

# EXECUTIVE SUMMARY

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- ◆ Our Environmental Performance
- ◆ Our Social Performance
- ◆ Our Economic Performance



This is the twelfth edition of the Sustainability Report published by the Hong Kong Housing Authority (HA), **Sustainable Community Fostering Harmony**. This Report highlights the annual achievements and progress of HA's sustainability performance from 1 April 2016 to 31 March 2017. This report is prepared in accordance with the internationally recognised Global Reporting Initiatives (GRI) Standards Core Option. The Executive Summary aims to provide you with an overview of our sustainability performance and achievements in 2016/17.



## Our Environmental Performance

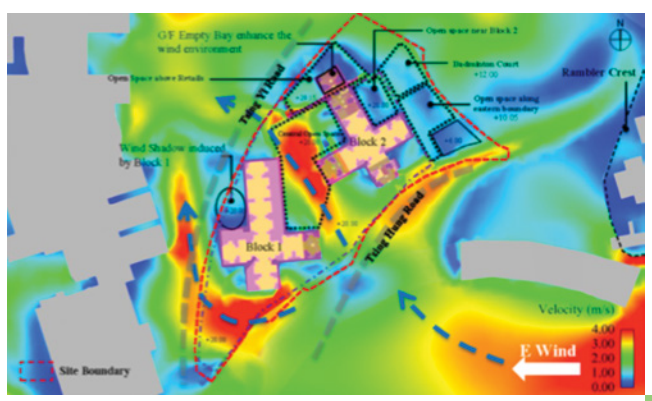
We set 42 environmental targets for 2016/17, of which 39 were fully achieved. The targets for collecting certain amounts of paper, plastic waste and used clothes for recovery were not met due to successful initiatives for reducing waste at source and other external factors, including changes in people's reading habits and a drop in the value of recycling plastic waste. We will closely monitor our progress and revisit the targets.

Our environmental performance for this year is outlined below:

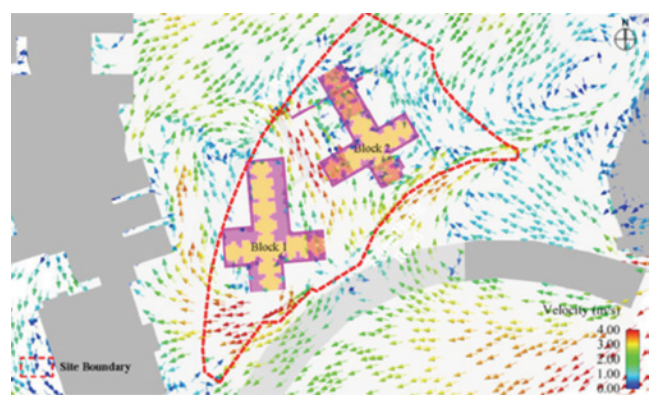
### Initiatives in Planning and Construction of New Housing Estates

#### Conducting Micro-climate Studies

- ◆ We conduct micro-climate studies during the site planning and design stages by applying computer simulations generated from local climatic conditions-calibrated software. Taking wind pattern, natural ventilation, pollutant dispersion, natural daylight, solar heat gain and numerous other environmental factors into account, the study provides us with more comprehensive insights of the environmental impact of the projects on the surrounding area.
- ◆ In 2016/17, such micro-climate studies were carried out in 37 on-going public housing projects, together with 25 projects that underwent Air Ventilation Assessment.



▲ Air Ventilation Assessment



▲ Micro-climate studies with computer simulations

## Utilising Green Materials and Products

- ◆ In order to reduce the use of cement and promote the adoption of recycled materials, we have specified the mandatory use of Ground Granulated Blast Furnace Slag (GGBS) in all our new projects to replace part of cement for precast facades and staircases.
- ◆ We have extended the Chain of Custody (COC) certification for timber from sustainable sources to doorset manufacturers and suppliers who should produce a Certificate of Registration issued by an independent certification body for compliance with the COC standard.
- ◆ To enhance the quality of building materials and components, we have implemented product certification for 11 types of building materials and services as a means of effective upstream control. We are preparing to implement certification for paint products in 2017/18.

## Environmentally Friendly Construction Practices

- ◆ The Building Information Modelling (BIM) is adopted in all disciplines and aspects of planning, design and construction of new projects. As at March 2017, more than 45 projects were using the technology at various stages.
- ◆ We performed a total of 17 site potential and feasibility studies using Geographic Information Systems (GIS).

## Green Building Recognition

- ◆ We require all projects to readily achieve the “Gold” rating standard in the Hong Kong Green Building Council's (HKGBC) Building Environmental Assessment Method Plus (BEAM Plus) in our contracts. During the year under review, we registered seven new projects with the HKGBC for assessment and rating under the BEAM Plus assessment scheme.
- ◆ The Fat Tseung Street West Development, which is scheduled to be completed in 2020, was awarded Platinum, the highest rating, in the BEAM Plus Neighbourhood Pilot-testing Project, with the project forming part of a vibrant community after other public housing developments in the area of Cheung Sha Wan are built.
- ◆ We received the highest honour in the Green Building Leadership category of the Green Building Awards 2016 – a biennial prestigious industry award for building-related projects and organisations with outstanding performance and contributions in sustainability.

## Promoting Electric Vehicles (EV)

- ◆ We include EV charging facilities for private cars in the design of the covered car parks in all the new estates. As at the end of the year, we have provided private car parking spaces with EV charging facilities in seven new development projects.



▲ EV charging facilities



## Estate Ecology

- ◆ We target at having no less than 20% of the new estate area allocated for greening and 30% for sites over two hectares. The tree planting ratio is set to be one tree or more for every 15 flats.
- ◆ During the year, we continued to engage our tenants to green four new housing estates through the “Action Seedling” programme.
- ◆ Green treatment has been carried out in four projects with formed slopes, including Shui Chuen O Estate, So Uk Estate Phase 1, Po Heung Estate and Ching Chun Court.

## Risk Assessment

- ◆ A risk assessment following the guidelines of the International Standard ISO 31000 has been carried out on about 2,300 building materials used in architectural, building services, structural, civil engineering, geotechnical engineering and landscaping works.



▲ Action Seedling programme



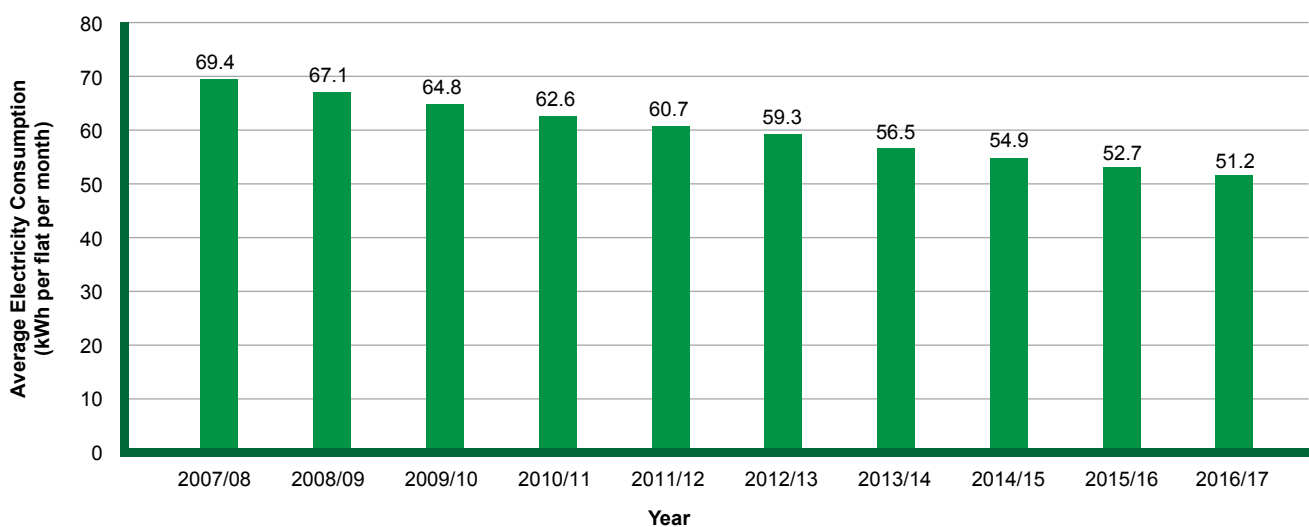
▲ Green treatment to slopes at Shui Chuen O Estate

## Initiatives in Existing Housing Estates

### Energy Consumption

- ◆ Electricity consumption in the estates' communal areas in 2016/17 was 51.2 kWh per flat per month. This represents a 3.0% decrease compared to the consumption in 2015/16.

**Electricity Consumption in the Public Areas of Estates**



- ◆ We have joined the Energy Saving Charter by the government to monitor and reduce electricity consumption.
- ◆ One hundred and seven old lifts were replaced in 2016/17 under our Lift Modernisation Programme (LMP). Compared with the old models, the new ones can generally save more than 30% of energy consumption.

## Waste Management

- ◆ In 2016/17, we collected about 26,652 tonnes of waste paper, 1,362 tonnes of plastic bottles, 1,339 tonnes of aluminium cans and 901 tonnes of used clothes for recycling in our estates.
- ◆ With the waste reduction initiatives, in 2016/17, the average domestic waste production of our residents was 0.55 kg / person / day.

## Greening and Tree Management

- ◆ A total of 20 estates had undergone landscape improvement work.
- ◆ To promote residents' awareness and participation in the greening of housing estates, community garden programmes were organised in 10 estates.
- ◆ We have recruited Estate Tree Ambassadors (ETAs) in our estates to support our work on tree management and preservation. As at March 2017, 710 people were engaged as ETAs. We organised three refresher and training courses during the year to equip them with the latest knowledge.
- ◆ We developed a new Enterprise Tree Management System for effective tree risk assessment and management of over 102,000 trees in all housing estates.

## Organising Green Activities

- ◆ In 2016/17, we concluded the "Green Delight in Estates" (GDE) Phase 9 and commenced GDE Phase 10. Themed "Waste Reduction Begins with Waste Audit", echoing the Government's current waste management policy, a range of in-depth environmental education activities have been organised for residents in 33 estates to raise our residents' awareness of waste reduction and recycling, and encourage them to conserve resources in their daily routine.
- ◆ In 2016/17, the Estate Management Advisory Committee (EMAC) organised tree planting days in 10 estates and greening activities for residents in 20 estates.
- ◆ To encourage our shop tenants to implement green measures for the improvement of the overall environmental performance, we have signed up the retail facilities in 20 shopping centres or estates to join the Hong Kong Green Shop Alliance.

## Initiatives in Office at work

- ◆ In 2016/17, our office premises consumed 34,850,777 kWh of electricity. Compared with the baseline data in 2013/14, consumption decreased by 5.4%.
- ◆ In 2016/17, we consumed 134,477 reams of paper which represents a 1.8% decrease from the baseline data in 2013/14.
- ◆ In 2016/17, Housing Authority Headquarters used 11,316 cubic metres of water – a 26.0% reduction compared with the consumption in 2007/08.
- ◆ In recognition of our outstanding performance in green purchasing and green management, under the Hong Kong Green Award 2016, we were commended with Platinum Awards in the categories of Green Purchasing (Large Corporation) and Green Management (Corporate); Corporate Green Governance Award (Corporate Vision and Stakeholder Engagement) and Outstanding Sustained Performance 7 Years+ Recognition.



- ▲ We obtained a number of awards under the Hong Kong Green Award 2016



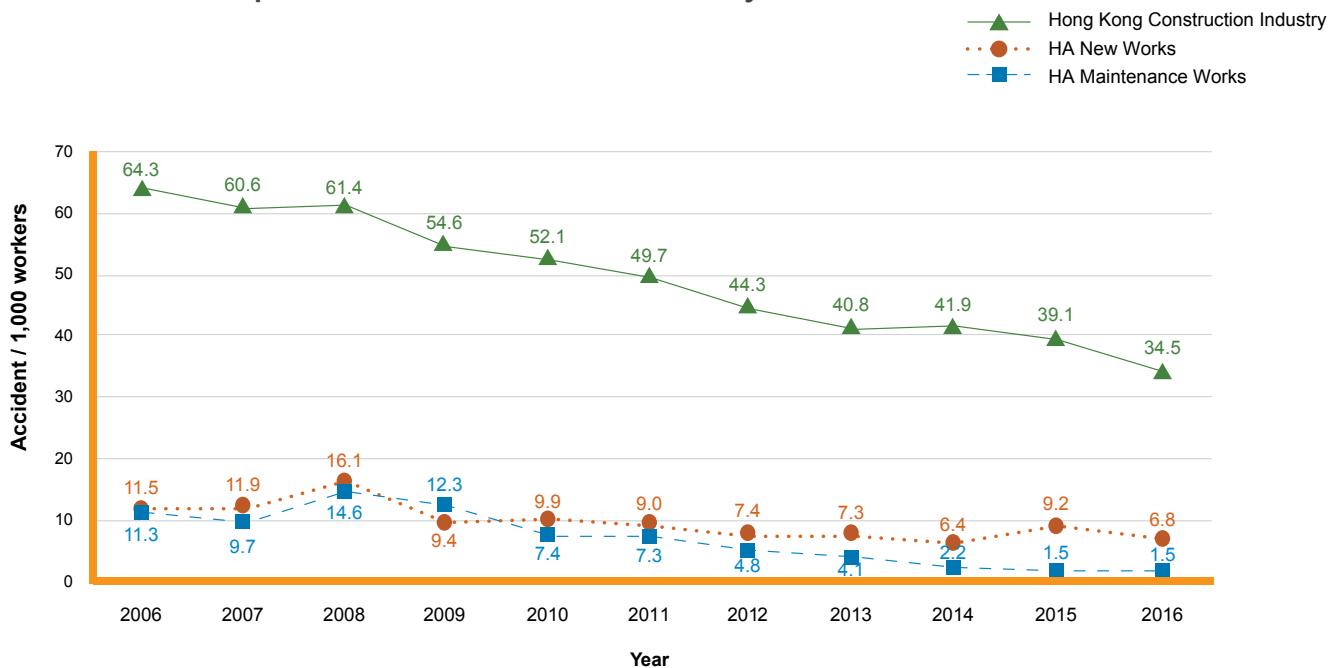
## Our Social Performance

We set 19 social targets for 2016/17 and all these targets were fully achieved. Our social performance during the year is highlighted below:

### Overview

- ◆ The Housing Department (HD) was awarded the “10 years plus Caring Organisation Logo” by the Hong Kong Council of Social Service in 2016/17.
- ◆ Across all our construction sites, the accident rate was 6.8 per 1,000 workers for new works contracts and 1.5 per 1,000 workers for maintenance contracts.; both figures were well below Hong Kong’s average industry accident rate of 34.5 per 1,000 workers, based on the 2016 statistical data from the Labour Department.

### Accident Rate Compared to Local Construction Industry



- ◆ Our efforts in protecting our valuable workforce were recognised when we were presented the Safety Leadership Awards - Gold Award (Client-Developer Category) by the Construction Industry Council and the Lighthouse Club in March 2016.

## Initiatives in Planning and Construction of New Housing Estates

### Safety

- ◆ In April 2016, the HA held a Site Safety Seminar for New Works Capital Works Contracts to boost safety awareness on construction sites.
- ◆ The HA Occupational Injury and Disease Surveillance System was fully implemented in May 2016, enabling contractors to file web-based accident and incident reports.
- ◆ Over 600 participants, including contractors, property management agents, cleaning and security service providers, and HA works and estate management staff, participated in the annual Site Safety Forum, which was co-organised by the HA and the Occupational Safety and Health Council in July 2016.

### Staff Training

- ◆ The HD established the Development and Construction Division Academy in April 2016, with the aim of building a knowledge-based community through providing timely, continuous and comprehensive training packages to personnel engaged in public housing development and construction.



▲ The opening ceremony of the Development and Construction Division Academy

### Community Engagement

- ◆ To engage the community in the planning, design, construction, and flat intake process, we conducted resident surveys in five newly completed estates in 2016/17 to obtain community feedback. We also held post-completion review workshops for four projects.
- ◆ A wide range of elderly-friendly designs have been introduced in recent years to ensure the needs of elderly tenants are addressed. For example, corridors, flat entrances, and kitchen and bathroom doors have all been widened for easier wheelchair access, and materials that are safer for users, such as non-slippery floor tiles, have been introduced.



## Initiatives in Existing Housing Estates

### Facility Upkeep

- ◆ We have closely monitored the overall sustainability performance of 78 distinctive PRH blocks in 10 estates, and maintained their enrolment in the Hong Kong Quality Assurance Agency's (HKQAA's) Sustainable Building Index.
- ◆ Construction of eight lifts in six PRH estates was completed in 2016/17, while construction of a further five lifts in three PRH estates is still in progress.
- ◆ The Lift and Escalator Safety Campaign for 2016/17 incorporated a range of colourful educational posters and escalator safety stand boards. Lift and escalator safety messages were regularly broadcast on the radio, and a safety video starring popular local celebrity Maria Cordero (widely and affectionately known as "Fat Mum") shown on the Housing Channel.

### Support to Tenants

- ◆ The EMACs held 450 community building functions to promote neighbourliness in 2016/17.
- ◆ The cumulative number of households benefitting from the Harmonious Family policies was 44,150.
- ◆ During the year, the HA also offered rehousing assistance to around 40 households affected by the clearance of squatter housing by the Lands Department and similar removals of illegal rooftop structures by the Buildings Department.

## Initiatives in Office at Work

### Safety and Healthy Work Environment

- ◆ During the year, around 9,600 staff members attended 230 seminars on topics such as construction site safety, arboriculture safety, safety awareness, first aid, stress and crisis management, working in confined spaces, using display screen equipment and handling potentially violent customers.
- ◆ Phase 2 and Phase 3 of the Development and Construction Site Mobile System (DCSMS) app are underway to widen the application of our app to cover inspections in areas such as structural work, offering easy access to documents such as approved method statements and samples, and better integrating the Occupational Injury and Disease Surveillance System into DCSMS.

### Knowledge Exchange

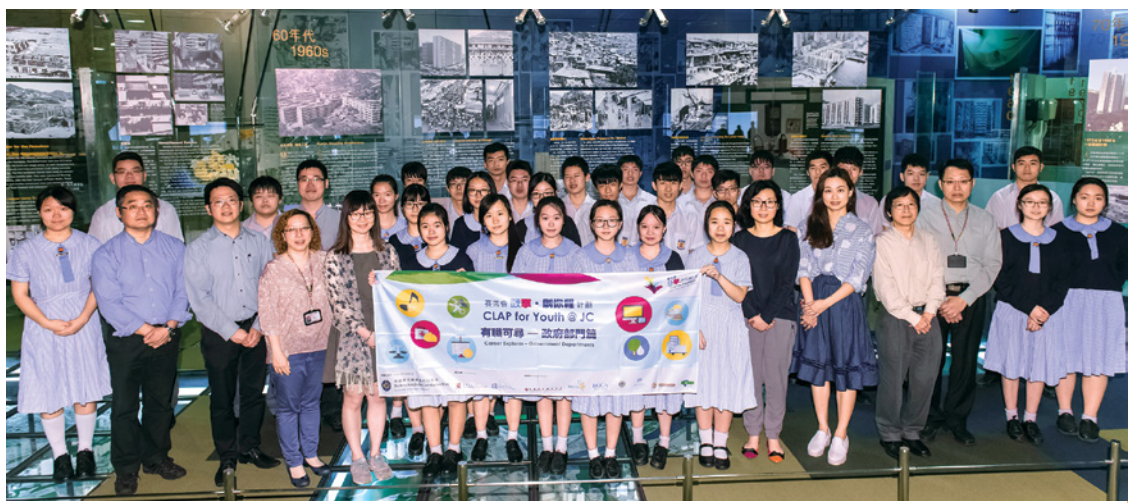
- ◆ During the year, more than 12,000 people visited the HA Exhibition Centre in 2016/17, among whom about 16 percent were guests (including government officials) from the Mainland or abroad.



▲ The HA Exhibition Centre promotes HA's work with audio-visual facilities



- ◆ 30 site visits to public rental housing (PRH) were organised for visitors from abroad, six visits were organised for local interest groups.
- ◆ The HA has been a continuous participant in the “Conference of the Housing and Urban Public Corporations in Asia” to exchange professional knowledge with international experts; experiences and ideas on “Disaster Prevention and Recovery” and “Community Building for Sustainable Management of Apartment Complex” were exchanged this year.
- ◆ Continuous support was given to “Clap for Youth”, a programme funded by the Hong Kong Jockey Club Charities Trust which helps youngsters to develop life planning skills and identify their career interests.



- ▲ We supported the CLAP for Youth programme by introducing HA career prospects to students



## Our Economic Performance

The HA set four economic performance targets for 2016/17 and all these targets were fully achieved. Our economic performance in this year is highlighted below:

### Financial Performance

- ◆ As at 31 March 2017, the HA's funds available for investment stood at HK\$48.9 billion.
- ◆ During the year, the recurrent expenditure of the HA was HK\$16,950 million, which was HK\$501 million higher than that of 2015/16.

### Initiatives in Planning and Construction of New Housing Estates

#### Planning and Design

- ◆ In 2016/17, we completed 11,300 new PRH units and 3,000 subsidised sales flats.
- ◆ The HA continue to deploy advanced information technologies to improve the design and construction process of new housing developments, including Development and Construction Site Mobile System (DCSMS), Radio Frequency Identification (RFID), Building Information Modelling (BIM), Geographic Information System (GIS) and Housing Construction Management Enterprise System (HOMES).
- ◆ To improve cost effectiveness and productivity, we have adopted "Lean Design and Construction" in new projects, and applied innovative construction methods to save resources.



▲ Shui Chuen O Estate

#### Optimising the Use of Resources

- ◆ During the year, the HA continued to maintain the list of contractors, sub-contractors and service providers under our pre-qualification requirements and a two-envelope tendering system where applicable.
- ◆ To address the labour shortage, we monitor and review the requirement for Trade Tested Workers and the application of the streamlined Supplementary Labour Scheme (SLS) in new work and maintenance contracts.

## Initiatives in Existing Housing Estates

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### Optimising the Allocation of Housing Resources

- ◆ In 2016/17, approximately 26,520 PRH flats were allocated to general applicants (i.e., family and elderly one-person applicants) and non-elderly one-person applicants under the Quota and Points System (QPS).
- ◆ In 2016/17, the HA completed one Territory-wide Overcrowding Relief (TWOR) exercise and one Living Space Improvement Transfer Scheme (LSITS) exercise and around 1,700 households were rehoused under the two schemes.

### Maximising Resource Efficiency

- ◆ In 2016/17, the HA commenced the Total Maintenance Scheme (TMS) for over 13 estates during the year. All PRH estates received our Responsive In-flat Maintenance Services (RIMS).
- ◆ To prolong the useful life of aged estates, the HA continued to implement the Comprehensive Structural Investigation Programme (CSIP) and Estate Improvement Programme (EIP) for older estates as scheduled.

## Initiatives in Office at Work

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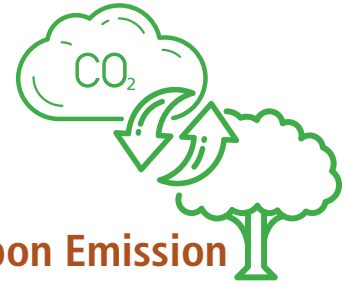
- ◆ The HA has actively adopted the use of the latest information technology and obtained accreditation in three main areas, namely: application software development and maintenance; IT Services Management; and Information Security Management.
- ◆ To further enhance efficiency and productivity, the Independent Checking Unit (ICU) also reviewed and enhanced its information technology systems serving the HA construction projects and properties, including the Housing electronic Plan Submission System (HePlan) for professionals to make submissions and the Housing electronic Building Record Online System (HeBROS) for the public to view and purchase building records.
- ◆ In July 2016, the HA launched a new automated document approval system to support the handling of collection, consolidation, review and approval of External Document Impact Assessments and approval of Quality Documentation for the Estate Management Division.





### BEAM Assessed Projects

**7 projects** registered and  
**9 projects** assessed by BEAM Plus



### Carbon Emission Estimation

Amount of CO<sub>2</sub> saved equivalent to **86,000 trees** planted



### Zero Irrigation System Planter

**21 projects** with in-situ ZIS planter provision are under construction. Anticipated **4,906,330** litres of water will be saved annually

### Trees

**1,592 trees** planted



### Slope Greening

**28** slopes



### Modular Design/ Precasting & Prefabrication

Cost **40%** less than private sector



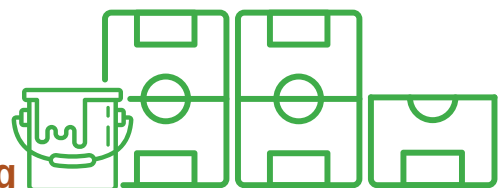
### Construction Waste

**30%** less than private sector



### Use of Recycled Material

**5,720 tonnes** of GGBS used, equivalent to **380** trucks



### Plastering

**2,860,000m<sup>2</sup>** of plaster saved, equivalent to **446** standard football pitches