



Thailand Clean Energy Policy and Programs

The views expressed in this paper/presentation are the views of the author and do not necessarily reflect the views or policies of the Asian Development Bank (ADB), or its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy of the data included in this paper and accepts no responsibility for any consequence of their use. Terminology used may not necessarily be consistent with ADB official terms.

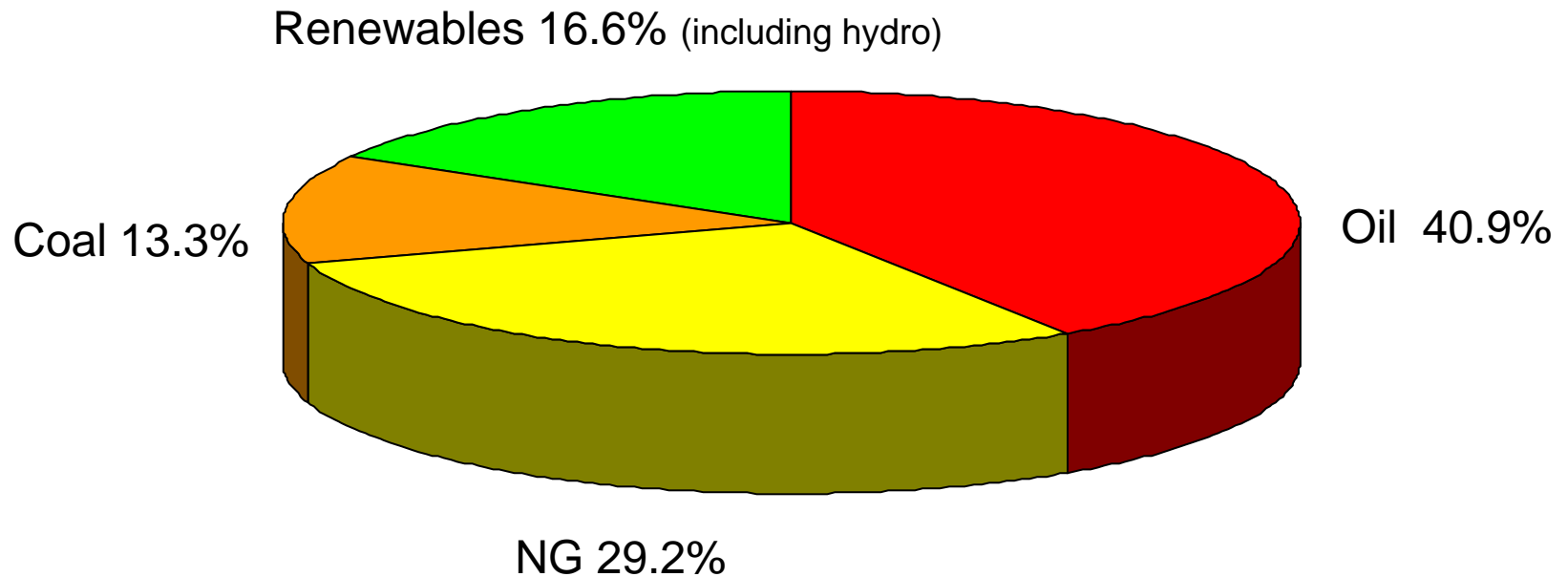
Prasert Sinsukprasert
Ministry of Energy, Thailand

ADB Workshop on Climate Change and Energy

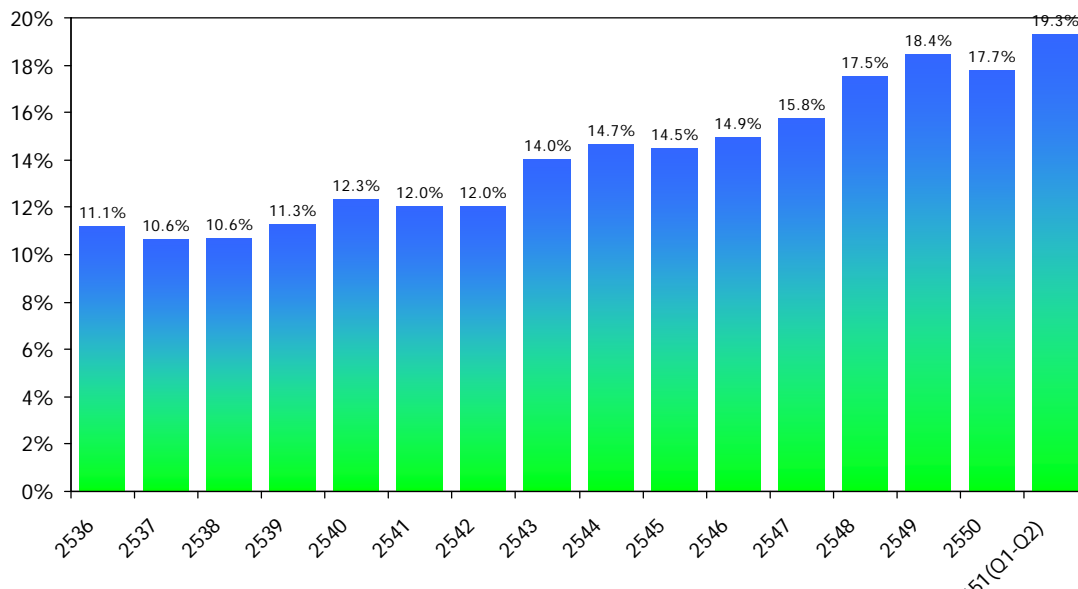
March 27th 2009 Intercontinental Hotel, Bangkok



Primary Energy Supply 2007



Total Primary Energy Supply 110,106 ktoe (increased from 2006 by 3.9%)

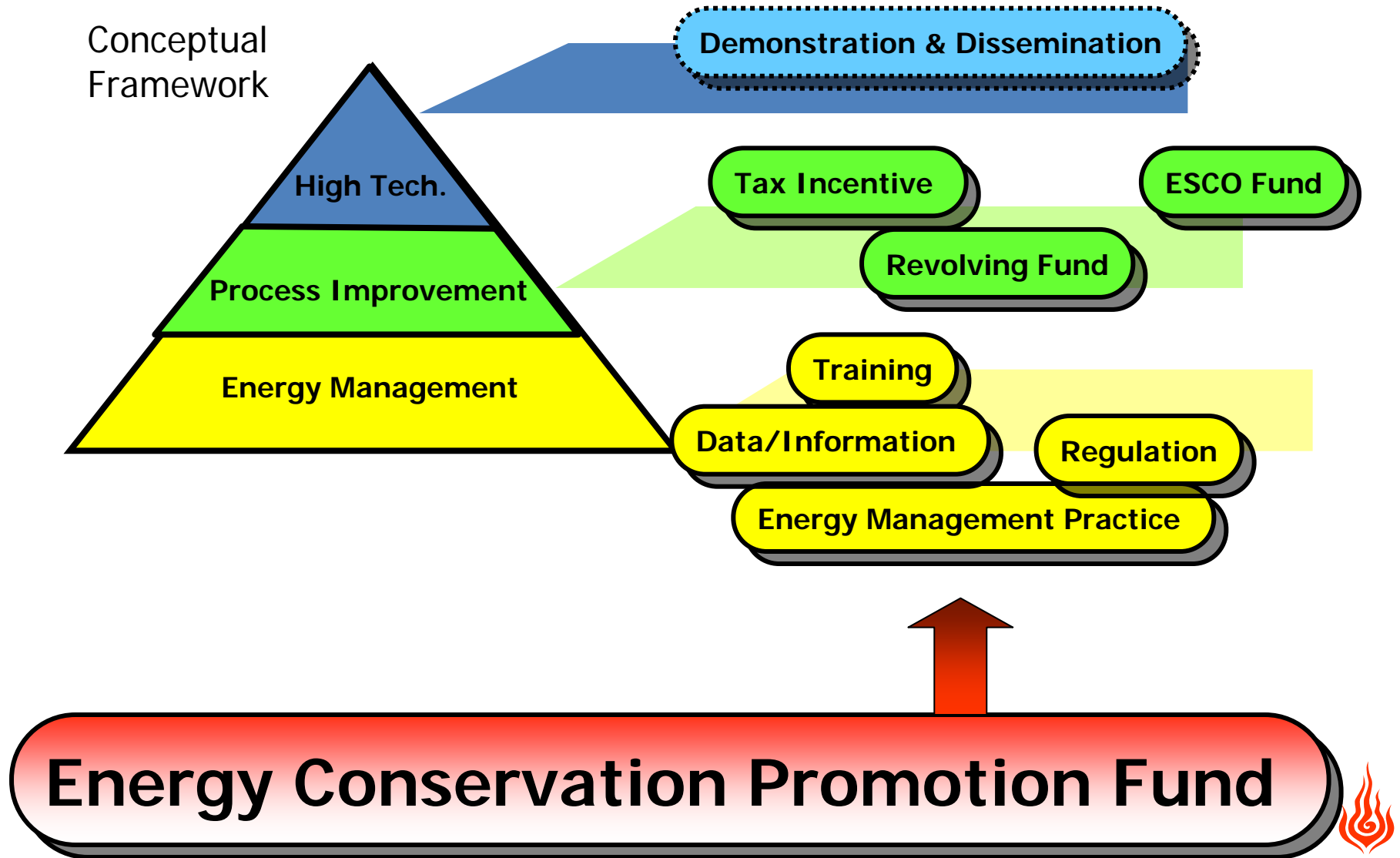


The proportion of Energy Expenditure to GDP keeps rising during the high oil price period.

Values of Final Energy Consumption (MBaht)

Type	2005	2006	2007	2008	(% Change)		
					2006	2007	2008
Oil Products	774,404	915,461	955,370	1,120,255	18.2	4.4	17.3
Power	328,237	385,135	390,731	398,742	17.3	1.5	2.1
Natural Gas	22,275	28,880	35,110	56,789	29.7	21.6	61.7
Coal/Lignite	18,407	19,488	24,275	32,136	5.9	24.6	32.4
Renewable	95,541	92,562	96,529	101,417	-3.1	4.3	5.1
Total	1,238,864	1,441,525	1,502,014	1,709,340	16.4	4.2	13.8

Energy Efficiency Conceptual Framework



Energy Conservation Promotion Fund

Objective and Source of Fund

- collect small levy (0.05-0.25 baht per liter) from the sell of gasoline, diesel, fuel oil, and kerosene
- Annual Revenue around 2 – 2.5 billion baht
- Supervised by Energy Conservation Promotion Fund committee – chaired by Deputy Prime Minister
- To be used for energy conservation promotion including research, study, development, demonstration, incentives (grants/soft loan), capacity building, and policy study



Measure/Program - Results and Plan

Revolving Fund Program

Description	Results 2002-2008	Future Plan
<p>Low interest loan for Energy Efficiency via financial institutes</p> <ul style="list-style-type: none">• Less than 4% interest• Loan period of 7 years with one year grace period• Up to 50 million baht (1.3 million USD)	<ul style="list-style-type: none">• Support over 250 EE/RE projects• Total investment around 500 million USD – of 150 million USD of Government's Revolving Fund• Energy savings of 120 million USD per year.	<p>2009</p> <ul style="list-style-type: none">• Secured additional 60 million USD of budget <p>Long term Plan</p> <ul style="list-style-type: none">• Reduce DEDE roles on Funding Sources – providing more technical assistance• More co-financing from the banks• Training banking officers on EE technical knowledge

Participating Banks



Measure/Program - Results and Plan

ESCO Fund Program

Description

Co-investment fund with private sector/investors

- Equity Investment
- Venture Capital
- Equipment Leasing
- Carbon Credit Trading
- Technical Assistance
- Credit Guarantee Facility

Results 2008

- Set up the Fund (initial budget of 15 million USD)
- Selected 2 Fund Managers
 - Energy Conservation of Thailand Foundation
 - Energy for Environment Foundation

Future Plan

2009

- Promoting and Marketing the Fund
- Support at least 20 projects
- Leverage minimum of 50 million USD
- Energy Savings of 10 million USD

Long term Plan

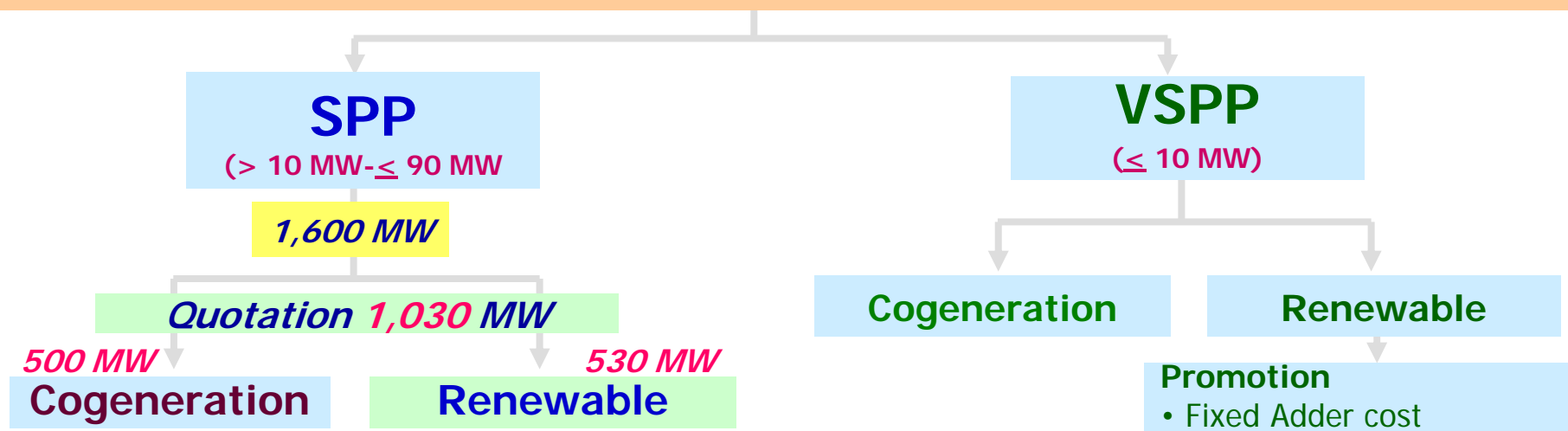
- Increase the Fund to 100 to 200 million USD
- Corporatise the program to be Investment Company
- Open for private investors



มูลนิธิพลังงานเพื่อสิ่งแวดล้อม



Adder cost of power generation from RE.



- Adder cost for Renewable power producers by term of support 7 years and 10 years for power generation from wind and solar;
- *special cost in 3 provinces in Southern of Thailand

SPP		
Type	Adder (Baht/kWh)	Capacity (MW)
MSW	2.50	100
Wind	3.50	
Solar	8.00	
Other Renewable	0.30	300
Total		530

Fuel	฿ /kWh	Special*
Biomass	0.30	1.30
Biogas	0.30	1.30
Mini-Hydro (50-200 kW)	0.40	1.40
Micro-Hydro (< 50 kW)	0.80	1.80
MSW	2.50	3.50
Wind	3.50	5.00
Solar	8.0	9.50

Measure/Program - Results and Plan

Tax Incentives

Description

- **Cost-based :Deduct Taxable Income 125% of EE investment costs**
- **Performance-based : Reduce Taxable Income with Actual Energy Savings**
- **BOI : exemption of cooperate income tax and import duties for EE equipment manufacturers/ESCOs**

Results 2002-2008

Cost-Based

- support 94 projects
- energy savings of 10 million USD/y
- leverage EE investment of 17 million USD
- Tax reduction of 3.2 million USD

Performance-Based

- support over 200 EE projects
- energy saved 30 million USD/y
- leverage EE investment 52 million USD
- Tax reduction of 3 million USD – in a form of subsidy

BOI

- support 27 projects
- energy savings of 35 million USD/y
- leverage EE investment of 120 million USD

Plan

2009

Continue the supports
Estimated energy savings of additional 10 million USD/y

Next Steps

- **Increase the incentives to a deduction of 200% of EE Investment cost**
- **Install performance based incentives into the TAX system**





กระทรวงพลังงาน
MINISTRY OF ENERGY

“Committed for All”

www.energy.go.th

The Information Centre, Ministry of Energy Tel. 02-223-3344 ext. 2205