



Highlights of Energy Efficiency Technologies Mini-Expo and Seminar

Energy Savings for Hotel and F&B Sectors

Business Environment Council (“BEC”) hosted the Energy Efficiency Technologies Mini-Expo and Seminar: Energy Savings for Hotel and F&B Sectors on 12 June 2017.

(請按此參閱中文版《專題摘要》)

Session One – The Policy Context & Programme to Date

Keynote Speech: Making Time for Energy Management in Hotel and F&B Sectors

Speaker: Ir Alfred SIT, JP, Director of Electrical and Mechanical Services, Hong Kong SAR Government

- Government has set energy reduction targets in Energy Saving Plan (40% energy intensity reduction by 2025) and Climate Action Plan (65-70% reduction in carbon intensity by 2030).
- Introduced energy efficiency measures such as Building Energy Efficiency Ordinance in 2014, as well as Building Energy Codes and thermal transfer values.
- Environment Bureau is currently in dialogue with property development/management companies to set energy saving targets and measures under the 4Ts framework.
- Hotel energy saving strategies should begin by evaluating building performance with an energy audit, and followed by green housekeeping, retro-commissioning and retrofitting.
- Great savings can be attained without costly investments by utilising energy management systems to achieve optimisation i.e. retro-commissioning as well as green housekeeping and retrofitting.

Energy Sharing on ACT-Shop Programme - Retro-commissioning Experience in a Hotel

Speaker: Dr Paul SAT, Head of Research and Public Education, Hong Kong Green Building Council

- Explained current industry practice: optimisation/retro-commissioning (over 14% savings), retrofit (over 10% savings) and early replacement (approx. 17% savings).
- Through HKGBC's ACT-Shop programme, a pilot on retro-commissioning a hotel has been carried out.
- Findings: retro-commissioning can have <1 year payback period – low cost, high impact.
- Major obstacles: quality of data, faulty equipment, valves, controls, and oversized equipment.
- Training is important: covering system optimisation, performance evaluation and analysis.

Putting Energy on the Agenda - Governance & Engagement are at the Heart of our Success

Speaker: Ms Rebecca DONELLAN, Director of Sustainability, MGM China Holdings Ltd.

- 30% reduction in energy consumption since 2008, and considerable recognition of improvements through awards and labels.
- Ingredients for success:
 - o Shared company vision – a better society and environment for tomorrow
 - o Tone from the top and accountability – strong sustainability department
 - o Green champions –ambassadors and specific guidelines for each department
 - o Understand and celebrate performance – detailed monitoring, attain certification
 - o Spell out the business case – utilise systems to track and communicate savings
 - o Make it interactive and fun – engage the entire workforce with events
 - o Co-create with employees – idea schemes drive innovation and enhance morale

The Holiday Inn SOHO Express: Leading the Way

Speaker: Ir Conrad WONG, BBS, JP, Vice Chairman, Yau Lee Holdings Ltd.

- Completed in 2012 with energy efficient design – achieved 4 top ratings.
- Substantial energy savings: 58% better than a typical hotel of about the same size. (The performance of a typical hotel is drawn from EMSD's energy performance benchmarks.)
- Good payback - just over 4 years.
- Aspects of sustainable design include: blocking solar heat gain through low-E glass double-glazing, automated motorised roller blinds, LED and T5 lighting, lift counter weight optimisation, occupancy recognition with CCTV, solar hot water collector system, heat pump (waste heat utilised for hot water), high CoP water cooled chiller (optimise performance during part load usage), room fresh air control, and energy saving smart intelligent fan coil units.
- Monitoring methods include energy optimisation for Heating Ventilation and Air-Conditioning (measures weather and tunes equipment) and PowerBox (real time building consumption) for data transparency.
- If the hotel was designed today, it would include oil-free chillers, Nanoflex panels for lighting, keycards to control air-conditioning/lights back of office, and carpark motion sensors.
- Green is not a cost but investment – 20% return on investment.
 - o Make it interactive and fun – engage the entire workforce with events
 - o Co-create with employees – idea schemes drive innovation and enhance morale

Session Two – Financing and Achieving Excellence in Energy Saving

Financing Energy Efficiency

Speaker: Mr Gary HUI, Chief Operations Officer, Energenz Consulting Ltd.

- Energy Performance Contracting (EPC) is an approach to financing energy improvements – pay for today's facility upgrade with tomorrow's energy savings.
- It involves entering an energy saving performance contract with an energy service company (ESCO)
 - o Advantages: No capital expenditure required on the part of client, less sensitive on return, always positive cash flow for client.
 - o Disadvantages: Maximised return lost. Limited applicability to systems with measurable energy savings.
- Investment grade audit is the most critical stage as baseline measurements must be made, and to identify key factors and variables (e.g. price fluctuations). Complex contracts required to manage exceptions – system breakdown, human error, changes in variables.

Beyond Engineering: Energy Management 2.0 - Using cross-departmental teams to manage energy

Speaker: Mr Tyler HOLLAND, Sustainability Director, En-trak HK Limited

- En-trak aims to gather, analyse and report data through visualisation to engage more departments in a new energy management approach using cloud-based software
 - o Normalise data based on operational hours, area, etc. to improve understanding
 - o Seek results from changing behavior, not just changing equipment
- Sustainability initiatives are increasingly demanding and strategically important for corporate leadership.
- Increasing understanding that people/processes just as important as equipment.
- Greater transparency improves productivity and decreases reliance on key personnel and bottlenecks, such that everyone is proactive in the energy-saving process.
- Helps multiple departments work together with clear energy/carbon reduction goals.

How to save 30-40% Energy in your HVAC/Refrigeration systems

Speaker: Mr Peter HEAVYSIDE, Executive Director, Agile 8 Consulting

- Coolnomix is a patented technology that runs cooling systems more efficiently
 - o For a restaurant, assuming AC/refrigeration accounts for 35% energy usage and make 30% savings, this reduces electricity bill by 10.5%
 - o Payback period is less than 12 months in HK – about 0.8 years.

Integrated Hotel Solutions: from devices to software and analytics

Speaker: Mr Marcus TAECK, Hotel Solution Director, Schneider Electric (Hong Kong)

- Hotels are very energy intensive, with most from guest rooms (which are usually empty)
- A 150-room hotel consumes as much energy in a week as 100 4-person households consume in a year.
- There is increasing demand for greener hotels from travelers, evidenced by TripAdvisor's new Green Leaders rating system in partnership with Energy Star, USGBC and UNEP.
- Schneider's EcoStruxure platform has different control layers connected to different products, with a user interface to analyse electricity data and control lighting, heating, cooling, etc.
- Schneider's Guest Room Monitoring & Control collects room data and reports back. It not only helps to save energy but supports the housekeeping and maintenance team. It provides operational efficiency, safety and the right ambience. Example given from a luxury hotel in Suzhou which saved 10-15% energy.

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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