OVERVIEW OF ENERGY SERVICES INDUSTRY

By

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OUTLINE

- CLIMATE CHANGE – THE BIG PICTURE
- FUNDAMENTAL RELATIONSHIP OF EE & GHG
- ESCO
- HUGE BUSINESS POTENTIAL
- MALAYSIA EXPERIENCE
- IMMEDIATE POTENTIAL
- INTRO TO MAESCO

CLIMATE CHANGE -THE BIG PICTURE

Humanity's Top Ten Problems for next 50 years

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1. **ENERGY**
2. WATER
3. FOOD
4. ENVIRONMENT
5. POVERTY
6. TERRORISM & WAR
7. DISEASE
8. EDUCATION
9. DEMOCRACY
10. POPULATION

2003	**6.5**	**Billion People**
2050	**8-10**	**Billion People**

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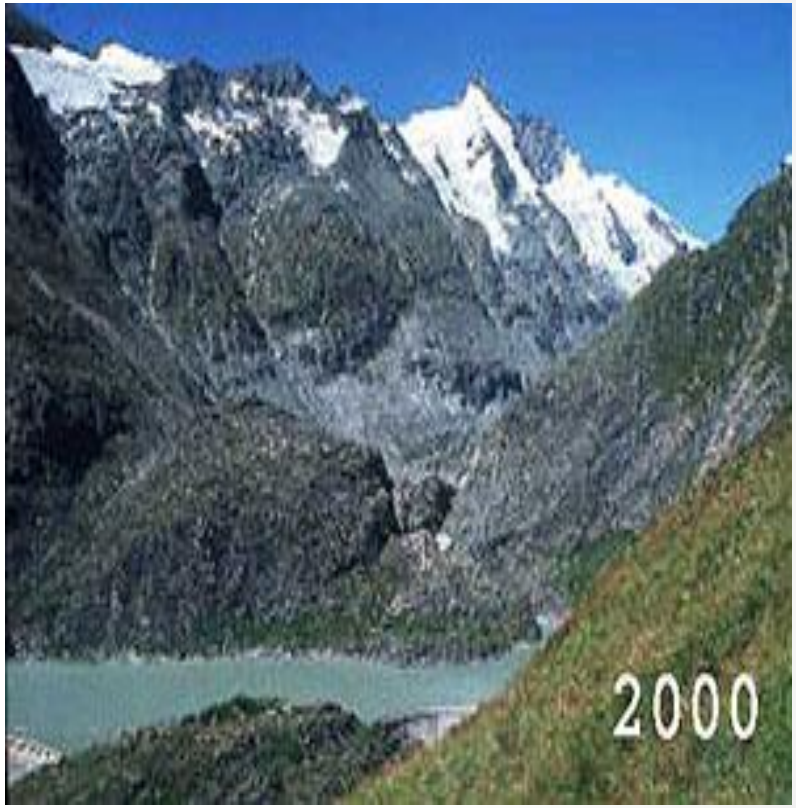
The Pasterze, Austria's longest Glacier



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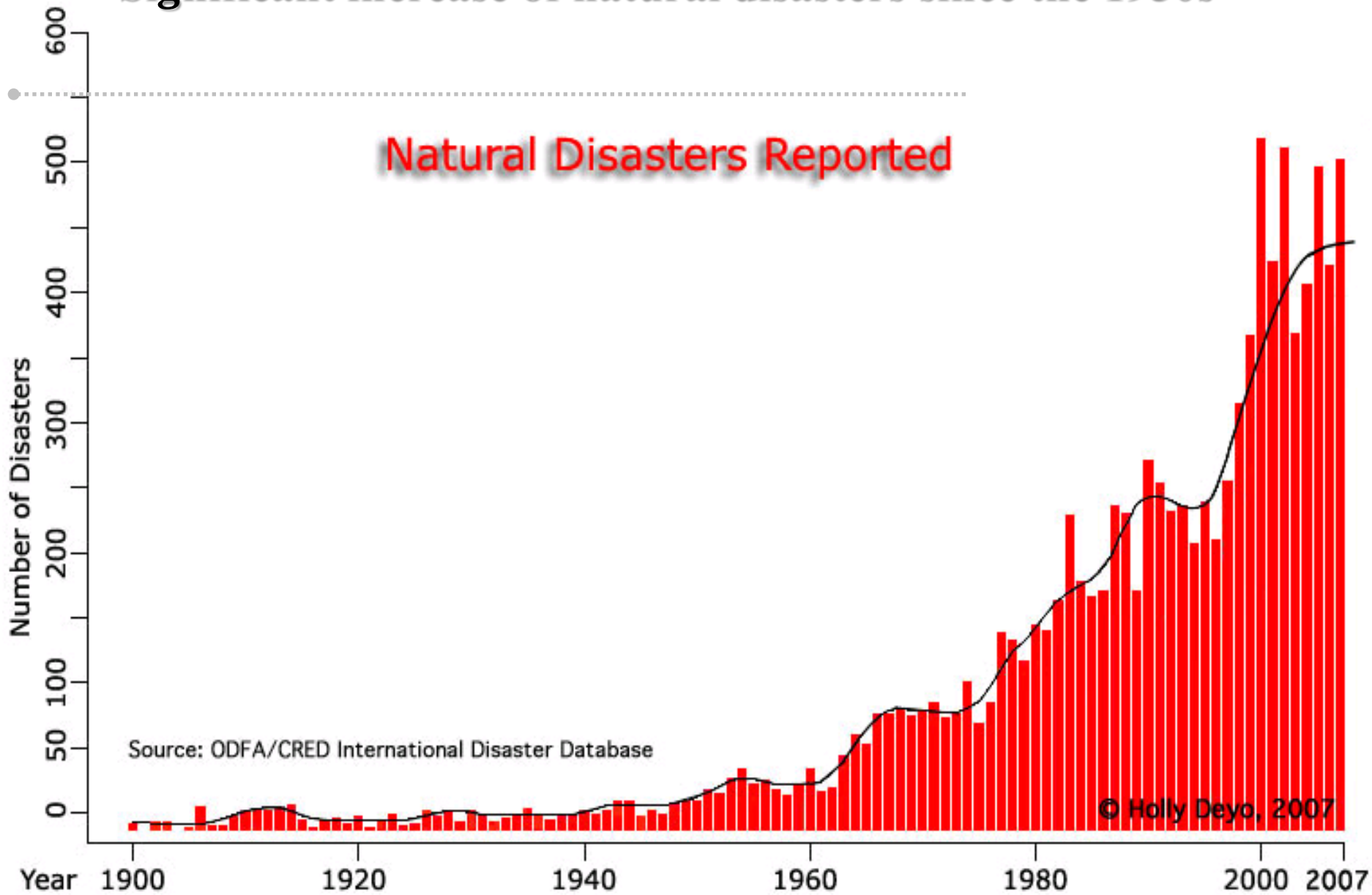
Significant increase of natural disasters since the 1950s

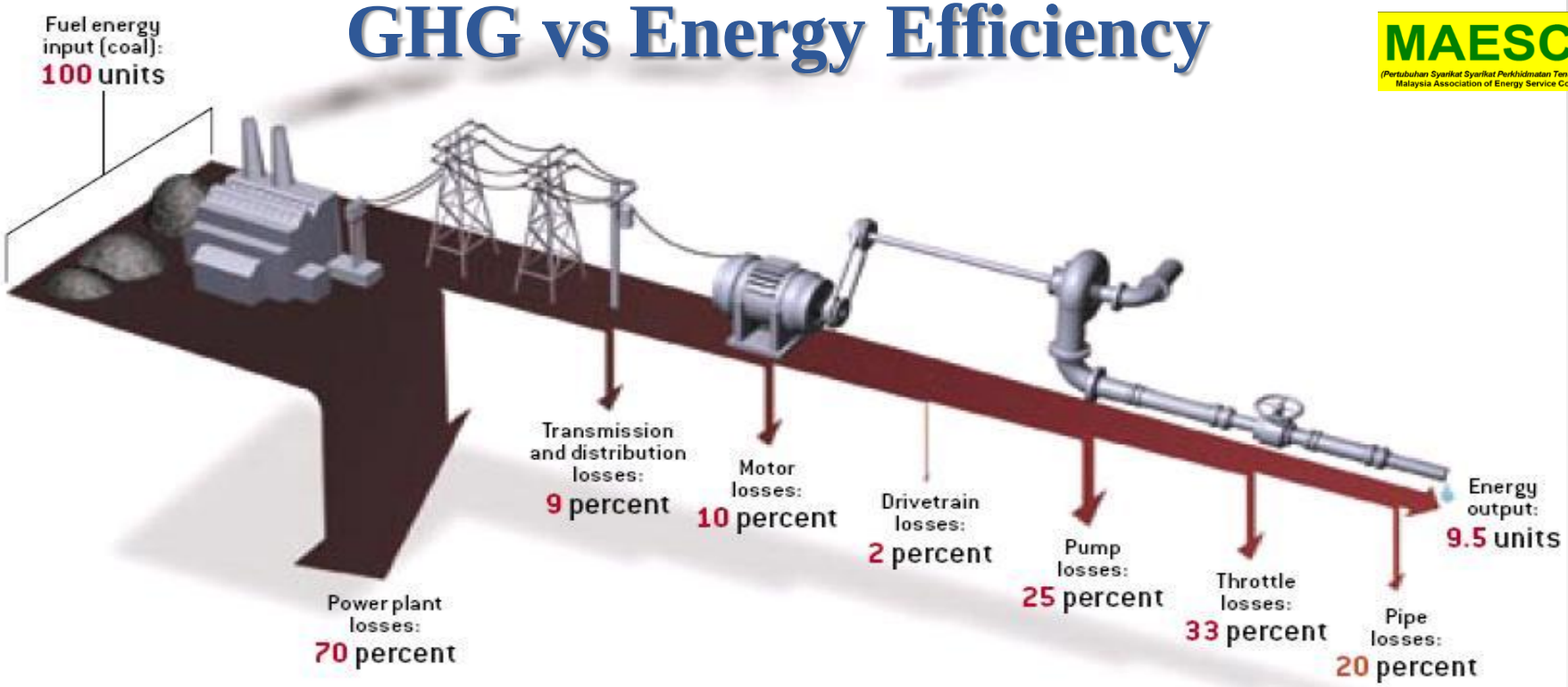


MALAYSIA'S COMMITMENT IN COP 21 PARIS

- Reduce GHG Emission Intensity of GDP by 45% by 2030 Relative to Emission Intensity of GDP in 2005.

FUNDAMENTAL RELATIONSHIP OF EE & GHG

GHG vs Energy Efficiency



- Only **9.5%** of the original input energy remains to drive provide the **end-use**
- Designing and optimising this system from downstream to upstream, creates an opportunity to turn compounding energy losses into compounding energy reductions.
- Reducing 'Energy output' by 1 unit eliminates **10.5** (= 100/9.5) units of '**Fuel energy input**'.
- Next, reducing '**Pipe losses**' by **1 unit** eliminates a further **8.3 units**; '**Throttle losses**', **5.5 units**; '**Pump losses**', **4.2 units**; and so on up to '**Power plant losses**', which eliminates 1 unit of 'Fuel energy input'.
- The result is that reducing energy losses **by 1 unit** in each subsystem, or **8 units in total**, eliminates **40 units of 'Fuel energy input'**

ESCO

ESCOs

- ESCOs develop, design, build & fund projects that save energy
- Reduce energy costs & decrease operations and maintenance costs at their customers' *facilities(Office of RE&EE,USA)*

- An ESCO is a company that offers energy services which may include implementing energy-efficiency projects (and also renewable energy projects) and in many case on a turn-key basis*(European Commission)*

ENERGY PERFORMANCE CONTRACTING (EPC)

- ESCOs guarantee energy savings and/or provision of the same level of energy service at lower cost
- The remuneration of ESCOs is directly tied to the energy savings achieved
- Finance/assist in arranging financing for the operation of an energy system by providing a savings guarantee

ESCO STRATEGIES

SYSTEM/

EQUIPMENT OPTIMIZATION

NEW & ENERGY EFFICIENT DESIGNS & OPERATIONAL FEATURES

RETROFITTING FOR ENERGY EFFICIENT TECHNOLOGIES

RENEWABLE ENERGY OPTIONS

HUGE BUSINESS POTENTIAL

ENERGY EFFICIENCY BUSINESS NEWS!

Investors Highlight Policies That Could Spur Multi-Billion Dollar Opportunity in Energy Efficiency Investments

New Report from Investor Network on Climate Risk Identifies Policies That Can Bring Energy Efficiency Finance to Institutional Scale in U.S.

ADB Invests to Help Drive Energy Efficiency in Southeast Asia

News Release | 24 October 2013

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MANILA, PHILIPPINES – Hospitals, hotels, shopping malls, and many other businesses in Southeast Asian countries are expected to adopt cost-effective, energy-saving solutions once positive results are demonstrated through pioneering energy efficiency projects funded by the Asian Development Bank (ADB).

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Energy efficiency investment must increase f warns report

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Published: 13/03/2015 - 08:13

SPECIAL

investment in energy-efficient buildings renovation must increase five-fold by 2030, according to a group set up by the European Commiss

Nations

(UNEP) F

IEA, ASEAN Strengthen Collaboration on Energy Efficiency, Renewables

2 October 2014: The International Energy Agency (IEA) and the Association of Southeast Asian Nations (ASEAN) have issued a joint statement applauding past collaboration and outlining future joint activities. The IEA-ASEAN joint statement builds on a memorandum of understanding (MoU) between the two organizations from 2011, serving as the basis for annual AMEM-

EMISSIONS, FINANCE, REGULATION

Report: Energy Efficiency is a "Highly Profitable Investment Opportunity"

By CONWAY IRWIN

on May 28, 2013 at 3:00 PM

ANNUAL ENERGY SERVICES INDUSTRY SIZE ESTIMATES BY SELECTED COUNTRIES,2013

EUROCONTRACT
GUARANTEED ENERGY PERFORMANCE

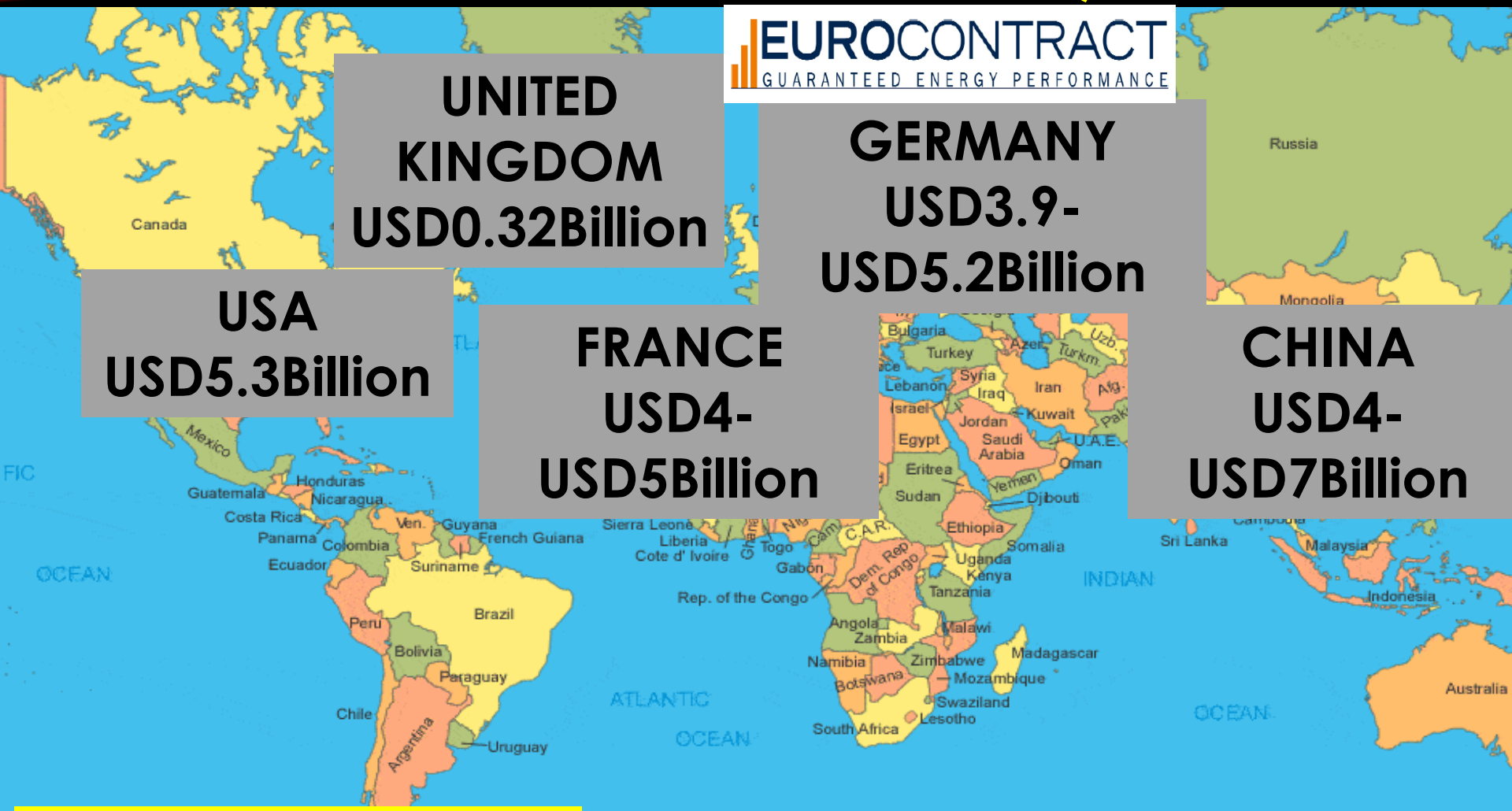
UNITED KINGDOM USD0.32Billion

GERMANY USD3.9-USD5.2Billion

USA USD5.3Billion

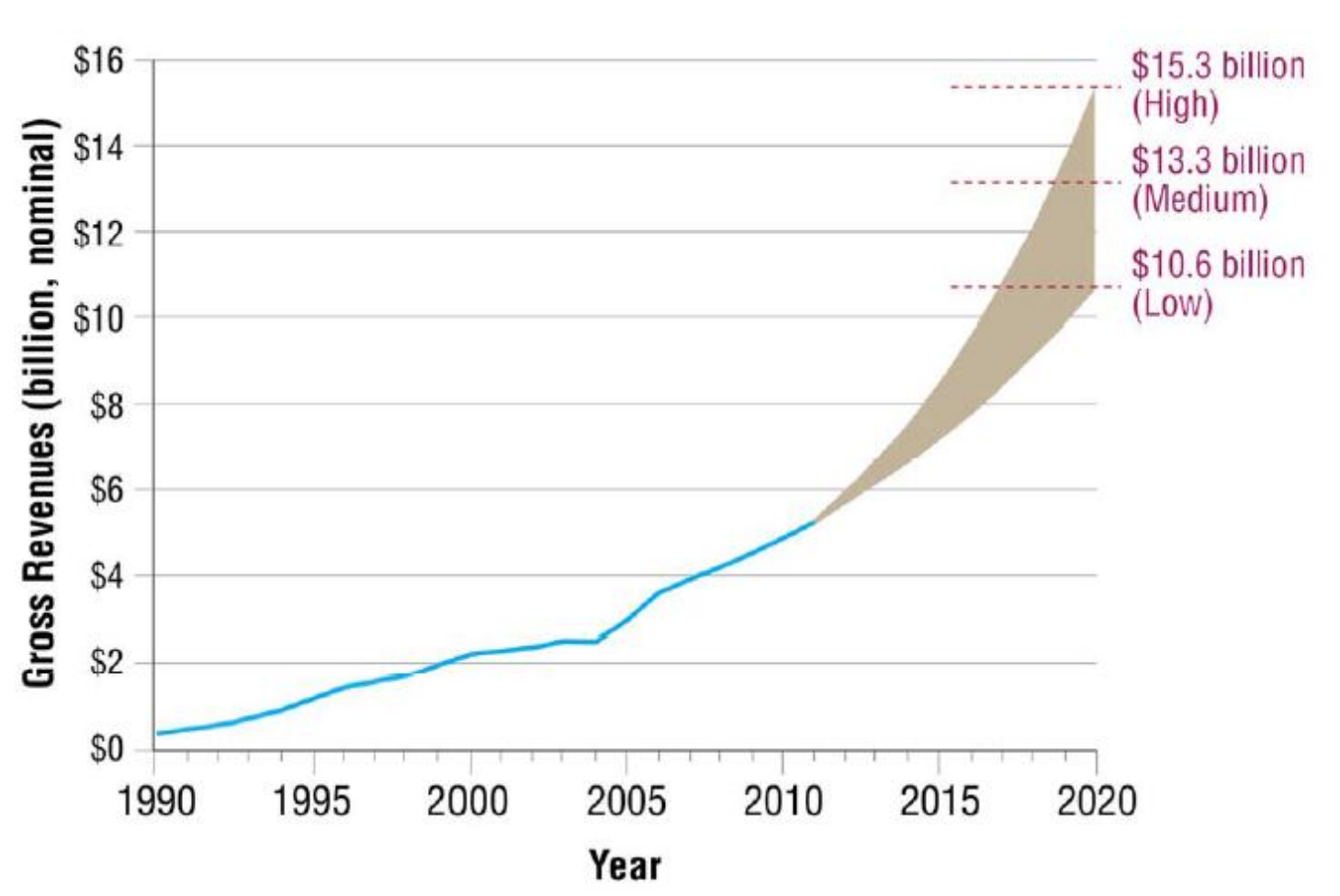
FRANCE USD4-USD5Billion

CHINA USD4-USD7Billion



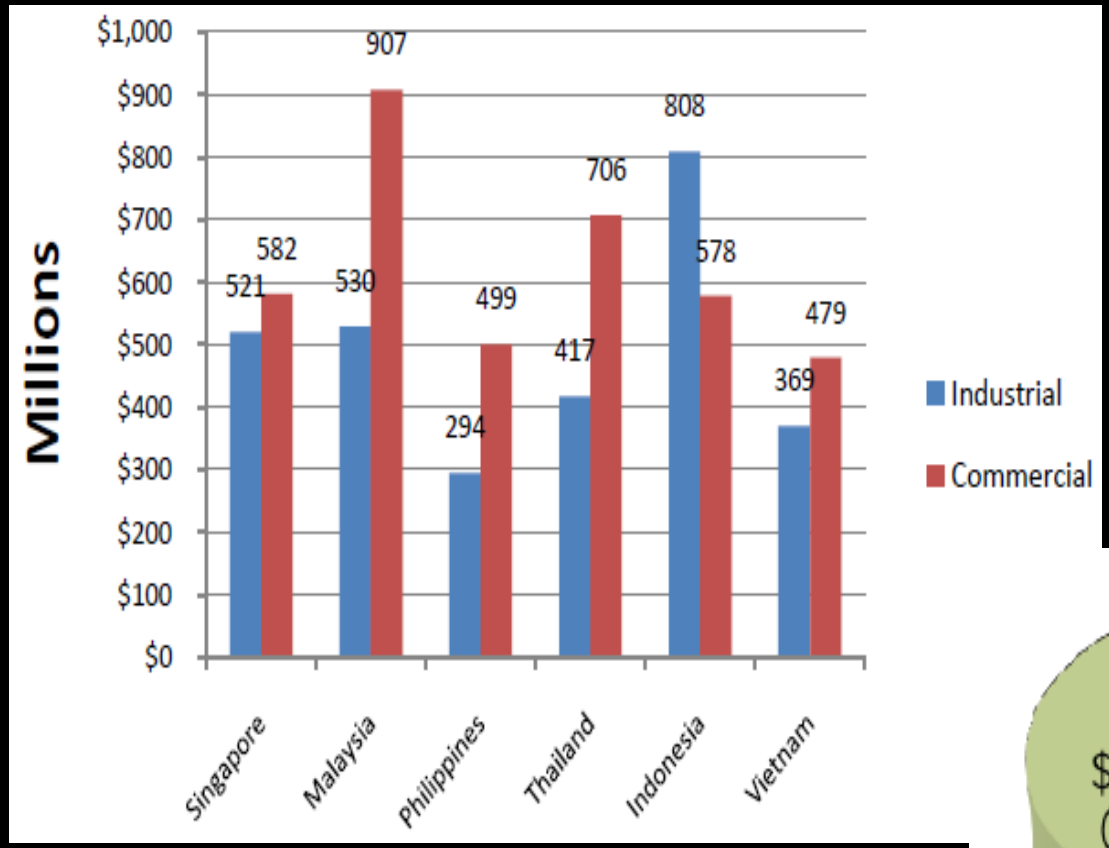
Source: Lawrence Berkeley National Laboratory , National Association of Energy Service Companies, USA September 2013

PROJECTED ESCO INDUSTRY REVENUES IN USA,2013

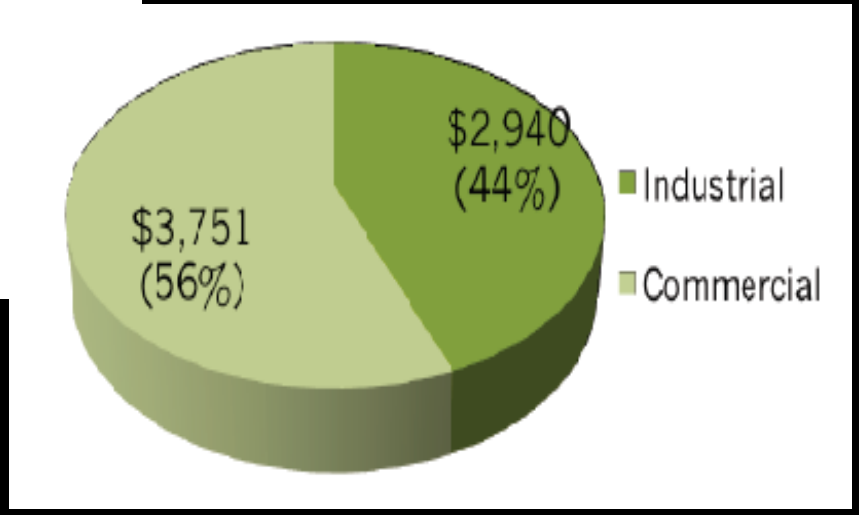


Source: Lawrence Berkeley National Laboratory , USA ,September 2013

ENERGY EFFICIENCY INVESTMENT POTENTIALS IN SOUTH EAST ASIA COUNTRIES(USDMIL.)



The total market size = US$6.7 billion;
Industrial = USD2.9 billion(44%)
Commercial = USD3.7 billion(56%)



source:
www.reexasia.com 2011

MALAYSIA EXPERIENCE

Government Initiatives on EE Chronology

No.	Year	Government Agency	Initiative	Status
1	2000 ~ 2007	Pusat Tenaga Malaysia (PTM)	Malaysian Industrial Energy Efficiency Improvement Project (MIEEIP)	completed
2	2008 (Dec)	Suruhanjaya Tenaga (ST)	Enactment Efficient Management of Electrical Energy Regulation (EMEER)	partial compliances
3	2009-2010	KeTTHA	National Energy Efficiency Master Plan(NEEMP)	cancelled
4	2010	EPU	EPP 9 of Economic Transformation Program under Government Lead by Example	not executed
5	2011~2016	JKR Alam Sekitar/UNDP	Building Sector EE Project	delayed
6	2013	JKR	Facilities Management(FM) + EPC	Not executed
7	2013	ST	Registration of ESCO with Government	limited to electrical
8	2014	MIGHT	EPC in big User in Malacca	no takers
9	2016	KeTTHA	NEEAP-Energy Audit Conditional Grant	EACG ongoing
10	2016	EPU	DSM on Electrical, Thermal & Transport	Preliminary study

IMMEDIATE POTENTIAL

POTENTIAL TARGET GROUPS FOR ENERGY SERVICES IN MALAYSIA

- Close to 2,000 industrial and commercial building facilities affected by the enforcement of Efficient Management of Electrical Energy Regulations 2008
  - Consuming at least about 6 million kWh per year

- Energy Audit Conditional Grant under 11th Malaysia Plan.

PANEL DISCUSSION

- WHAT ARE THE BARRIERS to ENERGY SERVICES INDUSTRY GROWTH in MALAYSIA
- WHAT IS THE THE WAY FORWARD..
- WHAT ARE THE SUPPORT MEASURES REQUIRED for ENERGY SERVICES INDUSTRY GROWTH in MALAYSIA

INTRO TO MAESCO

MAESCO's Constitutional Objective

1. To develop recognized ESCO Business in collaboration with Government and Private Sector
2. To actively promote the activity of cost reduction and efficiency standards of the industrial and commercial sector
3. To oversee the well being of its members
4. To facilitate and do all things necessary towards developing successful energy related projects
5. To introduce related products and services for the industry
6. To foster healthy co-existence amongst members through ethical professional practices
7. Ensure prestige of services by members

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MAESCO Organization

Honorary Advisor / Internal Auditor
Ir. Dr. KS Kannan

President
Ar. Zulkifli b. Zahari

Vice President and Policies & International Liaison
Ir. Ong Ching Loon

Honorary Secretary & Historian
VTR Dharamarajah

Asst. Honorary Secretary & Membership
Vekneswaran

Treasurer & Strategic Initiatives
Zaini b. Abdul Wahab

Program Coordinator
Anuar b. Mat Saad

Admin / Secretariat
Afiza bt. Mohd Sa'ad

Admin / Secretariat
Nor Herdawaty bt. Ali

Accountant
Mohd Izzuddin b. Salahudin

Government Liaison
Mohamad Nagib b. Sulaiman

Business Development
Ir. Phang Chen Faut

Publicity & Promotions
Ahmad Zaky b. Mohd Amin

Training
Mohd Iskandar b. Majidi

Green Technology
Ir. Kumarason S Kandiah

Internal Auditor
Ahmad Nizam b. Hassan

Membership

61 Registered Members

Membership Categories :

- Energy Performance Contracting (EPC)
- Non Energy Performance Contracting (EPC)
- Affiliate
- Associate
- International

Consist of :

- Energy Performance Contractors (EPC)
- Energy Auditors.
- Energy Management Trainers.
- Energy Efficient Equipment Manufacturers/Suppliers.
- Energy Consultants.
- Energy Management Systems/Technologies.
- Total Facilities Management.

THANK YOU!
www.maesco.org.my