatives. Program specials include the show *Six Degrees Could Change the World*, which premiered in 2008 and reached over 6.7 million viewers.

These shows are exemplary cases that demonstrate how environmental messaging in the creative industry can both reach a wide audience and benefit the economic bottom-line.

d. Technological Innovation

FOXFAST, a digital distribution process developed by Fox Television Distribution (TVD) is projected to save nearly RM31 million per year by strategically avoiding the rising costs of manufacturing and shipping. Prior to June 2011, TVD was distributing 65,000 tapes, 15,000 DVDs and 50,000 sales sheets, press kits, images, synopses and more each year. FOXFAST avoids all physical distribution costs with this streamlined approach, uploading and storing all media assets digitally for immediate access.

FOXFAST is yet another example of how embracing technology can lead to impressive bottom line benefits and remarkable environmental impacts. By eliminating the manufacturing and distribution process, Fox Television Distribution has effectively reduced 400,000kg of CO_2 emissions per year.

3.10.2. Pinewood

Pinewood is committed to the UK Carbon Reduction Commitment Energy Efficiency Scheme which works towards the reduction of CO_2 emissions through energy consumption.

Pinewood outlines five of its approach to tackle energy consumptions emissions. They are:

- Monthly reporting of CO_2 emissions to the finance director
- Installing of automatic meter readers on all gas and electricity supplies
- Appointing an Environmental Manager to oversee the reduction target
- Creating "green team" and "green champions" across the group
- Installing energy-efficient products wherever possible

Image 3: Pinewood Iskandar Malaysia Studios Complex, a building with green facilities (Pinewood Malaysia Studios, n.d.).

In addition, Pinewood also enhances its environmental initiatives as prescribed in its board-reviewed environmental policy with practical measures such as recycling and increasing number of shuttle buses.

Pinewood operates a recycling facility. This helps to reduce the number of truck movements into the site and provides alternative waste disposal method other than landfilling. With own facility, Pinewood is able to recycle suitable wastes from Pinewood, Shepperton and Teddington. These wastes are regularly monitored as well.

In order to reduce emissions from transportation, Pinewood improves its shuttle bus timetables and provides bigger buses and adds more services. In 2010, this initiative has resulted in an 11% increase in number of commuters that travels via its shuttle buses in Shepperton and a 19% increase in Pinewood.

Moreover, Pinewood conducts CO_2 emissions measurement and monitoring. One monitoring effort that Pinewood has implemented is the monitoring of number of vehicles arriving on sites. Pinewood develops a New Travel Plan in order to cut the number of vehicles arriving and therefore the emissions contributed by those vehicles. The New Travel Plan also functions to promote sustainable travel and well-being.

4. Social Responsibility

The promotion of sustainable business practices, respect for labour and human rights and transparency through disclosure are increasingly expected from responsible businesses. Democratic freedoms, ethical behaviour and good governance, the rule of law, property rights and a thriving civil society create fertile conditions for private sector led growth. The absence of such safeguards takes individuals out of markets, reduces innovation, restricts access to opportunity and drives political instability and conflict.

Forbes has reported that human capital is an increasingly scarce resource in a global economy. It is deemed by many experts as the most important segment of a business' value chain. In the war for talent, companies with excellent human rights track record are consistently ranked high on Employer Branding surveys. This helps in attracting and retaining this key resource, contributing to lower rates of staff turnover and higher productivity, and increasing employee motivation.

Businesses should also note that institutional investors, pension funds and equity firms are increasingly taking ethical factors such as human rights into account in their investment

decisions. More than 1,260 signatories with USD45 trillion Assets under Management have adopted the United Nations (UN) Principles for Responsible Investment (www.unpri.org), including the Harvard University Endowment. This represents an opportunity for businesses to highlight their human rights credentials in an increasingly enlightened and cautious market.

4.1 Human rights, labour standards and ethical behaviour

Respect for human rights is no longer a good to have but a prerogative of every aspiring country. Businesses that neglect human rights are also liable to boycotts, litigations and backlash by increasingly vocal and militant stakeholders. As reported by *Business Insider,* multinational corporations like Nike have been accused of exploiting low cost labour and have faced public pressure to introduce better working conditions and a minimum wage (Nisen, 2013). Businesses cannot ignore the impact that non-governmental organizations, civil society and social media can effect. Instead of being reactive, businesses should anticipate any aspects of their operations that may infringe on human rights and proactively work towards avoidance of such violations.

In line with the principles outlined by the United Nations Global Compact (www.unglobalcompact.org) and the International Labour Organization (www.ilo.org), IRDA fully supports international standards for human rights, enshrined in the charter of Ministry of Human Resources (www.mohr.gov.my).

International labour standards are aimed at promoting opportunities for women and men to obtain decent and productive work, in conditions of freedom, equity, security and dignity. In today's globalized economy, international labour standards are essential components in the international framework for ensuring that the growth of the global economy provides benefits to all.

Malaysia too believes that everyone is entitled to their inalienable rights to invest, live, work, worship and play with dignity and respect. This is in accordance with IRDA's vision of building a "Strong and Sustainable Metropolis of International Standing".

Outlined below are the UN Global Compact principles for businesses to support and enact within their sphere of influence, applying the following 10 core values in areas of human rights, labour standards, the environment and anti-corruption.

Human Rights

- Principle 1: Businesses should support and respect the protection of human rights (enshrined in the Malaysian constitution, please refer to http://www1.umn.edu/humanrts/research/malaysia-constitution.pdf);
- Principle 2: ensure that they are not complicit in human rights abuses across their supply chain.

Labour

- Principle 3: Businesses should uphold the freedom of association and recognise the right of employees to collective bargaining;
- Principle 4: remove all forms of forced and compulsory labour;
- Principle 5: abolish the use of child labour; and
- Principle 6: eliminate all forms of discrimination in hiring and employment practices

Environment

- Principle 7: Businesses should adopt a precautionary approach to environmental issues;
- Principle 8: undertake initiatives to incorporate greater environmental stewardship in its operations; and
- Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

- Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

IRDA strongly encourages businesses to consider this important aspect and take an enlightened approach to adopt the framework in everyday business decisions and practices. Key office holders should come together to formulate a human rights policy for the business to comply with and make it publicly accessible on mediums such as websites or on the annual report. Top management and HR professionals should take a proactive approach in educating every

employee to abide by the values defined in the human rights policy.

4.2 Disclosure Requirements

Sustainability disclosure is the act of communicating organizational performance on financial, environmental, social and governance (ESG) activities. It is practiced by many leading businesses to communicate their ESG progress to stakeholders and lend credibility to their commitments to sustainable development.

Across the globe, more enlightened stakeholders are raising concerns over businesses' non-financial performance and are demanding them to disclose their ESG performance with greater transparency and detail. In certain regions, such sustainability disclosure is a legal requirement. With effect from 31 December 2007, companies listed in Bursa Malaysia are required to include a description of the corporate social responsibility activities or a statement to that effect in their annual reporting (Listing Requirements of Bursa Malaysia Appendix 9C, Part A, Paragraph 29). Bursa Malaysia supports businesses by providing training for companies and offers guidance for sustainability reporting (Sustainable Stock Exchange Initiative, 2013).

Many businesses are accustomed to file mandatory sustainability disclosures such as annual reports and quarterly 10-Qs or in the form of non-financial reports such as pollutant and emissions reports for those in heavy industries. There are also established voluntary disclosure frameworks such as Global Reporting Initiative (GRI) and the Carbon Disclosure Project which businesses adopt in their corporate social responsibility or sustainability reports. There is also a trend of companies aligning financial and non-financial information in a single Integrated Report.

For businesses that are in their nascent stage of reporting their ESG impacts, they can get in touch with IRDA to learn more on disclosure requirements and report information on the basic triple bottom line performance. This ensures that the disclosed information is complete, consistent, useful and reliable.

The business expression, "If you can measure it, you can manage it" holds true. The process of developing a sustainability disclosure unlocks opportunities for a business to gain insights into its operations and supply chain, identify and mitigate risks and uncover potential cost savings and growth. Businesses that regular publish sustainability disclosures are recognised on established indices such as the

Dow Jones Sustainability Index and FTSE4Good. Businesses that disclose ESG performance not only receive tangible and intangible benefits as mentioned, but also pave the way for a greener economy in Iskandar.

To achieve a more sustainable creative sector, we have identified the following indices that businesses should monitor:

- Initiatives and targets for environmental performance;
- Direct and indirect energy consumption
- Energy saved due to conservation and efficiency improvements;
- Initiatives to reduce indirect energy consumption and reductions achieved;
- Total direct and indirect GHG emissions;
- Initiatives to reduce GHG emissions and reductions achieved;
- Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation;

- Initiatives to improve public awareness on climate change issues

Requirements outlined above are based on the Key Performance Indices indicated in the above sections and aligned with the GRI Indicators.

4.3 Responsible Procurement

Responsible Procurement ensures that business commitment to good corporate responsibility is reflected in how they select and work with suppliers. Responsible businesses encourage other companies that they do business with to meet the standards of ethics, business integrity and environmental practice expected of them. This would include adherence to high standards on Health & Safety, Fair Business Practices, Environmental Protection, Human Rights, and Local Community Development.

Businesses need to develop a model to bring about meaningful change within the supply chain by way of identifying gaps in the suppliers' ethical business practices, and collaborating with them to develop tangible improvements.

Internationally, leading countries have also embarked on

sustainable procurement guidelines across their ministries to ensure that labour rights and environmental concerns are respected. Recognizing the importance of Government Green Procurement (GGP), the Malaysian government has taken initial steps to boost demand for green products and services.

As the long-term action plan laid out for Malaysia intends for GGP to be implemented at all levels of government by 2020, this sets an exemplary model for private sector companies to follow suit and enjoy potential business opportunities.

Common products which companies and organizations have adopted green procurement policies for include recycled paper, renewable energy sources, VOC-free paints and adhesives, etc. Businesses can also cascade their procurement policy to suppliers/contractors to achieve a widespread effect of green procurement.

Leading firms are conducting life-cycle assessments to identify materials in their products that may pose significant environmental, health and safety risks. With this information, firms can re-design their products to prevent or mitigate such risks, which forms a logical part of effective supply chain management practices. Companies operating in IM could

strive to have at least 10% of their purchases in the initial years, and move towards 100% green procurement in the years to come.

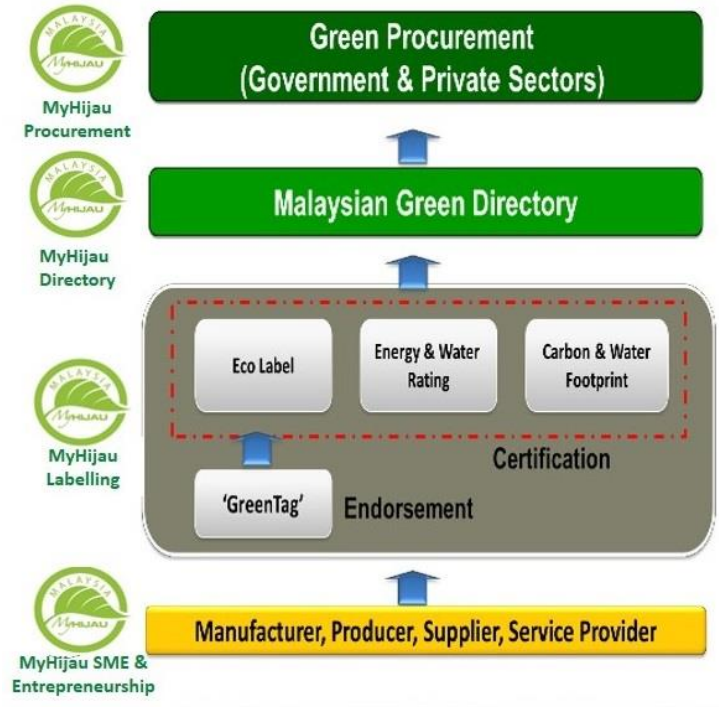

Figure 6: Malaysia Government Green Procurement (Greentech Malaysia, 2013)

A series of case studies that describe how organizations from different countries have approached the verification of social criteria at various stages of the tender process is available at

this link: http://www.sustainable-procurement.org/resources/tools-and-guidance/. Each study looks into how the compliance of direct suppliers is monitored and how this applies to the rest of the supply chain. Procurement professionals and other key stakeholders could learn from the experiences of their counterparts to develop or improve their systems.

Another similar report that provides an overview of responsible procurement in the private sector globally is the *Green Purchasing: The New Growth Frontier* by the International Green Purchasing Network (http://www.igpn.org/DL/Green_Purchasing_The_New_Growth_Frontier.pdf)

The ideas generated and lessons learnt from these cases can provide additional incentives, goals, and tools for other companies to further advance their environmental purchasing policies.

5. Conclusion

The opening of Pinewood Iskandar Malaysia Studios (PIMS) in 2014, Southeast Asia's largest integrated studio facility, sets the tone for the region's creative industry to be a key growth area in coming years. The establishment of PIMS has been welcomed with great interest from international film and television producers, and has also driven the *Iskandar Malaysia Creative Industry Talent Development Program*, which aims to train 900 budding crew members.

Amidst such developments, IRDA recognizes the importance of sustainable growth. This guideline provides several key recommendations for direct environmental improvements in facilities, equipment, waste management, and transport. The guideline also highlights the role of the creative industry in raising public awareness on climate change, and emphasizes the role of technological innovation in spurring new, digital business models and channels that can together contribute to creating a green economy.

Many leading directors, actors, and other creative talents have a strong personal interest in this area and are increasingly influencing decisions about where films are made on the basis of the strength of the environmental

credentials of a particular country, city or studio. If IM can become a green place to film, this may create a new commercial advantage for the region.

Useful Links

Bursa Malaysia regulations on sustainability disclosures http://www.bursamalaysia.com/misc/system/assets/5949/regulation_rules_main_market_bm_mainchapter9.pdf

BSEEP Building Energy Efficiency Technical Guideline for Passive Design http://www.mgbc.org.my/news/bseep-building-energy-efficiency-technical-guideline-for-passive-design/

Green Building Index www.greenbuildingindex.org

Iskandar Regional Development Authority www.irda.com.my

Julie's Bicycle Creative Industry Green tool http://www.juliesbicycle.com/industry-green/ig-tools

Kuala Lumpur Eco Film Festival www.ecofilmfest.my

Low Carbon Cities Framework and Assessment http://esci-ksp.org/wp/wp-content/uploads/2012/04/Low-Carbon-Cities-Framework-and-Assessment-System.pdf

Low Carbon Society Blueprint http://2050.nies.go.jp/cop/cop18/SPM_LCS%20Blueprint_Iskandar%20Malaysia.pdf

Ministry of Energy, Green Technology and Water www.kettha.gov.my

The Green Purchasing: The New Growth Frontier http://www.igpn.org/DL/Green_Purchasing_The_New_Growth_Frontier.pdf

Sustainable Procurement Resource Center http://www.sustainable-procurement.org/resources/tools-and-guidance/

The 2015 Budget Speech http://www.thestar.com.my/News/Nation/2014/10/10/Budget-2015-full-speech-text/

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The Iskandar Regional Development Authority (IRDA) is a Malaysian Federal Government statutory body tasked with the objective of regulating and driving various stakeholders in both public and private sector towards realizing the vision of developing Iskandar Malaysia into a strong and sustainable metropolis of international standing

The Division provides strategic advice on environmental planning, development and management, carries out research and works in partnership with external agencies to promote a green growth economy for Iskandar Malaysia. In addition, the Division builds capacity, collaborates to integrate Climate Change programmes, statutory requirements related to the environment and supports green growth aligned to national commitments.

For further details, please contact the Head of Environment Division, IRDA.

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