

Case Study 2: A New Horizon in Energy Management



Energy management lies at the core of our work to promote sustainable housing. It yields multiple benefits such as reducing energy costs, enhancing energy efficiency, and cutting down greenhouse gas emissions. To fully seize these benefits, we have taken a proactive approach to integrate energy management considerations into the design, construction and management of our existing housing estates.

Since December 2011, we have progressively adopted ISO 50001 Energy Management System (EnMS) to provide a solid framework for continually enhancing our energy performance. We have further engaged our contractors to pursue better energy management.

Background of the ISO 50001 Standard

ISO 50001 EnMS Standard assists organisations in enhancing energy efficiency and identifying room for continuous improvement in energy performance. It follows the plan-do-check-act cycle to guide organisations in finding out their energy consumption status, defining improvement objectives and targets, monitoring and reviewing their energy consumption pattern, which eventually leads to achieving more efficient use of energy.

Our ISO 50001 Energy Management System Implementation Journey

In view of the significant energy consumption in building operation, we proactively looked into every opportunity to enhance the energy efficiency in new building design. In 2011, we started to establish an ISO 50001 EnMS in the Development and Construction Division (DCD). After conducting a number of training sessions and a gap analysis, as well as rolling out various energy saving measures, DCD achieved ISO 50001 certification in “Planning, Design, Project Management and Contract Administration for the Construction of Public Housing” in June 2012.

In early 2013, our Estate Management Division (EMD) has selected Kwai Shing West Estate as a pilot to adopt ISO 50001 EnMS in public rental housing (PRH) estates. Subsequently, Kwai Shing West Estate was awarded the ISO 50001 certification in June 2013. Riding on the success of the ISO 50001 implementation at DCD and EMD, we extended ISO 50001 EnMS certification in full swing to cover all 1 155 PRH domestic blocks in two phases, which completed through extended certification audits in August 2014 and March 2015 respectively in less than 21 months.

Case Study 2: A New Horizon in Energy Management

The full scale implementation of ISO 50001 EnMS standard plays a pivotal role in monitoring and enhancing energy performance of PRH in Hong Kong. Through the EnMS, we collect, analyse and review the energy data and information from PRH blocks, which have provided us with valuable information to develop an energy database for monitoring and benchmarking of the overall energy performance of PRH blocks. Hence, we are able to find out the electricity saving in communal areas of all PRH blocks in previous years, and to continually identify room for improvement measures.



The Director of Housing, Mr Stanley Ying (left), receives the ISO 50001 EnMS Certificate from the HKQAA at the presentation ceremony.

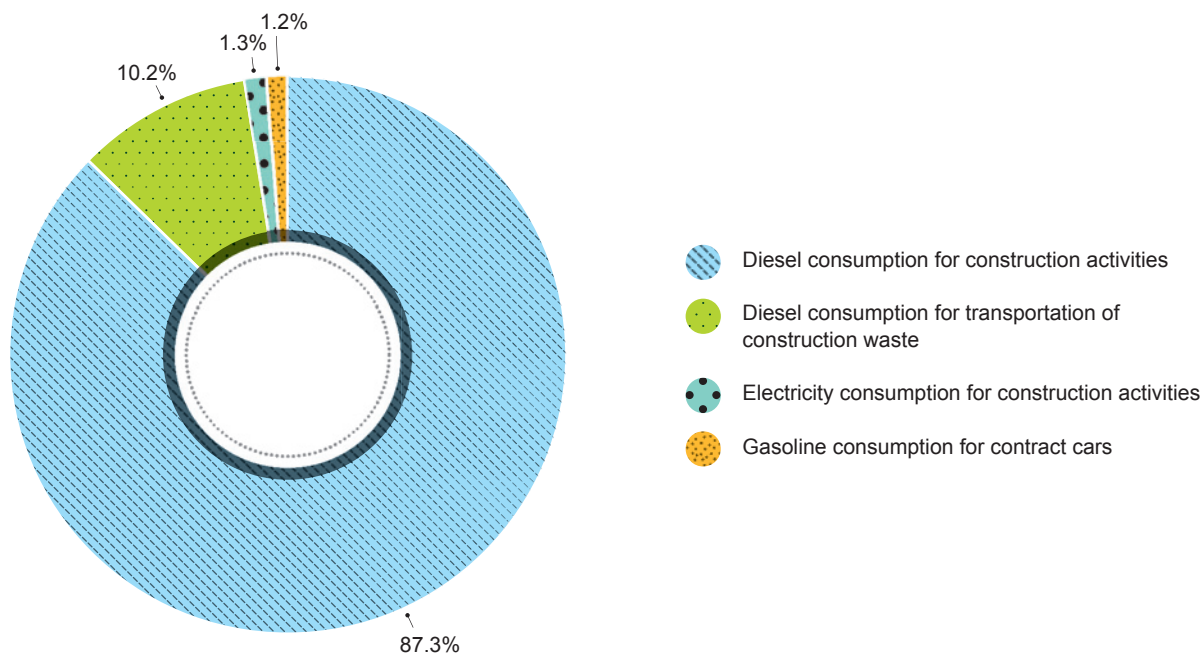
Partnering Synergy – Requirements on Construction Contractors

In addition to implementing ISO 50001 EnMS standard at the Hong Kong Housing Authority (HA), we have made a step forward to make ISO 50001 certification a mandatory requirement for some of our listed works contractors. Following a series of engagement activities to seek views from relevant contractors, all works contractors applying for admission or already on the HA Lists of Building (New Works Category) and Piling Contractors are required to obtain ISO 50001 certification with effect from January 2014. A grace period of 24 months, i.e. by 31 December 2015, for acquiring such certification is granted to works contractors already on the Lists. We have jointly steered a pioneer research study in identifying local key energy management practices in building and piling activities and shared such information with our listed construction contractors and practitioners in the construction industry.

Apart from imposing requirement for ISO 50001 EnMS certification, we also monitor construction contractors' energy consumption regularly. Data on contractors' energy consumption with contract commencement since May 2014 were collected and analysed to gauge their energy performance.

Energy Consumption of Construction Contractors (May 2014 –April 2015)	Gigajoule
Diesel consumption for construction activities	211,751
Diesel consumption for transportation of construction waste	24,687
Electricity consumption for construction activities	3,198
Gasoline consumption for contract cars	3,011
Total	242,647

Energy Consumption of Construction Contractors in 2014/15



According to the energy consumption data from May 2014 to April 2015, among all the energy sources in construction sites, the major contributor is diesel consumption for general construction activities, which accounts for about 87% of the overall energy consumption during the year. These activities apply to different stages of construction works including piling, building and demolition. We will continue to collect, analyse and review the energy data from construction sites, and encourage our contractors to look into improvement opportunities and introduce best practices especially for diesel consumption for general construction activities in order to develop more energy efficiency public housing. It is our endeavor to work with works contractors to achieve a profound improvement on energy performance of public housing and render energy management an increasing trend in local construction industry in order to contribute to the sustainable development in Hong Kong.

▲ Back to top