

# **Sustainability Report 2015**

The International Engineering Public Company Limited



# Content

About IEC	1
Vision & Mission	3
Message from President	4
General Information	5

Value Chain and Business structure	6
Sustainable Development Policies	11
Sustainable Management Apporach	13
Accomplishments and Operations on Sustainability	17
Risks and Risk management	27

Cre	ating Shared Value	
	IEC Corporate governance	29
	Anti-Corruption	31
	Stakeholder engagement	34
	Human resource management	37
	Occupational health and safty	45
	Environmental Sustainability	48
	Corporate Socail Responsibility	50

Biodiversity and Ecosystem	56
Pathway toward Sustainability	58
Performance data on Sustainability	59
About this report	62





# **About IEC**

The International Engineering Public Company Limited (IEC) was established in 1922 to undertake engineering work on the Bangkok-Aranyaprathet Railway connecting Thailand to the Cambodian border for the first time. IEC took a position at the forefront of Thai engineering and technology through its cooperation with 'Caterpillar' the world's number one tractor producer, introducing tractors to play an important role in national development.

IEC helped build the foundation for the country's rapid economic development by introducing electrical appliances such as radios, televisions, refrigerators and washing machines to promote a better quality of life. The company provided public utilities such as electrical engineering systems as well as expanded its operations to vessel transportation and communications businesses, which served to boost the company's growing reputation and success. In 1929, IEC became the sole official distributor of 'Westinghouse' products.

In the aftermath of the Second World War, the company was involved in the recovery of many engineering and communications projects. This era was regarded as the golden age for IEC and Thai telecommunications development. In 1965, as a result of its role in national development, IEC became one of the first Thai companies to attain the honor of 'Royal Appointment' from His Majesty the King.

Due to IEC's dedication to introducing new technology into the Thai market, in the early 80's the company began to see the potential of the telecommunications market, and was the first importer of Nokia telephones into Thailand. During IEC's tenure as official distributor for Nokia, the company helped to establish the Nokia brand. However, with changes and continuously developing in advanced technology, the mobile phones market became too intense with a decreasing in company's profitability over the time. The Company decided to change its business models at the end of 2013, from the mobile phones retailing business to an operator of renewable energy power plants. Lampoon 1 and Lampoon 2 projects are IEC Solar Power Plants in Mae Ta District, Lampoon province with production capacity of 1.92 MW. The Company later expanded power plants in other provinces including the Mae Malai 1 and Mae Malai 2 Solar Power Plant in Mae Taeng District, Chiang Mai province, and the Mae Ramad Solar Power Plant in Ramad District, Tak province. Total power production capacity of the three power plants is 9.09 MW. In addition, our company has also broadened our business operations through GIDEC Co., Ltd., (Gidec) our indirect subsidiary company to operate waste-to-energy power plant in Hat Yai District, Songkhla province, with power production capacity of 6.5 MW. Gidec has long-term contract with the Hat Yai

Municipality and responsible for the systematic waste management of over 250 tonnes of daily municipal solid waste. The waste is used to generate electricity and sell to Provincial Electricity Authority (PEA). Gidec has been recognized as the first waste-to-energy power with highly advanced technology from Europe. Likewise, the company has also invested in an 8 MW biomass power plant in the Sa Kaew province. IEC bought a total of 75% shares of Kaew Lamduan Power Supply Co., Ltd. from the former shareholders. The power plant uses agricultural wastes such as eucalyptus barks, palm fibers, and bean meals as fuel in the production process of its electricity power generation.

With highly knowledge and experiences in the waste-to-energy power plant, the company has conducted studies on the general components of community waste and found that there are various types of recyclable plastic materials that can be used as components for fuel or recycled plastic pellets for the use in various industrial productions. The company took our findings further and conducted additional studies on the market for plastic pellets both domestically and internationally. What we discovered are multiple business channels where we can bring and process waste plastic materials usually found in landfills into recycled/ repurposed polyethylene plastic pellets at a much lower cost and a more satisfactory rate of return, compared to the conventional method of processing used in plastic materials from industrial factories.

The Company, therefore, has started our business operations in waste plastic recycling for export. This is a business operation in which the company can bring waste plastic from landfills to systematically sorting and process, in order to produce plastic pellets which can be used as raw materials for plastic products in different purposes. From our market research studies, it is apparent that the international market has high demands for our recycled plastic pellets with great potential of growth rate. Plastic Pellets plant is under construction with a production capacity of at least 100 tons per day in Rayong province.

# Vision

Our vision over the next five years, commencing from 2016 - 2021, is a passion for new innovations of world-class technologies with a view to spurring high productivity of renewable energy and other related businesses.

# **Mission**

The mission we set forth is focusing on enhancing the technologies of renewable energy for MSW Power Plants, Compressed Biogas Power Plants, and Plastic Pellets plant from recycled municipal waste. We intend to create a sustainable value chain by exploiting a closed-loop structure in the renewable energy business.



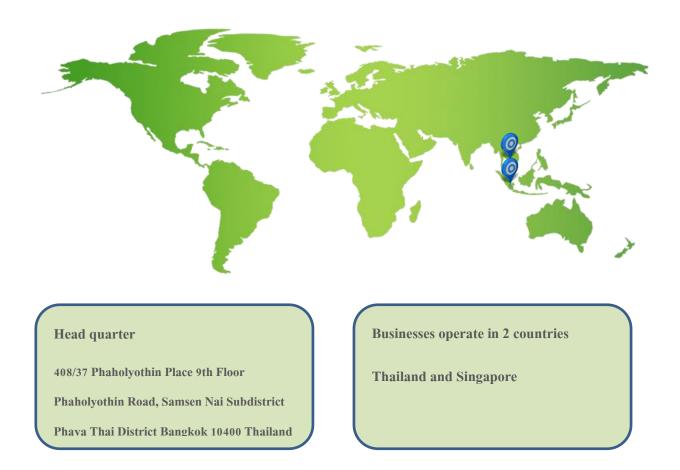
# Message from the President

IEC commitment is being an integrated renewable energy service provider using advanced technologies in renewable energy information and communication technology. Our company operates the businesses chiefly in electricity generation using diverse renewable energy. Our sustainable development and management policies are developed and implied to ensure the highest possible returns and benefits to our investors and stakeholders. IEC has developed close collaboration to the partners in renewable energy technology along with the partners in communication and information technology. This is an important action to build the confidence for all stakeholders by committing ourselves to operational excellence with business procedures that are transparent, socially and environmentally responsible, we aim to continuously develop our business operations in all different areas to ensure and maintain the sustainability compatibility between our business operations and the surrounding communities.

Jun HERM

**Dr.Bhusana Premanode** 



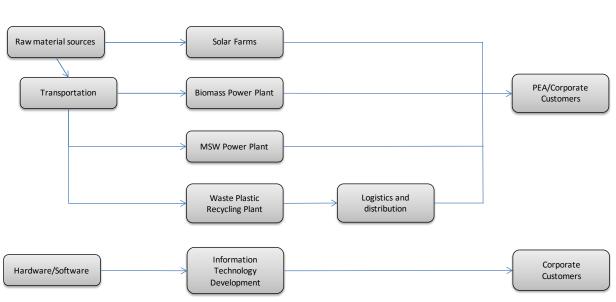


The International Engineering Public Company Limited registered in The Stock Exchange of Thailand since 1992. As of December 31, 2015, the company has a registered capital of 2,048,245,850 Thai Baht. The company operates its business chiefly in the area of renewable energy, with power plants in many provinces throughout Thailand. Being aware of the significance of renewable energy in the era to come, IEC aims to develop and pursue business operations in renewable energy that will benefit surrounding communities and increase the strength and stability of energy for Thailand.

IEC is a member of The Federation of Thai Industries in Renewable Energy Industry Group. The subsidiary companies are also members in the same Renewable Energy Industry Group.

# **IEC Value Chain**

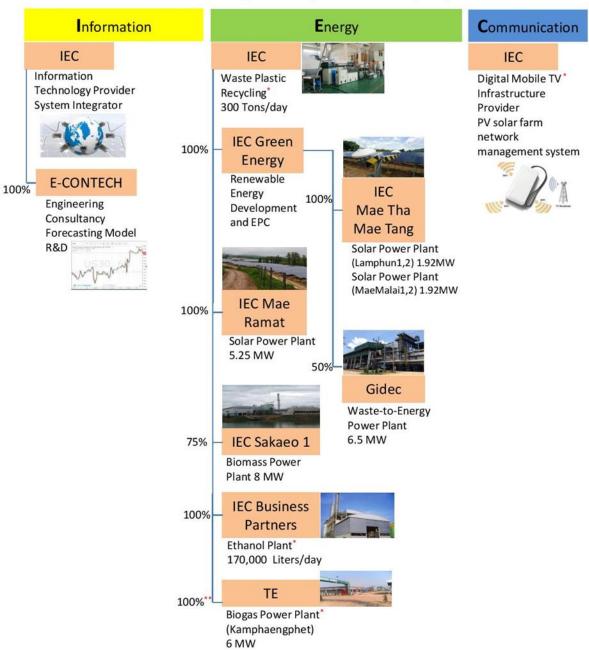
G4-DMA, G4-12



IEC focuses on operating our business according to the pathway to sustainable development by taking into account the value chain and all stakeholders in relation to our business operations. This report mainly covers the reports on stakeholders within this value chain. IEC value chain starts from the sources of raw materials or the locations where the raw materials located. From there, the raw materials are transported to different project areas to be used as fuel in electricity generation or as raw materials in plastic pellets production. The final products are finally delivered to our customers via transmission lines of the Provincial Electricity Authority (PEA) and with regard to our plastic pellets production, transported and distributed to our customers both in domestic and international markets. The business operations in telecommunication and information technology, hardware and software supplied from manufacturers or sales distributors will be developed to suit the requirements of the customers within the time scheduled. Software supplied from manufacturers or sales distributors will be developed to suit the requirements of the customers within the time scheduled.



# Business Structure The International Engineering Public Company Limited



<sup>\*</sup> Developing project

<sup>&</sup>quot;Under proceeding

### **Information Technology Business**

IEC functions as a system integrator through the company's business collaborations with our business alliances made up of leading information technology companies whether from domestic or international markets. This allows IEC to become a business supplier of information technology systems that are most suitable and directly correspond to the specific needs and requirements of our customers. Our works and accomplishments include being entrusted by CAT Telecom Public Company Limited or CAT to engineer our Integrated Billing and Customer Service System; IBACSS, with a project value of over 900 million Thai Baht. The project was completed and delivered in 2011. The Company has since been chosen to oversee and administer the necessary maintenance of the system. In 2015, IEC delivered system repairs and maintenance for the IBACSS Software value of 48.80 million Thai Baht; and to the Enterprise payment integration system in part of Hardware, Software, Classroom Training (HW&SW) and Conceptual Design for a project value of 20.70 Million Thai Baht – which will result in greater efficiency and effectiveness of services provided and, in the process, guarantee the highest satisfaction of our customers.

In our information technology business operations, our company collaborates with business alliances and leading institutes of technology both origin in domestic and oversea, along with world class companies and globally recognized academic institutions such as IBM, Oracle, Chiang Mai University and Imperial College London (Centre for Bio-Inspired Technology and Centre for Quantitative Finance). Our company has made technological possibilities to memorize images and patterns in order to arrange and categorize documents and records of public sector organizations, systematic and integrated database and software management for telecommunication authorities, and short-term tendency forecasts of petroleum products for companies with business operations that involve petroleum and natural gas. The project was carried out by E-Contech Management PTE.LTD, a subsidiary of IEC which was registered in Singapore with business operations targeting challenges at the international level.

#### **Energy Business**

Energy business accounts for most of the company's current business operations and consists of subsidiaries for the business operations of Integrated Renewable Energy and Waste Plastic Recycling. A significant part of our renewable energy business comprises of Lampoon 1, 2 Solar Power Plant in Mae Ta District, Lampoon province with a total power generation capacity of 1.92 MW and the Mae Malai 1, 2 Solar Power Plant in Mae Taeng District, Chiang Mai province with a total power generation capacity of 1.92 MW. Both power plants are operated by IEC Mae Ta Mae Taeng Co., Ltd. which is an indirect subsidiary of the company (The shares held by IEC Green Energy Co., Ltd. which is a direct subsidiary of IEC). Additionally, there is also the Mae Ramad Solar Power Plant in Tak province total power generation capacity of 5.25 MW, operated by IEC Mae Ramad Co., Ltd. Apart from solar power production, IEC Green Energy Co., Ltd. has also expanded its renewable energy business by investing in GIDEC Co., Ltd. together with Electricity Generation Co., Ltd. or EGCO at a 50:50 ratio to endeavour the waste-to-energy power plant in Hat Yai District, Songkhla province, with an electricity generating capacity of 6.5 MW. GIDEC Co., Ltd. and its long-term contract with the Hat Yai Municipality for systematic daily waste management of over 250 tonnes. The collaboration with the Hat Yai Municipality involves making use of the municipality's waste to generate electricity, which is then sold to the Provincial Electricity Authority. The Hat Yai waste-to-energy power plant is the first power plant using waste as the raw materials to generate electricity by using highly advanced technology from Europe that can ensure the highest possible standards for systematic environmental management in Thailand. The business operations in the waste-to-energy power plant of Gidec benefits the surrounding communities by providing an alternative to reduce daily municipal solid waste and in large quantity and preventing excessive accumulation of solid waste or other pollution problems of the past, when the treatment of solid waste was limited to landfills. Thereafter, the company expanded its energy business by investing in a biomass power plant, with 8 MW capacity in the Sra Kaew province. IEC bought a total of 75% shares from former shareholders of Kaew Lamduan Power Supply Co., Ltd. The power plant uses agricultural wastes such as eucalyptus barks, palm fibers and bean meals as fuel in the production process of power plant.

Table 1. Locations and power generation capacity of IEC power plants

	Location	COD	Adder (THB / Kilowatt per hour)	Total Electricity Purchased (Megawatts)
Lampoon 1 and Lampoon 2 Solar Power Plant	Takat Subdistrict, Mae Ta District, Lampoon	Sept 2013	6.50	1.92
Mae Malai 1 and Mae Malai 2 Solar Power Plant	Kee-lhek Subdistrict Mae Taeng District, Chiang Mai	Jun 2014	8.00	1.92
Mae Ramad Solar Power Plant	Kanye Jeu Subdistrict Mae Ramad District, Tak	Dec 2013	6.50	5.25
Sri Kaew Biomass Power Plant	Salalamduan Subdistrict Meung District, Srakaew	Apr 2013	0.30	8
Hatyai Waste-To-Energy Power Plant	Kuanlang Subdistrict Hat Yai District, Songkhla	Dec 2014	3.50	6.5
Total Electricity Generation Capa	23.59			

With our operations at the Hat Yai Waste-To-Energy Power Plant, the company saw a new business opportunity in waste plastic recycling. The waste plastic for recycle accumulated in old landfills over a long time in all of Thailand, estimated to be more than 28 million tonnes in total. The waste plastics are to be treated with highly advanced technology which the company invented and developed. The treated plastics are then sent in as raw materials in the production process of plastic pellets which can subsequently be used to manufacture new products or raw materials or in other industries where plastic pellets of lesser quality and of cheaper price, in relation to plastic pellets produced from petroleum - are in high demand. The plastic recycling allows for a worthwhile opportunity to repurpose used plastic materials, reduce greenhouse gas often a result from the petrochemicals production processes and protect the earth's environment. Most plastic components found in community solid waste can also be used as material compounds for power generating fuels or, as previously discussed, repurposed as recycled plastic pellets for new uses in various industries. The company has conducted marketing surveys/studies on potential plastic pellets markets and discovered that second-grade plastic pellets are in high demand both domestically and internationally. The plastic pellets production has great potential for bringing in a satisfactory rate of return. Our business operations in waste plastic recycling for export were first set into motion in 2015 and also received investment incentives from the BOI. The first plastic pellets production plant from waste plastic was built in the province of Rayong, with the second plant expected to be built in the province of Songkhla. The current daily production capacity is 100 tonnes at the minimum but will soon be scaled up to 300 tonnes minimum capacity.

In order to fully integrate our renewable energy business, the company is developing other energy projects such as ethanol plant from crops to be used as fuel with a production capacity of 150,000 litres per day in Rayong province operated by IEC Business Partners Co., Ltd., another IEC subsidiary, along with biogas (methane) plant. Apparently, the company is in the process of buying 100% shares in Thavorn Energy Co, Ltd. (TE) which is a biogas business in the Kampaengpetch province. Our company has conducted the necessary surveys and studies for additional technology in order to increase the overall production capacity and efficiency of the biogas methane production and shall use the technology developed to further improve and expand the business of biogas projects in the future.

## **Communications and Engineering Consulting Business**

Communications business was the company's original business as proven by our technology and expertise in providing telecommunication services. In addition, the company was once the leading company in Thailand chosen to sell telecommunication equipment for globally recognized brands, with "Nokia" being one of the most notable brands. In 2010, the company was commissioned by MCOT Public Company Limited to serve as a network operator and devise marketing strategies for digital mobile television with an investment value of more than 250 Million Thai Baht. For the time being, the company is working to solve the problematic situations between the MCOT and the National Broadcasting and Telecommunication Commission (NBTC) on the issue of licensing imports of radio communication equipment.

In terms of our engineering consulting business, operated by E-Contech Management PTE LTD. (E-Contech), we focus on researching and developing highly advanced technology in collaboration with researchers from leading universities both domestic and foreign. This type of collaboration aims to invent a technology which can actually be used for business purposes and also to further strengthen the business operations of the IEC group through continuous research projects and development in various industries. Previous works and accomplishments of E-Contech include the contract(s) made with PTTEP-CA, to conduct research for Adaptive Viscosity Reduction System, AVRS. And last but not least, the company continues to research and develop a number of pending projects, including the Line Conditioner System development which is designed to increase efficiency in energy production with solar cells and the improvement of boiler efficiency, etc.

# Sustainable Development Policies

G4-DMA, G4-8, G4-36, G4-45

With IEC's vision to be an integrated renewable energy service provider by advanced technologies renewable energy and cutting-edge information and communication technology, our company operates our businesses principally in electricity generation using a great variety of renewable energy with sustainable development and management policies that are developed and used to ensure the highest possible returns benefits for both investors stakeholders. This is something that can only be made possible by our close collaboration with our partners in renewable energy technology along with our partners in communication and information technology. Building confidence for all stakeholders by committing ourselves to operational excellence with business procedures that accords with the principle of



business transparency being socially and environmentally responsible, our company aims to develop our business operations in all different areas to ensure continuous compliance with the company's vision. Our good management scheme for the sustainable development of the company is as follows.

- 1. The company focuses our business operations in electricity generation, renewable energy and production of plastic materials from various types of plastic waste, while also taking into account the significance of bringing about the highest possible returns and benefits to our shareholders and related parties over the long run. The company pursues business operations with responsibility and accountability toward all economic, social, and environmental stakeholders and aims to develop its personnel and increase its capacity and future opportunity for business improvement in order to better respond to the needs of all stakeholders and secure sustainable growth of our business.
- 2. The company is committed to undertake all of our business operations with policies that encourage our personnel at every level in our organization—directors, executives and all employees to join force in executing the tasks and missions as assigned by strictly following the company's business code of conducts and the principles of good governance and taking into their consideration the principles of human rights and labours. With well-thought out and

well-planned decision making, employees' remunerations must correspond to the business performance of the company both in the short and long term and for both employees and related parties in the demand chain of the business justly, transparently and in line with related laws, regulations and standards.

- 3. Because the company emphasizes sustainable growth of our business, the company is, therefore, committed to business administration that aligns with the principles of good governance, with risk management and integrated and systematic inspection procedures to ensure transparency and justice within the system
- 4. The company is determined to develop products that can best respond to the needs whether economic, social or environmental as well as those of our stakeholders. The company holds ourselves responsible for our products and production process by not only abiding ourselves by the rules, laws and regulations, but by also committing to the task of lowering possible negative consequences that may occur to community, society and the environment. The company aims to develop greater co-existence among our business and the surrounding communities, as well as respecting the rights of all stakeholders and is resolved to the collaboration of sustainably developing all surrounding communities as well as continuing to provide trainings on important environmental issues to all of our employees
- 5. The company has the policy to disclose information as well as details of communication with correct, up-to-date information to all stakeholders with both efficiency and effectiveness, due transparency and fairness, in compliance with the sustainable development reporting frameworks of the Global Reporting Initiatives (GRI).

In addition, the personnel of the company at all levels are responsible for performing their specified tasks and missions by adhering to administrative policies for sustainable development. They also have the duty to support and push forward work performance that corresponds to the specified policies.

# Sustainable Management Approach

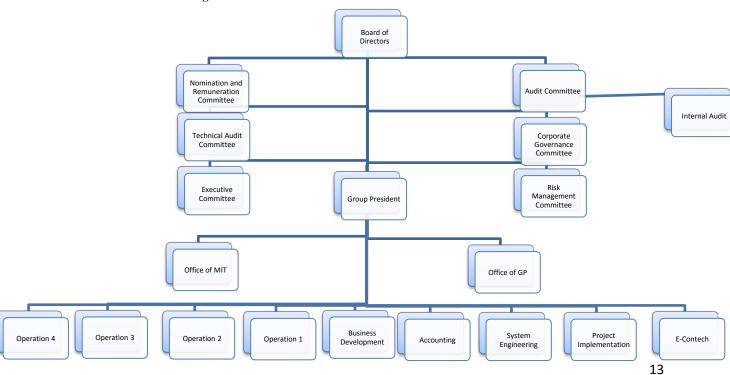
G4-18, G4-19-22, G4-34-35, G4-38



IEC is determined to operate our business in accordance with the principles of good governance in conjunction with recognizing the importance of business performance which is the essential foundation of business. The company aspires to undertake all of our business operations while being socially responsible, and connect stakeholders in all areas to be able to participate be thoroughly and fairly informed about relevant administrative policies. This is an important step to ensure every party involved is resolute in the use of technology to push the organization forward, sustain our growth and development. The concentration is on economic, social, and environment, which will ultimately lead to the future sustainability of the organization. The company has established administrative policies for sustainable development in order to increase highest possible returns and benefits for all of all shareholders in different

areas. The company undertakes businesses firmly adhering to work approaches that bespeak operational excellence. With our business procedures that are transparent, socially and environmentally responsible, the company aims to systematically and continuously develop our human resources and work standards in all areas, along with operational plans toward global standards certifications. This standard is enhancing our business operations to the global arena and also to be acknowledged and recognized by customers and investors globally. In addition, in order to express our intentions and determination to undertake all business operations with a good business code of conduct, the company has participated in CAC (Collective Action Coalition Against Corruption), organized by IOD or Thai Institute of Directors, to promote our intentions of being an ally in Thailand's Private Sector Collective Action Coalition Against Corruption.

#### Structure of Sustainable Management



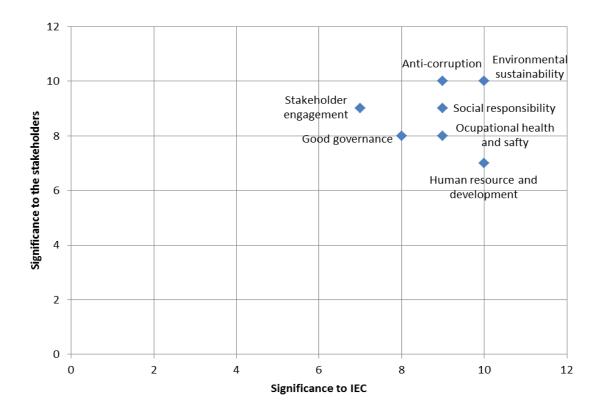


# **Board of Directors**

- 1. Lt. Somsak Yamasmit
- 2. Dr.Bhusana Premanode
- 3. Mrs. Sunjutha Witchawut
- 4. Mr. Sutee Phongpaiboon
- 5. Lt. Dr. Suphornchai Siriwoharn
- 6. Mr. Pracherd Sook-kaew
- 7. Mr. Metha Thamviharn
- 8. Prof. Dr. Pairote Sattayatham
- 9. Dr. Attawoth Laohapakdee

Honorary Chairman Chairman Vice Chairman Independent Director Independent Director Independent Director Independent Director Independent Director Independent Director

# **Sustainability topics**



IEC has ranked various sustainability issues with regard to sustainable development both in parts that are crucial to the company and to outside stakeholders according to their order of importance as follows.

- 1. Good governance
- 2. Anti-corruption
- 3. Stakeholder engagement
- 4. Human resources and development
- 5. Occupational health and safety
- 6. Environmental sustainability
- 7. Social responsibility

IEC highly and particularly emphasizes the business operations in the aspects of human resources practice and development, environmental sustainability, business operations with transparency and not participate in any form of corruptions, as well as ensuring the standard of occupational health and safety, and social responsibility, particularly on outside stakeholders. IEC recognizes the absolute importance toward resisting anti-corruption, ensuring environmental sustainability, stakeholder engagement and responsible for the society. All of these aspects of our business operation are governed by the various principles under IEC Corporate Governance.

IEC highly emphasize on the environment in our business operations. Our current business model involves electricity generation using environmentally friendly and renewable energy sources. The development on our waste-to-energy power plant and plastic pellets plant from waste plastic similarly bring great benefits to the surrounding

communities by reducing an amount of waste in the community as well as generate electricity and recycle waste from the community. The use of energy and the production process of IEC group is pertinent to the environment in many aspects, as follows.

Table 2. Subsidiaries operating businesses related to aspects of environment

Company	Production	Raw Materials			Environment			Energy Conservation	Safety
Company		Solid Waste	Bio- mass	Solar Power	Air	Water	Waste		
International Engineering	х	X			X	X	X	Х	Х
IEC Green Energy	х	X			X	X	X	Х	Х
GIDEC	х	X			X	X	X	Х	X
IEC Mae Ta - Mae Taeng	х			X				X	Х
IEC Mae Ramad	х			X				Х	X
IEC Sra Kaew 1	х		X		X	X	X	Х	X

All business operations of IEC are undertaken while being conscious of environmental preservation, co-existence and sustainable harmony between surrounding communities and our business operations as well as the importance of energy conservation. All companies under IEC group use renewable materials and natural energy in the production. In particular, IEC Green Energy Company Limited, GIDEC Company Limited and IEC use waste as the raw materials for their electricity generation and plastic pellets productions. Similarly, IEC Sra Kaew 1 uses agricultural waste as biomass to provide a heat source for its electricity generation. Additionally, IEC Mae Ta - Mae Taeng Company Limited and IEC Mae Ramad Company Limited are among the leaders in solar power plant projects in Northern Thailand by using of the most abundant natural energy source or solar energy, which is a clean and both environmentally friendly and community-friendly energy source in electricity generation.

IEC business operations of power plants and plastic pellets plant always take into consideration the environmental preservation in all areas—air, water, waste—in order to ensure that our business operations and various projects can harmoniously and sustainably co-exist with the surrounding communities.

# **Accomplishments & Operations for Sustainability**

G4-EN2, G4-EN34, G4-LA6, G4-LA10, G4-SO11

## **Environmentally-Friendly Products and Services**

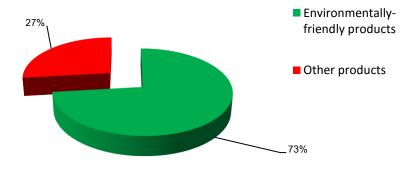
In 2015 IEC and the subsidiaries has restructured the business by dividing the business operations into 3 categories. The first category or "I" (Information) includes business operations in information technology as well as research and development. The second category or "E" (Energy) involves the main business operations of IEC. Currently, the second group consists of power plants from a variety of renewable energy, i.e. solar energy, biomass, and waste and the new business of plastic pellets plant by recycling waste plastics from landfills. The third category or "C" (Communication) encompasses projects currently under development such as Digital Mobile TV, etc. IEC is determined and committed to the development of environmentally friendly products as apparent in the raw





materials used in our product process which come from renewable materials, in addition to the technology and production process specifically designed to reduce the impacts on surrounding communities and minimize negative consequences on the environment. The electricity generation in IEC projects, therefore, guarantees business operations that are environmentally friendly. Similarly, the recycled plastic pellets are made possible through bringing impure plastic materials through a process in which contaminants are sorted out. The plastic materials are then cleaned thoroughly and melted into small pellets. All of these take place in a production process that is carefully designed to be environmentally friendly as much as possible. The waste water resulted from the process is treated and reused. As for the plastic melting process, our production plant has a highly advanced treatment system installed to control odour and smoke resulting from the production will never spread outside and safe for staff working in the plant. As a result, in 2015, more than 73% of the combined revenue from all companies in IEC group originated from products and services that are environmentally friendly.

# Proportion of income from environmentally friendly products in relation to other products of IEC and the subsidiaries



**Environmental** 

#### Investment

With new business structure, IEC is determined to continue our investment in environmentally friendly production processes. In 2015, IEC invested in environmentally friendly production processes for each of our businesses. The details of the investments are as follows.

Waste-To-Energy Power Plant, Hat Yai District brings municipal solid waste from Hat Yai Municipality and nearby areas to sort, moisture-adjust and burn with high heat to be used for power generation using steam turbines. Each step of the production process is carefully designed in order to minimize the possible impacts on surrounding communities. For example, upon receiving solid waste for sorting, IEC has developed and constructed a waste preparation system to sort out, grind and dry the waste. With advanced and highly effective technology, the processed waste will not have any of its former characteristics. There is no smell that can



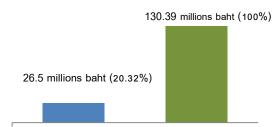
become a nuisance to the surrounding communities. In addition, IEC has scaled up the operation by building a Bio-Dry station for negative pressure storage for solid waste and garbage that have not been used as a result of machinery repairs and maintenance. Furthermore, the EM Plant was designed to produce EM to be sprayed on the solid waste sent to the power plant in order to make sure that there will be no unpleasant smells that may cause a nuisance to the surrounding communities. EM is sprayed in the landfills of Hat Yai Municipality located behind the power plant, in order to minimize negative impacts from the smells and nuisance to the surrounding for more than 40 years.



Within the thermal and water boiling process to produce high pressure steam, IEC aware of environmental impacts from such process is probable. IEC uses high-efficiency Ash Melting Gasification technology from Europe. With heat over 1,200 degrees Celsius, there will not be an amount of air pollution that exceeds the standard level allowed by the Ministry of Industry. Nevertheless, in 2015, IEC had installed "Multi Cyclone", a system of dust and soot collectors in order to reduce and prevent environmental impacts from the production process in the case when parts for machinery are out of order or are currently being repaired.

The water used in the steam production system is brought back and released for condensation to be renewed for another use. This is another example of our endless attempt to conserve natural water as much as possible. Similarly, other waste water from the production process such as the water used to clean solid waste will also be pumped into the water treatment system for systematic water treatment to ensure cleanliness and quality standards of the Department of Industrial Works.

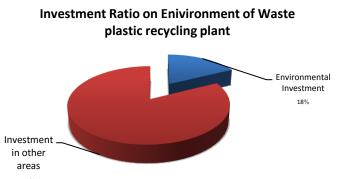
# Percentage of Gidec Environmental Investment



**Environmental Investment Total revenues** 

Hat Yai Waste-To-Energy Power Plant also made an additional investment in the electricity generation process to continuously reduce environmental impacts. In 2015, GIDEC Hat Yai Waste-To-Energy Power Plant has invested more than 20% of its annual revenue in the environmental aspects of the business operations and plans to invest in various environmental conservation projects in the future.

Recycled Plastic Pellets From Waste Plastic Production Plant is located at Nikom Pattana District, Rayong Province with a minimum plastic production capacity of 100 tonnes daily. The production process generally involves sorting out and cleaning waste P.E. plastic to get rid of soils and other sediments. The thoroughly cleaned plastic materials are then forwarded to the next step where it is melted into Grade 2 plastic pellets to be sold to plastic material manufacturers, both domestic and international. In mid-2015, IEC started another investment for the

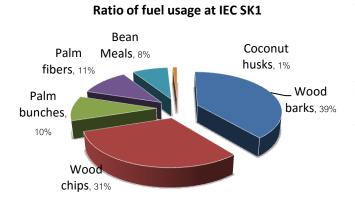


construction and installation of machinery. Currently, this project is still under construction with its production line being put to test. In designing our production facilities, IEC always takes into account the possible impacts that the production process might have toward the surrounding communities and the environment in the area. Thus, IEC has made substantial

investments in raw material storage facilities for unsorted plastic materials which may contain some landfill smells and also investments in water treatment systems to ensure that the water used to clean plastic materials can be

systematically treated and eventually reused as much as possible, without any of the waste water released to any body of water outside the factory. In addition, IEC invested in the treatment system for odour and smoke which are among the byproducts derived from melting plastic materials with high heat. The system is installed in order to help moderate smell problems during plastic melting. All environment-oriented investment in 2015 accounted for about 18% of the total sum of the project, which is expected to create sustainable income for IEC group from 2016 onwards.

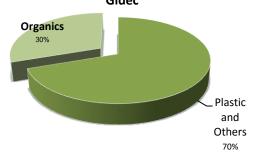
#### Usage on Renewable Energy and Raw Materials that are Recyclables in the Production



Our 8 MW biomass power plant in Sa Kaew Province uses 100% biomass fuel consisting of 39% wood bark, 31% wood chip, 11% palm fiber, 10% palm bunches, 8% beans meals and 1% coconut husks. All of the raw materials are agricultural waste from nearby agricultural areas. The materials are sent to the production line and processed with high heat before they enter an intermediary process of dust filtration in order to lessen possible environmental effects. The business operations at the Sra Kaew Biomass Power Plant also help increase the income for nearby agricultural communities by providing a channel where the farmers in the area can sell their agricultural waste such as those from eucalyptus trees or other economic crops commonly available in Sra Kaew Province.

The waste-to-energy power plant in the Hat Yai District has an electricity generation capacity of 6.5 MW and is part of the waste management project that GIDEC Co., Ltd. has been contracted by Hat Yai Municipality to manage. The municipal solid wastes are to be sent to be categorized, moisture-adjusted and burned with high heat in order to be used for electricity generation with steam turbines.

# Ration of Municipal waste managed by Gidec



Hence, the benefits that the surrounding communities receive from the waste-to-energy power plant in Hat Yai District are manifested both in the form of getting rid of increasing amounts of municipal waste and also in the form

of electricity generated from household wastes and materials. Hat Yai waste-to-energy is, therefore, one of the most successful power plants having harnessed and maximized the resources available in the communities while reducing environmental pollutions which usually result from landfilling.



There of Both Energy Coch us

Power Source for Solar Farms

IEC operates solar power plants for electricity generation in three different areas, including the Lampoon 1 and Lampoon 2 Solar Power Plant (combined output of 1.92 MW), the Mae Malai 1 and Mae Malai 2 Solar Power Plant (combined output of 1.92 MW), and the Mae Ramad Solar Power Plant (combined output of 5.25 MW). All IEC solar power plants use clean natural energy to generate electricity without damaging impacts on the environment.





Ratio of Plastic Waste from Landfills Used as Raw Materials in the Waste Plastic Recycling Plant

Authority, in 2015, IEC also furthered its business operations by making use of waste materials from communities through Grade 2 plastic pellets production. The current production

capacity is at 100 tons per day. The raw materials used come mainly from plastic materials from landfills which must go through our complex sorting and cleaning process until we achieve P.E. plastics free from soils and other sediments. Later, the plastic materials are cleaned again with water and sent further into the production line to be melted as Grade 2 plastic pellets, the final outcome, which is to be sold to manufacturers of plastic materials both in domestic and international markets. This is a good example of a business opportunity that we have rightly seized by building upon the waste-to-energy power generation which the company is most experienced in. Our sophisticated sorting systems for waste materials provide us with the opportunity to see a great business opportunity with P.E. plastics, which is too economically valuable to be burned away as a heat source. Our recycling of P.E. plastic provides plastic pellets of secondary quality as a great alternative in the plastic materials industry. As such, IEC plastic pellets production can essentially help reduce common community pollutions by lowering the amount of waste in landfills and also bring back economically valuable materials to be recycled as plastic pellets for new uses.

# **Certification System Standard**



IEC has adjusted our business strategies from being a mobile phones dealer to becoming an integrated renewable energy power producer as well as a manufacturer of plastic pellets from recycling waste plastic from landfills. In 2015, IEC has embarked on a pathway to improve the standards of its production plants toward international recognition. One of the most important policies is to require all production plants to pass and be certified by the International Organization for Standardization (ISO) within a period of 2 years after complete commercial operations. The Lampoon 1 and Lampoon 2 Solar Power Plant were our first to be certified with ISO 9000 (UKAS) standard in 2015. As for other projects, they are currently being improved in their production process as well as in administration in order to be certified with ISO standards. It is to be expected that in 2015 and 2017, all IEC power plants will be certified with ISO standards, with the Sa Kaew Biomass Power Plant applying for ISO 14000 standard certification, waste-to-energy power plant in Hat Yai for ISO 9000 and 14000 certification, recycled plastic pellets plant in Rayong province for ISO 9000 and 14000 as well as green factory, and two solar power plants also currently in the process of being certified with ISO 9000.

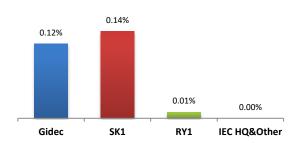
## Inspection and Evaluation on Business Performance in terms of Occupational Health and Safety

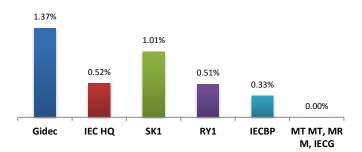
### Rates of Accidents, Sickness, and Injuries that Necessitate Absence from Work

In 2015, IEC scaled up our business operations and took in a large number of new employees to work in various projects, with the majority of new workers in the recycled plastic pellets production plant. IEC has devised important policies on occupational health and safety which all employees must abide by. The polices are implemented to ensure that our employees and work staffs can perform their assigned tasks in a safe environment within standardized operational facilities while remaining in good health in spite of the fact that many of our production plants use raw materials that are basically waste and garbage which can have damaging side effects to employees. This is especially the case for the recycled plastic pellets production plant which uses waste plastic collected from landfills as the essential raw materials for the production or the Hat Yai waste-to-energy power plant which also uses municipal solid waste as raw materials for its electricity generation. With the two plants operating mainly on waste materials, it is very important for the company to lay out comprehensive Occupational Health and Safety Policies. For example, all employees must wear personal protection equipment including safety helmets, safety boots, gloves and protective masks while working. In addition, in each production plant, there must be designated areas for clean drinking water, dining areas, sanitary bathrooms, appropriate work hours and safety officers (SO) who shall supervise all aspects of occupational safety to ensure strict compliance with the policies. As a result, the rate of accidents, sickness, and injuries that necessitated work absence in comparison to man-hours in each location remained rather low. And even more impressive, in some locations, there was no accident or injury that necessitated absence from work for the entire year.

# Proportion of absense related to injuries

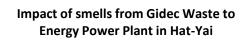
# Propotion of absense related to sickness



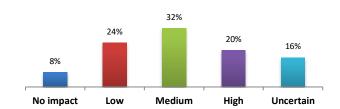


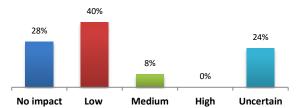
## **Impacts on the Surrounding Communities**

During 2015, IEC implemented a policy which specified that all power plants, especially those that employ thermal process in their production must conduct surveys on the possible impacts of their operations in surrounding communities. Hat Yai Waste-to-Energy Power Plant, for example, organized community relations activities by making surveys on the impacts of their operations on the surrounding communities on December 14, 2015. The communities surveyed on this occasion included Wat Koh Community, Airport Community, Ing Kamol Community, Chatr Kaew Community, and Hat Yai Rachprachasan School Community. From the survey conducted on smell, waste water, dust, air pollutions, noise pollutions and other effects, the majority of the people in the areas similarly identified smell as their main issue of concerns. The smell comes from the 40-years old landfills of the Hat Yai Municipality. IEC acknowledged and realized the significance of the problem and has taken actions with the plans to regularly spray EM in the landfill areas once every week to reduce the negative impacts to the communities.



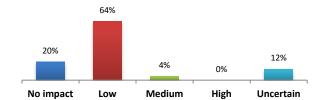
# Impact of waste water from Gidec Waste to Energy Power Plant in Hat-Yai

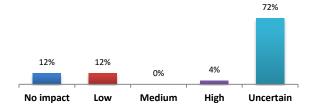




Impact of dust from Gidec Waste to Enger Power Plant in Hat-Yai

# Impact of air pollutions from Gidec Waste to Energy Power Plant in Hat-Yai

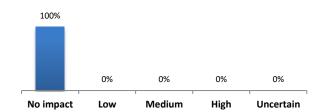




# Impact of noise from Gidec Waste to Energy Power Plant in Hat-Yai

# 24% 8% 12% No impact Low Medium High Uncertain

# Other impacts from Gidec Waste to Energy Power Plant in Hat-Yai

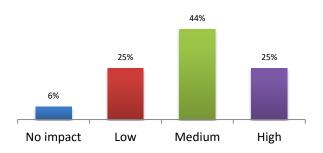


Survey results on the Impacts of the Hat Yai Waste-to-Energy Power Plant on surrounding communities conducted on March 14, 2015.

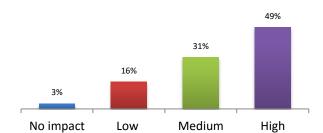
The noise problems of the power plant were caused by the testing of high-pressure pipes before commercial operation. After the plant's electricity generation became normalized, the noise problems disappeared. As for other types of pollutions, such as waste water, dust, air pollution, it was discovered that they are very low in effects - no apparent effects on the communities. Nonetheless, IEC has invested in various operating systems to reduce possible impacts on the environment and the surrounding communities as much as possible. In 2015, IEC constructed, among other things, EM Plant, which is used to produce EM for our very own use in lowering the smell problems caused by municipality landfills; Bio dry waste storage which is used to keep daily solid waste before the can go to the production line; Multi Cyclone system which is functioned as dust and soot collector. The Hatyai waste-to-energy power plant conducted another survey in 2016 in order to continuously study and acquire information in terms of potential impacts to the surrounding communities which will allow us to be able to determine the most suitable plans of action to take to minimize the impacts and environmental effects.

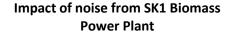
On 25 June, 2015, our biomass power plant in Sra Kaew province organized community relations activities by making surveys on the impacts of the plant's operations on the surrounding communities. From the surveys conducted, it was found that the majority of the people living in the surrounding areas identified the traffic inconveniences resulting from the trucks going in-out through the communities/villages near the power plant as the main issue of concern. As for the problems with other possible impacts that the plant might have on the environment in various aspects, they were still low in perception.

# Impact of smell from SK1 Biomass Power Plant

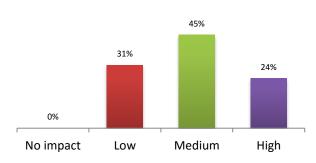


# Impact of road traffic from SK 1 Biomass Power Plant





# Impact on surrounded water consumption from SK1 Biomass Power





# Impact of dust from SK1 Biomass Power



Survey results on the Impacts of the SK1 Biomass Power Plant on surrounding communities conducted on June 25, 2015.

As for the environmental impacts on the ecology system in Phra Sa Teung Canal, which is a public canal located next to the power plant, in terms of the water quality in the canal, 29% of the sample groups claimed that there are no effects; in terms of quality of animals living in the canal, 29% of the sample groups also claimed that there are no effects as well.

## **Corporate Social Responsibility**



Investment on Social Responsibility (% total sales)

Investment on Environment (% total sales)

IEC and its subsidiaries are conscious of the fact and significance of sustainable co-existence to the long-term stability in our business operations. With that in mind, the CSR activities that we have organized are meant to provide benefits to surrounding communities in two different areas—the first area being CSR-In-Process for environmental preservation in which IEC has invested 19.60% of its income on environment-related issues; and the second area being "CSR-After-Process" which has been organized regularly and continuously after the recent reorganization of our business model and CSR activities in 2015. There are many ongoing CSR projects including Plants and Communities Relations project by Hat Yai Waste-to-Energy Power Plant to provide the surrounding communities with occupational knowledge in baking, cooking, making EM, waste bank for students of schools in the surrounding areas of the power plant to learn more about recycling and sorting of waste materials in their schools. Staffs from the power plant will then be sent to the schools to buy sorted waste materials from the students by giving them scholarships, calculated according to the amount of waste materials to encourage future collaboration on the environment within the communities.

Apart from the project, there were also painting projects such as "Painting Your Dream" at Ban Nhong Sai School in Srakaew province in which IEC employees joined together to renovate and repaint facilities and equipment—tables, chairs, the school library, and the infirmary, "Community Light Project" in the surrounding communities of Sra Kaew Biomass Power Plant, "Medical Solar", a solar cell project for medical purposes which installed small sets of equipment necessary for solar power electricity generation in medical supply rooms at the Mae Ta District Clinic, Mae Ta District, Lampoon Province. The project was made possible by the donations from IEC Mae Ta - Mae Taeng Co., Ltd. and IEC shareholders. In addition, IEC affiliated companies also participated regularly in local cultural activities in order to develop and maintain good relations between the companies and the surrounding communities. CSR expenses accounted for about 0.29% of the total income in 2015.

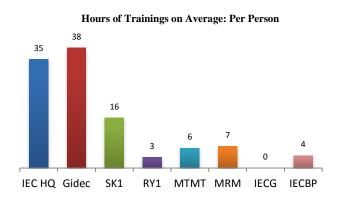
# **Employee Training**



business operations. It is a duty and responsibility for our employees to attend all of the required trainings. IEC implements measures to ensure compliance with this policy by including training attendance as an indicator in the annual evaluation of each employee's work performance. All employees are required to attend the trainings at a minimum of 6 hours per year as required by laws. In 2015, the employees in IEC group received trainings at a total of 24.11 hours per person per year, on average. IEC headquarter employees, in particular, attended as much as an average of 30 hours of trainings per person per year. Finally, IEC also emphasizes relentlessly, the importance of "senior employees supervise junior employees" or "On-the-Job Trainings"

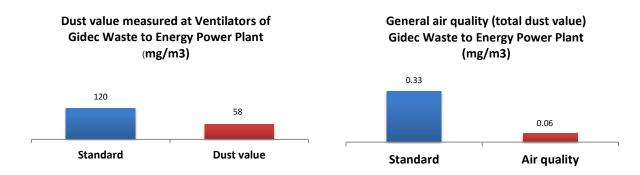
In 2015, employees of IEC and its subsidiaries received continuous trainings to enhance their skills and work efficiency. The trainings provided can be divided into the following groups including one group for basic trainings—for English and Microsoft Office and the other group for professional trainings such as engineering/legal/ accounting knowledge, etc. The combined ratio of trainings in English, MS-Office, CG & Anti-Corruption and professional trainings accounted for about 21%, 34%, 34%, and 11% respectively for all of the trainings provided.

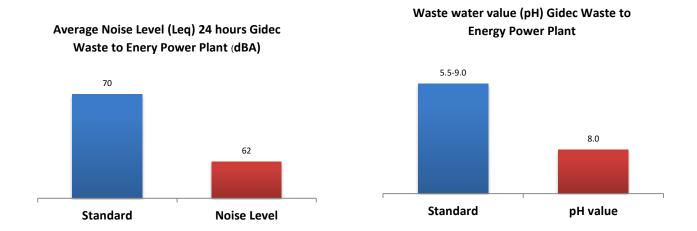
In addition, all employees were required to attend training sessions on the principles of corporate governance (CG) and the company's Anti-Corruption policies which have been developed and improved to best suit the current model of business operations of the company. IEC considers all of its provided trainings as an essential part of our



### **Effectiveness of Environmental Operations**

In terms of environmental operations, IEC Group recognizes potential impacts in various aspects over the surrounding communities. All of our power and production plants take the strictest environmental measures to ensure that inspections per environmental standards are carried out regularly. The inspection results on air, water, dust and vapor of all of our plants have always been higher than standard requirements. TSP value measured from plant ventilators, for example, was 52% higher than the standard value (measured at 57.73 mg/m3). Similarly, the air quality value (total dust value) was 82% higher than the standard requirement (can be measured at 0.06 mg/m3). The pH value of waste water was lower than average, same with the noise pollution value. In addition, in order to make sure that the surrounding communities are aware of the quality of the air released from the Hat Yai waste-to-energy power plant, IEC provides the air quality inspection results on the company's website in Real Time to make sure that all stakeholders in every group have legitimate supply of information which can be investigated into at all times.





# Risks and Risk management

G4-DMA, G4-14, G4-46

IEC recognizes the significance of evaluation and risk management to ensure that our business operations are carried out with the lowest risks possible, along with constant and sustainable returns, as well as peaceful and sustainable co-existence with the surrounding communities. The company takes various measures to evaluate the risks involved in our business operations through our risk management committee, appointed by the company's board of directors to perform the tasks and duties as follows: 1) Evaluate all aspects of the company's business operations and devise measures to manage and govern the risks involved in all business operations to provide for a secure opportunity to invest and carry out all purposed business activities of the company when the risks involved are optimally minimized; 2) Report the results of measures taken to manage the risks involved in all business operations to the company's board of directors, and in case significant risks appear that may have damaging effects on the company's business operations, the risk factors/incidents must be reported to the company's board of directors as soon as possible; 3) Consider other issues relevant to the risks involved in all of the company's business operations as has been assigned by the company's board of directors.

The risk management committee adheres to the principles of risk management according to COSO (The Committee of Sponsoring Organization of the Treadway Commission, 2004) which is an integrated framework for enterprise risk management that accords with relevant global standards and is widely accepted as the framework of operational approach for implementing risk management systems currently used by various organizations as well as the Stock Exchange of Thailand.

## **Process for Risk Management**

The process for risk management starts from defining the scope of risks that might occur to the business operations. Risk refers to chances or possibilities of mistakes, mishaps, damages, leakages, wastes, or undesirable situations that may occur in the future and can have damaging effects or cause some parts of the company's business operations to remain unfulfilled both in terms of the business objectives and the goals of the company, whether in terms of strategies, work operations, finances, or corporate management. The consequences of the risks can be either negative or positive. The risks involved can be measured from the impacts perceived and the likelihood of such incident. The risk management committee must carry out risk evaluations for each project on 4-5 different occasions annually. The risks generally involved in IEC business operations can be divided into the 4 following groups: 1) Strategic Risks; 2) Operational Risks; 3) Financial Risks; 4) Compliance Risks. Once all of the risks involved are identified, the committee will move on to the next steps of risk analysis and risk assessment, and ranking all the risks involved by evaluating the likelihood of such risks and their impacts. The risk management and control described above can be achieved through the following principles:

#### 1) Risk Acceptance

Risk acceptance involves accepting potential risks that have a low chance of happening, thus, often referred to as acceptable / low risks, without having to take any additional action to minimize the risks. This can be because the cost of such actions, if taken, will be too high and is not worth the expenses that may be incurred because the risks are relatively low.

#### 2) Risk Reduction

Risk reduction involves improving work operations and performance systems involved, or designing new work systems in order to minimize the chances for the risks involved or the possible impacts of damages, and presents itself as the most suitable course of action to minimize the risks to a more acceptable level.

## 3) Risk Sharing

Risk sharing involves sharing or transferring the risks involved to other individuals or organizations, or sharing the responsibility for managing the risks expected to happen.

### 4) Risk Avoidance

Risk avoidance refers to a method of risk management for high risks that the organization cannot accept. In such event, the company will very likely resolve to cancel any future pursuit of the project / activity.

#### Safety, Health and Environmental Risks

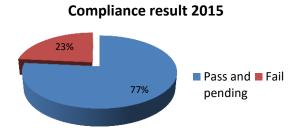
IEC has an operational approach to manage and improve the efficiency in all work operations that involve safety, health, and the environment to ensure suitability with our current business operations. IEC has developed different work operations for each project because the climate, type of power plant and type of business operations, etc. are different among the companies within the group. Hence, the company has devised policies and operational approaches with the aim to minimize the risks involved, such as in the form of occupational accidents and also to find ways to encourage good health and physical condition among all of our employees. And most importantly, the company has taken various measures to ensure our continuous contribution to the environment and business sustainability. The company also requires the same form of communication approaches and operating policies from its business partners.

In our environment-related operations, IEC focuses and is determined to have all of our production plants certified with management and environment standards including ISO standard certification, OHSAS standard certification, etc.

### **Compliance Risks**

IEC established our Compliance Department to oversee and ensure that our business operations accord with rules, regulations, laws, as well as public sector policies and company policies by ensuring compliance in the five areas as follows.

- 1. Compliance with the law and government rules and regulations
- 2. Compliance with duties and obligations
- 3. Compliance with the company policies
- 4. Compliance with the principles of Corporate Governance
- 5. Compliance with CSR policies according to the SET approaches



The Compliance Department specifies that operational plans of each department must be reviewed twice every year in order to make sure that all departments are and will continue to be on the same track in compliance with the principles in all five areas. The Compliance Department will provide the necessary support to ensure that all departments within the company can comply with relevant rules and regulations in all five areas and also participate in determining rules, regulations and work standards by providing assistance to all of the company's power and production plants to be certified with ISO 9001 and ISO 14000 standards or any other international standard. The

results of 2015 compliance reviews showed that 76.55 % of departments and companies within IEC group passed the criteria for compliance in all five areas or are currently in progress to becoming fully compliant. As for the issues that have not yet passed the criteria, the majority of cases involved incomplete government authority reports. This is also because IEC had only reorganized our business structure to be oriented more towards the renewable energy business for 1-2 years. Our compliance department has had to clarify the matter to all departments within the company in order to make sure that all departments and companies within IEC group can carry out our business operations in compliance with the laws and relevant rules and regulations by relevant government authorities.

# **Creating Shared Value**

G4-44, G4-56

## **IEC Corporate Governance**

IEC is a registered company with the Stock Exchange of Thailand which has been operated for a long time while taking into consideration the benefits of every stakeholder. And in order to achieve good and sustainable success, both the company and all of its personnel must have the trust and confidence on the basis of Good Corporate Governance from all parties.

IEC undertakes our business operations by observing principles of good corporate governance and making certain that our personnel at all levels—from company directors, the administration, and all employees—understand and are united in adhering to the principles while executing their duties and tasks within their scope of responsibility and act in compliance with the policies and codes of conduct specified in the IEC Good Corporate Governance manuals. Directors, executives and all employees must be informed and able to act in line with the policies and codes of conduct specified therein. In addition, executives at all levels are also responsible for fostering the environment where employees under their supervision understand and strictly observe the ethics and principles as discussed in the company's good corporate governance manuals.



In 2015, the company organized good corporate governance trainings on two different occasions, with around 40 employees attending at each session. The main objective of the trainings was to ensure that the company's employees are aware and understand how they should go about acting in accordance with the principles of good corporate governance and future development plans for the principles of good corporate governance. Furthermore, the company also provides the information through the website intranet used by companies in the group to broadcast the information to all of the company's power and production plants located in other provinces to ensure that all employees of the company are better thoroughly informed and able to act in compliance with the principles of good corporate governance.

The good corporate governance committee, appointed by the company's board of directors, is tasked with proposing policies and reviewing existing good corporate governance principles to ensure that they are in line with international standards as well as following up on the operation results and reporting to the company's board of directors. Currently, there are 3 members on the good corporate governance committee. And in 2015, the good corporate governance committee convened on two different occasions.

## Codes of Conduct for Members of the Company's Board of Directors

The board of directors is the highest sub-organization of the company. Board of Directors must be a good example of adherence and commitment to the principles of good cooperate governance. All members of the board of directors must demonstrate good leadership and be able to govern and control the work operations of the management with both efficiency and efficacy to accomplish the tasks at the heart of the company's business operations. The board of directors must build up, strengthen and increase the value of investment made by both shareholders and all stakeholders. The board of directors together with the company's administration and management team must determine the vision, mission, and values of the company and implement necessary measures to ensure compliance from all employees. In addition, the board of directors must be fully responsible for ethical and legal aspects of the company's business operations both to the company and shareholders. The board of directors must carry out their tasks and responsibilities carefully with skills, integrity and free expression of their own opinions. The board of directors must always, at their own discretion, express their own opinions and evaluate all business operations of the company in order to maintain trust and confidence from shareholders. The board of directors is also responsible for making considerations and nominations with discreetness and transparency for suitable candidates who may be elected as new members of the committee after a vacancy to both the members of the board of directors and to company shareholders at shareholders' meeting. All members of the board of directors must dedicate themselves and be fully committed to the company's mission. They shall readily and regularly attend company's meetings and trainings to continue improving their knowledge and skills necessary for their work performance

The board of directors has specified sustainable development policies which cover economic, social and environmental aspects of the company's business operations. The management, with IEC Executive Director, has accepted and taken actions to necessitate concrete implementation of the policies.

G4-DMA, G4-49, G4-57, G4-58, G4-SO4

# **Anti-Corruption**

IEC is committed to undertake all of our business operations with good moral principles and responsibility toward the society and all groups of stakeholders along with adhering to the principles of good corporate governance. With good intention and determination to oppose all forms of corruption, IEC has signed on to become part of the Collective Action Coalition (CAC) among Thailand's private sector to counter all forms of corruption. The company has determined operational approaches and scopes of responsibilities for all relevant personnel in order to prevent corruption in any business dealing of the company. The specific details of anti-corruption policies are as follows.

#### **Definition of "Corruption"**

"Corruption" means seeking power benefits, or bribing with an immoral method regardless of its form, or any wrongful action or any action taken with power and influence per one's own position solely for personal benefits. Corruption also includes proposing, making promises to give or grant money, assets or any other kind of benefits that are not appropriate to any government official, public office, or private company or any person of authority whether directly or indirectly with the aim of making the official or the public office or the private company act or not act, take action or not take action—whichever way that ultimately brings about business benefits/advantages, with an exception of cases where relevant law and regulations have permitted one to do so, or when such action is considered as a normal course of action, or as a commonly accepted business custom or tradition.

#### **Anti-Corruption Policies**

Employees, executives, and the members of the Board of Directors must be committed to acting in accordance with the IEC principles of good corporate governance and stopping anyone from violating the company's anti-corruption policies or tolerance of corruption in all forms, whether directly or indirectly with coverage over all relevant departments and also making sure that all business operations are regularly supervised and reviewed according to the operational approaches along the lines of anti-corruption policies. This is a step that must be taken to ensure that the business operations of the company catch up with the changes in the world of business, law, regulations, society, culture, and the overall economy. The board of directors, executives and employees must perform their tasks and responsibilities while bearing in mind and being conscious of their duty and responsibility to act in accordance with the principles of good corporate governance especially in the following areas:

- 1. Responsibility: All personnel must have the responsibility to carry out their assigned tasks with both efficiency and effectiveness, in line with their scope of responsibilities as defined by the Board of Directors or any relevant subcommittee. The board of directors must arrange for a good and effective system of internal control and internal audit. The executive director and other executives shall be responsible for taking necessary actions to allow for preventive measures against any form of corruption, reviewing the suitability of all current measures currently taken, as well as providing necessary support to anti-corruption policies and communicating with all relevant parties, in addition to the company's employees to ensure strictest compliance with the policies without any intentional involvement in any form of corruption, whether directly or indirectly.
- 2. Accountability: All personnel—company's directors, executives, and employees must be accountable for their actions, decisions, or omissions. Everyone must be aware of the possible consequences of their actions and be held accountable by stakeholders from economic, social, and environmental aspects. Any involvement or encouragement to any act of corruption, or any act of omission, willful ignorance toward any act of corruption that may negatively affect stakeholders is considered a violation to the company's anti-corruption policies. Individuals who commit such action, or lack thereof shall be made aware of their violations with disciplinary actions proportional to their offenses.

- 3. Transparency: All personnel must undertake their duties and responsibilities in accordance with the approaches and principles of good corporate governance and risk management, and take every step in inspection procedures with transparency and fairness. Any employee who finds or sees any act of corruption within or involving IEC must report the issue to his or her supervisor or relevant person in charge as soon as possible to the Good Corporate Governance Committee directly on the IEC website and cooperate in the subsequent investigation for factual information of the matter. The company will take measures to ensure fairness and protection for the individual who cooperates with the company's anti-corruption policies by reporting or providing necessary information to the fullest.
- 4. Communication: The Company and its personnel must disclose relevant information and communicate with all stakeholders regarding their business operations. IEC shall disclose its information to all stakeholders and take into account the opinions of all stakeholders both through the channels provided by the law or other appropriate channels in accordance with the scope of the rules and regulations of the Stock Exchange of Thailand. The information must be provided accurately and in a timely manner so that all groups of stakeholders can investigate the business operations of the company, make recommendations or suggestions, inquire, and follow up on the current progress of all business undertakings with efficiency, effectiveness, thoroughness, transparency, fairness and the confidence that IEC is truly committed to undertaking its business operations while adhering to the principles of good corporate governance, respecting the rights, dealing with all groups of stakeholders with integrity and impartiality as well as providing opportunities for all stakeholders to participate in its business operations without bias or prejudice.

The company's anti-corruption policies shall be enforced in every process, at every stage of the company's business operations. More importantly, company's directors, executives, and all IEC employees at every level of business operations have the responsibility to perform their duties and responsibilities by strictly observing the principles and conditions of these Anti-Corruption policies and also to regard any act of corruption as absolutely unacceptable in the organizational culture of IEC.

## **Duties and Responsibilities**

Company's Directors: Responsible for making considerations regarding policies and operational approaches along the lines of the company's anti-corruption policies as well as governing, and providing necessary support to ensure that the policies and operational approaches are observed and used throughout the organization with both efficiency and efficacy.

Internal Audit Committee: Responsible for directing the process of internal audit, making financial reports in order to make sure that the internal control of the company is effective, efficient, and compelling enough to motivate employees in all departments to act in accordance with Anti-Corruption policies and approaches.

Good Corporate Governance Committee: Responsible for determining and reviewing the company's anticorruption policies, approaches and the principles of good corporate governance

Risk Management Committee: Responsible for managing and evaluating the risks involved in the company's anti-corruption policies.

Administrative Committee: Responsible for pushing forward and providing necessary support to both executives and employees to thoroughly comply with the company's anti-corruption policies, with efficiency and effectiveness.

Executive Director: Responsible for managing, communicating, directing, governing and providing support so that executives and employees can implement the anti-corruption policies with effectiveness and efficiency throughout the organization as well as reporting the results of the implementation to the administrative committee and other committees relevant to the issues.

Executives and Employees at All Levels: Responsible for performing their assigned roles and responsibilities while strictly adhering to anti-corruption policies and approaches, refusing any involvement in corruption, assisting with factual investigation, and reporting or providing information related to cases of corruption as much as possible.

#### Monitoring in order to prevent and follow up on the risks involved

- 2. Directors, executives and employees of IEC must not be involved in or be part of any form of corruption, whether directly or indirectly. All personnel must act in compliance with the company's Anti-Corruption policies, principles of Good Corporate Governance, the company's announcement and relevant regulations.
- 3. IEC employees must; with regards to charity donations, gifts giving or gift receiving, joining welcoming dinners/parties and giving financial supports take necessary precautions according to the required steps for approval specified in the IEC manual. The person in charge for investigating and giving approval on such matter is responsible to carry out necessary investigation in order to ensure that the charity donations, gifts giving or gift receiving; joining welcoming dinners/parties and giving financial supports are not related in any way to corruption or used to cover up acts of corruption.
- 4. If any wrongdoing/act of corruption is witnessed or found, IEC employees must notify their superior through multiple channels provided and specified by the company.
- 5. Any action related to corruption is considered a violation of the company's ethical codes and the principles of good corperate governance. Directors of the company shall be responsible for following up and taking appropriate disciplinary actions against the wrongdoers per the company's regulations. The internal audit department must report evaluation results on actions that do not comply with anti-corruption policies to the company's internal audit committee which shall investigate the matter further and submit final reports on the matter to the board of directors.
- 6. The company has arranged for internal audits in order to make sure that the internal audit process and internal controls throughout the organization is effective and sufficient as well as to ensure that the company's anti-corruption policies and approaches are indeed strictly observed throughout the organization.
- 7. Realize and be aware of the importance of advertising, providing trainings, and explaining to the personnel within the company regarding the negative impacts on the company as a result/due to an act of corruption.
- 8. Arrange for a systematic and well organized document storage system, making it both easy and ready for investigation, verification, and suitability of financial reports and procedures in order to make certain that there has not been any action that may constitute a violation to the company's anti-corruption policies.
- 9. Anti-corruption policies and related work approaches cover all business operations, undertakings and pursuits of both IEC and its subsidiary and affiliated companies.

## **Employee Trainings**

In 2015, IEC organized an anti-corruption training in parallel with good corporate governance training for 2015. The content of both trainings included the policies and approaches in regards to anti-corruption. There were a total of 43 employees attending the trainings.

#### Whistle Blowing

Employees and stakeholders can notify or inform the company about acts of corruption or violations on the company's website by contacting the president of Good Corporate Governance Committee directly at all times. Once the issue has been raised/officially notified, the company will be able to follow the required steps of action in order to investigate and determine the most suitable approach to deal with the specific issues.

G4-24-27, G4-37

# **Stakeholder Engagement**

In IEC business operations, there are many groups of stakeholders. Each group is similarly crucial to our business operations. Connecting all stakeholders, therefore, is very important to our organizational operations as a whole and can also strengthen our business potential by increasing business sustainability.

IEC divides all stakeholders into groups which include shareholders, business partners, debtors, competitors, consumers, communities, and relevant agencies both in the public and private sectors. IEC has arranged for multiple channels with which stakeholders can communicate with IEC and for IEC to respond to their needs as appropriate as possible. We take into our consideration all groups of stakeholders by keeping in mind the rights each stakeholder has according to the law and the mutual agreements that have been made. IEC has specified approaches that should be taken in order to govern and monitor all stakeholders in the 2015 Good Corporate Governance manual. This is an essential component that all employees at IEC must adhere to. And from the evaluation of IOD in the same year, IEC received a CG score under the investors section of as much as 98% which reflects how much IEC emphasizes the rights of all of our investors.

## **Communicating with Major Stakeholders**

Order	Groups of Stakeholders	Communication and Response	Expectations / Interest
1. Shareholders	1.1 Institutional Investors 1.2 Free Float Shareholders	<ul> <li>Communication through relevant employees</li> <li>Official statement on the company's business performance through a variety of media</li> <li>Disclosure of important information on the company's website</li> <li>Annual General Meetings and Extraordinary General Meetings</li> <li>"We Love IEC Outing" — Official Visits (2-3 times a year)</li> <li>Opportunity Day Activities - Quarterly</li> <li>Shareholders Meet with the Company's Executives (IEC Line Club Meeting) (2-3 times a year)</li> </ul>	<ul> <li>Providing correct, comprehensive, up-to-date information</li> <li>Increased returns of investment as well as regular dividends-paying</li> <li>Business stability and business growth</li> <li>Transparency in business administration</li> </ul>
2. Business Partners	2.1 Trading / Business Partners	<ul> <li>Meeting with business partners to discuss suggestions and concerns in order to find ways to fix the existing problems together</li> <li>Arranging meetings 2-3 times in each business quarter</li> </ul>	Business operations with fairness and transparency     Mutual development and enhancement for business sustainability
	2.2 Supplier and EPC	Arranging meetings according to suitability of the works	<ul> <li>Proportionally appropriate remuneration packages</li> <li>Clear description regarding the scope of works</li> <li>Allocating work areas appropriately</li> <li>Assistance in emergencies</li> </ul>

Order	Groups of Stakeholders	Communication and Response	Expectations / Interest
3. Employees	3.1 Full-time Employees	Communication through electronic channels     Whistle Blowing in order to send opinions and complaints to Good Corporate Governance Committee     Annual meetings between the company's executives and employees     Message from IEC's Executive Director (Once every month)	<ul> <li>Proportionally appropriate remuneration packages</li> <li>Work safety</li> <li>Career advancement and job stability</li> </ul>
	3.2 Daily / Part Time Staffs	Communication through company's representatives	<ul> <li>Proportionally appropriate remuneration packages</li> <li>Safety and occupational health considerations</li> </ul>
4. Customers	4.1 Provincial Electricity Authority	Arranging a meeting for suggestions and concerns once every year     Arranging small impromptu meetings in the event of problematic incidents/situations where there are problems that must be fixed/solved together	<ul> <li>Sending electricity generated to the system with efficiency</li> <li>Strict compliance with power purchase agreement (PPA)</li> <li>Compliance with other rules, regulations or other suggestions</li> </ul>
	4.2 Plastica Pellets Customers	Meeting to discuss suggestions and concerns/problems regarding business operations on occasions.	<ul> <li>Selling and distributing raw materials at normal prices with fairness</li> <li>Manufacturing quality products on a regular basis</li> </ul>
5. Surrounding Communities	<ul> <li>5.1 Communities in close proximity</li> <li>Villages</li> <li>Schools</li> <li>Temples</li> <li>Agencies/Authorities in the surrounding areas</li> </ul>	<ul> <li>Organizing public relations as appropriate</li> <li>Inviting community representatives for occasional visits at the plants</li> <li>Organizing CSR activities or participating in CSR activities of all power and production plants 1-2 times per business quarter</li> </ul>	<ul> <li>Paying attention to the environment in surrounding areas</li> <li>Solving problems that may rapidly affect the communities</li> <li>Participation in communities development</li> <li>Public relations on various aspects of business operations.</li> </ul>



#### **Humen Resource Management**

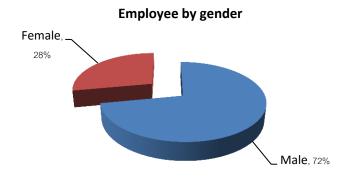
G4-DMA, G4-9, G4-11, G4-LA1, G4-LA4,G4-9-11

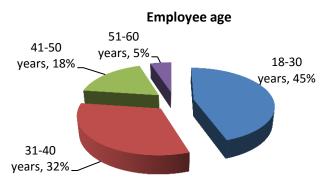


The direction of IEC human resources development primarily focuses on good labor practices and human rights consideration through compliance with the Labor Protection Act B.E. 2541, international laws, local laws and regulations and professional development—improving professional skills and knowledge to prepare them for the best possible performance as well as in preparation for business expansions/changes in business operations. This is because IEC employees are from a diverse background in various

locations. Taking over a company, therefore, may give rise to problems resulting from different organizational culture. In addition, types of business operations which are roughly divided into electricity generation and plastic pellets production from community waste plastic ensure that IEC will always hire local men and women in areas surrounding our plants' locations to come and work with us, both as full-time and part-time employees. This brings about mutual benefits in two ways: 1) Easy and convenient commuting; 2) Good and cooperative relations between our production plants and communities in the plants' surroundings. As of the end of 2015, IEC had a total of 283 employees which can be divided according to areas of operations/plant location as follows.

Areas of Operation	Companies	Province	_	Number o Employee	_
			Male	Female	Total
Headquarters	International Engineering PCL.	Bangkok	53	38	91
Waste-To-Energy Power Plant	GIDEC Co., Ltd	Hat Yai, Songkhla	48	17	65
Biomass Power Plant	Sra Kaew 1 Co., Ltd	Sra Kaew	44	12	56
Lampoon 1, 2 Solar Power Plant	IEC Mae Ta - Mae Taeng Co., Ltd.	Mae Ta, Lampoon	2	1	3
Mae Malai 1,2 Solar Power Plant	IEC Mae Ta - Mae Taeng Co., Ltd.	Mae Taeng, Chiang Mai	2	-	2
Mae Ramad Solar Power Plant	IEC Mae Ramad Co., Ltd.	Mae Ramad, Tak	3	-	3
Plastic Pellets from Waste Plastic Materials Production Plant	International Engineering PCL.	Rayong	50	10	60
Ethanol Production Plant	IEC Business Partners Co., Ltd.	Rayong	2	1	3
Total			204	79	283





IEC respects diversities and differences among our employees, without discrimination in terms of sex, age, or physical conditions. However, IEC takes into account the suitability, capability and safety of our employees and shall take necessary measures to ensure that employees are assigned to tasks and responsibilities suitable to their sex, age, or physical conditions.

Most IEC employees are 18-40 years old. The company puts emphasis on taking care of our employees well, from the moment they are accepted as part of the company until their retirement. The employees of the company will receive financial compensation when they are retired at 60 years old, in accordance with relevant labour practices and laws.

In terms of salary payments, wages, and other fringe benefits according to the law for part-time and fulltime employees, IEC adheres to acting in accordance with relevant labor laws by taking into account the factors and issues to determine appropriate salaries, wages and other forms of compensations to both

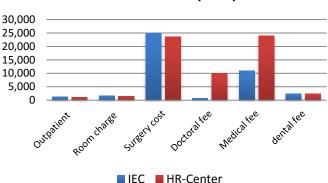
part-time and full-time employees. The wages, compensations and other benefits are routinely determined with the current state of economy, general wage and compensation rates taken into account. In terms of fringe benefits for the company's employees, the benefits are generally determined, altered, or improved by the employee's welfare committee to best suit each person's work performance as well as the current state of the economy. In addition, the company also pays attention to fair labor treatment without any prejudice or discrimination.



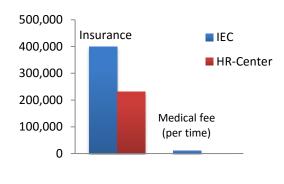
IEC Group has made arrangements to make sure that all employees receive both basic welfare benefits according to labor laws and social security. In addition, the company has also arranged for other additional benefits such as annual health examination and medical treatment provided through health and accident insurance policies in order to make sure that all employees are physically ready and able to perform their roles, tasks and assignments to the fullest of their abilities. It was found that IEC's additional medical treatment welfare benefits, when compared to the market average according to HR center's survey (HR Center Co., Ltd.) in 2015, for each type of medical treatment is generally 5% higher than the market average. Similarly, the insurance against accidents provided by the company is 58% higher than the average market.

The welfare benefits provided to the company's employees are determined by the company's employees welfare committee, appointed by the company with representatives from each department as part of the committee who gather to express their opinions and provide insights in regard to their work operations in order to arrange for employee's welfare benefits that are most suitable and fair for both employees and employers.

# Comparison of medical fee between IEC and HR Center (Baht)



# Comparison of accident insurance between IEC and HR Center (Baht)





Becoming a part of IEC is a very good experience for me. I have learned about so many things and the happiness of working with colleagues, I am very happy. It is certainly a valuable experience. Everyone, seniors, juniors from all departments work really well together, and really help each other out. In addition, all of the executives are very down-to-earth, very friendly to all employees, including me. So I think all employees can feel that IEC is like another home for us. And in terms of the welfare benefits provided to the employees by the company, I think they are very reasonable and more than adequate for the cost of living with the current state of the economy.

And lastly, I want to thank everyone for their smiles and the good and compassionate feelings from our company's

executives and colleagues. I am truly very grateful

Mr. Thanatchai Pinthu, Accounting Controller Dept.

#### **IEC Personnel Development**

IEC cares and pays attention to all employees from their first day at work. When we accept new employees, the first things we do is new employees orientation. With the training, new employees can learn more about the company itself, their employee's welfare and benefits, the company's rules and regulations, their required compliance with the principles of Good Corporate Governance, Anti-Corruption policies, preparing weekly reports as well as knowledge and skills needed in other areas which can help the employees to learn more and understand their scopes of responsibilities along with workplace participation with both their colleagues and superiors. By understanding what is expected of them and knowing how they should go about making their contributions, the new employees will be able to undertake their work operations with greater efficiency.

New employees orientation is the starting point for human resources development at IEC. IEC operates with the policies to regularly develop and improve its human resources capacities by organizing trainings to increase the skills and knowledge for the employees to become perfect employees, in addition to more specialized professional trainings and compliance trainings to the company's rules and regulations

#### Professional Skills and Knowledge

Executives in each department at IEC have always encouraged and supported employees under their supervision to attend trainings and important skill development sessions for better knowledge of skills and understandings of the employees, which often come back in the form of better quality of their work performance. In 2015, each department sent their employees to professional trainings organized by the company in various disciplines: accounting, legal, engineering, etc.

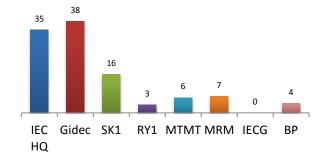
#### Company's Rules and Regulations - Compliance

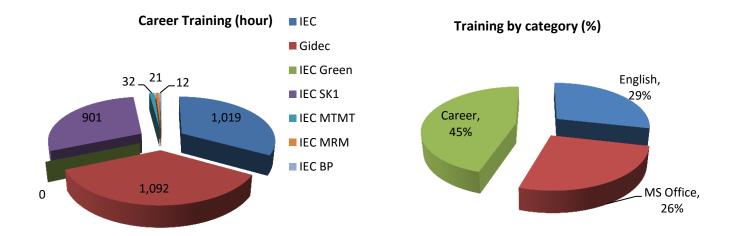
IEC rules, regulations and operational approaches have been modified and adjusted regularly to better suit the current state of the economy, society, and business operations of the company. The human resources department is responsible for preparing the information necessary for providing compliance trainings to ensure that all employees abide by the rules and regulations of the company. Attending these meetings is a requirement that will be used to evaluate the annual work performance of each employee. In 2015, the department arranged for the 2015 Good Corporate Governance and Anti-Corruption trainings which included codes of conduct that must be observed by the employees, surveys on good corporate governance among registered companies in Thailand in 2014 by IOD and company's operational plans according to the principles of good corporate governance. As for anti-corruption policies, IEC organized trainings to make certain that the company's employees understand the meaning of "Corruption" which covers various areas including giving or receiving bribery, threatening, blackmailing or

extortion, along with steps one should take to notify relevant authorities about an act of corruption (Whistle Blowing) so that compliance with anti-corruption policies become more concrete.

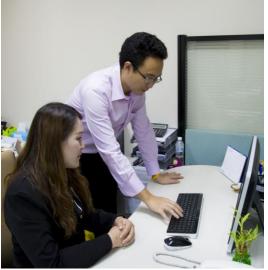
In 2015, the ratio for trainings attendance was: 45% for Professional Trainings, 29% English Language Trainings, and 26% for Microsoft Office Trainings. GIDEC Co., Ltd had the highest hours of attendance, or at 38 hours per person per year.

Average hour of Trainings: per person per year (by Company)











My name is Tai. I have been working here at IEC for 2 years. From the very first day, IEC has always been very welcoming. All of the seniors in my department are very kind. They give me really good advice about how I should approach my work and how I can do a better job. My team leader is very competent. I learn new things every day and develop skills that are necessary to improve my work performance. Our human resources department does a very good job to provide the information I need. The company also encourages all of us to attend trainings in various programs such as basic computer knowledge and English language trainings.

I think the continuous acquirement of new work-related Accomplishments for Co-Workers and Workplace knowledge and skills is a very important thing Relationship in 2015

Miss Sunisa Sitthirit, IT Service Dept.

#### **Labor Practices and Human Rights**

The company has appointed an employee's welfare committee as required by labor laws from department representatives chosen and assigned to be part of the committee. The main objectives include maintaining good labor practices, human rights, and employee's welfare among companies within the group in order to ensure that there is no unjust treatment or any violations to the principles of good labor practices and human rights. In 2015, IEC hired more than 300 new employees, with 166 being full-time employees and 145 as day workers. For day workers, the company determined their wages by taking into account the current rates of the cost of living and minimum wages per day within the local areas. IEC hired all of its day workers with appropriate wages based on local minimum wages in a suitable work environment. IEC has also developed policies for fair treatment, respect for diversity (country, religion and etc.) and encouragement for mutual and equal participation in order to ensure harmony within the organization. In addition, IEC also emphasizes the legal compliance to rules and regulations related to employment, especially in respecting equal human rights, starting from giving employment based on merits, without separating, or discriminating against anyone's race, sex, gender, age, or religion. This also includes taking actions in relation to all stakeholders with equal fairness.



#### **Employees' Annual Health Examination**

Every year, IEC organizes in-house medical examinations for all of its employees and the company executives. This is a service provided by standard hospitals to help raise all employees' awareness the importance of regularly taking care of their health. All employees will be able to talk with doctors regarding their health conditions or health problems. And the doctors will make recommendations regarding possible future treatment in the case where such a course of action is deemed necessary.



#### Power of Love

Power of Love is a project established with the idea to enhance, encourage love and commitment and to push for



greater business performances (economically), love and support for surrounding communities and the greater society, and to ultimately reach for balanced environmental preservation.

Love Planet: means the love for the environment, the act of helping one another to take care of the environment responsibly and sustainably. It also includes encouraging all employees to perform their roles and responsibilities with environmental awareness in order to minimize negative impacts that they might have on the environment.

Love People: means the love for the surrounding communities and all groups of stakeholders by taking into

account the needs and peace that must be maintained within and among the communities and groups of stakeholders to allow for sustainable harmony and co-existence among all groups of people.

Love Profits: or the love and commitment to push for and create sustainable profits for the company. It means the employees will prioritize the organization and undertake their roles and responsibilities and bring about sustainably and the highest possible returns for all groups of stakeholders.

Power of Love project was first established in 2015, with the first activities being to encourage all company's employees to participate in the project where all employees joined together to submit their own designs for the company's uniform under the concept "Power of Love", with the winner to receive a financial reward. The winner's shirt design will be made as a company uniform to be worn by all employees on Mondays. The main objectives of this project was to encourage love and good cooperation between and among colleagues as well as to raise awareness and cooperation toward the path of sustainable development with great balance in terms of economic, social, and environmental aspects, with the power of love from all co-workers and colleagues.

#### **Human Resources Development Plans**

#### On Good Labor Practices and Human Rights

IEC has plans to elevate our social and human rights projects. In the future, IEC will increase the potential of the company in different areas in order to provide opportunities for people with disabilities to join us with duties and responsibilities suitable with their physical conditions. IEC will focus on making sure that our labor practices are strictly in line with relevant laws and regulations, by prioritizing work environment to enhance and facilitate good cooperation and workplace happiness for all employees.

On Employees' Health, IEC will develop our health examination services and provide more opportunities for our employees who are at risks of certain medical conditions, as well as increase health and accident insurance coverage for all of our employees. The company will focus more on taking preventive measures against diseases and illnesses, such as exercises and provision of knowledge on working with good sanitation and hygienic practices, instead of putting emphasis on treatment or remedies.

#### **Employment Engagement Survey**

In 2015, IEC took a survey on the opinion of employees on their relations and connections with the organization in order to learn about factors that can help create and enhance such connections between the employees and their organization, as well as workplace happiness, satisfaction in various areas and factors that can affect relationships within the organization – in order to study, develop, and improve the organization specifically on the aspects related to employee's welfare. The main topics of the survey included the following.

- Employees' opinions on encouraging love and connections between employees and their organization
- Employees' opinions on work environment
- Employees' opinions on leadership
- Employees' opinions on career opportunity and career advancement within the organization
- Employees' opinions on keeping a good balance between work life and personal life.

#### On Employees Development

The 2015 Employees Development Plan also focused on developing and increasing the knowledge and skills necessary for employees to perform the works within their scope of responsibilities well. This objective was achieved through the training programs provided on various issues, both in the forms of professional trainings and compliance trainings to ensure compliance with the company's rules and regulations. The most important development programs included professional trainings in the areas of accounting and finances, production process, engineering, English language and computer programs as well as training programs that were concerned with psychological development and leadership programs.

#### Occupational health and safety

IEC focuses and recognizes the importance of occupational health and safety of both employees and related parties in all of our business operations. We have determined operational plans, created knowledge and understandings for different parts of our work operations and organized campaigns to raise awareness among our employees and related parties in all of our facilities to perform their works and responsibilities in accordance with good hygienic practices and relevant safety standards.

Our business operations of power plants and plastic pellets production plants have been structured to be operated by skilled and experienced personnel. The company also has an established safety department for each production plant in order to ensure work safety among all employees by using PPE or safety equipment, making in-depth analysis regarding preliminary risks or dangers, reporting incidents, dangers, illnesses or nuisance as a result of the work operations, carrying out necessary investigations, supporting work-safety activities and providing opportunities for both employees and related parties to decide safety operational plans in order to minimize accidents and sickness of employees or related parties and making sure that all employees feel stable, safe and confident in working within all of IEC facilities.

In 2015, the beginning of safety operations, after improving our entire business structure to renewable energy, the rates of accidents that necessitated a work absence was at about 0.12-0.14%, compared to hours per person. In 2016, IEC has devised a more concise and complete plan in order to make certain that all IEC work operations will be free from occupation accidents and illnesses. The safety standards at each power/production plant are different because they are tailored to best suit the work operations at each specific location and the business operations of the power plants.

#### **Solar Power Plants**



IEC has a total of three solar power plants which are all located in the northern part of Thailand. The solar power plant business is a power plant business with almost no environmental effects from its business operations. This is because there is no burning process of any kind and so there is no smoke, gas, smell or waste from the process. Hence, the safety operational plans for our solar power plants focus mainly on maintaining the general safety conditions and normal operations of the power plant. All employees at all solar power plants have duties to inspect and make sure that the tools, equipment, and machinery are always ready and safe for use for electricity

generation. The employees are also responsible for immediately reporting to their superiors when the tools and equipment used at the plants become out of order so that they can be repaired as soon as possible and also to prevent more serious and more dangerous incidents at the onset of the problem. In addition, all employees working in the fields/power plants are required to wear PPE or Personal Protective Equipment at all times while working. All of IEC's Solar Power Plants are also equipped with PPE both for IEC employees and visitors to the power plants. Every year, we organize drills for various cases of emergencies such as in case of fire in order to prepare all of our personnel to know what they should do in case of emergency, what they should do to prevent such incident and also to provide opportunities with which they can familiarize themselves with the fire and safety equipment. All of our

power plants are well equipped with fire safety equipment in both indoor and outdoor locations. The company requires fire emergency drills to be carried out once every year. As for 2015, there was no emergency/accident which occurred within IEC solar power plants in all three locations.

In terms of occupational health and safety, IEC arranges for annual health examination for all employees working in solar power plants once every year. The company also provides health and accident insurance and encourages regular practice of cleanliness within all of the power plants.

#### Waste-to-energy and Biomass Power Plants

The Waste-to-Energy Power Plant is located at Hat Yai district, Songkhla province. The Biomass Power Plant is located at Meung district, Sra Kaew Province. Both power plants have similar electricity generating systems in that both involve the burning of materials. Hence, they are categorized as power plants which must be operated under special controls to minimize environmental impacts as well as for the safety of the employees and relevant parties. The special controls can be divided into two categories, as follows.



1) Work safety for employees working with engines or machineries to generate electricity as well as overall safety in the surrounding areas of the power plants. Employees and individuals working with the machineries within the plants have higher safety risks than employees working in other areas/stages of the operations. Both power plants are controlled by safety operational plans related to working with such machineries as well as specific and the strictest requirements for the employees' mandatory use of PPE, regular information displays and safety trainings among many other measures which are used to ensure

employees' safety throughout their work operations. In addition, safety meetings among safety officers at all work levels and contractors coming to work within the premises of the power plants are required to arrange for fire drills on a yearly basis. Employees are also required to report all accidents so that the safety committee can investigate the matter and find the root causes of the problems, as well as develop and implement necessary preventive measures in order to prevent future occurrence. Official safety survey and evaluation must be conducted once every year. The safety committee determines the plants' safety policies and safety operational plans and closely supervises the safety aspects in all work operations.

2) The business operations of a power plant involve the production process which must have special controls in terms of environmental impacts. The power plant must arrange for appropriate and adequate occupational health and safety measures for all of its employees. Both IEC power plants operate on operational plans that accord with the principles of occupational health and safety. We have an annual activity called "Big Cleaning Day" which is when all employees come together to clean various areas of the power plants. Other regular activities include "5 S" activities and annual health



examination for all employees. All workers in the power plants will receive comprehensive health examination, especially for their respiratory system and detailed health check-ups on occupational diseases and illnesses. The employees are also encouraged to wash their hands regularly, both before and after carrying out their roles and responsibilities at the power plants. The company and the power plants also take great care to provide first-aid medical facilities, hygienic dining areas and clean drinking water stations to ensure good health and good physical conditions for all employees working at the plants. In addition, the safety committee also arranges for the detailed inspection and analysis of the environment within the power plants twice every year. The inspection often includes Hot Environment Measurement, light measurement, noise measurement and chemicals measurement in order to ensure that the power plants are safe to work in and also to prevent negative impacts on the surrounding communities.

#### Plastic Pellets from Waste Plastic Production Plant



In 2015, IEC invested in a production plant for plastic pellets which are made from waste plastic. The production plant was first opened for operation in December, 2015. The company has taken great care to establish the standards for occupational health and safety for all of its employees and relevant individuals. The company focuses on providing necessary trainings to all of its employees and relevant individuals so that they have the knowledge and understanding required to execute their roles and responsibilities and assure their own health and safety in the work environment. The company also has plans for emergency evacuations and fire prevention. An appointed safety committee at the plant will be responsible for determining the safety-oriented operational approaches and announce them to all personnel working at the plant. There are also measures taken to regulate all employees to wear PPE and the required inspection of machineries and engines in order to find and assess the risks involved at each process of the work operations. The company also organizes regular trainings on cleanliness and sanitation within the plant areas. All employees are encouraged to wash their hands both before and after work. The company takes extra care to provide and designate dining areas with good hygiene and also arranges for annual health examinations for all employees. As for information records and performance evaluations, the safety committee started keeping records of information in 2016. The statistics kept include accidents, employee sickness and analysis of the environment within the project in order to assess the health and safety risks involved in the work operations of both employees and other relevant individuals. The plastic pellets production plant from waste plastic in Rayong province has organized a public health campaign by providing 30 bicycles for their employees to use in short distance commuting between the plant and nearby areas as well as for employees who live close to the plant to use the bicycle to commute to and from the production plant. This is another attempt taken to raise health awareness and enhance the good relations and cordiality between the company and its employees.

#### **Environmental Sustainability**

#### WATER

Preserving valuable resources is a very important objective in our business operation. In order to save cost of our business operations, preserve the environment and maintain the harmony with the surrounding communities, IEC understands the importance of using our water resources. The company has installed water treatment systems and reclaim water systems so that all of the water used can be treated, recycled and used again. And in the case where it is deemed necessary to release water to natural bodies of water, IEC takes serious measures to check the quality of the water in terms of quantity of oxygen, temperature and pH values, to ensure that the water released from the plants accords with the standards of the Department of industrial works and will not affect animals or plants as well as the ecology system in the surrounding areas of the plant.

The company installed a water treatment system at the plant for plastic pellets production from waste plastic in 2015. The system is used to treat the waste water from waste plastic washing and cleaning, an essential part of the recycling process. With the system in place, the water can be treated effectively and used again without any of it released to a body of water outside of the plant.

As such, water resources management is another important indicator for evaluating the overall performance of a plant as it can point out whether the plant has an awareness of possible environmental effects to the surrounding communities. Most of the water used inside our plants comes from both the public water supply and tapped underground water. Saving and preserving the water, therefore, is a very important objective in living with the surrounding communities which also need to use water, whether for agriculture, household uses or for other industrial facilities.

In 2015, the IEC (GIDEC) Waste-to-Energy Power Plant in Hat Yai District, Songkhla used over 70% of recycled water, of its total water consumption, with only 30% of the water used being released back to natural sources of water.

#### AIR / SMELL

It is a management-must for power plants with materials combustion to have an effective system to supervise and control possible air pollutions that might drastically affect the health of the people in the surrounding communities. During 2014-2015 which was the beginning/first stage of operations of the waste-to-energy power plant in Songkhla province, with more than 300 households in the surrounding areas, the plant monitored and measured dust and gas values regularly in order to prevent any negative impact on the surrounding communities. We also installed "Multi Cyclone" system which is a dust collector/separator device to remove dust and impurities from the exhaust system in order to enhance the quality of the air released from the plant.

In 2015, the total dust value measured from the air released from the plant's ventilator was 57.73 mg/m3, which is roughly



52% lower than the standard value. In addition, the gas released such as oxides of Nitrogen, Sulfur dioxide and Carbon Monoxide were also 29-48% lowers than the standard value.

IEC's Biomass Power Plant in Sra Kaew Province is another power plant which uses materials combustion to generate electricity. The plant has competent employees with skills and expertise to regularly monitor and inspect the quality of the air released from the plant's ventilators to remain within standard values. The plant also has a dust collection system installed. The system makes use of static electricity to separate particles which can catch dust particles smaller than 1 micron for more than 99%. The system can also help increase the overall efficiency in the plant's electricity generation.

IEC Solar Power Plants are renewable energy power plants which are 100% environmentally friendly. The electricity generation process does not involve any type of material combustion, and consequently, there is no dust or air pollution of any kind.

#### WASTE

From the operations and electricity generation at both the Biomass Power Plant and Waste-to-Energy Power Plant, it is unavoidable that there will be waste produced as a result of the power generation. IEC is as aware as ever of the possible impacts that may occur after. Hence, in both power plants, the company has established a special management plan for the ash/waste resulting from the plant's power generation. Currently, the Biomass Power Plant in Sra Kaew produces, from its production process, about 50-60 tonnes ash waste. The method used at the plant to dispose of the waste is (ash) landfilling at designated areas within the power plant. As for the waste-to-energy power plant in Songkhla province, the total amount of ash waste produced each day is about 30 tonnes. The ash is also disposed of with landfilling within the power plant. In addition, both power plants are required to measure the amount of contaminants, impurities, and heavy metals every month in order to minimize environmental effects. In the long run, the plants have plans to make use of the resultant waste from their production process as organic fertilizer. This is also a part of the plants' community development plans

#### **Others**

#### **Transport**

Throughout the business operations of the company, raw materials must be transported on land. Hence, transport trucks are very essential for suppliers transporting raw materials to both the biomass power plant in Sra Kaew province and the plastic pellets production plant in Rayong province. As for the waste-to-energy power plant in Hat Yai, Songkhla province, the waste materials are transported regularly to the plant by municipal garbage trucks. IEC takes into our consideration the possible impacts to the environment and has coordinated and collaborated with all transporters to make the journeys with great care and to not make the journeys during rush hours. In addition, IEC is also aware of the possible impacts on the roads/streets used to transport the materials to the plants. Thus, IEC has taken actions, at its own expense, to fix the roads and install lights for a distance of approximately 1.7 km., leading to the Sra Kaew Biomass Power Plant, regularly used by the garbage trucks to transport the materials. The project has been completed and allows the people living in the communities to use the roads which have become much safer.

#### **Corporate Social Responsibility (CSR)**

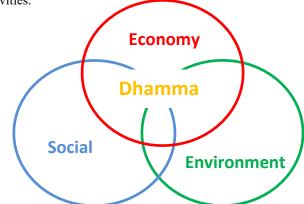
IEC focuses on CSR activities designed to lower negative impacts and encourage positive effects toward all groups of stakeholders in order to develop and propel the organization toward sustainability in terms of economic, social, and environmental aspects, under the principles of IEC good corporate governance and the dharma approach of "The Four Sublime States" to organize the company's CSR activities.

#### The Four Sublime States and IEC CSR Activities

Metta: Love or Loving-kindness, the desire for all stakeholder happiness

Karuna: Compassion, the will to free someone from sufferings/miseries

Mudita: Sympathetic Joy when other people live peacefully and happily



Upekkha: Equanimity, setting one's heart at the center, with unshakable balance of mind, rooted in insight. To be in a state with no prejudice. No love. No Hate.

In our business operations, the company relies on good corporate governance by taking into account the wellbeing of all groups of stakeholders within the areas where the company operates its business. From the determination to develop our business together with CSR activities for the greater society and all stakeholders, the company has participated in sustainable developments for both the environment and the surrounding communities in various areas of the company's power plants and its business operations.

#### **Environmental Management**

**Multi Cyclone System** is a dust collector/ separator technology used to control the quality of the air released from an exhaust system. This system is currently used by the waste-to-energy power plant in Hat Yai, Songkhla in order to help lower possible negative impacts on the environment in terms of air pollution. The system has been installed and in use since 2015

**Bio Dry System** is a closed building located within the project area of the waste-to-energy power plant in Hat Yai District, Songkhla province. The building is generally used as storage area for waste materials before they go into the plant's power generation process. It uses a "Negative Pressure" system to lessen the unpleasant smells and prevents them from going outside. When waste materials are sent to be kept within the building, water will vapor until it reaches an appropriate level. The waste materials will then be sent to another step in the electricity generation process. In addition to that, Bio dry system can also help lessen the problems of unpleasant smells that can result from waste materials being accumulated while the power plant halts its operations in order to fix, repair or maintain the operating systems. Currently, the Bio dry facility is still under construction.

**Electrostatic Precipitator System (ESP)** This technology is currently used at the Biomass Power Plant at Meuang District, Sra Kaew Province. It is a dust collecting system with static electricity to help separate particles using electric fields created by adding electric charges to the particles and then passing the charged particles to electric fields. With that, particles or impurities will move toward collecting plates with the opposite electric potential. ESP system can collect dust and particles even smaller than 1 micron for more than 99.5%. It is, therefore, used to enhance the effectiveness of electricity generation. ESP system has helped the plant to lower its environmental impact, especially in the form of air pollutions.

**Spraying EM** (Effective Microorganisms) is an activity undertaken regularly at the municipality landfills in Hat Yai District, Songkhla province in order to help lower the environmental impacts, especially in the form of unpleasant smells which have been community problems for a long time. The power plant will have a team sent over to the landfills once every week to spray EM. The activity has a great record proving its effectiveness in lessoning the smell and, in turn, bettering the living conditions of the people in the surrounding communities.

#### **Our Participation in Community Development**

Electronic Library in Honor of His Majesty the King Construction Project From the determination to create a learning center for teachers, students, and the general public, Potha Watseni School in Potharam, Ratchaburi, has constructed an electronic library to be used as a learning center for teachers, students and the general public to come to study and research the available materials. The library uses solar panels installed on its rooftop to generate solar power electricity. The company understood the significance and saw possible benefits toward the youth and surrounding communities and chose to participate in the project by donating a solar panel electricity generation system with a total generation capacity of 10 kW. It is possible to observe the current capacity of electricity generation from the monitoring system installed within the building. Currently, the installation of the solar panel electricity generation system has been completed in full. The remaining works are mostly the construction of the building itself that have yet to be finished.



Solar Power Development for Medical Services in Rural Areas The Lampoon 1, 2 solar power plant in Mae Ta District, Lampoon province, participated in a community quality of life development activity at Tambon (Subdistrict) Health Promoting Hospital in Tagas Subdistrict, Mae Ta District, Lampoon Province by providing technology for electricity generation equipment to the hospital to help increase the efficiency in the storage system for medical supplies and ensure that the people living in the areas are able to have good quality and effective medications. The medical supplies room is completed and was opened for use in 2015.



Garbage Bank Project In order to build up knowledge, understanding and foster the idea that everyone in the community can contribute to the better state of the environment starting from separating their waste and garbage

which will help lower the total quantity of garbage being disposed through recycling. The project was first stated in August 2015 by the method of instilling the ideas with children in the surrounding communities to have more knowledge and understanding about each type of garbage, how they should go about separating them, and the benefits of correct and effective garbage sorting. The company has organized the activity in two locations: Ban Beung Pichai School and Ban Toong Lieeb School which are located surrounding/nearby areas of the waste-to-energy power plant. The company arranged to buy sorted plastic bottles, paper and plastic bags in containers the



company has supplied to the schools. In 2015, Garbage Bank Project bought a total of 799 kilograms of sorted garbage from both schools. As for the income generated through the activity, both schools added income to their education fund and used it on other school activities. It was apparent that through the activity, children in the area could effectively learn more about different types of garbage and how to categorize them. This is a big first step toward better standing and more conscious habits that will help preserve the area's environment. And in the near future, we aim to continue this activity and expand it further to other schools and locations to strengthen the community and push it toward becoming an example community for effective and systematic environmental preservation.



CSR DAY: Heart-to-Heart with the Community The company organized activities to increase knowledge and understanding in communities with regard to waste disposal and the waste-to-energy electricity generation process for the better quality of life of the people within the communities. We have also opened a learning center for "waste and garbage management and processing for electricity generation" on March 14, 2015 at the Waste-to-Energy power plant in Hat Yai District in Songkhla province with about 80 employees of the company participating at the event by visiting people living in the surrounding communities and providing them with the information to foster knowledge and understanding of how waste and garbage can be used to generate electricity. The employees also conducted community surveys on the current levels of knowledge, understanding, and suggestions from the people in the surrounding communities through the questionnaires provided.



The company divided employees into 5 different groups to visit the people living in the surrounding communities. The activity was received very well by the local people in the areas, with a total of 299 questionnaires collected at the end of the visit. From the questionnaires and the surveys conducted, we learned that 81.61% of the people answering the questionnaires know about the waste-to-energy power plant. 54.52% of the people knew the municipal solid waste would be used as a heat source for electricity generation. 60.20% of the people answering the questionnaire believed that the power plant had been constructed to help lessen the intensity of the problems of too much municipal waste. 22.74% of the people answering the questionnaires knew about the power plant from word of mouth. There are also suggestions from the people within the community which the company will collect, compile and consider for methods and approaches to address them more concretely in the future.



Road Repairs and Street Lights Installation in Mhu 4 Ban Khoak Chareon The company has taken actions to install street lights in Mhu 4, Ban Khoak Chareon, Sala Lamduan Subdistrict, Meuang District, Sra Kaew Province which is one of the communities in the surrounding areas of the Sra Kaew Biomass Power Plant in order to establish and enhance the safety among the communities when using the road. The project was completed in July, 2015. The company has also repaired damaged roadways in front of the power plant by readjusting the road surface and adding ready-made asphalt so that the road is safer and in a better condition for use.

CSR DAY: Colors and Dreams from Heart to Heart The company, in collaboration with community leaders from communities surrounding the Biomass Power Plant in Meuang Distrcit, Sra Kaew Province, came together to organize an activity to provide knowledge and information on renewable energy to students at the Ban Nhong Thrai school on June 26, 2015. The employees within the group participated in BBL (Brain-Based Learning) renovation by painting rooms, tables and student chairs to improve the conditions for the library and infirmary of the Ban Nhong Thrai school and also presented materials and equipment that were in a supply shortage to the Wat Mhong Thrai temple for future public uses by both the temple and the community.

**Project: Communities and Plant Relations** The company arranged for professional trainings with representatives from Hat Yai Municipality, Kuan Lang Municipality, youth groups and housewives groups in order to create jobs and special additional income for people living in the community through different occupational trainings such as dessert or snacks making, gel candles making, aroma soaps making, products making from waste materials and English language. The activities were organized on every Saturday between November 14 - December 19, 2015. Participants in the project received knowledge and a better understanding of the steps that must be taken in order to effectively sort their household waste and forward them to the process of electricity generation. The activity proved to be very worthwhile in that it helped people to learn more about the intrinsic value of plastic materials, something that they should not ignore. The number of people participating in the project was a total of 95 individuals.

**Solar for Learning** In 2015, the company received and extended our welcome to personnel from various government organizations including the Doi Tao Agricultural Office in Chiang Mai, Energy Policy and Planning

Office of the Ministry of Energy who visited the Lampoon 1,2 Solar Power Plant in Mae Ta District, Lampoon Province; Mae Malai 1,2 Solar Power Plant in Mae Taeng District, Chiang Mai Province, and the Mae Ramad Solar Power Plant in Mae Ramad District, Tak Province. The activity was organized with the aim to help increase the knowledge and actual understanding of electricity generation by solar power plants. All solar power plants arranged specific locations for seminars as well as experts in areas of interest to explain the process for the entire visit at the solar power plants.

Community Activities for the Public In order to bring about good relations and harmony between all members within the society, the company has given support to various community activities for the public in order to provide opportunities for the company to learn more about the culture and the general livelihood of people in local areas. Examples of such activities include annual events such as Children's Day, Merit Making Ceremonies and Charitable Donation events in support of local community activities, etc.



G4-DMA, G4-EN11-12



The waste management and subsequent transformation to electricity power and the plastic pellets from waste plastic production plant are among the main business operations of IEC. Waste and garbage is one of society's main problems that have caused drastic changes and impacts on the ecosystems. At present, there are as much as 28 million tonnes of accumulated waste in Thailand. IEC was among the first companies to initiate a more systematic waste management system in order to reduce possible impacts on the ecosystems resulting from inadequate and unsanitary waste management commonly practiced at landfills.

The waste-to-energy power plant in Hat Yai District, Songkhla Province can help divert waste from landfills from 250 tonnes daily, or more than 90,000 tonnes per year by converting it into electricity power with the help from clean and environmentally friendly technology. This waste and garbage, if not managed systematically, are likely to be forwarded to landfills and end up causing a variety of serious problems to the environment, the ecosystems and nearby communities. The total area of the Hat Yai Municipality landfills is approximately 135 Rai and located at the Kuan Lang Subdistrict, within the Kuan Lang Municipality on the road leading to the Hat Yai International Airport in the province of Songkhla. There are more than one million tonnes of waste accumulated at the landfills, or

roughly the height of a 5 to 6-story commercial building. Here IEC business operations at the Waste-to-Energy power plant can help reduce the environmental effects often caused by inadequate management of landfilling.

The recycled plastic pellets production plants in Rayong Province and Songkhla Province are extended business operations built upon the knowledge, experience, and expertise acquired from the company's business operations at the waste-to-energy electricity generation plant in Hat Yai District, Songkhla Province. The company makes use of the knowledge and understanding in sorting economically valuable waste plastic such as P.E. plastic which can be processed, melted, and re-produced as Grade 2 plastic pellets to be sold as initial substance/materials for plastic material manufacturers both in domestic and international markets. The production plant uses up to 1,000 tonnes of waste plastic daily. Most of the plastic used comes from waste plastic materials that have been landfilled in various areas such as On-Nuch landfills, Ban Beung landfills and Hat Yai landfills, etc. The production plant can help reduce the total amount of the landfilling practice by as much as 365,000 tonnes annually. In contrast, if the waste materials are not recycled but instead conventionally forwarded to landfills, the amount of waste materials can take up as much as 65 Rai of land areas for landfilling.

From the same sorting process of all waste materials to find and bring P.E. plastic to be recycled as plastic pellets, IEC can also bring biodegradable materials such as Polymer and foods scraps to produce RDF (Refuse Derived Fuel) and use it as a source of fuel for the IEC Biomass Power Plant in Sra Kaew Province. Hence, our production processes are truly oriented toward effective preservations of the environment and local ecosystems.

## **Pathway toward Sustainability**

- 1922 The International Engineering Company Limited was established and contracted to build Bangkok Aranyaprathet railway to connect Thailand and Cambodia for the first time.
- 1953 Registered the company with a registered capital of 10 Million Baht.
- 1965 Received the Royal Warrant of Appointment with Red Garuda emblem
- 1983 Appointed as the sole sale representative and distributor of Nokia mobile phones in Thailand
- 1992 Registered as a Public Company Limited with the Stock Exchange of Thailand
- 2012 Partnered up with Electricity Generating Public Company Limited (EGCO) to invest in the Waste-to-Energy Power Plant in Hat Yai District, Songkhla Province
- 2013 Changed the business operations model to focus more on renewable energy in a variety of projects
  - Solar Power Plant in Mae Ta District, Lampoon Province, a with production capacity of 1.02 MW started its business operations
  - Solar Power Plant in Mae Ramad District, Tak Province, with a production capacity of 5.25 MW started its business operations
- 2014 Invested in common stocks of E-Contech Management Pte., Ltd. to operate engineering consulting businesses. The first project involved conducting a research on the viscosity of oil transported via the pipelines of PTTEP Canada Ltd.
  - Solar Power Plant in Mae Taeng District, Chiang Mai Province, with a production capacity of 1.92
     MW started its business operations
  - Hat Yai Waste-To-Energy Power Plant in Hat Yai District, Songkhla Province, with a production capacity of 6.5 MW started its business operations
  - Bought 75% of common stocks from Kaew Lamduan Power Supply Co., Ltd. in order to operate the Biomass Power Plant in Meuang District, Sra Kaew Province, with a production capacity of 8 MW
  - Prepared the 2014 Good Corporate Governance Manual
  - Established Compliance Unit
- 2015 Announced Sustainable Development policies
  - Announced Anti-Corruption policies
  - Certified with ISO 9001 : 2008 Quality Management Standard for the company's Solar Power Plant at Mae Ta District, Lampoon Province.
  - Evaluation of the company's director's work performance
  - Improvement in the overall work operations
  - Signed on to the Collective Action Coalition of Thailand's private sector to oppose all types of corruption.

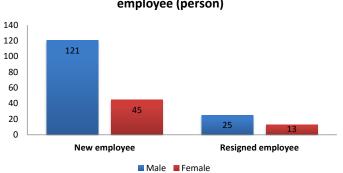
G4-9-10, G4-EC5-6, G4-EN3, G4-EN31, G4-LA2-3. G4-LA7

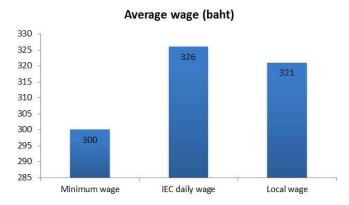
## Performance data on Sustainability

Economic Performance	Unit	2015	2014
Revenues	baht	607,791,740	512,482,993
Total Comprehensive income (loss)	baht	141,773	13,408,550
Financial costs	baht	43,765,103	15,252,974
Total assets	baht	4, 498, 060, 051	3,891,165,811
Total liabilities	baht	1,118,647,620	1,031,472,110
Total equity	baht	3,379,412,431	2,859,693,701
Income tax expense (income)	baht	(920,584)	600,554
Employee benefit expenses	baht	148,810,327	72,960,716
Environment and Social performance	Unit	2015	
Environmental Investment	baht	118,900,000	
Social Investment	baht	2,658,926	
Employee Information			
Number of Employee	person	283	
Propotion of employee by gender			
Male	person	204	
Female	person	79	
Propotion of new employee by gender			
Male	person	121	
Female	person	45	
Number of senior manager	person	40	
Propotion of local senior management	%	67.5	
Turnover rate	%	12	
Propotion of absense by gender			
Male	%	0.50	
Female	%	0.29	

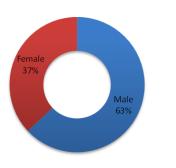
Environment and Social performance (Continue)	Unit	2015	
Employee Trainning	hour	5,467	
Propotion of Employee by sector			
Management	%	36	
Support	%	31	
Engineering	%	12	
Production	%	15	
Information Technology	%	6	
Parental leave	% -		
Propotion of absense from acident	%	0.26	

# Number of New employee and resigned employee (person)

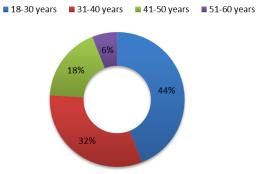




# Sick leave by gender



#### Employee age group

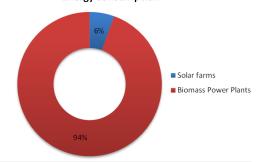


Performance data	Unit	2015
Raw materials used		
Wood	ton	88,268.12
Palm fiber	ton	18,136.29
Bean meal	ton	6,914.08
Coconut husks	ton	941.36
Waste	ton	11,700.00
Ash from production	ton	26,150.00
Electricity generation		
Solar farms	MWh	15,915.24
Biomass Power Plants	MWh	34,116.47
Total generation	MWh	50,031.70
Energy Consumption (Power Plant)		
Solar farms	MWh	70.15
Biomass Power Plants	MWh	1,200.00
Total consumption	MWh	1,270.15
Total steam generation and consumption	ton	89,200.00
Recycled water	m3	210.24

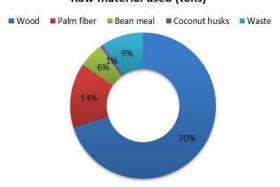


# 32% Solar farms Biomass Pc

#### **Energy consumption**



#### Raw material used (tons)



## Total steam generation and consumption (ton)



## **About this Report**

Sustainability Report 2015 was prepared to disclose the management approach toward sustainability topics of IEC. This report covers the period 1st January - 31st December 2015. The report is prepared once every fiscal year. This is the first edition presented a comprehensive report of International Engineering Public Company Limited and its subsidiaries with a concentration on economic, social and environmental issues, following the guidelines of Global Reporting Initiative G4. ('In Accordance' Comprehensive option) The sustainability topics presented in this report is the responsibility of the IEC and executives.

#### **GRI Content Index**

G4 Index	Description	Annual Report (Page)	Sustainable Development Report (Page)	Note
GENERA	L STANDARD DISCLOSURES			
STRATEG	Y AND ANALYSIS			
<u>G4-1</u>	statement from the most senior decision-maker of the organization	7	4	
G4-2	Provide a description of key impacts, risks, and opportunities.	13-32	27-28	
ORGANI	ZATIONAL PROFILE			
<u>G4-3</u>	Report the name of the organization.	Front cover	5	
<u>G4-4</u>	Report the primary brands, products, and services.	1	5	
<u>G4-5</u>	Report the location of the organization's headquarters.	242	5	
G4-6	Report the number of countries where the organization operates	242	5	
G4-7	Report the nature of ownership and legal form	83	5	
G4-8	Report the markets served	13-29	7-10	
G4-9	Report the scale of the organization	-	37,59	
<u>G4-10</u>	Report the total number of employees by employment contract and gender	-	59	
G4-11	Report the percentage of total employees covered by collective bargaining agreements.	_	38	
G4-12	Describe the organization's supply chain.	-	6	
G4-13	Report any significant changes during the reporting period regarding the	-	-	
	organization's size, structure, ownership, or its supply chain.			
	Report whether and how the precautionary approach or principle is addressed			
G4-14	by the organization.	29-32	27-28	
	List externally developed economic, environmental and social charters,			
G4-15	principles, or other initiatives	13-29	5	
G4-16	List memberships of associations.	-	5	
	ED MATERIAL ASPECTS AND BOUNDARIES			
	List all entities included in the organization's consolidated financial statements			
G4-17	or equivalent documents.	10	62	
<u>U . 17</u>	or equitation documental		02	
G4-18	Explain the process for defining the report content and the Aspect Boundaries.	-	15,62	
	List all the material Aspects identified in the process for defining report			
G4-19	content.	-	15	
G4-20	Descriptions of material aspect boundaries within the organisation.	-	15	
G4-21	Descriptions of material aspect boundaries outside the organisation.	-	15	
	Report the effect of any restatements of information provided in previous			
G4-22	reports.	-	15	
G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries.	_	_	

<b>STAKEHO G4-24</b>		(Page)	(Page)	Note
G4-24	OLDER ENGAGEMENT	1		
	Provide a list of stakeholder groups engaged by the organization.	-	34-35	
	Report the basis for identification and selection of stakeholders with whom to			
<u>G4-25</u>	engage.	-	34-35	
<u>G4-26</u>	Report the organization's approach to stakeholder engagement.	-	34-35	
	Report key topics and concerns that have been raised through stakeholder		24.25	
G4-27	engagement.	-	34-35	
REPURI	PROFILE	ı		
C1 20	Banarting paried (cush as fiscal or calendar year) for information provided	Front cover	62	
<u>G4-28</u> G4-29	Reporting period (such as fiscal or calendar year) for information provided.	Front cover	62	
G4-29 G4-30	Date of most recent previous report (if any).  Reporting cycle (such as annual, biennial).	Front cover	62	
<u>G4-30</u>	Reporting cycle (such as annual, blennar).	Front cover	02	
G4-31	Provide the contact point for questions regarding the report or its contents.	241	back cover	
G4-31 G4-32	Report the 'in accordance' option the organization has chosen.	241	62	
<u>0+ 32</u>	Report the organization's policy and current practice with regard to seeking		7	
G4-33	external assurance for the report.	-	62	
GOVERN	ANCE			
G4-34	Report the governance structure of the organization.	10	13	
<u> </u>	Report the process for delegating authority for economic, environmental and	10	13	
	social topics from the highest governance body to senior executives and other			
G4-35	employees.	-	13	
	Report whether the organization has appointed an executive-level position or			
G4-36	positions with responsibility for economic, environmental and social topics.	-	11-14	
	Report processes for consultation between stakeholders and the highest			
G4-37	governance body on economic, environmental and social topics.	-	34-35	
G4-38	Report the composition of the highest governance body and its committees.	-	13-14	
	Report whether the Chair of the highest governance body is also an executive			
<u>G4-39</u>	officer	9,59	-	
	Report the nomination and selection processes for the highest governance			
<u>G4-40</u>	body and its committees	76	-	
	Report processes for the highest governance body to ensure conflicts of			
<u>G4-41</u>	interest are avoided and managed.	-	-	
<u>G4-42</u>	Board and executives' roles in the organization's mission statements,	67	-	
<u>G4-43</u>	Board knowledge of sustainability topics	-	-	
<u>G4-44</u>	Board performance with respect to governance of sustainability topics	69	29	
<u>G4-45</u>	Board role in the identification and management of sustainability	-	11-12	
<u>G4-46</u>	Board role in reviewing risk management processes for sustainability topics.	-	27-28	
64.47	Frequency of the board's review of sustainability impacts, risks, and		27	
<u>G4-47</u>	opportunities	-	27	
	Report the highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material Aspects			
G4-48	are covered		62	
<del></del>	Report the process for communicating critical concerns to the highest	-	62	
G4-49	governance body.	_	33	
<u> </u>	Report the nature and total number of critical concerns that were	-	33	
	communicated to the highest governance body and the mechanism(s) used to			
G4-50	address and resolve them.	_	_	
	Report the remuneration policies for the highest governance body and senior			
G4-51	executives	70-71	_	
G4-52	Report the process for determining remuneration.	71	-	
G4-53	Report how stakeholders' views are sought and taken into account regarding	-	-	
	Report the ratio of the annual total compensation for the organization's			
	highest-paid individual in each country of significant operations to the median			
<u>G4-54</u>	annual total compensation for all employees	-	-	
	Report the ratio of percentage increase in annual total compensation for the			
	organization's highest-paid individual in each country of significant operations			
C4 55	to the median percentage increase in annual total compensation for all			
G4-55	employees	-	-	
ETHICS A	AND INTEGRITY			
	Describe the organization's values, principles, standards and norms of	_		
<u>G4-56</u>	behavior such as codes of conduct and codes of ethics.	1,7	29-30	
C4 5-	Report the internal and external mechanisms for seeking advice on ethical and		2.5	
	lawful behavior	242	33	
<u>G4-57</u>		I .		
<u>u4-5/</u>	Report the internal and external mechanisms for reporting concerns about			

G4 Index	Description	Annual Report (Page)	Sustainable Development Report (Page)	Note
SPECIFIC	STANDARD DISCLOSURES  CATEGORY: ECONOMIC			
MATERIA	AL ASPECT: ECONOMIC PERFORMANCE			
	Report why the Aspect is material. Report the impacts that make this Aspect			
	material.	26-28	-	
G4-EC1	Report the direct economic value generated and distributed	-	-	
	Report risks and opportunities posed by climate change that have the potential			
G4-EC2	to generate substantive changes in operations, revenue or expenditure	-	-	
	Coverage of the organisation's defined benefit plan obligations	-	-	
	Financial assistant received from the government AL ASPECT: MARKET PRESENCE	-	-	
IVIATERIA	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.	-	-	
	Report the ratio of the entry level wage by gender at significant locations of			
<u>G4-EC5</u>	operation to the minimum wage.	-	60	
C4 FCC	Report the percentage of senior management at significant locations of			
G4-EC6	operation that are hired from the local community.  CATEGORY: ENVIRONMENTAL	-	59	
MATERIA	AL ASPECT: MATERIALS			
	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.	-	48	
	Report the total weight or volume of materials that are used to produce and package the organization's primary products and services during the reporting			
G4-EN1	period.	_	_	
	Report the percentage of recycled input materials used to manufacture the			
<u>G4-EN2</u>	organization's primary products and services.	-	20,61	
MATERIA	AL ASPECT: ENERGY		T	
C4 DN4A	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DIVIA	material.  Report total fuel consumption from non-renewable sources in joules or	-	-	
G4-EN3	multiples.	-	59	
G4-EN4	Report energy consumed outside of the organization, in joules or multiples.	-	-	
<u>G4-EN5</u>	Report the energy intensity ratio.	-	-	
	Report the amount of reductions in energy consumption achieved as a direct			
<u>G4-EN6</u>	result of conservation and efficiency initiatives, in joules or multiples.	-	-	
	Reductions in energy requirements of products and services	-	-	
MATERIA	AL ASPECT: WATER		r	
G4-DMA	Report why the Aspect is material. Report the impacts that make this Aspect material.	_	48	
	Report the total volume of water withdrawn.	-	-	
G4-EN9	Report the total number of water sources.	-	-	
	Report the total volume of water recycled and reused by the organization.  AL ASPECT: BIODIVERSITY	-	61	
WATERIA	Report why the Aspect is material. Report the impacts that make this Aspect		r	
G4-DMA	material.	-	56	
	Operational sites owned, leased, managed in, or adjacent to, protected areas			
G4-EN11	and areas of high biodiversity value outside protected areas	-	56-57	
	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside			
<u>G4</u> -EN12	protected areas	_	56-57	
	Habitats protected or restored	-	-	
GA ENIAA	Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk			
04-EN14	with habitats in areas affected by operations, by level of extiliction risk	•		
G4	Description	Annual Report	Sustainable Development Report	Note
Index		(Page)	(Page)	
MATERIA	AL ASPECT: EMISSIONS			
	Report why the Aspect is material. Report the impacts that make this Aspect			
	material.	-	-	
	Direct greenhouse gas (GHG)	-	-	
	Energy indirect greenhouse gas (GHG) Other indirect greenhouse gas (GHG)	-	-	
	Greenhouse gas (GHG) emissions intensity	-	-	
	Reduction of greenhouse gas (GHG) emissions	-	-	
0 : 2:115				
G4-EN20	Emissions of ozone-depleting substances (ODS) NOX, SOX, and other significant air emissions	-	-	

G4 Index	Description AL ASPECT: EFFLUENTS AND WASTE	Annual Report (Page)	Sustainable Development Report (Page)	Note
IVIATERIA	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.	-	49	
	Total water discharge by quality and destination	-	-	
	Total weight of waste by type and disposal method	-	49	
G4-ENZ4	Total number and volume of significant spills  Weight of transported, imported, exported, or treated waste deemed	-	-	
	hazardous under the terms of the Basel Convention2 Annex I, II, III, and VIII,			
G4-EN25	and percentage of transported waste shipped internationally	-	-	
	Identity, size, protected status, and biodiversity value of water bodies and			
C4 FN26	related habitats significantly affected by the organization's discharges of water and runoff			
	AL ASPECT: PRODUCTS AND SERVICES	-	-	
	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.	13-29	8-10	
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	-	-	
G4-FN28	Percentage of products sold and their packaging materials that are reclaimed by category	_	_	Not relevance
	AL ASPECT: COMPLIANCE			Not relevance
	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.	-	27-28	
	Monetary value of significant fines and total number of non-monetary			
	sanctions for non-compliance with environmental laws and regulations AL ASPECT: TRANSPORT	-	-	
IVIATERIA	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.	-	49	
	Significant environmental impacts of transporting products and other goods			
	and materials for the organization's operations, and transporting members of			
	the workforce	-	49	
MATERIA	AL ASPECT: OVERALL  Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.	_	62	
	Total environmental protection expenditures and investments by type	-	59	
MATERIA	AL ASPECT: SUPPLIER ENVIRONMENTAL ASSESSMENT			
	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.	-	-	
G4-FN32	Percentage of new suppliers that were screened using environmental criteria	_	_	
	Significant actual and potential negative environmental impacts in the supply			
	chain and actions taken	-	-	
MATERIA	AL ASPECT: ENVIRONMENTAL GRIEVANCE MECHANISMS			
C4 D144	Report why the Aspect is material. Report the impacts that make this Aspect		24	
G4-DIVIA	material.  Number of grievances about environmental impacts filed, addressed, and	-	21	
G4-EN34	resolved through formal grievance mechanisms	-	21-23	
	CATEGORY: SOCIAL			
MATERIA	SUB-CATEGORY: LABOR PRACTICES AND DEC AL ASPECT: EMPLOYMENT	EN I WORK		
	Report why the Aspect is material. Report the impacts that make this Aspect ma	-	37	
	Total number and rates of new employee hires and employee turnover by age			
G4-LA1	group, gender, and region	-	37,38,59	
C4 L43	Benefits provided to full-time employees that are not provided to temporary or			
G4-LA2 G4-LA3	part-time employees, by significant locations of operation  Return to work and retention rates after parental leave, by gender	-	59 59	
	AL ASPECT: LABOR/MANAGEMENT RELATIONS		33	
	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.	-	37	
C4 1 4 4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements		37	
G4-LA4	these are specified in collective agreements AL ASPECT: OCCUPATIONAL HEALTH AND SAFETY	_	37	
ALL TEND	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.		45	
	Percentage of total workforce represented in formal joint			
	management–worker health and safety committees that help monitor and			
G4-LA5	advise on occupational health and safety programs	-	45	
	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of workrelated fatalities, by region and by			
G4-LA6	gender	-	22, 60-61	
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	-	-	
G4-LA7	Health and safety topics covered in formal agreements with trade unions			

G4 Index	Description AL ASPECT: TRAINING AND EDUCATION	Annual Report (Page)	Sustainable Development Report (Page)	Note
	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.	-	40	
G4-LA9	Average hours of training per year per employee by gender, and by employee		40	
<u>G4-LA9</u>	Category Programs for skills management and lifelong learning that support the	-	40	
	continued employability of employees and assist them in managing career			
G4-LA10	endings Percentage of employees receiving regular performance and career	-	25, 41	
G4-LA11	development reviews, by gender and by employee category	-	40-41	
MATERIA	AL ASPECT: DIVERSITY AND EQUAL OPPORTUNITY			
	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.  Composition of governance bodies and breakdown of employees per	-	42	
	employee category according to gender, age group, minority group			
	membership, and other indicators of diversity	-	59-60	
MATERIA	AL ASPECT: EQUAL REMUNERATION FOR WOMEN AND MEN		I	
G4-DM△	Report why the Aspect is material. Report the impacts that make this Aspect material.	_	_	
2. DIVIA	Ratio of basic salary and remuneration of women to men by employee			
	category, by significant locations of operation	-	-	
MATERIA	AL ASPECT: SUPPLIER ASSESSMENT FOR LABOR PRACTICES		l	
G4-DMA	Report why the Aspect is material. Report the impacts that make this Aspect material.	-	-	
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria Significant actual and potential negative impacts for labor practices in the	-	-	
G4-LA15	supply chain and actions taken	-		
	AL ASPECT: LABOR PRACTICES GRIEVANCE MECHANISMS			
	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.  Number of grievances about labor practices filed, addressed, and resolved	-	42	
G4-LA16	through formal grievance mechanisms	-	-	
NAATERIA	SUB-CATEGORY: HUMAN RIGHTS AL ASPECT: INVESTMENT			
	Report why the Aspect is material. Report the impacts that make this Aspect ma	-	42	
	Total number and percentage of significant investment agreements and			
C4 UB4	contracts that include human rights clauses or that underwent human rights			
<u>G4-HR1</u>	contracts that include human rights clauses or that underwent human rights screening	-	-	
<u>G4-HR1</u>	contracts that include human rights clauses or that underwent human rights	-	-	
<u>G4-HR2</u>	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	-	-	
<u>G4-HR2</u>	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  LASPECT: NON-DISCRIMINATION	-	-	
G4-HR2 MATERIA	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	-	-	
G4-HR2 MATERIA G4-DMA G4-HR3	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  ALASPECT: NON-DISCRIMINATION  Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of incidents of discrimination and corrective actions taken	- - -	- 42	
G4-HR2 MATERIA G4-DMA G4-HR3	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  AL ASPECT: NON-DISCRIMINATION  Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of incidents of discrimination and corrective actions taken  AL ASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING	- - - -	42	
G4-HR2 MATERIA G4-DMA G4-HR3 MATERIA	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  AL ASPECT: NON-DISCRIMINATION  Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of incidents of discrimination and corrective actions taken  AL ASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING  Report why the Aspect is material. Report the impacts that make this Aspect	- - - -	42	
G4-HR2 MATERIA G4-DMA G4-HR3 MATERIA	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  AL ASPECT: NON-DISCRIMINATION  Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of incidents of discrimination and corrective actions taken  AL ASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING	- - -	42	
G4-HR2 MATERIA G4-DMA G4-HR3 MATERIA G4-DMA	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  L ASPECT: NON-DISCRIMINATION  Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of incidents of discrimination and corrective actions taken  L ASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING  Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and	-	42	
G4-HR2  MATERIA  G4-DMA  G4-HR3  MATERIA  G4-DMA	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  LASPECT: NON-DISCRIMINATION  Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of incidents of discrimination and corrective actions taken  LASPECT: REEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING  Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	-	42 -	
G4-HR2  MATERIA  G4-DMA  G4-HR3  MATERIA  G4-DMA	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  L ASPECT: NON-DISCRIMINATION  Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of incidents of discrimination and corrective actions taken  L ASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING  Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and	-	- 42	
G4-HR2 G4-DMA G4-HR3 MATERIA G4-DMA G4-HR4 MATERIA	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  AL ASPECT: NON-DISCRIMINATION  Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of incidents of discrimination and corrective actions taken  AL ASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING  Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights  AL ASPECT: CHILD LABOR  Report why the Aspect is material. Report the impacts that make this Aspect material.	- - - -	-	Not relevance
G4-HR2 G4-DMA G4-HR3 MATERIA G4-DMA G4-HR4 MATERIA	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained AL ASPECT: NON-DISCRIMINATION  Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of incidents of discrimination and corrective actions taken AL ASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING  Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights  AL ASPECT: CHILD LABOR  Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified as having significant risk for incidents of	-	-	Not relevance
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G4-HR2 MATERIA G4-DMA G4-HR3 MATERIA G4-DMA G4-HR4 G4-DMA	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  LASPECT: NON-DISCRIMINATION  Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of incidents of discrimination and corrective actions taken  LASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING  Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights  LASPECT: CHILD LABOR  Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child	-	-	
G4-HR2 G4-DMA G4-HR3 MATERIA G4-DMA G4-HR4 MATERIA G4-DMA G4-HR5 MATERIA	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained the process of the proces	-	-	
G4-HR2 G4-DMA G4-HR3 MATERIA G4-DMA G4-HR4 MATERIA G4-DMA G4-HR5 MATERIA	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained the percentage of employees that make this Aspect material.  Total number of incidents of discrimination and corrective actions taken to AL ASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING  Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights  AL ASPECT: CHILD LABOR  Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor  AL ASPECT: FORCED OR COMPULSORY LABOR  Report why the Aspect is material. Report the impacts that make this Aspect material.	-	-	
G4-HR2 G4-DMA G4-HR3 MATERIA G4-DMA G4-HR4 MATERIA G4-DMA G4-HR5 MATERIA	contracts that include human rights clauses or that underwent human rights screening  Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained the process of the proces	-	-	
G4-HR2 G4-DMA G4-HR3 MATERIA G4-DMA G4-HR5 MATERIA G4-DMA G4-HR5 MATERIA G4-DMA	contracts that include human rights clauses or that underwent human rights screening Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  LASPECT: NON-DISCRIMINATION Report why the Aspect is material. Report the impacts that make this Aspect material. Total number of incidents of discrimination and corrective actions taken  LASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights  LASPECT: CHILD LABOR Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor  LASPECT: FORCED OR COMPULSORY LABOR Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified as having significant risk for incidents of child labor and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	- - - - -	-	
G4-HR2 G4-DMA G4-HR3 MATERIA G4-DMA G4-HR5 MATERIA G4-DMA G4-HR5 MATERIA G4-DMA	contracts that include human rights clauses or that underwent human rights screening Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  LASPECT: NON-DISCRIMINATION Report why the Aspect is material. Report the impacts that make this Aspect material. Total number of incidents of discrimination and corrective actions taken  LASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING Report why the Aspect is material. Report the impacts that make this Aspect material. Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights  LASPECT: CHILD LABOR Report why the Aspect is material. Report the impacts that make this Aspect material. Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor  LASPECT: FORCED OR COMPULSORY LABOR Report why the Aspect is material. Report the impacts that make this Aspect material. Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	- - - - - - -	-	
G4-HR2 G4-DMA G4-HR3 MATERIA G4-DMA G4-HR4 MATERIA G4-DMA G4-HR5 MATERIA G4-DMA	contracts that include human rights clauses or that underwent human rights screening Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  AL ASPECT: NON-DISCRIMINATION  Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of incidents of discrimination and corrective actions taken  AL ASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING  Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights  AL ASPECT: CHILD LABOR  Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor  AL ASPECT: FORCED OR COMPULSORY LABOR  Report why the Aspect is material. Report the impacts that make this Aspect material.  Operations and suppliers identified as having significant risk for incidents of child labor and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor  AL ASPECT: SECURITY PRACTICES  Report why the Aspect is material. Report the impacts that make this Aspect		-	
G4-HR2 G4-DMA G4-HR3 MATERIA G4-DMA G4-HR4 MATERIA G4-DMA G4-HR5 MATERIA G4-DMA	contracts that include human rights clauses or that underwent human rights screening Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained  LASPECT: NON-DISCRIMINATION Report why the Aspect is material. Report the impacts that make this Aspect material. Total number of incidents of discrimination and corrective actions taken  LASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING Report why the Aspect is material. Report the impacts that make this Aspect material. Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights  LASPECT: CHILD LABOR Report why the Aspect is material. Report the impacts that make this Aspect material. Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor  LASPECT: FORCED OR COMPULSORY LABOR Report why the Aspect is material. Report the impacts that make this Aspect material. Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor		-	

RADITERIAL ASPECT: NOIGENOUS RIGHTS Report why the Aspect is material. Report the impacts that make this Aspect 42 43 44 45 45 46 46 46 46 46 46 46 46 46 46 46 46 46	G4 Index	Description	Annual Report (Page)	Sustainable Development Report (Page)	Note
S4-DMA material	MATERIA	AL ASPECT: INDIGENOUS RIGHTS		,	
AMATERIA ASPECT: ASSESSMENT  Report why the Aspect is material. Report the impacts that make this Aspect  GE-LINDA  MATERIA ASPECT: SUSPHER NUMAN RIGHTS ASSESSMENT  Report why the Aspect is material. Report the impacts that make this Aspect  GE-LINDA  MATERIA ASPECT: SUSPHER NUMAN RIGHTS ASSESSMENT  Report why the Aspect is material. Report the impacts that make this Aspect  GE-LINDA  MATERIA ASPECT: SUSPHER NUMAN RIGHTS ASSESSMENT  Report why the Aspect is material. Report the impacts that make this Aspect  GE-LINDA  MATERIA ASPECT: SUSPHER NUMAN RIGHTS ASSESSMENT  Report why the Aspect is material. Report the impacts in the supply  Significant actual and potential registive human rights impacts in the supply  Significant actual and potential registive human rights impacts in the supply  MATERIAL ASPECT: HUMAN RIGHTS GRIEVANCE MECHANISMS  Report why the Aspect is material. Report the impacts that make this Aspect  GE-LINDA  MATERIAL ASPECT: LOCAL COMMUNITIES  WINDAM MATERIAL ASPECT: LOCAL COMMUNITIES  Report why the Aspect is material. Report the impacts that make this Aspect  GE-DIAM material.  Percentage of operations with implemented local community engagement,  GE-SIGNA  Percentage of operations with implemented local community engagement,  GE-SIGNA  Percentage of operations with implemented local community engagement,  SIGNA  Report why the Aspect is material. Report the impacts that make this Aspect  GE-DIAM material.  Percentage of operations with implemented local community engagement,  SIGNA	G4-DMA	material.	-	42	
Report why the Aspect is material. Report the impacts that make this Aspect 6.4-DMA material.  Total number of incidents of violations involving rights of indigenous peoples 6.4-BBI and actions taken  MATERIAL ASPECT: SUPPLIER HUMAN RICHATS ASSESSMENT  Report why the Aspect is material. Report the impacts that make this Aspect 6.4-BMA material.  6.4-BMA material.  6.5-BMA material.  6.6-BMA material.  6.7-BMA material.  6.7-BMA material.  6.7-BMA material.  6.8-BMA material.  6.9-BMA	G4-HR8		-	-	
G4-BMA material.	MATERIA	AL ASPECT: ASSESSMENT			
MATERIAL ASPECT: SUPPLIER HUMAN RIGHTS ASSESSMENT  Report why the Aspect is material. Report the impacts that make this Aspect  Significant actual and potential riegative human rights impacts in the supply  Significant actual and potential riegative human rights impacts in the supply  Significant actual and potential riegative human rights impacts in the supply  Significant actual and potential riegative human rights impacts in the supply  Significant actual and actions taken  MATERIAL ASPECT: HUMAN RIGHTS GRIEVANICE MECHANISMS  Report why the Aspect is material. Report the impacts that make this Aspect  SUB-CATEGORY: SOCIETY  MATERIAL ASPECT: ACCIA COMMUNITES  SUB-CATEGORY: SOCIETY  MATERIAL ASPECT: ACCIA COMMUNITIES  Report why the Aspect is material. Report the impacts that make this Aspect  GA-DNA material.  Percentage of operations with implemented local community engagement, impact assessments, and development programs  Associated in the sub-communities of the sub-com		material. Total number of incidents of violations involving rights of indigenous peoples	-	-	
Report why the Aspect is material. Report the impacts that make this Aspect  64-0MA 64-0MA 65-0MA 65			-	-	
Gal-DMA   Percentage of new suppliers that were screened using human rights criteria	WATERIA				
### BIOLO   Percentage of new suppliers that were screened using human rights criteria			-	-	
MATERIAL ASPECT: HUMAN RIGHTS GRIEVANCE MECHANISMS  Report why the Aspect is material. Report the impacts that make this Aspect  64-DMA naterial.  Report why the Aspect is material. Report the impacts that make this Aspect  SUB-CATEGORY: SOCIETY  MATERIAL ASPECT: LOCAL COMMUNITIES  Report why the Aspect is material. Report the impacts that make this Aspect  64-DMA naterial.  Percentage of operations with implemented local community engagement,  Gal-SOL (communities)  Report why the Aspect is material. Report the impacts that make this Aspect  Gal-SOL (communities)  Report why the Aspect is material. Report the impacts that make this Aspect  Gal-SOL (communities)  Report why the Aspect is material. Report the impacts that make this Aspect  Gal-SOL (communities)  Report why the Aspect is material. Report the impacts that make this Aspect  Gal-SOL (communication and training on anti-corruption policies and procedures)  Gal-SOL (confirmed incidents of corruption and actions taken  MATERIAL ASPECT: PUBLIC POLICY  Report why the Aspect is material. Report the impacts that make this Aspect  Gal-DMA material.  Gal-DMA materi	HR10 G4-	Significant actual and potential negative human rights impacts in the supply	-	-	
Report why the Aspect is material. Report the impacts that make this Aspect G4-DMA material.  Report why the Aspect is material. Report the impacts that make this Aspect SUB-CATEGORY: SOCIETY  MATERIAL ASPECT: LOCAL COMMUNITES  Report why the Aspect is material. Report the impacts that make this Aspect G4-DMA material. Percentage of operations with implemented local community engagement, G4-S01 impact assessments, and development programs Operations with significant actual or potential negative impacts on local G4-S02 communities  MATERIAL ASPECT: ANTI-CORRUPTION  Report why the Aspect is material. Report the impacts that make this Aspect G4-DMA material.  Report under the significant risks identified G4-S03 communication and training on anti-corruption policies and procedures G4-S04 Communication and training on anti-corruption policies and procedures G4-S05 Confirmed incidents of corruption and assignificant risks identified G4-S05 Confirmed incidents of corruption and actions taken  MATERIAL ASPECT: PUBLIC POLICY Report why the Aspect is material. Report the impacts that make this Aspect G4-DMA material.  G4-S06 Confirmed incidents of corruption and actions taken  MATERIAL ASPECT: PUBLIC POLICY Report why the Aspect is material. Report the impacts that make this Aspect G4-DMA material.  G4-S07 Confirmed incidents of corruptions and procedures G4-DMA material.  G4-S08 Confirmed incidents of political contributions by country and recipient/beneficiary  G4-DMA material.  G4-DMA material.  G4-DMA material.  G4-DMA material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  G4-DMA material.  G4-DMA material.  G4-DMA material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  G4-DMA material.  G4-DMA material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  G4-DMA material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  G4-DMA material.  Report why the Aspect					
Number of girevances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms   SUB-CATEGORY: SOCIETY		Report why the Aspect is material. Report the impacts that make this Aspect	_	_	
MATERIAL ASPECT: LOCAL COMMUNITIES  Report why the Aspect is material. Report the impacts that make this Aspect  G4-DMA material.  Report why the Aspect is material. Report the impacts that make this Aspect  G4-SO1 impact assessments, and development programs  G4-SO2 communities  Report why the Aspect is material. Report the impacts that make this Aspect  G4-DMA material.  Report why the Aspect is material. Report the impacts that make this Aspect  G4-SO3 corruption and the significant risks identified  G4-SO3 corruption and the significant risks identified  G4-SO3 corruption and the significant risks identified  G4-SO5 Confirmed incidents of corruption and actions taken  MATERIAL ASPECT: PUBLIC POLICY  Report why the Aspect is material. Report the impacts that make this Aspect  G4-SO5 Total value of political contributions by country and recipient/beneficiary  MATERIAL ASPECT: ANTI-COMPETITIVE BEHAVIOR  Report why the Aspect is material. Report the impacts that make this Aspect  G4-DMA material.  Total number of legal actions for anti-competitive behavior, anti-trust, and  G4-SO5 monopoly practices and their outcomes  MATERIAL ASPECT: COMPLIANCE  Report why the Aspect is material. Report the impacts that make this Aspect  G4-DMA material.  Report why the Aspect is material. Report the impacts that make this Aspect  G4-SO5 monopoly practices and their outcomes  MATERIAL ASPECT: COMPLIANCE  Report why the Aspect is material. Report the impacts that make this Aspect  G4-SO8 sections for non-compliance with laws and regulations  MATERIAL ASPECT: COMPLIANCE  Report why the Aspect is material. Report the impacts that make this Aspect  G4-SO8 sections for non-compliance with laws and regulations  MATERIAL ASPECT: COMPLIANCE  Report why the Aspect is material. Report the impacts that make this Aspect  G4-SO8 sections for non-compliance with laws and regulations  MATERIAL ASPECT: SUPLIER ASSESSMENT FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  G4-SO9 society  G4-SO	<u>G4-</u>	Number of grievances about human rights impacts filed, addressed, and	_	_	
Report why the Aspect is material. Report the impacts that make this Aspect  Percentage of operations with implemented local community engagement, Bercentage of operations with implemented local community engagement, Operations with significant actual or potential negative impacts on local communities  MATERIAL ASPECT: ANTI-CORRUPTION  Report why the Aspect is material. Report the impacts that make this Aspect G4-503  Computing on and training on anti-corruption policies and procedures G4-504  G4-505  G5-505  G6-506  G7-507  G8-508  G8-508  G8-508  G8-508  G8-509  G8-	IIIIIZ		-	_	
G4-DMA material. Percentage of operations with implemented local community engagement, G4-S01 impact assessments, and development programs 84 51-55 Operations with significant actual or potential negative impacts on local 64-S02 communities 84 51-55 Operations with significant actual or potential negative impacts on local 84 64-S02 communities 84 64 64-S02 Operations with significant actual or potential negative impacts on local 84 64-S02 Operations with significant actual or potential negative impacts that make this Aspect 84 64-DMA 86-DMA 86-DMA 86-DMA 86-S04 Communication and training on anti-corruption policies and procedures 33 3 64-S05 Confirmed incidents of corruption and actions taken 9-No incident	MATERIA	AL ASPECT: LOCAL COMMUNITIES			
G4-501 impact assessments, and development programs Operations with significant actual or potential negative impacts on local Operations with significant actual or potential negative impacts on local G4-502 communities  MATERIAL ASPECT: ANTI-CORRUPTION Report why the Aspect is material. Report the impacts that make this Aspect G4-DMA material. Total number and percentage of operations assessed for risks related to corruption and the significant risks identified C4-503 communication and training on anti-corruption policies and procedures C4-504 Communication and training on anti-corruption policies and procedures C4-505 [Confirmed incidents of corruption and actions taken  MATERIAL ASPECT: PUBLIC POLICY Report why the Aspect is material. Report the impacts that make this Aspect G4-505 [Confirmed incidents of corruption and actions taken  MATERIAL ASPECT: ANTI-COMPETITIVE BEHAVIOR Report why the Aspect is material. Report the impacts that make this Aspect MATERIAL ASPECT: ANTI-COMPETITIVE BEHAVIOR Report why the Aspect is material. Report the impacts that make this Aspect MATERIAL ASPECT: ANTI-COMPETITIVE BEHAVIOR Report why the Aspect is material. Report the impacts that make this Aspect MATERIAL ASPECT: OMPETITIVE BEHAVIOR Report why the Aspect is material. Report the impacts that make this Aspect MATERIAL ASPECT: OMPETITIVE BEHAVIOR Report why the Aspect is material. Report the impacts that make this Aspect  G4-508 sanctions for non-compliance with laws and regulations  MATERIAL ASPECT: OMPETITIVE ASSESSMENT FOR IMPACTS ON SOCIETY Report why the Aspect is material. Report the impacts that make this Aspect  G4-509 society  ACTION ASSESSMENT FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  G4-509 society  Report why the Aspect is material. Report the impacts that make this Aspect  G4-500 and actions taken  MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  G4-500 and actions	G4-DMA		84	51-55	
Operations with significant actual or potential negative impacts on local communities  MATERIAL ASPECT: ANTI-CORRUPTION  Report why the Aspect is material. Report the impacts that make this Aspect def-Sog Confirmed incidents of corruption and actions taken or non-compliance with laws and regulations and the significant risks identified or No incident of the standard of the significant risks identified or No incident or No	G4-SO1		84	51-55	
Report why the Aspect is material. Report the impacts that make this Aspect  G4-DMA material.  Total number and percentage of operations assessed for risks related to G4-S03 corruption and the significant risks identified G4-S04 Communication and training on anti-corruption policies and procedures G4-S05 Confirmed incidents of corruption and actions taken  MATERIAL ASPECT: PUBLIC POLICY  Report why the Aspect is material. Report the impacts that make this Aspect G4-S06 Total value of political contributions by country and recipient/beneficiary  Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of legal actions for anti-competitive behavior, anti-trust, and G4-S06 Total value of significant fines and total number of non-monetary G4-S08 Report why the Aspect is material. Report the impacts that make this Aspect material.  Monetary value of significant fines and total number of non-monetary G4-S08  MATERIAL ASPECT: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material.  Percentage of new suppliers that were screened using criteria for impacts on and actions taken  MATERIAL ASPECT: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material.  Percentage of new suppliers that were screened using criteria for impacts on and actions taken  ASSECT: Suppliers that were screened using criteria for impacts on and actions taken  ASSECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material.  ASSECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material.  ASSECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  AND	G4-SO2		84	-	
G4-DMA  Material.  Total number and percentage of operations assessed for risks related to orruption and the significant risks identified	MATERIA	AL ASPECT: ANTI-CORRUPTION			
G4-503 corruption and the significant risks identified	G4-DMA		81-82	31-33	
G4-SO5 Confirmed incidents of corruption and actions taken - No incident  MATERIAL ASPECT: PUBLIC POLICY  Report why the Aspect is material. Report the impacts that make this Aspect	G4-SO3		_	-	No incident
Report why the Aspect is material. Report the impacts that make this Aspect  G4-DMA material.  G4-SO6 Total value of political contributions by country and recipient/beneficiary  MATERIAL ASPECT: ANTI-COMPETITIVE BEHAVIOR  Report why the Aspect is material. Report the impacts that make this Aspect  G4-DMA material.  Total number of legal actions for anti-competitive behavior, anti-trust, and  G4-SO7 monopoly practices and their outcomes  MATERIAL ASPECT: COMPLIANCE  Report why the Aspect is material. Report the impacts that make this Aspect  G4-DMA material.  Monetary value of significant fines and total number of non-monetary  G4-SO8 sanctions for non-compliance with laws and regulations  MATERIAL ASPECT: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  G4-DMA material.  Percentage of new suppliers that were screened using criteria for impacts on  G4-SO9 society  G4-SO9 society  G4-SO9 society  Report why the Aspect is material negative impacts on society in the supply chain solutions taken  MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  G4-DMA material.  C4-DMA material.  C4-DMA material.  C6-DMA material.  Report why the Aspect is material. Report the impacts that make this Aspect  G4-DMA material.  C6-DMA material.  C7-DMA material.  C7-DMA material.  C8-DMA material.  C8-DMA material.  C9-DMA mater	G4-SO4	Communication and training on anti-corruption policies and procedures	-	33	
Report why the Aspect is material. Report the impacts that make this Aspect G4-DMA material. G4-SDG Total value of political contributions by country and recipient/beneficiary  MATERIAL ASPECT: ANTI-COMPETITIVE BEHAVIOR Report why the Aspect is material. Report the impacts that make this Aspect G4-DMA material. Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes  MATERIAL ASPECT: COMPULANCE  Report why the Aspect is material. Report the impacts that make this Aspect Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations  MATERIAL ASPECT: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect G4-DMA material. Percentage of new suppliers that were screened using criteria for impacts on G4-SO9 society G4-SO9 society Significant actual and potential negative impacts on society in the supply chain and actions taken  MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect G4-DMA Material.  Report why the Aspect is material. Report the impacts on society in the supply chain and actions taken  ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect G4-DMA Material.  SG4-DMA material.  Aumber of grievances about impacts on society filed, addressed, and resolved	<u>G4-SO5</u>	Confirmed incidents of corruption and actions taken	-	-	No incident
G4-DMA material. G4-SO6 Total value of political contributions by country and recipient/beneficiary  MATERIAL ASPECT: ANTI-COMPETITIVE BEHAVIOR  Report why the Aspect is material. Report the impacts that make this Aspect monopoly practices and their outcomes  MATERIAL ASPECT: COMPLIANCE  Report why the Aspect is material. Report the impacts that make this Aspect monopoly practices and their outcomes  MATERIAL ASPECT: COMPLIANCE  Report why the Aspect is material. Report the impacts that make this Aspect material. Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations  MATERIAL ASPECT: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material.  Percentage of new suppliers that were screened using criteria for impacts on society  G4-SO9 society  G4-SO9 society  G4-SO9 society  Report why the Aspect is material negative impacts on society in the supply chain and actions taken  MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  G4-DMA material.  Report why the Aspect is material. Report the impacts that make this Aspect  MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  G4-DMA material.	MATERIA				
MATERIAL ASPECT: ANTI-COMPETITIVE BEHAVIOR  Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes  MATERIAL ASPECT: COMPLIANCE  Report why the Aspect is material. Report the impacts that make this Aspect material.  Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations  MATERIAL ASPECT: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material.  Percentage of new suppliers that were screened using criteria for impacts on society  Significant actual and potential negative impacts on society in the supply chain and actions taken  MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material. Aspect: Significant actual and potential negative impacts on society in the supply chain and actions taken  MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material.  Number of grievances about impacts on society filed, addressed, and resolved	G4-DMA		-	-	
Report why the Aspect is material. Report the impacts that make this Aspect material.  Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes  MATERIAL ASPECT: COMPLIANCE  Report why the Aspect is material. Report the impacts that make this Aspect material.  Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations  MATERIAL ASPECT: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material.  Percentage of new suppliers that were screened using criteria for impacts on society  Society  G4-SO9  Significant actual and potential negative impacts on society in the supply chain and actions taken  MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  material.  ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material.			-	-	
Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes  MATERIAL ASPECT: COMPLIANCE  Report why the Aspect is material. Report the impacts that make this Aspect material.  Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations  MATERIAL ASPECT: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material.  Percentage of new suppliers that were screened using criteria for impacts on society  G4-S09 society  G4-S09 significant actual and potential negative impacts on society in the supply chain and actions taken  MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  Report why the Aspect is material. Report the impacts that make this Aspect material.  Report why the Aspect is materi	MATERIA				
MATERIAL ASPECT: COMPLIANCE  Report why the Aspect is material. Report the impacts that make this Aspect  Monetary value of significant fines and total number of non-monetary  Sanctions for non-compliance with laws and regulations  MATERIAL ASPECT: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  Material.  Percentage of new suppliers that were screened using criteria for impacts on society  G4-S09 society  Significant actual and potential negative impacts on society in the supply chain and actions taken  MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  Material.  G4-DMA  Mumber of grievances about impacts on society filed, addressed, and resolved		Total number of legal actions for anti-competitive behavior, anti-trust, and	-	-	
Report why the Aspect is material. Report the impacts that make this Aspect  Monetary value of significant fines and total number of non-monetary  Sanctions for non-compliance with laws and regulations  MATERIAL ASPECT: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  Material.  Percentage of new suppliers that were screened using criteria for impacts on society  G4-S09 society  Significant actual and potential negative impacts on society in the supply chain and actions taken  MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect  Material.  Report why the Aspect is material. Report the impacts that make this Aspect  Material.  Number of grievances about impacts on society filed, addressed, and resolved		1 7 1	-	-	
G4-DMA material	MATERIA				
G4-S08 sanctions for non-compliance with laws and regulations	G4-DMA	material.	-	-	
Report why the Aspect is material. Report the impacts that make this Aspect  material.  Percentage of new suppliers that were screened using criteria for impacts on society  G4-S09 Significant actual and potential negative impacts on society in the supply chain and actions taken  MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material.  Number of grievances about impacts on society filed, addressed, and resolved	<u>G4-SO8</u>	, ,	-	-	
G4-DMA material	MATERIA				
G4-S09 society	G4-DMA		-	-	
SO10 and actions taken	G4-SO9		_	-	
MATERIAL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY  Report why the Aspect is material. Report the impacts that make this Aspect material.  G4-DMA Number of grievances about impacts on society filed, addressed, and resolved	G4-	, , , , , , , , , , , , , , , , , , , ,	_	-	
G4-DMA material		AL ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY			
G4- Number of grievances about impacts on society filed, addressed, and resolved		Report why the Aspect is material. Report the impacts that make this Aspect	-	_	
	G4-	Number of grievances about impacts on society filed, addressed, and resolved	-	21-23	

G4 Index	Description	Annual Report (Page)	Sustainable Development Report (Page)	Note
MATERIA	SUB-CATEGORY: PRODUCT RESPONSI AL ASPECT: CUSTOMER HEALTH AND SAFETY	BILITY		
IVIZATEIXIZ	Report why the Aspect is material. Report the impacts that make this Aspect	<u> </u>		
G4-DMA	material.			Not relevance
G4-DIVIA	Percentage of significant product and service categories for which health and			Not relevance
G4-PR1	safety impacts are assessed for improvement			Not relevance
<u>041111</u>	Total number of incidents of non-compliance with regulations and voluntary			Not relevance
	codes concerning the health and safety impacts of products and services			
G4-PR2	during their life cycle, by type of outcomes			Not relevance
	AL ASPECT: PRODUCT AND SERVICE LABELING			
	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.			Not relevance
	Type of product and service information required by the organization's			
	procedures for product and service information and labeling, and percentage			
	of significant product and service categories subject to such information			
G4-PR3	requirements			Not relevance
	Total number of incidents of non-compliance with regulations and voluntary			
	codes concerning product and service information and labeling, by type of			
G4-PR4	outcomes		-	Not relevance
G4-PR5	Results of surveys measuring customer satisfaction		-	
MATERIA	AL ASPECT: MARKETING COMMUNICATIONS			
	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.		-	Not relevance
<u>G4-PR6</u>	Sale of banned or disputed products		-	Not relevance
	Total number of incidents of non-compliance with regulations and voluntary			
	codes concerning marketing communications, including advertising,			
<u>G4-PR7</u>	promotion, and sponsorship, by type of outcomes		-	Not relevance
MATERIA	AL ASPECT: CUSTOMER PRIVACY			
	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.			Not relevance
	Total number of substantiated complaints regarding breaches of customer			
<u>G4-PR8</u>			-	Not relevance
MATERIA	AL ASPECT: COMPLIANCE			
	Report why the Aspect is material. Report the impacts that make this Aspect			
G4-DMA	material.		-	Not relevance
	Monetary value of significant fines for non-compliance with laws and			
G4-PR9	regulations concerning the provision and use of products and services		-	Not relevance

This report is available on IEC Website: www.iec.co.th or contact



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