

Development of Public Sector Energy Performance Contracting

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Outline

- ① Introduction
- ② Tenders for the provision of energy savings performance contracting services
- ③ Progress and challenges ahead

Introduction

- Small city-state
 - **Total land area of 699 sq km**
- High population density
 - **Population of > 4.2 mil**
- Highly industrialised economy
- Dependent on imported fossil fuels
- Lacking in natural resources



Pictures Courtesy of Singapore Tourism Board

Imperatives

Environmental

Use of fossil fuels for energy generation results in

- ❖ Greenhouse gas emissions
- ❖ Air pollution

Economic

Wasteful or inefficient energy use

- ❖ Reduces cost-competitiveness
- ❖ Undermines resilience of economy

Develop strategies to supply and use energy in an efficient, responsible and environmentally sustainable way

National Energy Efficiency Committee

- ◉ Formed in Apr 2001
- ◉ Chaired by Senior Parliamentary Secretary of the Ministry of the Environment and Water Resources
 - **Associate Professor Koo Tsai Kee**
- ◉ Representation from 45 organisations
 - **Government ministries and statutory boards**
 - **NGOs**
 - **Industries**
- ◉ Structure
 - **4 Sub-Committees and 1 R&D Workgroup**

NEEC's Key Thrusts



Promote energy conservation through the *efficient* use of energy in the industrial, building, transportation and consumer sectors

Promote use of *cleaner* energy sources and *renewable* energy



Promote *test-bedding* of pioneering energy technologies and the development and commercialisation of clean energy technologies

Public Service Economy Drive

- ⊙ Why the Economy Drive (ED)
 - **Tight Fiscal Position**
 - **Maintaining Public Trust**
 - **Value for Money**
- ⊙ Service-wide ED Initiatives:
 - **ED through NEV**
 - **ED through Best Sourcing**
 - **ED through Process Innovation**
 - **ED in Govt Procurement**
 - **ED in IT Expenditure**
 - **ED in Discretionary Expenditure**
 - **ED in Energy Use**



ED in Energy Use

- ⊙ Objectives
 - Assist public sector agencies in implementing energy saving projects, which could also serve as showcases for the building sector
 - Develop standard documents for procurement of energy performance contracting services
 - Develop local energy service industry
- ⊙ 8 public sector agencies participating in the pilot energy performance contracting projects

ED in Energy Use

- Supported by Technical Committee comprising representatives from:
 - NEA
 - EDB
 - EMA
 - NUS
 - BCA
 - DSTA
 - (private sector representative)
- Common pre-qualification exercise carried out for Energy Service Companies (ESCOs)
 - Only pre-qualified ESCOs could submit offers for the pilot energy performance contracting projects

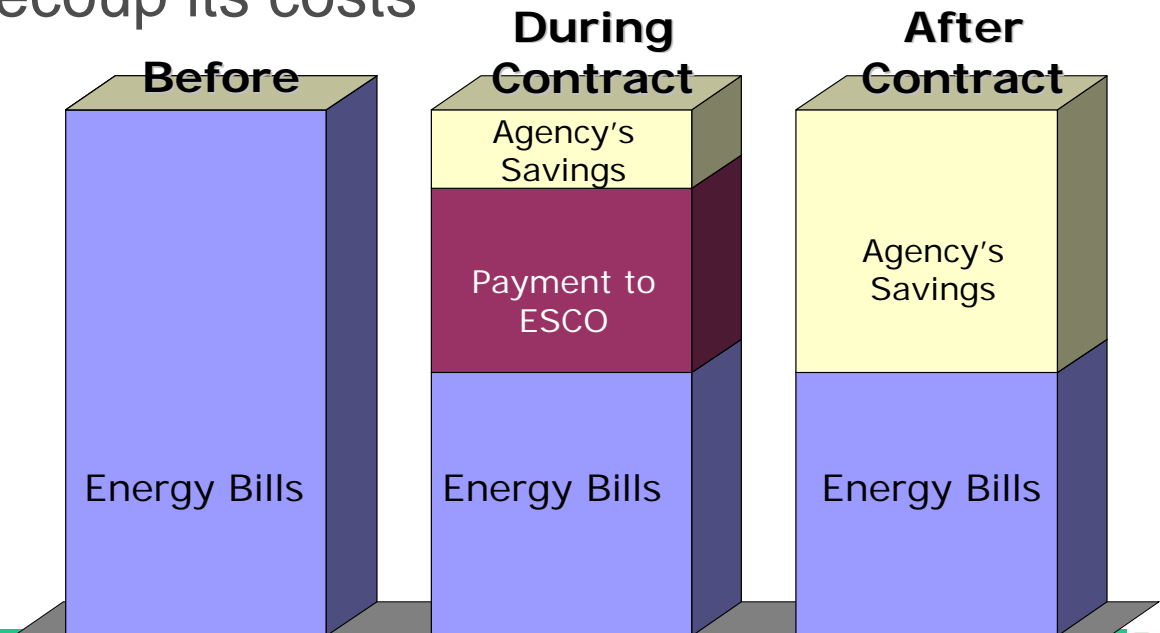
Tenders for the provision of energy savings performance contracting services

- ⊙ Separate tenders by each agency for the appointment of an ESCO to:
 - carry out an Investment Grade Energy Audit, and
 - implement recommended energy saving measures under a performance contract

- ⊙ Contract models
 - Shared Energy Savings Performance Contracts (Shared ESPC)
 - Guaranteed Energy Savings Performance Contracts (Guaranteed ESPC)

Shared ESPC

- ESCO finances the investment costs for implementation of energy savings measures and recoups his costs from the realised energy savings
- Longer contracts envisaged to allow ESCO to recoup its costs (up to 8 years)



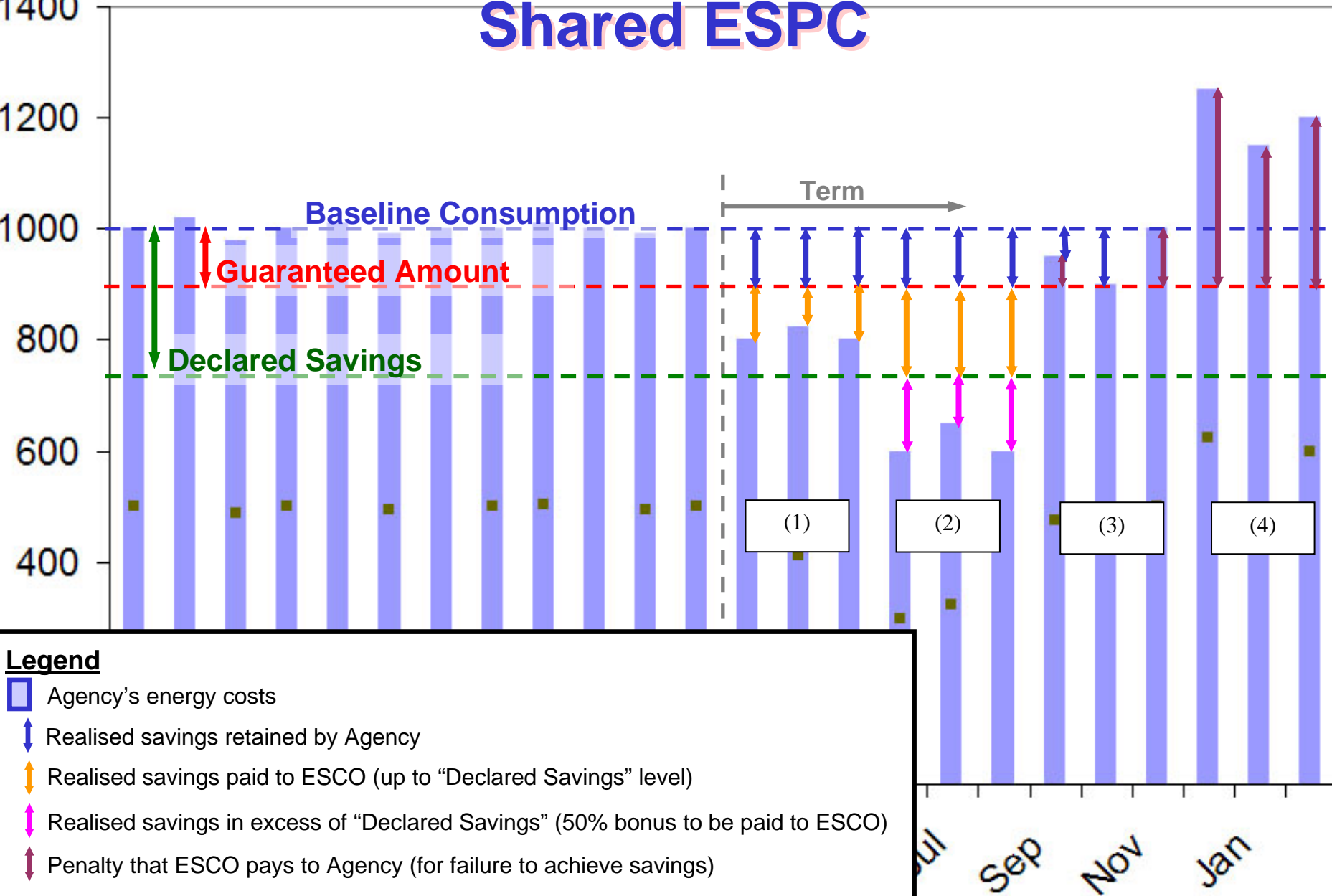
Shared ESPC

- ⊙ ESCOs to offer in its tender:
 - **Audit Fee**
 - **Annual Declared Savings**
 - **Annual Guaranteed Amount**
 - **Term**

Energy Cost

(\$), (,000)

Shared ESPC



Legend

- █ Agency's energy costs
- ↕ Realised savings retained by Agency
- ↕ Realised savings paid to ESCO (up to "Declared Savings" level)
- ↕ Realised savings in excess of "Declared Savings" (50% bonus to be paid to ESCO)
- ↕ Penalty that ESCO pays to Agency (for failure to achieve savings)

Guaranteed ESPC

- ⦿ Agency finances the investment costs for implementation of energy savings measures
- ⦿ ESCO provides a financial guarantee that energy savings will be achieved
- ⦿ ESCOs to offer in its tender:
 - **Consultancy Fee**
 - **Annual Guaranteed Savings**
 - **Guaranteed Return On Investment**

Guaranteed ESPC

- ⦿ ESCO to make up for shortfall in savings necessary to achieve Guaranteed ROI
- ⦿ Performance incentives for ESCO if actual project ROI exceeds Guaranteed ROI by more than 50%

Progress

Agency	Contract Model	Tender period
MEWR	Shared Savings	Jun - Jul 05
MOM	Guaranteed Savings	Sep - Dec 05
MOF	Shared Savings	Nov - Dec 05
SGH	Shared Savings	Nov - Dec 05

(4 other public sector agencies to call tenders in coming months)

Challenges

- ⊙ Measurement and verification of savings
 - **Establishing baseline**
 - **Determination of savings**
 - **Adjustments to baseline**
- ⊙ Introducing performance contracting to other public sector agencies, as well as the private sector



Thank you