2. INNOVATIVE / PERFORMANCE ENHANCEMENT TECHNOLOGIES APPROVED FOR PREVIOUS EB, BI & ND PROJECTS (*EB BI ND May 23*)

Introduction

(1) These slides contain innovative / performance enhancement technologies that have been approved in previous BEAM Plus EB, BI and ND projects.

(2) The approval years are given in brackets.

(3) Users are reminded that technologies approved as IA/IV points for a past project do not necessarily mean that they would attain the same IA/IV scores for other projects. Project assessment will take into account individual circumstances.

Existing Buildings (EB)

IA 1 - Innovation Techniques

IA 1e - EC plug fans

The Applicant has submitted documentations and technical paper to demonstrate that this technique is unconventional design in Hong Kong and quantifying the environmental benefits through the application of this technique.

(Approval Year: 2022)

Old AHU Refurbishment with EC Fans

Existing Buildings (EB)

IA 1 - Innovation Techniques

Demand-controlled Ventilation

IA 1a - IoT with Demand Control Ventilation in Carpark

The Applicant has submitted documentations and Energy Consumption Comparison to demonstrate that this technique is unconventional design in Hong Kong and quantifying the environmental benefits through the application of this technique.

(Approval Year: 2022)

IoT Sensors

Existing Buildings (EB)

IA 1 - Innovation Techniques

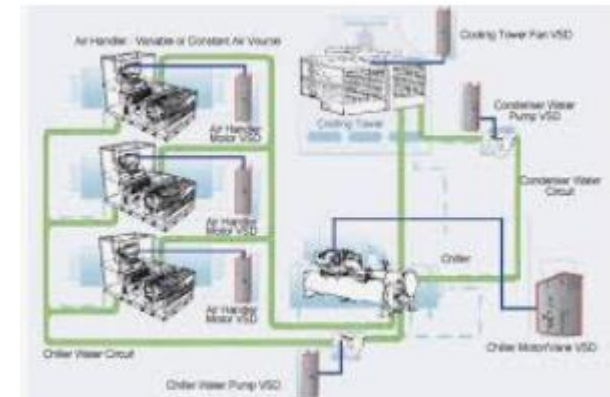Example improvement programme
(from another project)

IA 1d - Chiller Plant Combination

The Applicant has submitted documentations and Combination of Chiller Plant Completion Report to demonstrate that this technique is unconventional design in Hong Kong and quantifying the environmental benefits through the application of this technique. This technique is considered as innovative for Existing building rather than New Building projects due to its difficulty for integration in aged buildings.

(Approval Year: 2022)

combination of two chiller plants will be conducted to improve operating efficiency

Existing Buildings (EB)

IA 1 - Innovation Techniques

IA 1b - Smart Waste Management System

The Applicant submitted justification, user guide of smart waste management system, location plan and site photo to demonstrate the provision. The system applying the RFID technology at LG/F Refuse Chamber. Waste and recyclables data are collected and transmitted to the cloud platform daily. The data will be used to calculate the waste intensity (i.e. amount of waste produced per capita) and recycling rate (i.e. percentage of recyclables collected out of total waste) to drive behavioural and cultural changes leading to waste reduction and recycling.

(Approval Year: 2022)

Source: Business Environment Council

Existing Buildings (EB)

IA2 - Performance Enhancement

IA 2c - Food Donation

Narrative detailing donating of food wastes from a Café
to a charity (i.e. more than 220kg of excess food has been donated
in 2021; estimated 278.52 CO2-e carbon emission reduction).

(Approval Year: 2022)

Existing Buildings (EB)

IA2 - Performance Enhancement

<u>IA 2b - Charity Ramp Run</u>

Narrative detailing the benefits of the proposed innovation including fundraising to charity groups, enhancing health and wellbeing of building occupants and community and reducing carbon emission (estimated 0.1147kgCO2e could be saved).

The credit is granted in FA as the supporting documents demonstrated the enhancement under BEAM Plus credit SA 6 - CSR facilities / services

(Approval Year: 2022)

The property's 15-floor cargo ramp is used as a venue for the annual charity ramp run event.

Source: Goodman Group

BEAM Plus Interiors

IV 1 - Innovation Techniques

IV 1d Disinfectant Robot

The automatic disinfectant robot for hygiene and disinfection control of indoor environment with less time spent on manpower. Scheduling of disinfectant robot has been provided to demonstrate the frequency of the disinfection activity. The narrative has been provided to show the technical literature, catalogue of robot and its performance of disinfection, in which one robot is capable to disinfect whole project assessment boundary.(Achieved)

(Approval Year: 2022)

Source: EMSD

BEAM Plus Interiors

IV 1 - Innovation Techniques

IV 1b - IAQ Excellent Class
The EPD IAQ certificate with EXCELLENT class under IAQ objective has been provided.

1 credit is achieved in the Assessment.

(Remark: IAQ Excellent Class is designated as IV1 via Section 9.4 of BI Manual.)

(Approval Year: 2022)

BI IV2- Performance Enhancement

Performance Enhancements

IV 2a - Coffee Ground Recycling
The Applicant submitted declaration letter by the waste collector, participation record of HKPC food waste recycling with person in-charge, photo record and estimated calculation with references to demonstrate the environmental benefit of coffee ground recycle.

(Approval Year: 2022)

BI IV2- Performance Enhancement

Performance Enhancements

IA 2b - Free Food Container
The Applicant submitted declaration letter, photo record and estimated calculation to demonstrate the environmental benefit of the free use of food container for staff in order to reduce the use of disposable lunch boxes.
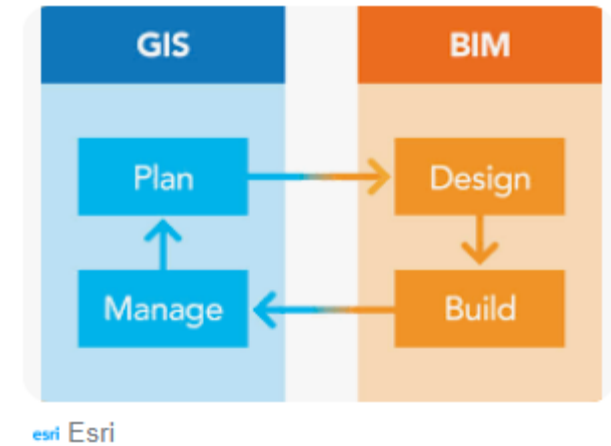
(Approval Year: 2022)

ND Innovation

IA 1c - Integrated Geographical and Building Information Platform (IGBIP)
The Applicant provided reports on the use of BIM x GIS which will
be one of the first to integrate building information and geospatial data
together to create a one-stop shop for construction and facility
management. It demonstrates the system will save tremendous amounts of
paper throughout the developmental cycle of the park, saving over 4,200
trees worth of paper during its multi-year development. With this innovative
technique, the provided information can demonstrate the compliance with
the requirement to achieve 1 Bonus.

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(Approval Year: 2022)

ND Innovation

IA 1a - Robotic Parking

The Applicant provided reports on robotic parking benefits, car parking strategy, location plan, suppliers of equipment and components, etc. signed by SQP to demonstrate that the benefits possible through the automated parking system is the direct reduction in carbon dioxide emissions through vehicle use within car parks. Air pollution from vehicular use within indoor carparks is substantial as individuals need to travel from the gate to find an open space before parking their vehicle. With a robotic parking system, individuals can now simply shut off their engines once reaching the system, allowing the system to park for them instead. The reduction air pollutants contributing to carpark users' health and wellbeing. With this innovative technique, the provided information can demonstrate the compliance with the requirement to achieve 1 Bonus.

(Approval Year: 2022)

ND Innovation

ReThink HK

<u>IA 1b - Automatic Refuse Collection System (ARCS)</u>
The Applicant provided a reports on ARCS benefits, waste calculation, schematic design, waste management plan, etc signed by SQP to demonstrate that by diverting waste from landfills to recycling through ease of recyclable collection, the ARCS installed is expected to save 14 tonnes of methane emissions per year, or over 400 tonnes of carbon dioxide annually. With this innovative technique, the provided information can demonstrate the compliance with the requirement to achieve 1 Bonus.

(Approval Year: 2022)

Remarks about IA/IV points

(1) The assessment body will consider the **kind of technology** and the **extent of application** to judge whether it is an innovation worthy of a bonus (IA/IV) point. Typically, this would require <u>newer</u> kind of technology and a <u>significant</u> installation rather than a small trial.

(2) As time goes by, some of the above features may be adopted by more and more projects. There is a possibility that the features will **no longer** be counted as innovations due to their prevailing popularity.