

# ASHRAE MALAYSIA CHAPTER

Organise a

In Conjunction with:  
Energy Efficiency & Indoor Environment Quality Seminar By USA Distinguished Lecturer & Others

## Technical Visit To:



### ZEO BUILDING ZERO ENERGY OFFICE

24<sup>th</sup> April 2008, 2.30 pm

Find out more on...at Zero Energy Office Building

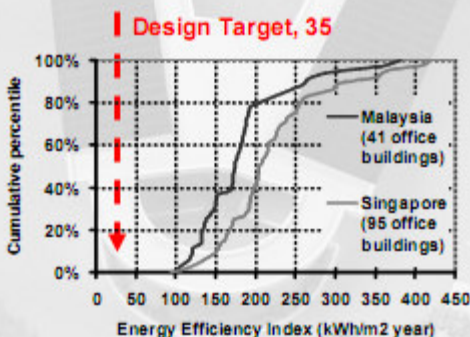
#### 1. Best Practice Solutions

- Variable Speed Drives on pumps and fans
- Variable air volume systems for chilled air, or Direct Expansion Cooling with Variable Liquid Volume
- Ducts, pipes and cables designed for low losses

#### How ZEO works?

**Night:**  
Chiller running & charges the Floor Slabs, Phase Change Materials & Chilled Metal Ceiling. BiPV roof act as a heat sink system (without using cooling tower). This cooling will be used during the day.

**Day:**  
Chiller turns off, radiant cooling (75%) & air cooling (25%) take over. BiPV generates electricity for the building load. Should the day is not bright enough, than electricity from TNB Grid shall be imported automatically by the building's system.



#### 2. Architecture

- Optimal orientation of building
- Composite walls and roofs with thermal insulation
- Advanced fenestration systems with spectrally selective glazing
- Innovative design of shading systems
- Design of building for maximum use of daylight
- Modification of the external environment
- Computer modeling of building
- [Building Integrated Photovoltaic \(BIPV\)](#)

MBIPV Project is expected to catalyze local and regional bipv market

Limited to First 30 Person Only

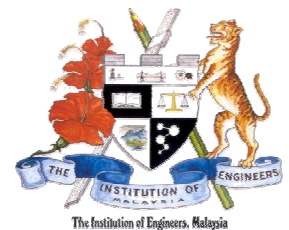
#### 3. Mechanical & Electrical

- Advanced Demand Control Systems for lighting and cooling
- High Efficiency chillers with storage of chilled water
- Enthalpy Recovery Systems for fresh air intake
- Heat pipe systems for dehumidifying fresh air
- Desiccant dehumidifying of fresh air
- High efficiency lighting systems
- The usage of pond cooling instead of conventional cooling tower
- Solar water heater/ heat recuperation from chiller
- The use of solar photovoltaic system (BIPV) for own electricity generation
- Energy Management and reporting system

= 0 kWh/m<sup>2</sup> year

+ MORE

Supported By:



The Institution of Engineers, Malaysia  
Building Services Technical Division

# REGISTRATION FORM

To : Malaysia Chapter of ASHRAE  
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Contact Person: Ms. Jessie Chong H/p no. 012 -2861319

Registration Fee: FOC for All

Date & Time: 24<sup>th</sup> April 2008, 2.30 pm

Venue: **Pusat Tenaga Malaysia**  
No.2, Jalan 9/10  
Persiaran Usahawan, Seksyen 9  
43650 Bandar Baru Bangi  
Selangor Darul Ehsan  
Tel: 603-89210800  
Fax: 603-89210801

**Transportation:** Own Transport, Meet at PTM, Bangi

Contact Person : .....

Designation : .....

Name of Organization.....

Address : .....

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Tel: (O) ..... (H/P) .....

(Fax) ..... (E-mail) .....

.....  
**Date**

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**Signature**