



SEAS

Sustainable Energy Association of Singapore



The Singapore Energy Efficiency Sector and the role of SEAS



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Sustainable Energy Association of Singapore(SEAS)

Singapore is a small city state with limited alternative energy potential

- Land Area: 710.2km²
- No hydro or geothermal energy resources
- Negligible wind and low wind speed (2m/s)
- Variable and intermittent solar



Rising Energy
Costs

Climate Change

Energy Security
Considerations

Driving companies to deploy cleaner and sustainable solutions



Green Growth

Environmental
Sustainability



Economic
Growth

Singapore like other countries is embracing Green Growth



Prime Minister Lee Hsien Loong

THE STRAITS TIMES

S'pore aims to be key player in green energy push

March 27 2007

\$350m blueprint encompasses R&D, nurturing firms and exporting products

BY ERICA TAY

- **S\$350** million funding to grow Clean Energy with focus on solar energy announced by Prime Minister Lee in March 2007
- Announced in 2011: Additional **S\$195 million** in R&D funding and **S\$300 million** for National Innovation Challenge on Energy Resilience
- Overseen by a council chaired by PM Lee and a Ministerial Committee



National Climate Change Targets

- **Up to 16%** emissions reduction below BAU levels by 2020 if there is global agreement
- If there is no agreement, **7-11%** emissions reduction

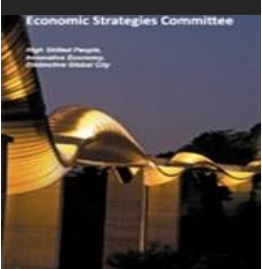
Sustainable Singapore Blueprint



- **35%** improvement in energy efficiency from 2005 levels
- **80%** of all buildings green by 2030

- **5%** of peak electricity demand from renewable energy sources by 2020
- **Energy Conservation Act** – Mandatory Energy Management practices for large consumers of energy

Economic Strategies Committee





ENVIRONMENT
AND WATER

CLEANTECH

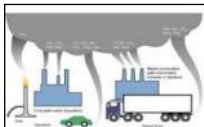
CLEAN ENERGY



Water



Waste Management and
Resource Recovery



Pollution Control



Carbon
Services



Green Building



Green Transportation



Energy Efficiency



Energy
Storage



Solar



Fuel Cell



Marine Renewable



Wind



Biomass/Biofuel



Smart Grid

Key growth sector: S\$3.4B value-added and 18,000 jobs by 2015



SEAS

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**About the Sustainable
Energy Association of
Singapore (SEAS)**



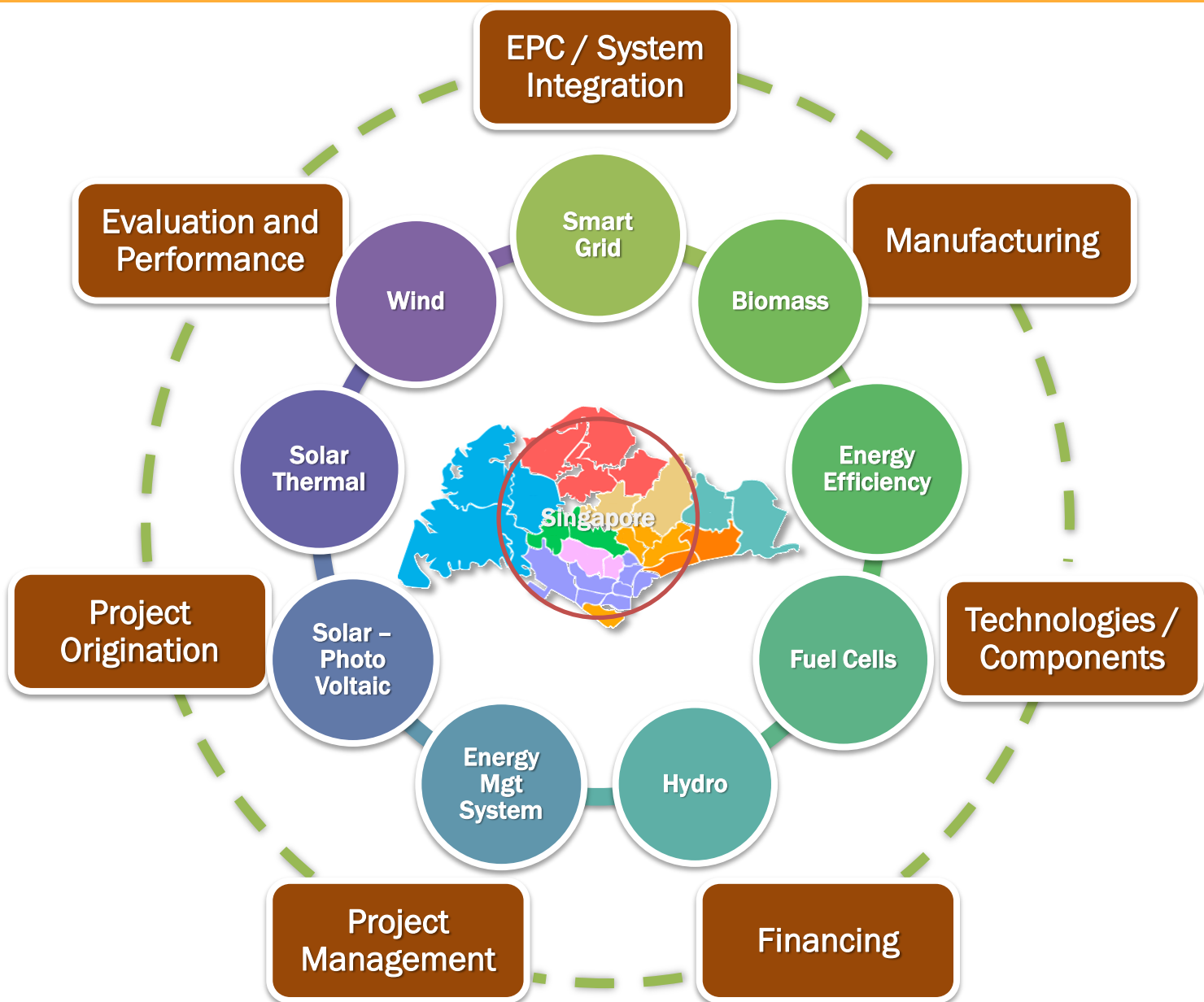
SEAS Background



- Launched on 12th July 2006 by Minister of Environment and Water Resources, Dr Yaacob Ibrahim
- The mission of SEAS is to be the voice of sustainable energy industry
- Non-profit Association promoting Renewable Energy & Energy Efficiency industry growth
- 190+ corporate members
- Sectors: Energy Efficiency, Renewable Energy, Carbon Asset Management, Finance & Sustainable Mobility



Ecosystem of Singapore's Clean Energy Sector



Enterprise Development

- Local Enterprises (*SME's, Startups, Entrepreneurs, etc.*)
- Technical & financial support for commercialization

Market Development

- Supporting regional expansion of Industry by providing: Access to Markets, Business Intelligence, Project Access, Finance Facilitation and Partnership Opportunities

Training and Learning

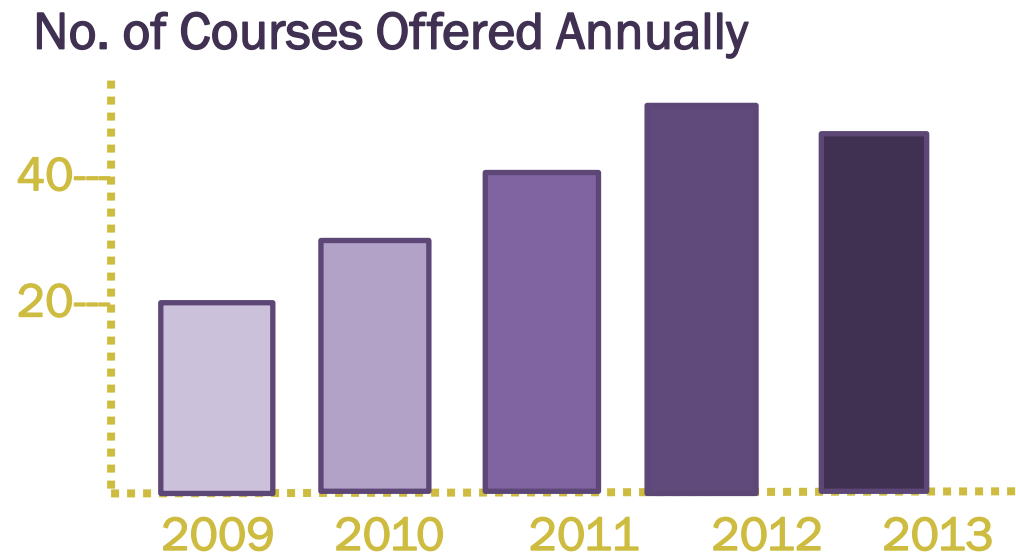
- Managerial-level Training
- Technical Training
- Seminars, Conferences and Forums

Regional Capacity Building Through Knowledge Development



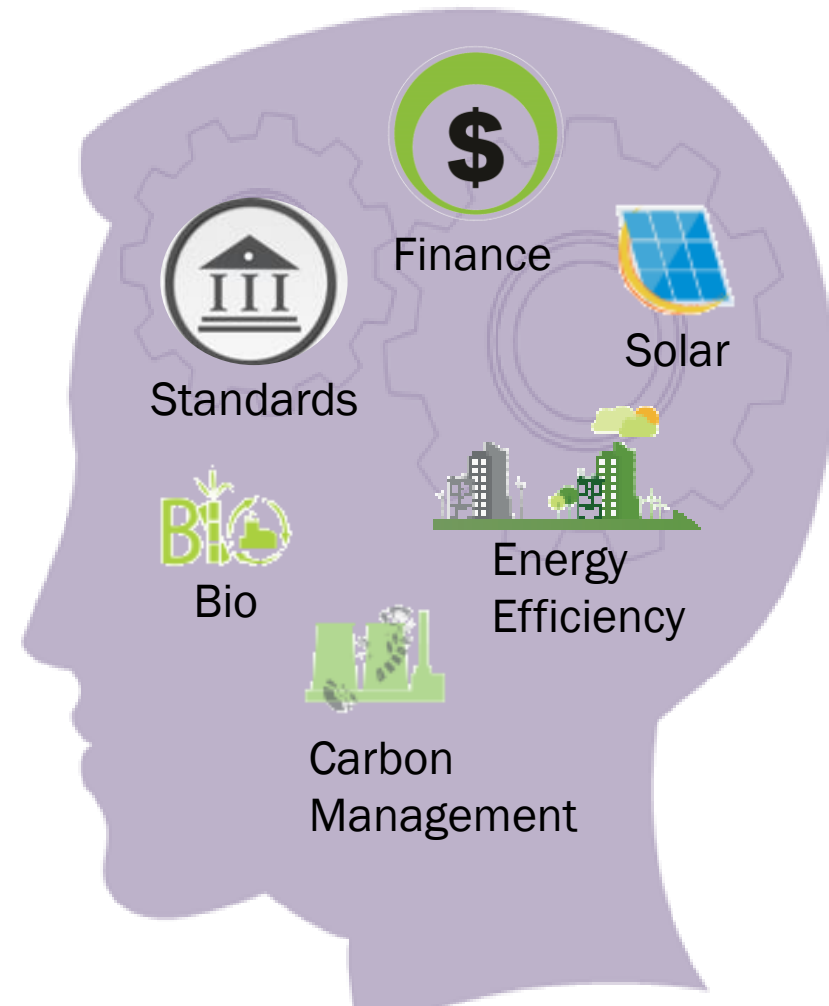
“Due to SEAS’s dedication to the quality of their training courses, the courses were well-received by the industry, and proved useful for their business needs”

-Fort & Sullivan, Case Study on LEAD Initiative, Singapore



**Over 7000 Professionals
Trained To Date**

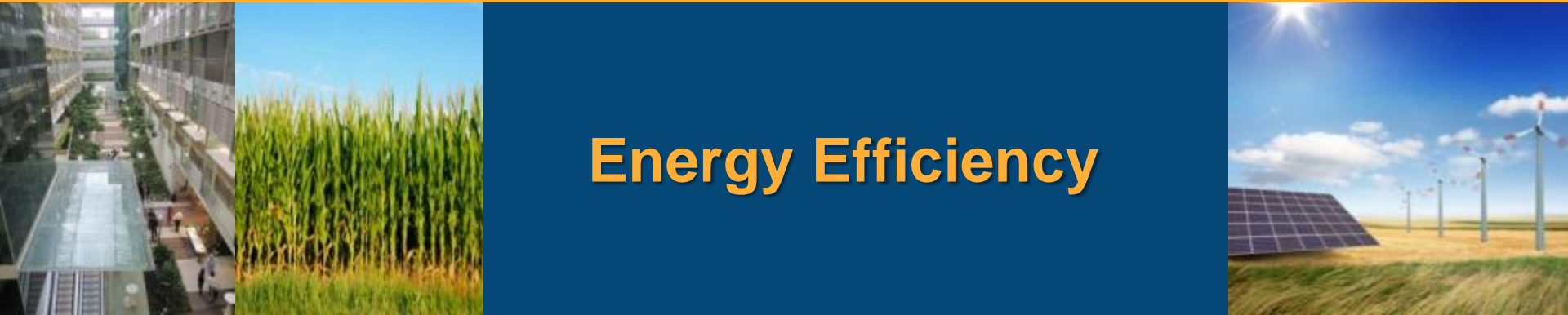
**200 Training Programs
Delivered To Date**



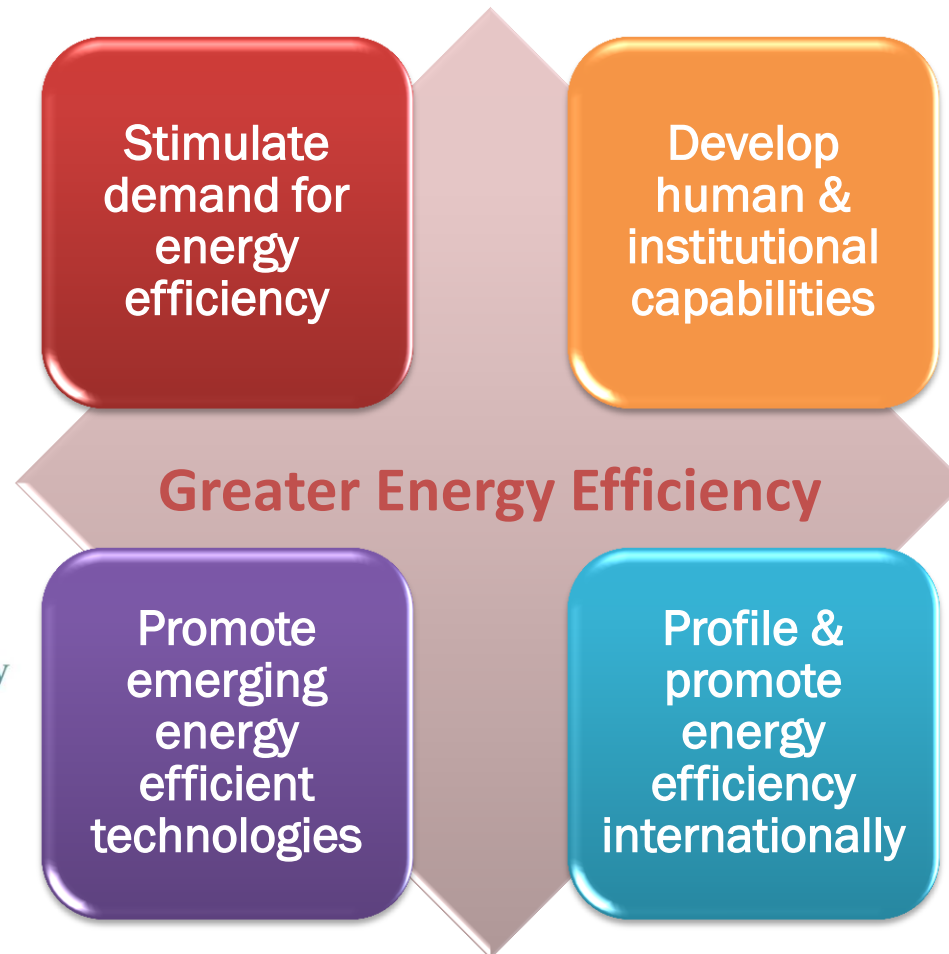


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Strategic Thrusts of the E2PO



An inter-agency committee (co-chaired by NEA & EMA) set up in May 07 to drive and coordinate whole-of-government energy efficiency efforts

Goal in 2030: Achieve a 35% reduction in energy intensity (energy consumption per dollar GDP) from 2005 levels

Energy Conservation Act implemented in 2013

- *Companies that consume more than 15 GWh of energy per year are required to...*
 - Appoint a trained energy manager
 - Monitor and report energy use within the company
 - Submit energy efficiency improvement plans

National SME Energy Efficiency Initiative



- **Launched 10 July by Minister S Iswaran**
Minister, Prime Minister's Office, Second Minister for Home Affairs and. Second Minister for Trade and Industry
- **Energy** – up to 40% of operating costs across manufacturing SMEs
- **S\$17million support to help SMEs reduce energy costs**
- **Scope** : Limited to SME's in different manufacturing sectors. In particular Food Manufacturing, Marine, Precision Engineering, Chemical and similar high energy usage industries.

Objectives

- Help SME's address Energy Efficiency to:

**Reduce
Business Cost**

&

**Improve
Productivity**

- To enable easy adoption of EE solutions by SME's

National SME Energy Efficiency Initiative – Supporting Grants



Grant Support

1. Energy Audit

- Innovation and Capability Voucher (ICV)
- \$5,000



2. Energy Monitoring System (EMS)

- iSPRINT via Call for Collaboration (CFC)
- Up to \$20,000



3. EE Project Implementation

- Capability Development Grant (CDG)
- Up to \$500,000



4. Thought Leadership and Training

- Capability Development Grant (CDG)-Pilot Project



Sustainable Energy Association of Singapore

One-Stop Centre for the SME Energy Efficiency Initiative
(SME-EE)

Support Business and Industry to

- Scope Savings Opportunities
- Connect with Technology and Service Providers
- Access and Apply for Grants

Grants for Larger Projects



Other Grants

Grant for Energy Efficient Technologies (GREET)	20%	\$	4,000,000
EASE Energy Efficiency Improvement Assistance Scheme (EASe)	50%	\$	200,000
Design for Efficiency Scheme (DfE)	50%	\$	600,000
Green Mark Incentive Scheme for Existing Buildings (GMIS-EB)	50%	\$	3,000,000
Green Mark Incentive Scheme - Design Prototype (GMIS-DP)	70%	\$	600,000

Support

One-Year Accelerated Depreciation Allowance

The pilot Building Retrofit Energy Efficiency Financing Scheme (BREEF)

Local Enterprise Finance Scheme (LEFS)

Energy Efficiency Loan

Productivity and Innovation Credit (PIC)

AND MANY MORE!

- Specializes in Investments and Financial advisory to cut energy costs and carbon emissions in buildings and infrastructure
- SG\$ 300 Million Revolving Fund to be setup within the next six months
- Specific to Industry Energy Efficiency Projects in Singapore
- Loan Guarantee structure by the Economic Development Board
- Not tied to projects which have secured government grants

Process
Upgrading



Retrofits



Equipments
Replacement



Performance
Contracting,
etc.

Singapore Energy Efficiency Industry Value Chain Buildings & Industry



Energy Auditing
and Service
(ESCO's)



Technology
Providers



Performance
Contracting
+ M&V

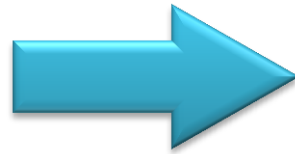


Project
Financing





**One-Stop Centre for
Energy Efficiency**



Industry

Advisory

Guiding SME's to Opportunities

Need Analysis

Supporting SME's In Assessing Their Objectives

Capability Matching

Matching Needs to Technologies and Solutions

Grant / Financing

Connecting Businesses to Funding Sources

Capacity Building

Seminars and Skills Upgrading

\$740 million worth of investment in Industrial EE in Singapore by 2015



Opportunities Awareness Campaign

- CEO / Leadership Events and Round Tables
- Seminars and Workshops



Project Development & Implementation

- Audits & Assessment
- Monitoring & Verification Systems Installations
- Implementation of EE Solutions
- Grants and Financing



Capabilities & Skills Development

- Enhancement of Current Energy Management Courses
- New Course Development and Delivery
- Train-The-Trainer Programme

Target : 300 SME's Engaged Over 3 Years

Working with SEAS



- Connect with industry organizations and regional networks

- Market intelligence

- B2B Partnerships



- Technology Transfer

- Regional Financing

- Knowledge Transfer

- Partnerships with Regional tradeshow and business missions



SEAS

Sustainable Energy Association of Singapore

Your Partner in Energy Efficiency
Contact Us for More Info

www.seas.org.sg

Join our Group on **LinkedIn**

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