

# BREAKING NEW GROUND IN SUSTAINABILITY

Sustainability Report 2013



嘉華建材

K. WAH CONSTRUCTION MATERIALS

A member of K. Wah Group | Since 1955

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The theme of this report, *Breaking New Ground in Sustainability*, signifies the heritage of K. Wah Construction Materials (KWCM) as a pioneer in the Hong Kong quarrying industry and the milestone publication of this report, our first since the company began operating in 1955. Over the ensuing half century, KWCM has grown to become a leading vertically integrated resources company supplying a comprehensive range of construction materials. The steps shown on the cover lead us upwards and symbolises our desire to constantly achieve higher levels of excellence. As a new dawn appears, the sun casts a shadow of the skyline of Hong Kong, our spiritual home, behind the green shoots of our sustainability journey.

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# MESSAGE

FROM THE **MANAGING**  
DIRECTOR



## *“Sustainability is our strategic approach to creating long-term shareholder value.”*

I am pleased to present this sustainability report for K. Wah Construction Materials (KWCM), our first since the company began operating in 1955.

As we have long regarded sustainability as being pivotal to our business, we have outlined in this report the remarkable progress we have made in our sustainability-related programmes and activities for the year 2013.

For KWCM, sustainability is our strategic approach to creating long-term shareholder value. We do this by integrating economic, environmental and social concerns into our business operations as well as interacting with stakeholders to ensure the achievement of mutually beneficial outcomes for all. As part of this approach, we take into consideration safety and environment, business economics, our people, and CSR — the Four Core Drivers of sustainability that we adopt at KWCM to execute our Sustainability Policy.

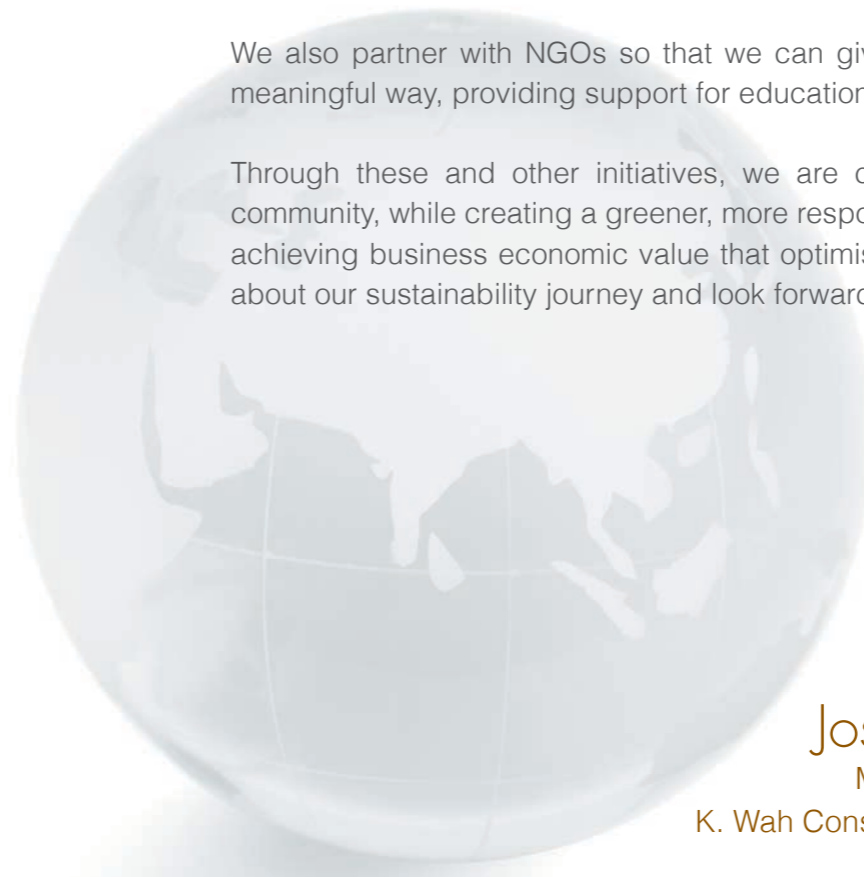
The need for sustainable practices in our industry is gaining importance as the pace of construction continues to speed up both in Hong Kong and Macau. In Hong Kong, demand is being driven by the rapid rise in housing and infrastructure construction such as the Hong Kong Zhuhai-Macau Bridge and the Hong Kong Section of the Express Rail Link. In Macau, growing construction activities in the public sector and entertainment industry have escalated the demand for the construction materials we provide.

As the demand for environmentally-friendly and low carbon construction materials grows among our valued customers, we are well positioned to provide them with green alternatives such as Ground Granulated Blastfurnace Slag (GGBS) as a partial replacement for traditional cement. In addition to introducing greener products, we are taking steps to optimise our value chain processes and introduce innovative new methods. These include variable frequency devices, waste heat recovery systems, waste recycling and non-catalytic reduction solutions for NOx emissions reduction.

An Energy and Carbon Management System and a computerised IT system for greenhouse gas reporting have also been put in place so that we can monitor our progress and identify opportunities for improvement. What's more, we are building up the capabilities of our team through life-long learning that helps our people meet the challenges of sustainability. Most importantly, we are working to ensure the safety of our employees — the highest priority in our daily operations — by focusing on training and safety systems.

We also partner with NGOs so that we can give back to the communities where we operate in a meaningful way, providing support for education and charitable donations for those in need.

Through these and other initiatives, we are contributing to improving the environment and the community, while creating a greener, more responsible way of doing business, building our team and achieving business economic value that optimises stakeholder value. I hope you will enjoy reading about our sustainability journey and look forward to receiving your comments on this report.



**Joseph Chee**  
Managing Director  
K. Wah Construction Materials

# ABOUT THIS REPORT



This report covers the operations of KWCM Head Office, Southern Region's wholly-owned subsidiaries and Joint Venture (JV) plants under Southern Region management control for the period from January to December 2013. In future sustainability reports, we will expand our scope to other regional operations in Mainland China, including Northern, Eastern and Yunnan Regions.

There are no restatements of information as this is the first sustainability report published by KWCM. Following this report, KWCM will publish future reports every two years.

All information provided is with reference to GRI G4 Core Disclosures and the ESG Reporting Guide of the Hong Kong Exchanges and Clearing Limited. Carbon emission data are consolidated with reference to ISO 14064, the guidelines published by the Electrical and Mechanical Services Department and Environmental Protection Department of the Hong Kong Government, and the guidelines published by the Shenzhen Government.

Verification of this report has been carried out by an independent third party, the Hong Kong Quality Assurance Agency (HKQAA). Every reasonable effort has been made to ensure the accuracy of the data and information contained within these pages. We welcome all stakeholder feedback and suggestions, and we can be contacted by email at [sustainability@kwcm.com](mailto:sustainability@kwcm.com).

# ABOUT K.WAH CONSTRUCTION MATERIALS

● Cementitious Products  
● Conventional Products



## KWCM Profile

K. Wah Construction Materials (KWCM), a wholly owned subsidiary of Galaxy Entertainment Group (GEG), is a vertically integrated resources company supplying aggregate, Ground Granulated Blastfurnace Slag (GGBS), cement, and other downstream construction materials, with a strong focus on creating value in a sustainable manner.

KWCM is the cornerstone on which the K. Wah Group has built its business for over half a century. As a pioneer in the quarrying industry, KWCM was granted the first contract quarry rights at Anderson Road in Hong Kong in 1964.

From our business base in Hong Kong, KWCM has branched out to Mainland China in over a dozen major cities and industrial strongholds. These include Beijing, Qianan, Qinhuangdao, Sanhe, Shanghai, Nanjing, Maanshan, Tongling, Ezhou, Liupanshui, Anning, Baoshan, Shizong, Dagan, Zhenyuan, Shaoguan, Huidong and Shenzhen. Products manufactured by the company are sold in Hong Kong, Macau and Mainland China.

### Facilities completed in 2013:

Product	Facilities	Location
Aggregate	Quarry	Huidong, Guangdong
	Pier	Huidong, Guangdong
Ready Mixed Concrete	Plant	Chek Lap Kok, Hong Kong
GGBS	Plant	Ezhou, Hubei
	Plant	Liupanshui, Guizhou
Cement	Plant	Dagan, Yunnan

### Facilities under construction in 2013:

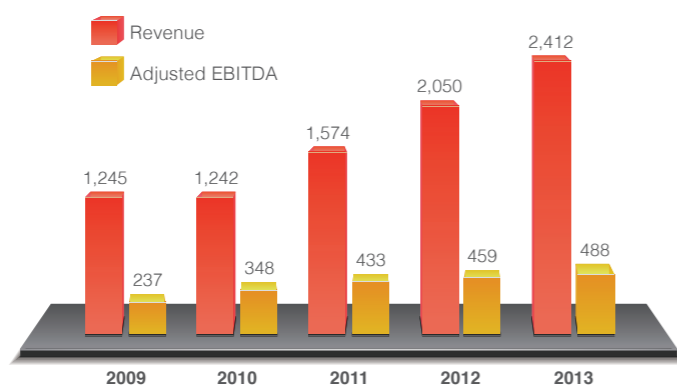
Product	Facilities	Location
Ready Mixed Concrete	Plant	Taiipo Depot, Hong Kong
Blocks & Pavers	Plant	Eco Park, Hong Kong
GGBS	Phase II Plant	Nanjing, Jiangsu
	Plant	Anning, Yunnan
Cement	Phase II Plant	Baoshan, Yunnan
	Plant	Zhenyuan, Yunnan



*“Sustainability investments are contributing to cost saving and shareholder value.”*

### Revenue & EBITDA Growth Trend of KWCM

(In HK\$ million)



For further details on our financial performance, please refer to the Galaxy Entertainment Group annual report at [www.galaxyentertainment.com](http://www.galaxyentertainment.com).

KWCM has invested approximately HK\$700 million in sustainability initiatives, including around HK\$600 million in GGBS, an environmentally-friendly alternative to traditional cement, and close to HK\$100 million in advanced facilities at other cement plants. At all of our cement production sites, we have set our performance standards above national standards to minimise energy consumption, carbon emissions and toxic waste. In our conventional construction materials businesses — including aggregate, ready mixed concrete, asphalt and concrete products — we have invested in the use of recycled construction materials and improvements in energy consumption and carbon reduction. In addition to protecting the environment, these sustainability investments are contributing to remarkable cost savings, improved ROI and, ultimately, enhanced shareholder value.

Alan Tso  
Chief Financial Officer











## Corporate Governance

As a wholly owned subsidiary of GEG, KWCM is committed to the highest standards of corporate governance and adheres to the best corporate governance practices by adopting and complying fully with established policies, systems and guidelines in order to ensure sustainable shareholder value, whilst meeting our obligations towards shareholders and other stakeholders.

In line with this commitment, we operate within a well defined governance structure and subscribe to the corporate culture and values of the K.Wah Group, which are based on the three cornerstones of accountability, integrity and loyalty. These values shape our corporate culture, provide the foundation for sound corporate governance and support our endeavours in CSR and other sustainability initiatives.

## CSR Committee

In 2006, KWCM's CSR Policy and management structure were formulated to determine how we approach CSR activities, protect the environment, care for our employees and the community, and reach out to those in need. The management structure guides KWCM in fulfilling our commitment to CSR and contributions to the sustainable development of the economy, society and environment. KWCM has set up a CSR Committee which has as its advisor, the Managing Director. The Committee is chaired by a senior manager nominated by committee members, which comprises other senior management of KWCM. The Committee is responsible for making decisions on KWCM's CSR strategies, policies and overseeing their execution.

Product		Quantity
Cement (including plants under construction)		Over <b>10 Million Tonnes</b>
GGBS		Over <b>10 Million Tonnes</b>
Aggregate		Over <b>6 Million Tonnes</b>
Ready Mixed Concrete		<b>5.5 Million M3</b>
Concrete Pipes		Over <b>60,000 Tonnes</b>
PHC Piles		<b>1 Million Metres</b>
Blocks & Pavers		<b>50 Million Pieces</b>
Asphalt		<b>400,000 Tonnes</b>

## Charters and Memberships

### KWCM endorses or subscribes to the following charters:

- ✓ *CarbonSmart Low-Carbon Commitment Partner of CarbonSmart Programme, Participating Company of Carbon Audit Pilot Fund*
- ✓ *Workplace Hygiene Charter – Occupational Safety & Health Council*
- ✓ *Occupational Safety Charter – Labour Department*
- ✓ *Caring Company for 11 consecutive years – The Hong Kong Council of Social Service*

### KWCM is a member of the following industry associations or councils:

- ✓ *Occupational Safety & Health Council Green Cross Group Member*
- ✓ *Hong Kong Green Building Council*
- ✓ *Concrete Producers Association of Hong Kong*
- ✓ *Hong Kong Asphalt Pavement Association*
- ✓ *Hong Kong Contract Quarry Association*
- ✓ *Concrete Pipe Producers Association of Hong Kong*

# STAKEHOLDER ENGAGEMENT

*“Ongoing stakeholder conversations  
are an integral part of our  
sustainability commitment.”*

In order to identify and understand issues of concern to our stakeholders, we engaged an independent party, the Business Environment Council, to undertake a comprehensive series of stakeholder engagement exercises.

Ongoing stakeholder conversations are an integral part of our sustainability commitment and enable us to drive innovation. They also help us evaluate our performance by benchmarking ourselves against industry peers.

As part of the engagement process, we have been in continuous contact and dialogue with internal and external stakeholders to identify current and future opportunities and risks for our business.

In 2013, we focused on our people, our customers, supply chain, JV partners and NGOs.

## Internal stakeholders

**Our people** : *We held regular dialogues through our annual corporate management forum, HSE promotion days, regular IMS committee meetings, safety site walks, half yearly and annual appraisals, surveys and interviews.*

## External stakeholders

We invited external stakeholders to identify and prioritise the main sustainability issues facing KWCM and to provide recommendations for future improvement.

**Our customers** : *Input from customers was obtained from regular meetings, customer satisfaction surveys and interviews.*

**Supply chain** : *During the year, we conducted a supplier survey and interviews.*

**JV partners** : *Regular meetings and interviews were held with our key JV partners.*

**NGOs** : *We organised focus groups, co-organised community events, and collaborated with our NGO partners on special projects.*



# MATERIALITY ANALYSIS



*“Our People and Safety & Environment are the two themes that received the most coverage in this sustainability report.”*

Through the stakeholder engagement process, we are able to assess the relative importance of sustainability issues in our reporting.

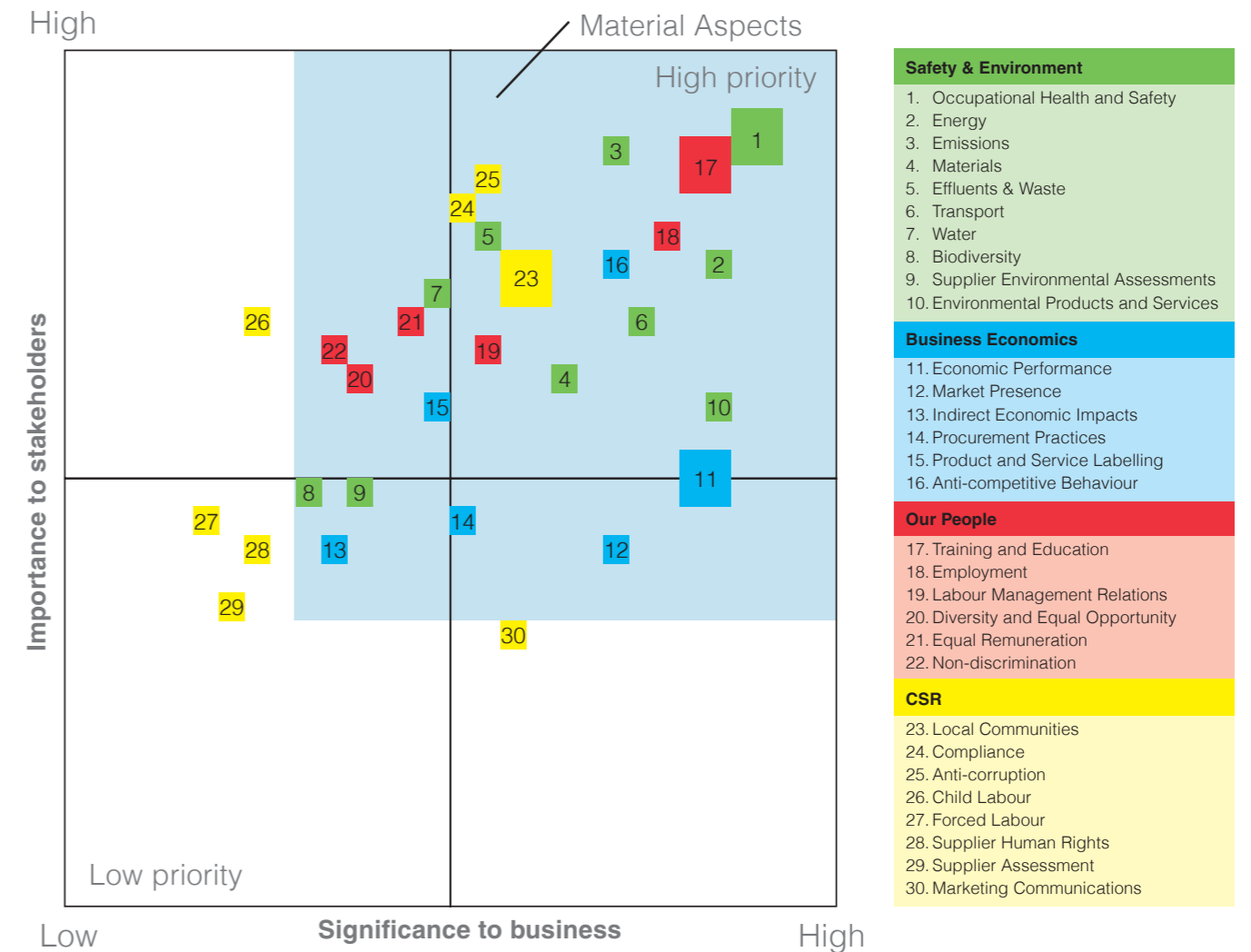
Material issues covered in this report are further categorised according to where their impact is most likely to be felt.

The Four Core Drivers of KWCM's Value Creation Model (see page 16) are key reference points for defining material aspects important to KWCM.

Initial aspects were selected from the GRI G4 aspects and mapped into our Four Core Drivers of KWCM's Value Creation Model.

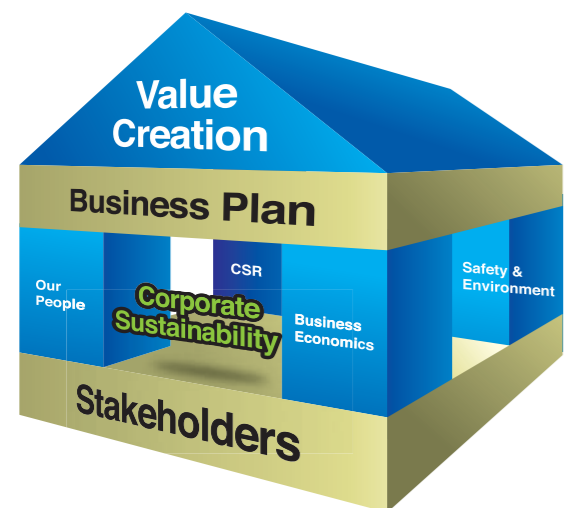
The material aspects and issues identified are shown in the context of a materiality matrix. Operational themes defined were evaluated for their i) importance to KWCM, and ii) their reasonably estimable sustainability impacts on stakeholders with consideration given to their disclosure status amongst industry peers.

## Materiality Matrix



# KWCM CORPORATE SUSTAINABILITY

KWCM creates value for customers by continuously seeking excellence in all that we do. It is our mission to satisfy market demand and customer needs by providing quality products and services with a competitive edge. With vision, perseverance and teamwork, we strive to be a leader in our industry and to provide shareholders with the best return on their investment.



To fulfil our stakeholders' expectations, KWCM creates business value through Four Core Drivers — Safety & Environment, Business Economics, Our People, and CSR. We have also implemented a strategic action plan, which is summarised in our Four Year Business Plan.

## Development of KWCM Core Drivers

*Within the structural framework of our Value Creation Model, we are working to generate higher value for each of our Core Drivers.*



The value of our Core Drivers varies according to the level of sustainability development achieved in our different operational units. In all cases, compliance with legislation and risk minimisation are the basic requirements.

We reinforce our culture of sustainability and use our expertise to improve efficiency in our value chain processes, while exploring innovative new products and processes to further enhance the practices of each Core Driver to a higher value level.

*"Our commitment to sustainability remains core to our values."*

Nick Lewis

Director,

Business Development, Engineering, HSE & Sustainability



### Implementing our Sustainability Policy

To ensure the sustainable growth of our business, in 2012 we launched an Integrated Management System (IMS) as the first step towards bringing together health and safety, quality and environmental activities.

Using this systematic approach, we plan to integrate our external certifications (OHSAS 18001 and ISO 140001) for our concrete, asphalt, aggregate and concrete products businesses in Hong Kong by the end of 2014. We will also continue to integrate complementary management systems, such as the ISO 90001 Quality Management System, ISO 50001 Energy Management System and BES 6001 Responsible Sourcing.

The Sustainability Policy communicates our commitment to improving environmental and social sustainability. Adopted throughout our business, it delivers a number of key messages and benefits:

- Our perseverance in adding business value in a constantly changing marketplace;
- Assurance that everyone across teams / departments who can influence implementation has a share in the policy;
- Encouragement to participate and cooperate in the implementation of sustainability and eliminate barriers to change;
- Ongoing motivation and life-long learning as the keys to our success and employee retention; and
- Keeping employees involved in environmental and sustainability activities and raising individual awareness of issues that affect our business.

Our commitment to sustainability remains core to our values. I am pleased that we can use our first sustainability report to inform, communicate and explain our approach to creating long-term shareholder value.

# THE FOUR CORE DRIVERS



## i. Safety and Environment

*“ Our HSE Personal Charter encourages everyone to be aware of unsafe behaviour and prevent incidents from occurring through committed responsibility.”*

David Chen  
Associate Director



Health, Safety and Environment (HSE) are the core values of our business. We are committed to safeguarding the health and safety of everyone who may be affected by our activities and aim to be an industry leader in HSE management in our business operations.

As part of this commitment, we make every effort to provide a healthy and safe working environment in all of our workplaces. We also conduct our operations in an environmentally responsible manner in order to minimise pollution and protect the environment.

We encourage all of our employees to participate in various HSE activities through appropriate training, information and systems, with a view to fostering a positive HSE culture. Over 86% of the HSE committee members of our business units are frontline operational employees.



### HSE Year Plan

KWCM places great emphasis on effective planning for HSE management. All business units are required to submit an HSE Year Plan, which covers the arrangements for budgeting, target setting, emergency procedures, training and promotional activities. The key planning objective is to ensure each business unit has in place a comprehensive management plan to control and mitigate any HSE risk.

### HSE Personal Charter

The KWCM HSE Personal Charter represents a 'contract' between the company and its employees, setting out duties of care, and rights and responsibilities of both parties in the performance of Health, Safety and Environment. By requiring all employees to sign up to the Personal Safety Charter, KWCM emphasises individual accountability and personal intervention, and encourages reporting of unsafe behaviours and situations to prevent undesirable incidents.





## HSE Recognition Scheme

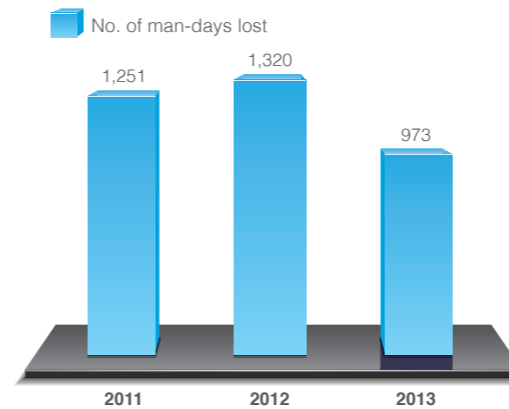
KWCM's recognition scheme is designed to encourage HSE participation by all employees and represents another bottom-up approach to performance improvement. The HSE Recognition Scheme, launched in 2012, invited all employees to submit HSE improvement ideas to the IMS Management Committee, from which a winning idea was selected, and the winner was presented with an annual award by top management. More than ten entries from different business units were received in 2013. The winning entry was from K.Wah Asphalt, which successfully introduced a level indicator and control system in the reclaimed filler storage hopper that saved approximately 100,000kWh in electricity per year.



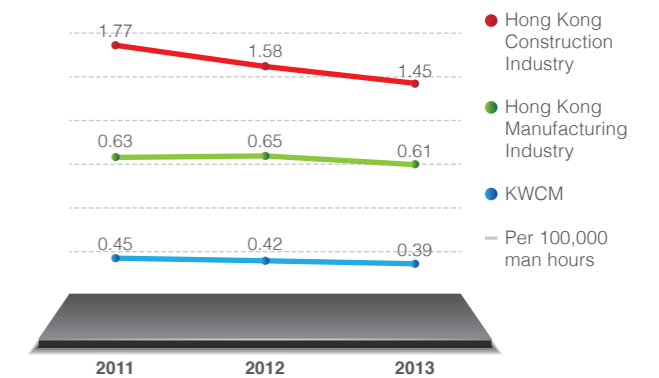
Lam Chun Chung  
2013 winner of HSE Recognition Scheme

" **0** work-related fatalities and occupational diseases from 2011-2013"

Man-days lost



Accident frequency rate



## Risk Management

HSE risks arising from our activities, facilities and services are managed through a systematic process that mitigates residual HSE risks to ensure compliance with all up-to-date legal requirements and best industry practices.

The HSE Risk Assessment Team, comprising a cross-section of managers, frontline employees with relevant knowledge and HSE personnel, determines the scope of HSE risks, then analyses and evaluates the categorised risks to develop risk control measures.



## Energy Efficiency and Carbon Emissions

*“ We search for new technologies and processes that help us reduce energy costs.”*

We are committed to improving energy efficiency and reducing carbon footprint in all of our operations because we believe we have a duty to address climate change and reduce energy costs.

Our commitment is reflected in our Energy and Carbon Management Policy. This policy declares our intent to reduce carbon emissions and minimise our consumption of natural resources and fossil fuels. We strive to improve energy efficiency, invest in clean and sustainable technologies, and cultivate best practices in our operations.



## Energy and Carbon Management System

On 1 January 2013, KWCM established an Energy and Carbon Management system together with an Energy and Carbon Management Manual that makes reference to ISO 50001. An Energy and Carbon IT System is going to be launched in 2014.

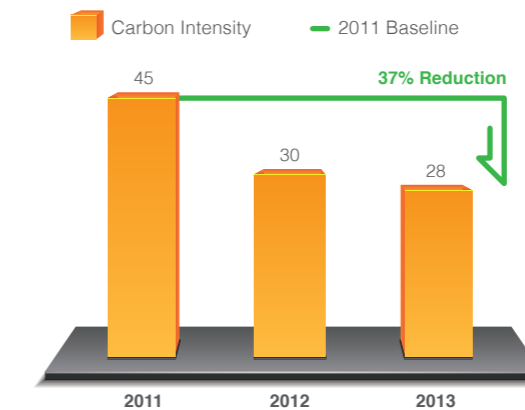
During the year, we began capturing, monitoring and analysing energy consumption and green house gases (GHG) emissions data from all KWCM managed operations in order to identify opportunities for improving our performance.

We also held regular committee meetings, conducted carbon audits and carried out training in energy efficiency and carbon emission awareness to support all operational units in achieving their energy and carbon reduction targets.

**37%** *reduction in carbon emissions per tonne of product in 2013 compared with 2011.*

### Carbon intensity

kg CO<sub>2</sub>e / tonne of product

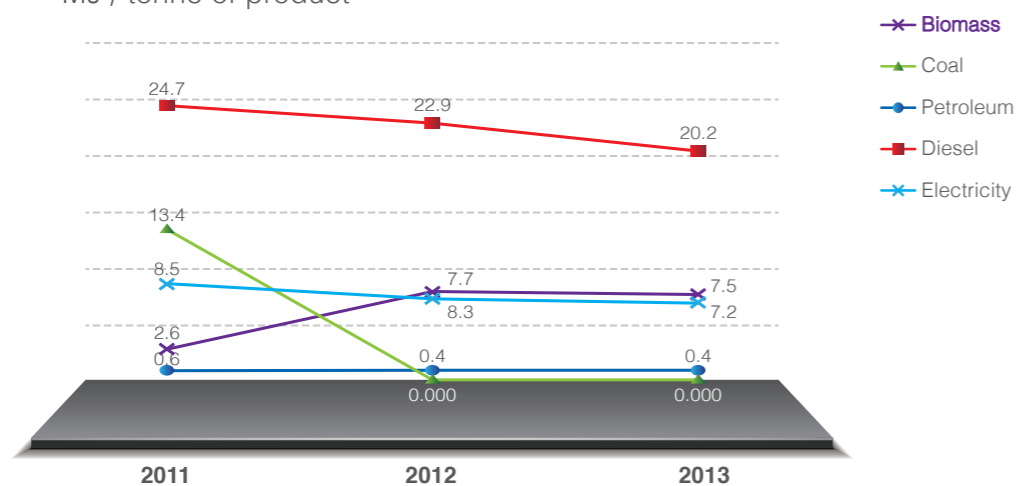




## 29% improvement in energy efficiency in 2013 compared with 2011

### Energy Intensity by Major Source

MJ / tonne of product



Carbon Intensity per unit product	2011	2012	2013
Aggregate (t)	2.07	2.23	2.31
Asphalt (t)	25.04	23.70	23.90
Blocks and Pavers (t)	5.87	5.32	6.07
Ready Mixed Concrete (m <sup>3</sup> )			
- Hong Kong	1.57	1.45	1.27
- Macau	4.01	2.78	2.68
Pipes (m <sup>3</sup> )	22.06	19.31	18.02
Piles (t)	42.28	10.23	8.58

Note: The approach of carbon quantification was based on ISO 14064-1, the World Resources Institute and World Business Council for Sustainable Development GHG Protocol and guidelines in Hong Kong and Shenzhen. Direct emission (Scope 1) and energy-related indirect emission (Scope 2) were reported.

A few of our many notable achievements in reducing energy and carbon emissions covers the areas :

### Sustainable energy sources

Since 2011, the pile operation at Shenzhen has adopted biomass as a replacement for coal. From 2011 to 2013, a total reduction of 5,800 tonnes of standard coal representing 14,270 tCO<sub>2</sub>e was achieved.

We have also been substituting fossil fuels with waste-derived fuels or other green sources of energy such as blast furnace gas at Shaoguan GGBS plant.

### Investing in energy efficiency

In 2013, KWCM invested over HK\$2.5 million in variable speed drives for its production lines.

### Innovative recycling methods

In Mainland China, all cement production lines are equipped with waste heat power generation systems capable of retrieving a total of 170 million units of electric power. This saves 50,000 tonnes of standard coal, which is equivalent to the annual electricity consumption of a population of 40,000 in China — an emission reduction of around 166,000 tCO<sub>2</sub>e per year.

### Reducing emissions

Nitrogen oxides (NO<sub>x</sub>) cause a wide variety of health and environmental impacts, including smog, acid rain, particles, water quality deterioration, climate change, toxic chemicals and visibility impairment.

In 2013, KWCM invested over HK\$2 million in non-catalytic reduction systems to control NO<sub>x</sub> emissions from our cement plants in Mainland China.





## Greening Our Supply Chain

*“Our goal is to reduce any adverse environmental impacts of the products we procure.”*

KWCM has established a standard management procedure for green purchasing practices that consider the environmental characteristics and performance not only of the products we procure but also the suppliers we work with. The objectives of this approach are to ensure compliance with all environmental legal requirements and to reduce any adverse environmental impacts of the products we procure through their life cycles.

When selecting suppliers, we refer to our Supply Chain Environmental Assessment and consider the following:

- Suppliers’ stated environmental values and commitments
- Environmental certificates, awards, environmental measures and enforcement programmes
- Compliance with applicable environmental legislation
- The suppliers’ environmental management and quality management systems
- Interest in and willingness to meet our environmental specifications

When identifying and selecting environmentally-friendly, sustainable materials for production, we refer to the criteria below:

Material Content	Life Cycle Cost	Upstream Activities
Recyclable	Initial cost	Locally-made
Reusable	Running cost	Labelling
Renewable	Quality	System & commitment
Non-hazardous	Durability	Less packaging
Low Volatile Organic Compound		



## Reduce, Reuse, Recycle

*“KWCM is a leading manufacturer of low carbon construction materials in Hong Kong”*

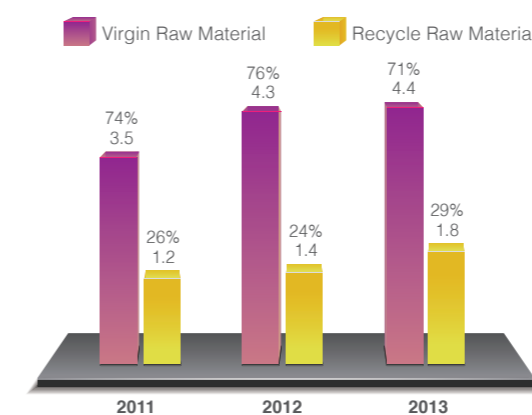
Recognising the importance of waste reduction, KWCM is making a strenuous effort to produce less waste and find opportunities to reuse or recycle waste materials. This involves efficient management of waste and effective use of recycled materials to minimise solid waste sending to landfill.

More specifically, KWCM strives to prevent, reduce, reuse and recycle waste, including glass bottles, hydraulic oil, concrete, rubber and Reclaimed Asphalt Pavement (RAP). As a leading manufacturer of recycled products in Hong Kong, KWCM sets annual targets for continuous improvement.

Initiatives include collecting, sorting and processing of selected construction and demolition waste from construction sites for production of construction materials.

## Raw and Recycled Material Consumption

Million tonnes



*In 2013, we processed 1.76 million tonnes of recycled materials, up by **40%** compared with 2011.*





## Taking the lead in community recycling

KWCM promotes glass recycling in the community in a number of different ways. For example, in the Hong Chi Jockey Club Glass Bottle Recycling Project, we converted glass bottles into environmentally-friendly glass pavers.

KWCM is also an active participant in Hong Kong waste reduction campaigns such as the Wastewi\$e Label programme of the Hong Kong Awards for Environmental Excellence.

Waste generated from one operational unit can benefit other operational units. Recognising this, KWCM has implemented the Sustainable Recycle Project (SRP) to collect and reuse five targeted types of waste generated from different operational units in Hong Kong.

## Building with eco-friendly materials

KWCM is now one of the leading GGBS manufacturers in Mainland China with an annual production capacity exceeding 10 million tonnes. KWCM's contribution towards carbon reduction is close to an equivalent of 9 million tonnes of CO<sub>2</sub>.

In general, one tonne of GGBS generates around 70kg CO<sub>2</sub>e in carbon emissions while one tonne of Ordinary Portland Cement (OPC) normally generates around 950kg CO<sub>2</sub>e. As a partial OPC replacement, one tonne of GGBS will save around 0.88 tonne of carbon emissions.

This aligns with Mainland China's low-carbon economy and Hong Kong's green building initiatives. Application of GGBS in ready mixed concrete not only significantly reduces carbon emissions in the construction industry but also enhances the technical performance of ready mixed concrete.

## SRP Project



**Waste Glass**



**Waste Hydraulic Oil**



**RAP**



**Concrete Waste**



**Rubber Waste**

Through the SRP project, we balance the externalities of social cost and benefit, including the consideration of landfill site burden, depletion of natural resources, additional processing cost and added business value.

## Reclaimed Asphalt Pavement

While most of us recognise the need for more energy efficient vehicles, few know that the roads these vehicles travel on can also be made less reliant on petroleum resources.

RAP helps make more efficient use of waste asphalt that would have been otherwise disposed of in landfill, while reducing our reliance on new bitumen and virgin aggregates.

Despite the additional processing costs involved, KWCM has been using RAP for asphalt production since 2004.



## Concrete waste

Under our previous system, we would normally dispose of ready mixed concrete waste, such as wash-out materials and cement slurry from reclaimers, by dumping them in landfill sites. Today, with our new, more sustainable approach we reuse recycled aggregates, water and slurry for various production processes, especially for concrete blocks and pavers.





## Effluent and Water Treatment

KWCM operates on the zero-discharge principle, which calls for all recycled water to be consumed.

In addition to complying with statutory requirements governing water discharge and pollution, we ensure that all chemicals such as soap, bleach and cleaning agents are environmentally-friendly, suitably diluted or properly treated. Procedures for the disposal of chemical waste follow government regulations. Our HSE personnel also conduct regular assessments to evaluate the environmental impacts to ensure compliance with all legislations and guidelines.

## Water Consumption

As quarrying operations and production of construction materials consume large quantities of water for environmental control, we take special care to ensure this precious resource is used wisely.

Water used in our quarrying operations is mostly sourced on site. We treat, purify and reuse abstracted ground and surface water, wherever appropriate, according to our zero-discharge principle. At Anderson Road quarry, we collect surface water, groundwater and rainwater in a reservoir for reuse in our operations.

The collected water after treatment is used for vehicle cleaning, housekeeping, dust suppression, and for vegetation planted as part of our site rehabilitation targets.

Southern Region total volume of water consumption (m <sup>3</sup> )	2011	2012	2013
Freshwater consumption	212,990	291,530	374,990
<b>Recycled Water</b>			
Groundwater / rainwater consumption	69,170	63,180	52,390
Water recycled from slurry	990	1,170	1,130

Note: The increase in freshwater consumption resulted from an increase in production over the past two years while having to reduce the volume of our holding reservoir due to ongoing site rehabilitation.

## Biodiversity

Recognising that our operations have an impact on the local environment, we strive to make a positive contribution to biodiversity. At our Anderson Road quarry, we are undertaking a massive rehabilitation project to restore a 44 hectare site to its original or improved condition. It is currently the largest quarry rehabilitation project of its kind in Hong Kong. At the end of 2013, 75% of the site had been restored, over 162,000 trees and shrubs of various species were planted, and the total area of hydroseeding was about 217,000m<sup>2</sup>.

Some of the key environmental issues and constraints at the quarry include the impacts on air quality, noise, water quality, liquid and solid waste, blasting and the visual aspect of the site. The objective of our management plan is to rehabilitate the existing quarry faces to create a natural-looking hillside, protect significant habitats, reduce visual impact and ensure the Tai Sheung Tok ridgeline is maintained. Incorporating the latest landscaping techniques and new vegetation plantings, the restoration will create an improved habitat capable of supporting a large variety of flora and fauna in the area. After starting the rehabilitation project, a family of Chinese Bulbuls has made its nest on an Albizia Lebeck tree planted at the rehabilitated quarry site at Anderson Road.

## Transport

Heavy vehicle movements can potentially have significant environmental impacts in terms of air emissions, fossil fuel consumption and mud dispersal on public roads.

To mitigate these potential impacts, KWCM has adopted a range of measures for all of its operating sites. These include the use of state-of-the-art Global Positioning System (GPS) tracking in our fleet to optimise distances travelled, thereby reducing emissions and lowering distribution costs.

We have also replaced our old EURO II trucks with environmentally-friendly EURO V trucks.



## ii. Business Economics

*“ We have an obligation to act responsibly for all of our stakeholders, including our investors.”*

### Economic Performance

As a responsible business organisation, we have an obligation to act responsibly with regard to the environment, the communities in which we operate, our employees and customers. In addition to these stakeholders, we also take into consideration the interests of our investors.

In Hong Kong, the opportunities for business expansion — and increasing shareholder value — have been on an upward trend over the past two years, with the gross value of construction works rising 37% from HK\$128.5 billion in 2011 to HK\$176.6 billion in 2013.

### Market Presence

To meet our environmental targets, we monitor market and regulatory changes and benchmark the energy and carbon performance of all our operations against data from international, local and internal sources.

We have also adjusted our management approach by setting up a Sustainability Department to develop strategic directions in sustainability and have taken actions to enhance our operational value, including energy and carbon improvements and technological advancement.

As a leading construction materials company, we participate in preparation and provide support for new industrial practices in Hong Kong, such as the Green Labelling Schemes for various construction materials and the product specifications for concrete and aggregates. We are also involved in the Task Force on Greenhouse Gas Validation and Verification.

### New Plant for glass and construction waste recycling

We invested in new technology and extended our commitment to sustainability at our new EcoPark production plant in Hong Kong, with advanced facilities for waste recycling processes. At EcoPark, KWCM adopted wave implosion technology for waste glass crushing, which eliminated the noise and dust created by mechanical crushing while saving substantial energy. We also installed state-of-the-art equipment for recycling concrete waste.

Recycled aggregate can replace more than 50% (by weight) of natural aggregate for producing blocks and pavers, while recycled cullet can replace 20% to 25% (by weight) of natural aggregate for producing glass pavers.

The resulting products not only save resources and reduce landfill burdens but also provide durable and attractive alternatives for customers.





## Challenges and Opportunities

A low carbon economy is at the heart of Mainland China's strategy for growth and industrial modernisation. In its 12th Five-Year-Plan, the Chinese government established a Carbon Trading Pilot Scheme, which aimed to reduce carbon intensity by 17% by 2015 — a critical first step towards its 40–45% carbon intensity reduction target (compared with 2005) by 2020.

At the same time, Hong Kong set a 50–60% carbon intensity reduction target by 2020 against a 2005 baseline. In line with this target, the Construction Industry Council is preparing to launch a series of carbon labelling schemes for different construction materials, including cement and ready mixed concrete.

These developments are welcomed by KWCM as we believe they will also stimulate technological advancement and create new product innovation.

We also believe that as an environmentally-responsible company we have an obligation to reduce our carbon footprint. In 2013, we invested in new carbon reduction facilities and upgraded our cement production processes in Mainland China. One example of our carbon reduction initiatives is our pile operation in Shenzhen, which is a participant in the Shenzhen Carbon Trading Pilot Scheme.



## Customer Satisfaction

KWCM is committed to supplying and delivering quality products, services and solutions to our customers that meets or exceeds their expectations. To ensure on-time deliveries, we have strategically located our plants and depots across Hong Kong close to our customers' sites and installed GPS devices in all our ready mixed concrete trucks.

We maintain quality and environmental standards according to the international ISO 9001 and ISO 14001 certifications, the HKQAA's QSPSC scheme for ready mixed concrete and our own integrated management systems, which have been verified by an independent authority.

We also conduct regular face-to-face meetings with customers at all levels. These include customer office visits and construction site visits. We also hold HSE and sustainability sharing sessions with key customers. To obtain customers' opinions and feedback on our product quality, delivery service, after-sales service and HSE matters, we conduct an annual customer satisfaction survey.

## Anti-corruption / Anti-trust Compliance

At KWCM we maintain the highest standards of business ethics to ensure the healthy long-term development of our company.

Not only do we comply with the Prevention of Bribery Ordinance and other relevant anti-corruption laws, but we also implement a Code of Business Conduct, which is articulated in our company policy, employee handbook and employment contracts. The Code covers our anti-corruption policy and other ethical issues with guidelines in areas such as soliciting advantages, accepting and offering advantages and conflicts of interest. Communication and training in anti-corruption is conducted during new employee orientations and via employee briefings.

To ensure compliance with the recently enacted Competition Ordinance, we completed a Competition Policy and a Competition Manual, which had been communicated to all relevant KWCM employees.



### iii. Our People

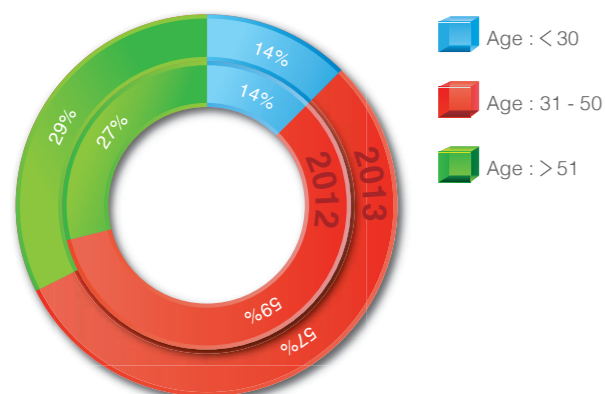
Recognising that the expertise, passion and enthusiasm of our people are key to our success, we consider their contributions to be one of the core drivers of sustainability at KWCM.

We cultivate home-grown talent and encourage personal and professional development, as well as a culture that respects the individual and rewards self-initiative and teamwork to deliver improved business results.

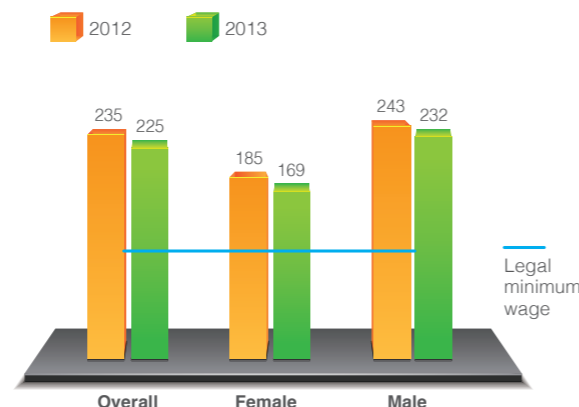
Succession planning is carried out through mentorship in order to groom our managerial employees for more senior roles with broader accountability. We also promote life-long learning and equip our employees with the skills they need to meet business challenges.

Employment in Head Office and Southern Region	2012	2013
Number of employees	662	725
% of permanent employees	92%	95%

Our workforce, broken down by age



Ratios of comparative wage rates (%)



### Employment

*“The principle of equal opportunity is embedded in our internal policies and practices, including recruitment and promotion.”*

We respect equal opportunity, employ a diverse workforce without discrimination and comply with relevant statutory requirements.

The principle of equal opportunity is embedded in our internal policies and practices, including recruitment and promotion.

Employees are hired from diverse backgrounds, including those less-able persons and those with different ethnicities, according to their individual competencies and experience. Female participation accounts for 15% at the senior level, 29% at the middle level, and 14% at the general employee level, with 16% representation across all levels.

Female Participation in Workforce	2012	2013
Senior Management	20%	15%
Middle Management	31%	29%
General Staff	15%	14%

All employees, whether full-time, temporary or part-time, are entitled to statutory benefits, such as social insurance and mandatory provident fund.



## Training and Development

At KWCM, we are highly committed to training and development, which is essential for building the competent workforce required to achieve sustainable business growth. To meet this goal, we deliver a wide variety of in-house training workshops that support employees across all levels of the company and help them meet current job requirements and further their career development goals.

Workshops provided by KWCM include new employee orientations and training in leadership and supervisory skills, as well as computer and language skills. We also offer training subsidies to help employees acquire fundamental job-based knowledge in areas such as workplace safety, technical skills and professional knowledge.

To develop a pipeline of future talent for the growth of the company, we offer a 24-month Management Associate Programme. In this programme, the Management Associates are provided with learning opportunities through job rotations, training workshops and project assignments that help them gain functional competencies and a greater understanding of our business operations.

We also have a Management Development Programme to build up a pool of leaders who meet our succession planning and business expansion requirements. What's more, we organise tailored training workshops so that employees can explore and develop their leadership potential. This programme not only broadens and deepens their understanding of leadership roles at KWCM but also gives them a structured development plan customised to their own career development goals.

Through our ongoing training and development efforts, we provide both vertical and horizontal career development opportunities for employees at all levels.

In 2013, KWCM delivered 11.5 training hours per employee in skills training workshops that addressed the different training needs of our employees.

Employee	HSE (hours / employee)	Management Skills and Others (hours / employee)	Total (hours / employee)
Senior Management	5.0	8.7	13.7
Middle Management	13.3	14.0	27.3
General Employee	7.3	2.5	9.8
Overall			11.5





## iv. CSR

### Our commitment to CSR

*“We encourage work-life balance and promote a sense of belonging and harmony in the communities where we operate.”*

### Contributing to the Community

We take a multi-pronged approach to CSR as part of our commitment to the community. In doing so, we endeavour to play a leading role within our sphere of influence and address the concerns of our stakeholders.

Under our people-oriented approach, we encourage work-life balance and promote a sense of belonging and harmony in the communities where we operate. We also organise activities to promote environmental awareness, conservation and preservation and seek to make positive contributions by participating in charitable and educational programmes.

To help achieve a sustainable society, we participated in a variety of charitable events in 2013, including HSBC Cycle for Millions, the MSF Orienteering Competition, Casual Dress Day, Blood Donation Day co-organised with the Hong Kong Red Cross, and Sowers Action Challenging 12 hours 2013 (Corporation participation – Bronze Award). We also supported and sponsored the KWP Quarry Cup for the 2013 Sai Kung Dragon Boat Racing Gala, Mixed Middle Dragon Open Competition.

### Partnering to create a greener world

“KWCM invested in green construction material production lines which recycle waste glass collected by mentally less-able students into eco-blocks,” said Mr Yim Yat Keung, Superintendent of Hong Chi Fanling Integrative Rehabilitation Complex. “On one hand, this programme eases the burden on landfills and protects precious natural resources by conserving river sand. On the other, it showcases the work capabilities of the students, which promotes harmony in society.”

“In this 3-year partnership, I recognise that KWCM has put a lot of effort into local environmental and philanthropic affairs,” Mr Yim added. The partnership “demonstrates significant leadership in the industry.”

**Yim Yat Keung**  
Superintendent of Hong Chi Fanling Integrative Rehabilitation Complex





## Employee Care

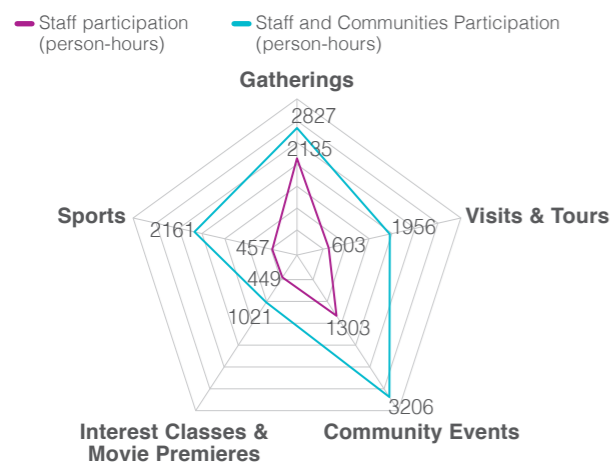
For the well-being of our employees who are also part of the community, we work to create a safe and healthy work environment so they can realise their full potential and enjoy a fulfilling career.

We promote work-life balance and organize a wide variety of social, recreational and community events to meet different needs of our employees.

The direction and appropriateness of the activities organised by KWCM Social Club are reviewed regularly in the CSR Committee Meeting.

In 2013, Southern Region and Head Office organised 20 employee care activities that accounted for a total of 6,960 person-hours. Recreational activities grouped under sports, gatherings, visits & tours, community events, interest classes and movie premieres are shown in the Kiviat diagram below.

## Activities by Type in 2013



The graph at left shows how KWCM aligns employee activities to meet the needs of different stakeholders.

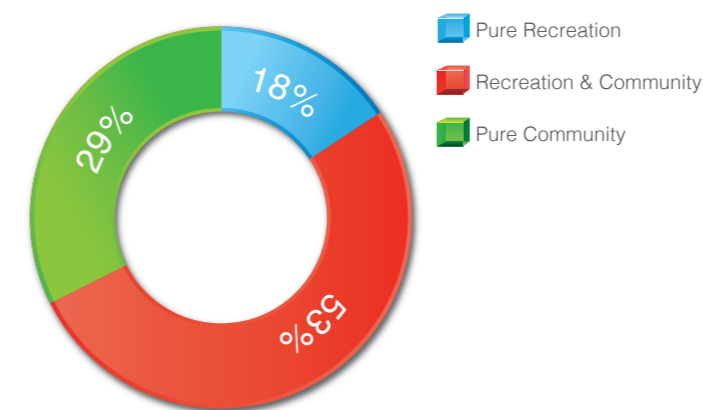
## Community Services

In 2013, KWCM organised 14 community activities totalling more than 7,150 person-hours or 12.6 person-hours per employee.

To maximise the value and effectiveness of our efforts, we often rely on recreational activities to deliver the dual objectives of meeting employee recreational needs and serving the community. The graph below categorises and summarises employee participation by activity nature.

## Employee Participation by Activity Nature in 2013

(person-hours)



The majority of the recreational activities benefit both our employees and the community.



## A healthy spirit of volunteerism



During the year, KWCM continued its 10-year collaboration with the Evangelical Lutheran Church of Hong Kong by organising a four-month organic farming event for 20 underprivileged families under the theme 1314 We Stand By You.

The experience was a valuable one for the participants, who learned about the protection of natural ecosystems and the benefits of healthy eating. According to the feedback of one mother who had lived on a farm in Mainland China, this activity was especially beneficial for her children who learned not to hate eating vegetables.

Dr. Tik Chi Yuen was impressed with the volunteer spirit shown by KWCM employees. "We were happy to work with the team from KWCM. We could see how they cared for our families and children with genuine love in their hearts."

The organic farming event also showed that KWCM makes a serious effort to be a responsible corporate citizen. "KWCM provides not only resources but also opportunities and inspiration. Ten years is only a starting point. I believe that we will continue to work closely together for the betterment of the community," Dr. Tik said.

Dr. Tik Chi Yuen  
Chief Executive  
Evangelical Lutheran Church Social Service - Hong Kong





# Awards and Performance Statistics

Performance Statistics (Head Office & Southern Region)	GRI	2012	2013
Employee Turnover (%)	LA1	10%	13%
Age <30		29%	31%
Age: 31 – 40		15%	15%
Age: 41 – 50		7%	10%
Age: 51 – 60		1%	7%
Age >61		0%	2%
Total number of employees taking parental leave	LA3	10	7
Return-to-work rate		90%	100%
Retention rate		20%	43%
Employees receiving regular performance reviews		100%	100%
Ratios of standard entry level wage	EC5	2.35	2.25
Female		1.85	1.69
Male		2.43	2.32
Senior management hired from local community	EC6	100%	100%
Society			
Confirmed incidents of corruption and actions taken	SO5	0	0
Total direct and indirect carbon emissions (tCO <sub>2</sub> e) in Southern Region	EN15,16	16,971	19,593

Area of Achievement	Awarded by
Wastewi\$e – Class of Excellence	Hong Kong Awards for Environmental Excellence
Energywi\$e – Class of Excellence	Hong Kong Awards for Environmental Excellence
12th Hong Kong Occupational Safety and Health Award – Best Safety Performance Award	Labour Department / Occupational Safety and Health Council
Occupational Health Award – Prevention of the Pneumoconiosis Excellence Award	Labour Department / Occupational Safety and Health Council / Pneumoconiosis Compensation Fund Board / Occupational Deafness Compensation Board
Hang Seng PRD Environmental Awards – 3 yrs+ Entrant, Green Participant	Federation of Hong Kong Industries / Hang Seng Bank
CEDD Construction Site Safety Award – Silver Award	Civil Engineering and Development Department
Considerate Contractor Site Safety Award Scheme - Outsanding Environmental Management Performance Award - Model Subcontractor Award - Model Frontline Supervisor Award - Model Workers Award - New Works - Merit Award	Development Bureau / Construction Industry Council
HSBC LIVING BUSINESS Award 2013 - Long Term Achievement Award - Green Achievement Award	HSBC
Caring Construction Site Award Scheme 2013 – Diamond Caring Award	Labour Department / Occupational Safety and Health Council
CarbonSmart Programme - Participating Company of Carbon Audit Pilot Fund - CarbonSmart Low-Carbon Commitment Partner	Hong Kong Productivity Council
Huizhou City Safety Culture Demonstration Enterprise	Huizhou City Safety Committee



Material Aspects	GRI G4 Indicator	HKEx ESG Guide	Page
Message from the Managing Director	G4-1, 3		02-03
About this report	G4-22, 28- 33		04-05
About KWCM	G4-4, 9, 13, 15, 16,34	A1.1	06-11
Stakeholder engagement	G4-24, 25, 26		12-13
Materiality analysis	G4-17- 21, 23, 27		14-15
KWCM corporate sustainability	G4-56		16-17
Occupational health and safety	DMA LA LA5, 6	GD- A2 A2.1- 2.3	18-21
Energy and carbon	DMA EN3, 5, 6, 15, 16, 18, 19	GD- B1, 2 B1.1, 1.2, 1.5, B2.1, 2.3	22-25
Green purchasing	DMA EN32	GD-C1 C1.2	26
Materials and recycling	DMA EN1, 2	GD- B2, 3 B3.1	27-29
Effluent and water treatment	DMA EN8- 10, 22	GD- B1,2 B1.6, B2.2, 2.4	30
Biodiversity	DMA EN13	GD-B3 B3.1	31
Transport	DMA EN30	GD-B3 B3.1	31
Economic performance	DMA G4-12, EC1, 2		32
Market presence	DMA	GD- A1	32
Waste recycling	DMA EN1, 2	GD-B2, 3 B3, 1	33
Customer satisfaction	DMA PR5	GD-C2 C2.4	35
Anti-corruption/ Anti-trust compliance	DMA SO4	GD-C3 C3.2	35
Employment	DMA LA12, HR3	A1.1	36-37
Training and development	DMA LA9, 10	GD-A3 A3.1,3.2	38-39
CSR	DMA	GD- D1 D1.1	40-45
Performance statistics	LA1, 3, 11, EC5-6, SO5, 7	A1.2 C3.1	46

## Scope and Objective

Hong Kong Quality Assurance Agency ("HKQAA") has been commissioned by K. Wah Construction Materials ("KWCM") to conduct an independent verification of its 2013 Sustainability Report ("the Report"). The Report states the sustainability related performance and efforts of KWCM towards sustainable development for the period from 1 January to 31 December 2013.

The aim of this verification was to provide a reasonable assurance on the completeness and accuracy of the information stated in the Report. The Report covers the standard disclosures defined in the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines Version 4 (G4) Core Disclosures and Environmental, Social and Governance (ESG) Reporting Guide of the Hong Kong Exchanges and Clearing Limited (HKEx).

### Methodology

The process applied in this verification was based on the current best practices such as:

- ISAE 3000 - Assurance Engagements Other Than Audits or Reviews of Historical Financial Information
- AA1000 Assurance Standard 2008
- GRI – G4
- ESG Reporting Guide

The verification process included reviewing of relevant documentation, interviewing responsible personnel with accountability for preparing the Report and verifying the selected representative sample of data and information presented in the Report. Raw data and supporting evidence of the selected samples were thoroughly examined.

### Conclusion

It is the opinion of the verification team that the Report fulfills the GRI – G4 and ESG Reporting Guide.

The Report is the first report of KWCM to disclose its sustainability practices and performance covering the period from January to December 2013. KWCM showed continuing good performance in the past years over developing eco-friendly products, introducing innovative new methods, environmental conservation, people development and community involvement issues. Sustainability has been embedded into the core business activities of the company. The adoption of a structured approach to manage sustainability issues is a robust strategy and its implementation will help the company to understand better its stakeholders and manage tightly its sustainability issues.

Our verification team is highly satisfied that the Report has provided a complete and accurate reflection of the progress against KWCM's sustainability achievement. The Report is presented fairly in all material and there are no significant omissions.

Signed on behalf of Hong Kong Quality Assurance Agency



Bryan Peng  
Assistant Director, Manufacturing & Service Business Agency  
August 2014



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