

Transforming Data into Action

Building Energy Management System to Actualize a Sustainable Built Environment

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Organisers:



International Co-owners:



Data

Act

Save

Contents



How to built up an energy-saving society



Boost energy efficiency by Building Energy Management System



Implication & effectiveness of Building Energy Management System



Actualize a Sustainable Built Environment



Organisers:



International Co-owners:



Sustainable Buildings and Climate Initiative
Promoting Policies and Practices for Sustainability



Global Alliance
for Buildings and
Construction

How to build up an Energy-saving Society



Organisers:



International Co-owners:



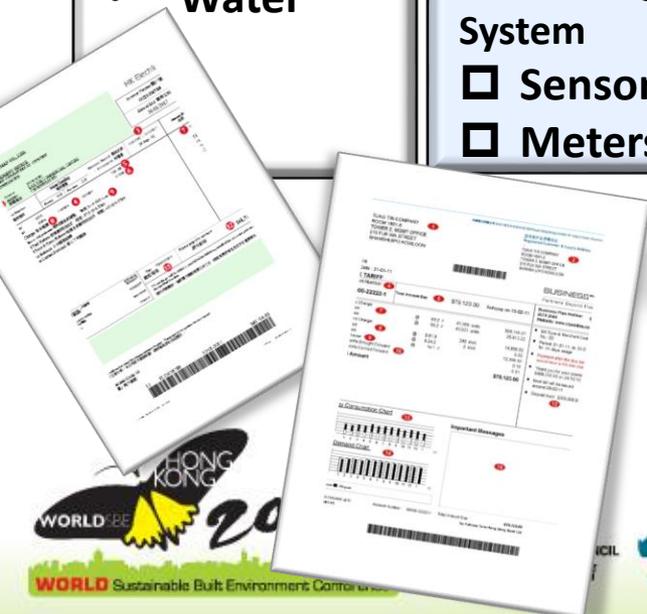
Sustainable Buildings and Climate Initiative
Promoting Policies and Practices for Sustainability



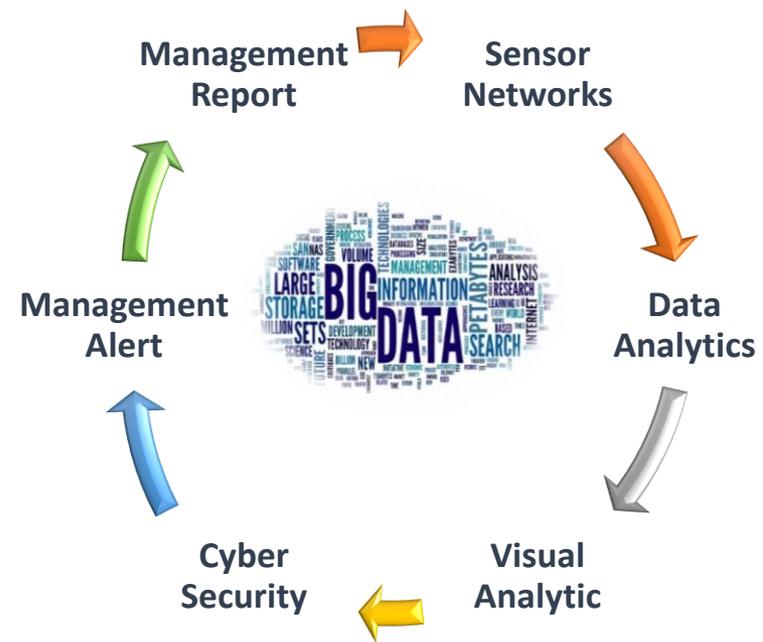
Future features in Legacy Building Control Systems

EXISTING Features

 Utility Bills	 BMS	 PQM
<ul style="list-style-type: none"> • Electricity • Gas • Water 	Central Control Monitoring System <input type="checkbox"/> Sensors <input type="checkbox"/> Meters	Power Quality Management System <input type="checkbox"/> Meters



Plan-ahead Future Features



International Co-owners:



Technical Parameters Transformable to Business Decisions

Building Energy Management System

Energy Consumption

- Utility bills
- Tariff

Energy Break-down

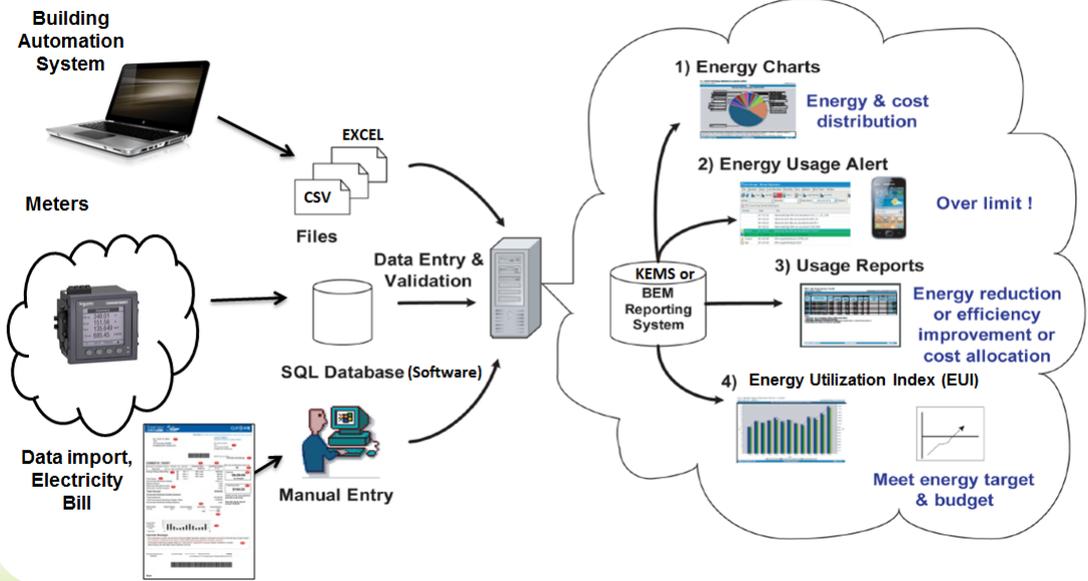
- Readings from meters & sensors
- System reports

Energy Insights

- Energy Performance & Trend
- Energy saving opportunities (EMO)

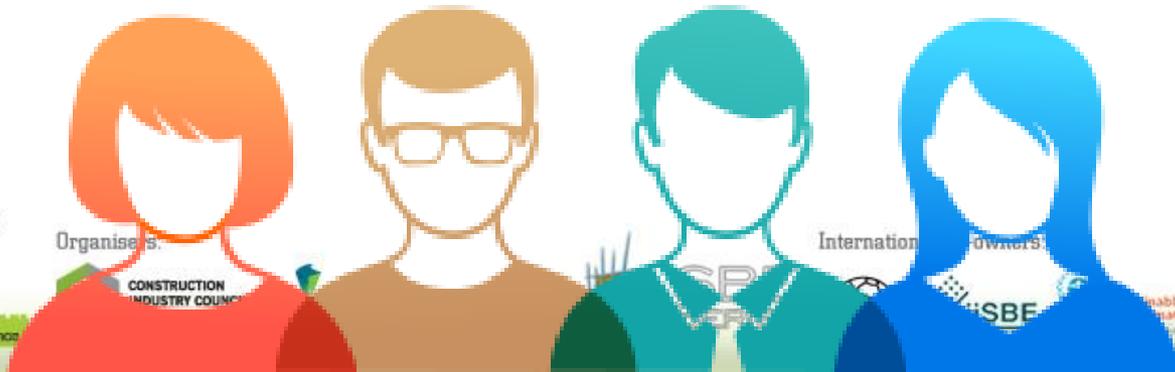
Energy Data Sources

Building Energy or Key EnPI Management System Server



Arousing & Encourage Public Engagement

 Visualize Building Energy Performance



Boost Energy Efficiency by Building Energy Management System



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Less is More

Energy Reports



Information at a Glance

Energy Dashboard

**Public
Web/Mobile
Dashboard**

**Private
Web/Mobile
Dashboard**

- ✓ Free Access for Public
- ✓ Basic Building Energy Performance Information

- ✓ Secure Access for Staff
- ✓ Advanced Building Energy Performance Information

**Secure Visualization from
ANY device, Anywhere**



Implications & Effectiveness of Building Energy Management System



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Increase Transparency of Building Performance



Building Energy Management System @ EMSD Headquarters Building

機電工程署 EMSD  EMSD Headquarters Building Energy Dashboard Up to 2017-05-22 13:59



Address:
Electrical and Mechanical
Services Department
Headquarters, 3 Kai Shing Street,
Kowloon, Hong Kong.
<http://www.emsd.gov.hk>



<http://greenbuilding.hkgbc.org.hk>

	<u>Last Audited EUI</u>	
	121.5 kW/m²	
	Outdoor Temperature	25.0°C
	Relative Humidity	94.0%

	<u>Last Hour Electricity Consumption</u>	
	2,025 kWh <small>Up to 2017-05-22 13:59</small>	
		Q Last 24 Hours
	<u>Last Month Water Consumption</u>	
	7,234 L <small>Up to 2017-04-30</small>	

Energy Harvesting by Green Installations

ELECTRICITY

YEAR-TO-DATE ELECTRICITY HARVESTED FROM PV
22,580 kWh (1.9 % of total consumption)

From 2017-04-01 to 2017-05-22

WATER

YEAR-TO-DATE RAIN WATER CONSERVED
85 L

From 2017-04-01 to 2017-05-22

If you have any inquiries, please contact bems-admin@emsd.gov.hk



Prioritize Energy Efficiency Investments

Prioritize & Track



Improve Building Operational Efficiency

Insights & Actions

Energy Use



Water Use

Thermal Comfort



Lighting Quality

Indoor Air Quality



Green Activity



Organisers:



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會



HKGBC
香港綠色建築議會



SBE
SERIES

International Co-owners:



IGBC



iISBE



UNEP

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IFBC



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Energy Performance Contract



Raise Energy Awareness

Building Owners	Building Operators	PEOPLE
<p>Manage energy more efficiently across the buildings portfolio</p> <p>Simplify reporting and gain faster insights into energy intensity and resource use</p>	<p>Manage building energy and system more effectively</p> <p>Track energy efficiency to save cost</p>	<p>Enable greener urban living</p>



International Co-owners:



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Predictive Building Energy Management



Raise Energy Awareness



Building Operation

Building Energy Management



Building Operation based on predictive outdoor environment & building activities

Building Energy Management based on Trending & Analysis



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Conclusion



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Data

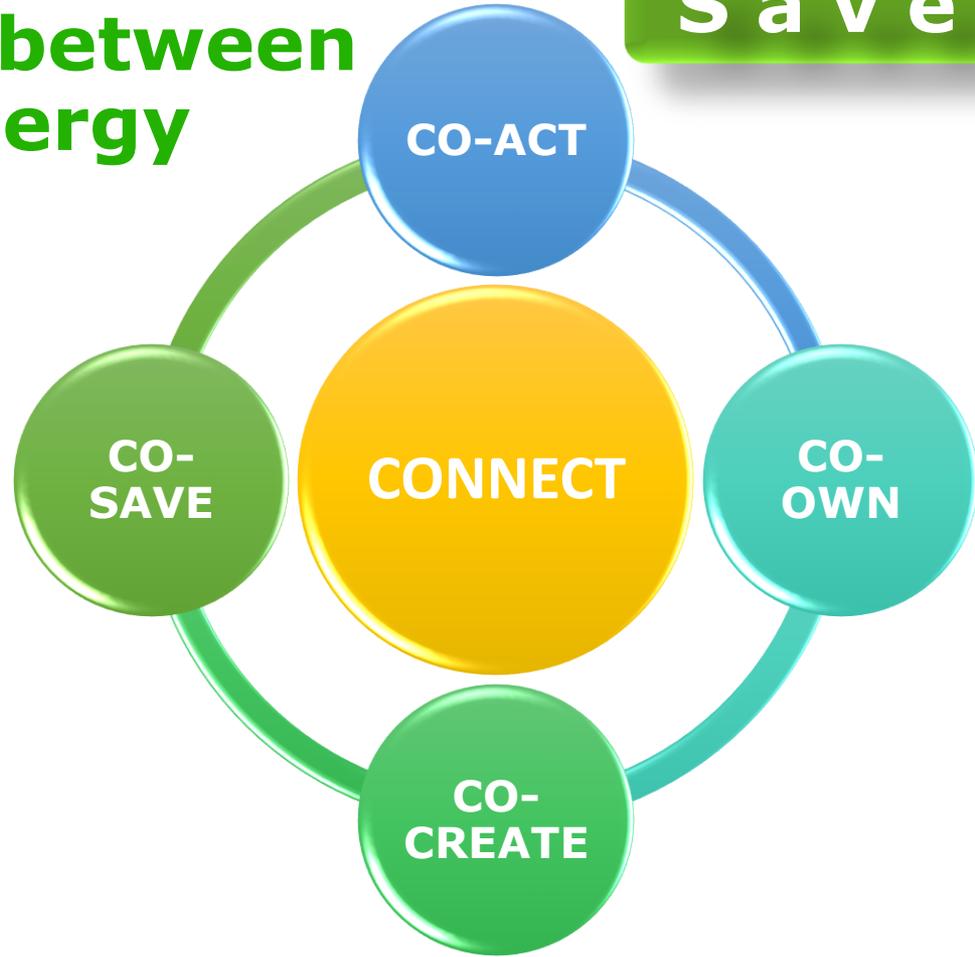
Act

Save

Quality Built Environment



Connection between People & Energy



Organisers:



International Co-owners:



Thank you



Organisers:



International Co-owners:

