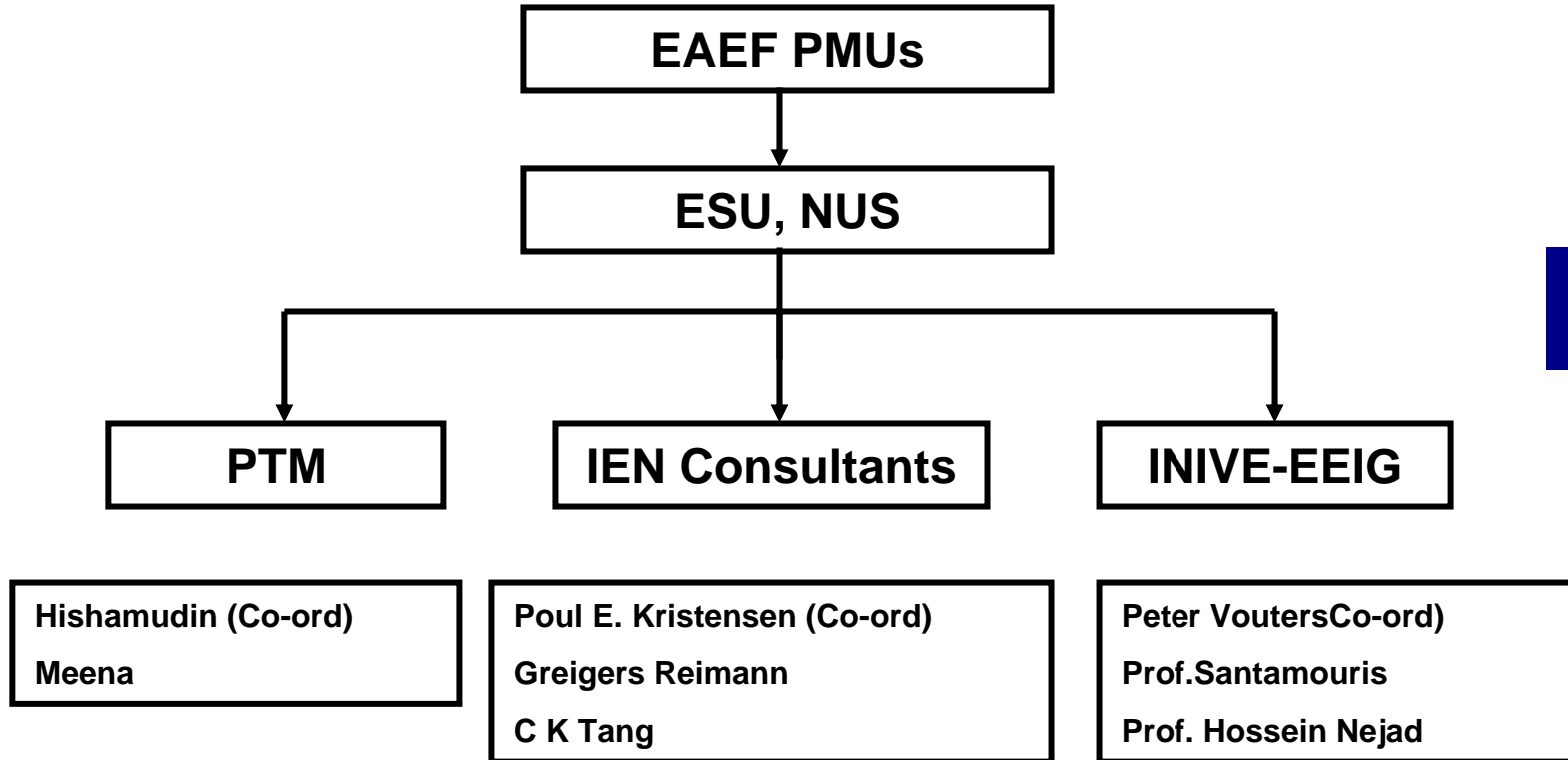


EAEF Project 64:
Development of a Business Model
for Building Energy Performance Services
in the ASEAN region
- **PROGRESS**

Brussels, Belgium

Sept 22 - 23 2005



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Project 64-2003 (Business Model for Building Energy Performance Services)

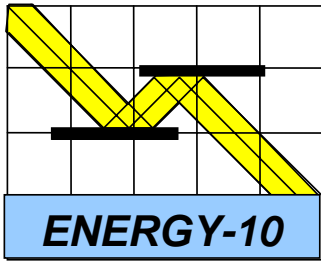
Task 1.2 Review simulation methods

Task 1.5 Verify simulation methods using measured data



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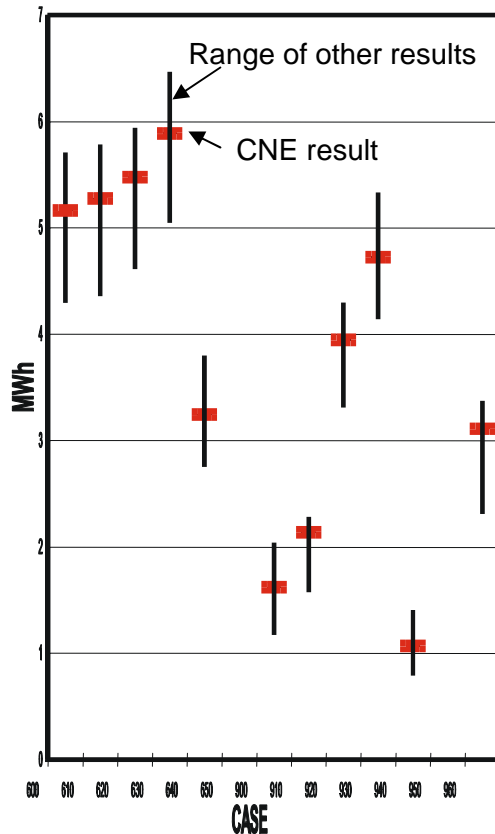


BESTEST Validation

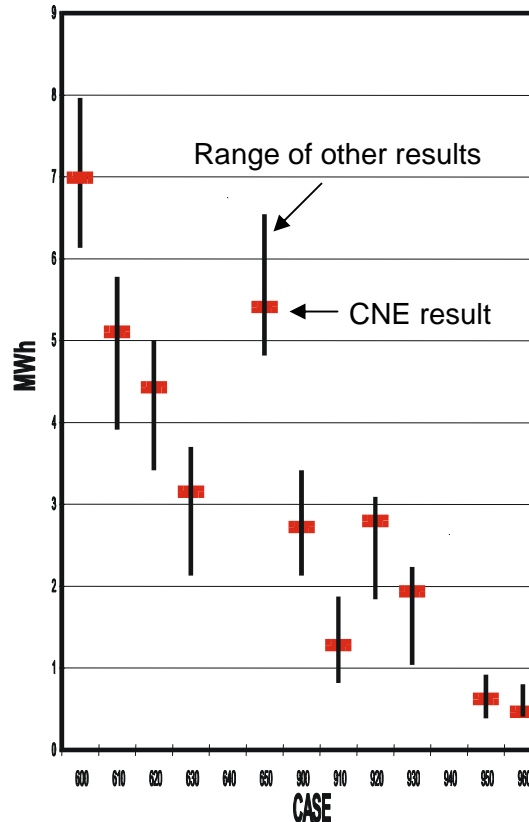
Compare CNE results with other simulation programs, DOE-2, BLAST, EnergyPlus, SERI-RES, ESPr, etc.

Annual Loads

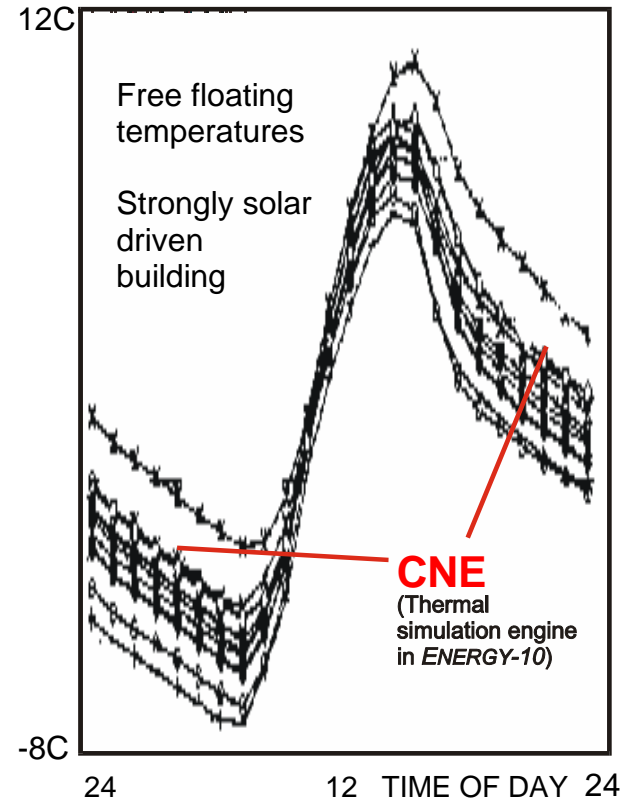
Heating BESTEST



Cooling BESTEST



Transient BESTEST



Energy 10 "Apply Feature"

Energy Efficient Strategies to Apply [X]

Please select the Energy Efficient Strategies to apply:

<input type="checkbox"/> <input checked="" type="checkbox"/> Daylighting	<input type="checkbox"/> <input type="checkbox"/> Natural Ventilation	<input type="button" value="Apply"/> <input type="button" value="Cancel"/> <input type="button" value="Unapply"/> <input type="button" value="Help"/>
<input type="checkbox"/> <input checked="" type="checkbox"/> Glazing	<input type="checkbox"/> <input checked="" type="checkbox"/> Economizer Cycle	
<input type="checkbox"/> <input checked="" type="checkbox"/> Shading	<input type="checkbox"/> <input type="checkbox"/> Exhaust Air Heat Recovery	
<input type="checkbox"/> <input checked="" type="checkbox"/> Energy Efficient Lights	<input type="checkbox"/> <input checked="" type="checkbox"/> High Efficiency HVAC	
<input type="checkbox"/> <input type="checkbox"/> Photovoltaics	<input type="checkbox"/> <input checked="" type="checkbox"/> HVAC Controls	
<input type="checkbox"/> <input checked="" type="checkbox"/> Insulation	<input type="checkbox"/> <input checked="" type="checkbox"/> Duct Leakage	
<input type="checkbox"/> <input checked="" type="checkbox"/> Air Leakage Control	<input type="checkbox"/> <input type="checkbox"/> Solar Air Preheat	<input type="button" value="Save As Default"/>
<input type="checkbox"/> <input checked="" type="checkbox"/> Thermal Mass	<input type="checkbox"/> <input type="checkbox"/> Solar Water Heating	
<input type="checkbox"/> <input checked="" type="checkbox"/> Passive Solar Heating	<input type="checkbox"/> <input type="checkbox"/> Evaporative Cooling	
Apply modifies building 2		
Start with: <input checked="" type="radio"/> Building 1 <input type="radio"/> Building 2		



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Typical EE measures

1. Glazing and/or shading replacement
2. Replacement of lighting fixtures
3. Rewiring of lighting, installation of lighting controls
4. Replacement of fan or motor in AHU
5. Air leakage control
6. Insulation of the roof
7. Installation of high efficiency chiller
8. Install VSD on AHU fan
9. Installation of Thermal Storage System (off peak electricity)



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What are the most important & critical assumptions ?

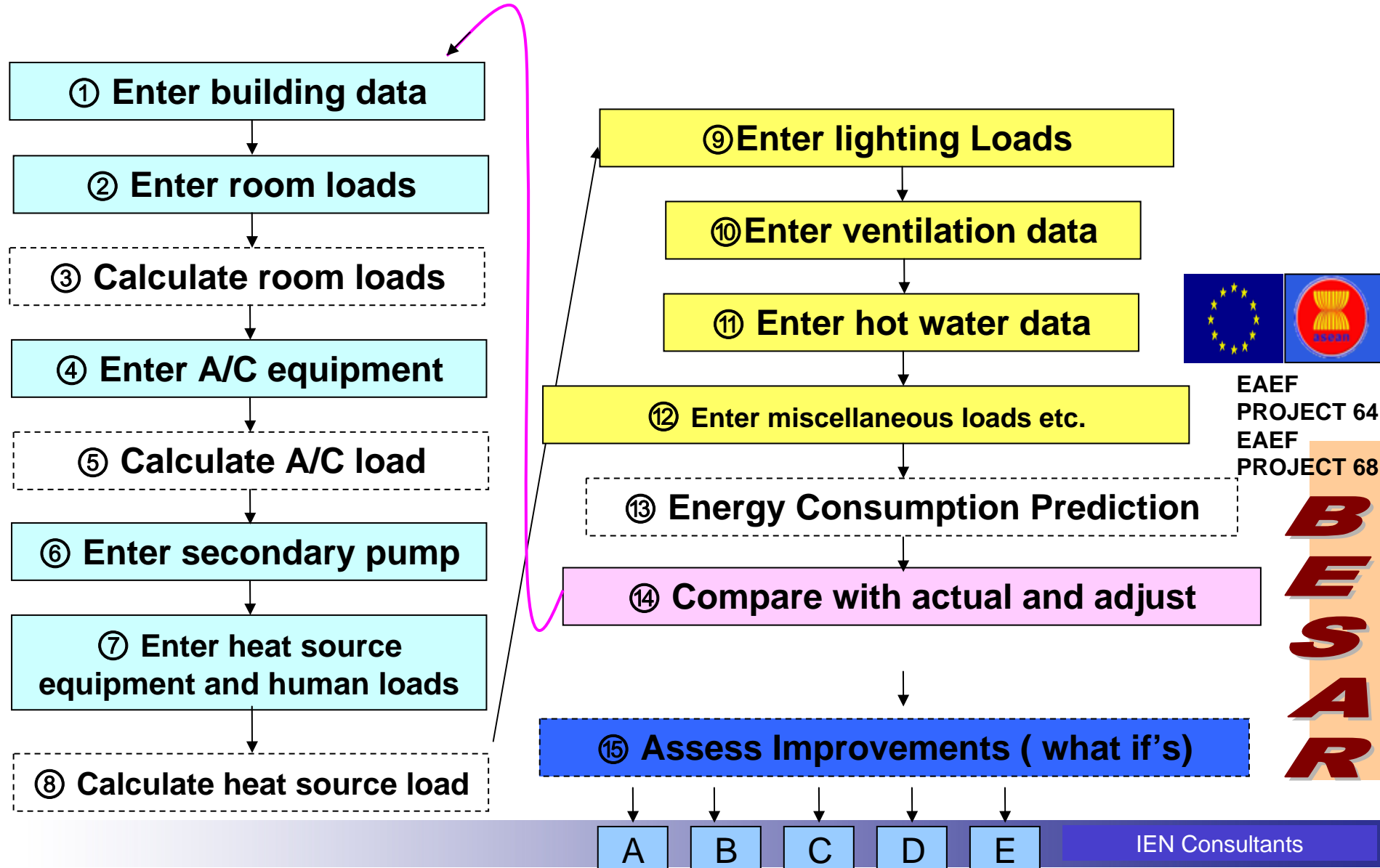
- Installed Capacities for M&E systems
- Operation Hours for M&E systems
- Actual Infiltration rate
- Number of occupants
- Miscellaneous electricity consumption (UPS, secondary fans and lightings)



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Entry Flow for Verification



- Task 1, Item 3-Detail investigation on 6 buildings
 - Gross floor area > 20,000 m²
 - KL/ Selangor area
 - Office buildings



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- **Task 1, Item 3-Detail investigation on 6 buildings**
 - i. **Bank Simpanan Nasional HQ**
 - ii. **Menara PKNS**
 - iii. **Sapura Building**
 - iv. **Sime Darby**
 - v. **Menara UiTM**
 - vi. **Min of Energy, Water and Communciations (MEWC) (IEN)**
- **Task 1, Item 5-(with IEN Consultants)**



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Our Function :
PTM is the agent for public & private energy sectors

Pusat Tenaga Malaysia
Malaysia One Stop Energy Centre

About us | Programmes | Publications | Resource centre | Jobs & Opportunity | Contact us | Site directory

We Offer:

- Energy Efficiency
- Renewable Energy
- Clean Development Mechanism
- Energy Statistics
- AAIBE Projects
- PTM Building
- Regularly updated information on energy
- A well equipped resource centre
- In-house publications
- A complete ESCOs directory

Publications:

- BIOGEN
- Building Integrated Photovoltaic
- Regional Projects

12:55 AM Monday 5th September 2005

News:

- New PTM Building (Zero Energy Office)**
- Malaysia Industrial Energy Efficiency Improvement Project (MIEEIP)**
- Biomass Generation & Co-generation in Palm Oil Mill in Malaysia (Biogen)**
- Malaysia Building Integrated Photovoltaic (BiPV) Technology Application Project**

PTM Membership Updates

Currently we have a total of 102 Members:

- 60 Corporate Members
- 42 Individual Members

- List of PTM Members
- Why become a member?
- Download registration form
 - Corporate
 - Individual

Highlights

- Download now **ICRA Paper & Newsletters**

Upcoming Events

- National Convention for Energy Professional 2005: Achieving Sustainable Development Through Fossil Fuel Conservation**
Venue: Nirwana Ballroom 1, Crowne Plaza Mutiara Hotel
Date: 15th September 2005
- MBIPV - Bulding Integrated Photovoltaic (BiPV): Architecture, Engineering & Standards**
Venue: Hilton Kuala Lumpur
Date: 12th September 2005 (1day seminar)
To participate please download this brochure...
- MBIPV - Bulding Integrated Photovoltaic (BiPV): Policy & Financial Frameworks Promoting Sustainable Photovoltaic (PV) Markets**
Venue: Hilton Kuala Lumpur

Malaysia Energy Database Information System

Energy Audit Equipment for rental

Weekly Info Energy

- Maesco sokong usaha Kerajaan jimat tenaga Palm oil to be used to power car engines, generators
- Harga minyak tidak boleh terus dilindungi
- Ekonomi diperkasa
- Biofuel station in the pipeline
- Biofuel Strategy
- Biofuel policy a boon to palm oil industry: Sabri
- Call to solve biofuel tariff issue first

Pusat Tenaga Malaysia

Level 8, SAPURA@MINES

No. 7, Jalan Tasik

The Mines Resort City

43300 Seri Kembangan

Selangor

Website: www.ptm.org.my

E-mail: info@ptm.org.my



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- Excell sheet (April-August 05) on man hour for 6 buildings



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- Completed with Wisma Sime Darby, Sapura, MEWC
- Follow up with 4 buildings (BSN HQ, Wisma PKNS, Menara UiTM)



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- Task 2, Item 2
- Task 3, Item 1 Under MIEEIP Component 4
(Malaysian EPC sample (given), Canadian and Belgium)-
check with Meena



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