BUSINESS ENVIRONMENT COUNCIL 商界環保協會

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Low Carbon Hong Kong: Supporting Business to Set Targets

Property & Construction Working Group

18 September 2018 Workshop Highlights

Through the *Low Carbon Hong Kong: Supporting Business to Set Targets* initiative, BEC is working with businesses to set targets and strategies aligned with the goals of the Paris Agreement. The current focus is the property & construction sector. This stage of the project follows from the publication of the introductory Low Carbon Hong Kong: Supporting Business to Set Targets report which put forward the case for target-setting and decarbonisation on a sectoral level.

A series of workshops backed up by research were held to build understanding on the level of ambition expected from the sector pursuant to the goals of the Paris Agreement, and on how to set and achieve ambitious decarbonisation targets.

The fourth and last of the series was held on 18 September 2018, focusing on construction and construction materials. Members and experts explored ways to reduce the carbon footprint of construction and how the sector can practise low carbon procurement.

Construction and construction materials is an important segment of the buildings value chain, as it influences both the embodied carbon of buildings and also contributes to how buildings operate and hence operational carbon emissions.

Reducing Carbon Footprint of Construction

Use Alternative Materials

Using less carbon intensive materials (cement substitutes and additives, sustainably sourced timber) can achieve up to 20% embodied carbon saving; and up to 10% saving for selecting reused or higher recycled content materials. Lower carbon alternative materials have proven to match or even exceed the strength and durability of conventional materials. No compromises needed.

As an illustration, a New York City skyscraper 500+ meters in height was built using a less carbon intensive alternative concrete. Close to 5,000 tonnes of CO_2 was avoided compared to using conventional concrete.

Use Less Materials

Reducing excessive materials use through efficient design and adjustments in building elements specifications can reduce embodied carbon by up to 20%; while using efficient off-site construction methods can reduce embodied carbon by up to 10%.

Using alternative materials can also enable using less materials. A development in Spain, for instance, used additives to strengthen its concrete, resulting in 20% less steel by weight needed for reinforcement.

Smart Construction Processes

Using offsite methods (materials cut and bend, prefabrication) and accessing grid electricity in construction sites to power machinery and equipment can reduce CO_2 emissions from the construction process.

Low Carbon Procurement

Project proponents should communicate expectations clearly:

- Environmental specifications should be consistent, have no information gaps, and set out in prominent and easy-to-understand forms across all contract documents.
- Requirements should be communicated to all parties involved – architects, suppliers, and staff.
- Early engagement with suppliers is important to understand what can be provided and achieved.

Don't be afraid to set a challenge. Experience shows that if high standards are requested by project proponents, suppliers and architects will innovate to meet and even exceed requirements.

How buildings are built and what materials are used can influence a building's operation phase emissions. See this Topical Digest to read more on best practices for new buildings design.

About Business Environment Council Limited 商界環保協會有限公司

Business Environment Council Limited ("BEC") is an independent, charitable membership organisation, established by the business sector in Hong Kong. Since its establishment in 1992, BEC has been at the forefront of promoting environmental excellence by advocating the uptake of clean technologies and practices which reduce waste, conserve resources, prevent pollution and improve corporate environmental and social responsibility. BEC offers sustainable solutions and professional services covering advisory, research, assessment, training and award programs for government, business and the community, thus enabling environmental protection and contributing to the transition to a low carbon economy.

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