

ENERGY PERFORMANCE RETROFIT FOR BUILDINGS -

Examining its Financing Models, Risks & Opportunities, Barriers & Benefits

APPROVED
CPD
POINTS



23 August 2004
@ Orchard Hotel

Energy & Sustainability Unit
An EDB LEAP Partner

Department of Building
School of Design and Environment
National University of Singapore

Seminar Supported by:



and the

National Energy Efficiency Committee

OBJECTIVES & BACKGROUND

An article in Scientific American in March 1998 by Dr Colin Campbell and Jean Laherrere concluded: "The world is not running out of oil - at least not yet."

"What our society does face, and soon, is the end of the abundant and cheap oil on which all industrial nations depend."

They suggested there were perhaps 1,000 billion barrels of conventional oil still to be produced, though the US Geological Survey's World Petroleum Assessment 2000 put the figure at about 3,000 billion barrels.



The recent surge in energy demand has resulted in higher energy cost. This surge is particularly intense in the growing Asian region. The anticipated growth cycle will further intensify energy demand. Energy efficiency will become a major factor in determining business cost and competitiveness.

Energy Performance Retrofit of existing buildings is an effective measure of combating rising energy cost.

Financing, procuring and managing energy retrofit projects for optimum performance and returns are new and complex challenges facing building, engineering, management and investment professionals today.

This seminar is specially designed to address these challenges. Current experts in this field will be sharing their knowledge and experiences on issues such as financing models, barriers and their solutions, risks and benefits, and opportunities in energy retrofit projects.

The Energy and Sustainability Unit (ESU) is a new Unit of the School of Design and Environment, NUS. It is a Partner of the Economic Development Board (EDB) Locally-based Enterprise Advancement Program (LEAP). The ESU will develop various industry programmes in the areas of energy management and energy performance contracting. These programmes will help enhance local industries' capabilities in energy management and generate economic activities in the area of energy services.

The Locally-based Enterprise Advancement Programme (LEAP) aims to provide support for multipliers to engage in industry development and/or enterprise development activities.

WHO SHOULD ATTEND

The seminar will cover the following issues concerning energy efficiency retrofit projects in Singapore and the region:

- Financial structuring for retrofit projects and their risks and benefits
- Performance contracting and the barriers and returns
- Critical factors for successful energy retrofit projects
- What is "Performance Measurement and Verification" and how to ensure assured returns on your projects.

These issues will be relevant to all who are or will be embarking on energy retrofitting projects, including the following, who make up the project team:

- Building owners and developers,
- Facility and property managers,
- Energy consultants and auditors,
- Energy services companies,
- Building consultants,
- Financing and investment specialists,
- Project managers.

PROGRAM

Venue: Orchard Hotel, Singapore
Date: 23 August 2004, Monday

0830 Registration
0900 Welcome and introduction
0930 Singapore and the Regional Programs towards Energy Efficiency
Dr S.E.Lee, NUS
1000 Energy Performance Contracting: Lessons from the United States
Dr S.Kumar, LBNL
1030 BREAK
1100 Recent Initiatives for Energy Retrofit Projects in Singapore
Mr R.Bhaskar, NEA
1130 Federal Energy Management Program's Super Energy Savings Performance Contracts
Dr S.Kumar, LBNL
1200 Strategic Role of the ESCO Industry in Sustainable Energy Development in Asia
Dr A.Sarkar, ADB

1245 LUNCH
1400 Critical tool for Successful Performance Contracts in Energy Retrofit: A Sound Performance Measurement & Verification Protocol
Dr S.Kumar, LBNL
1430 Base-line Model Development for Performance Contracts in the Tropics
Dr S.E.Lee, NUS
1500 BREAK
1530 Financing Models for Retrofit Projects: Risks, Benefits and Performance Contracting
Dr S.Kumar, LBNL
1600 Building Energy Efficiency among ASEAN cities
Dr S.E.Lee, NUS
1630 Panel Discussion
1700 Close

SPEAKERS

Dr Satish Kumar is a scientist at Lawrence Berkeley National Laboratory currently located at the Energy Department at Washington, US. He has a Ph.D. in Architecture (with specialization in building performance and diagnostics) from Carnegie Mellon University. He has more than 12 years of experience in the field of energy policy and research, measurement and verification of energy savings, simulation and engineering analysis and promoting indoor environmental quality in commercial buildings. Dr. Kumar is instrumental in the development of the International Performance Measurement and Verification Protocol, a document which has significantly influenced the development of performance contracting in Northern America and many OECD countries. Recently, Dr. Kumar has participated in efforts to develop an International Energy Efficiency Financing Protocol. This includes a review of various financing models and the critical success factors of performance contracts.

Dr Ashok Sarkar is an Energy Specialist in the Regional and Sustainable Development Department of the Asian Development Bank (ADB) headquarter in Manila, Philippines. He has over 15 years of international experience in the area of sustainable energy development and climate change and has worked in various countries including China, Armenia, Thailand, India, Norway and the United States. Dr. Sarkar is the alternate Chair of ADB's Energy Sector Committee and works on quality and policy compliance issues associated with ADB's energy sector products, including loans and technical assistance. He was instrumental in establishing the Indian national chapter of the Association of Energy Engineers (AEE) and in setting up the Indian Bureau of Energy Efficiency's model energy efficient office in New Delhi.

Mr Ram Bhaskar is Chief Engineer (Energy Conservation) of the Resource Conservation Department, National Environment Agency. His Department spearheads the promotion of energy retrofitting projects among public and private sector buildings as part of the National Economy Drive. Mr Bhaskar is instrumental in the development of a highly successful energy labelling system for various household appliances.

Dr Lee Siew Eang is Head of the Energy and Sustainability Unit at NUS, and Director of the Centre for Total Building Performance (CTBP). He is presently leading an ASEAN-wide energy benchmarking project, and has been appointed the coordinator of a program entitled "Enhancing Business Environment for Energy Services in ASEAN", which is a program under the ASEAN Plan of Action for Energy Cooperation (2004-2009) endorsed by the ASEAN Energy Ministers' Meeting.

ACCREDITED BY

The Professional Engineers Board: 7 PDU points.
BOA – SIA CPD Program: 3 CPD points.

ONLINE REGISTRATION

<http://www.bdg.nus.edu.sg/seminar>

REGISTRATION FORM

Title: Prof/Dr/Er/Mr/Mdm/Ms
Name: _____
Company: _____
Address: _____
Email: _____
Tel: _____ Fax: _____
Cheque No.: _____
Amount: \$ _____

Please make cheque payable to:
National University of Singapore

Seminar Fee: \$250 per participant
(inclusive of GST)

Registration closes on **19 August 2004**.

Please mail completed registration form together with your payment to:

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