8. Financing

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8. Financing

**Trainer(s):** John Dulac

**Scenario:** There are ambitious targets but seemingly little funding available to realise energy efficiency projects.

**Question:** What are the financing options that you can take?
Training Overview

1. Investment grade energy efficiency policy
   • Why is it important?
   • Introduction to a banker
   • Why is it important?

2. Financing Approaches

3. Public Procurement
   1. Energy efficiency and sustainable procurement
   2. Energy Efficient Purchasing
   3. ESCOs

4. Case Studies

5. Public Procurement Trends and Digitalisation
1. Investment grade energy efficiency policy

What is it?
Introduction to a banker
Why is it important?
Investment Grade Policy: What is it?

• What is energy efficiency policy?
  - A set of strategies, legislation, regulations, measures, programmes that together stimulate energy efficiency improvement

• What is investment-grade energy efficiency policy?
  - A set of strategies, legislation, regulations, measures and programmes that together stimulate energy efficiency improvement

Source: EBRD
Investment grade policy: Introduction to a banker

**Policy maker**
- Long term
- Public good
- Social cost-benefit analysis
- Political
- Casio
- Economic impact
- Political impact

**Time horizon**
- Motivation
- Evaluation criteria
- Relationship to risk
- Type of watch
- Big concerns

**Banker**
- Short term
- Revenue target
- Internal rate of return (IRR)
- Legal
- Rolex
- Risk, bankability, creditworthiness

Source: EBRD
Investment grade policy: Why is it important?

It provides **environmental certainty** in EE project investment that gives investors **greater confidence**:

- Focused **goal**
- Focus on specific set of **barriers**
- Focused group of **stakeholders**
- Specific **criteria**
- Specific **types of measures**

**IGEEP**
- Setting **standards**
- Applying market-based **incentives**
- Designing tailored **financing mechanisms**

Source: EBRD
2. Financing Approaches
Financing approaches

The Financing Ladder

- Commercial Financing
  - Municipal Bonds
  - Commercial Loans
  - Lease of Assets
  - Vendor Credit
  - Credit/Risk Guarantees
  - Dedicated Credit Lines
  - Energy Efficiency Funds
- Public Support
- EE Funds
- Budget Financing
- Grants

Source: Adapted from ESMAP Financing Municipal Energy Efficiency Projects

- Commercial banks
- Asset lessors
- Equipment suppliers
- Development Finance Institutions
- Energy efficiency funds (which can becoming revolving funds)
- Government
- External donors
Financing approaches

PPPs for increased investment in municipalities

- PPPs make projects **affordable**
- Injection of **private capital**
- **More efficiency** in procurement
- **Faster project delivery** in a defined timeframe
- **Better risk allocation** between public and private sectors
- **Reduced costs** to the public sector for energy efficiency
3. Public Procurement

Energy efficiency and sustainable procurement
Energy Efficient Purchasing
ESCOs
Energy efficient and sustainable procurement

• **What?** The government purchasing efficient and sustainable products and services

• **Why?** Because governments spend more money and can influence the market for products and services

• **How?** Define minimum efficiency requirements into procurement specifications and enable purchases based on cost effectiveness and cost benefit analysis (and not first cost)

• **Result?** Efficient and sustainable product and service prices will go down, further improving the cost effectiveness of energy efficiency

Adapted from: OECD and Sustainable Procurement Platform.
Procurement: Energy Efficient Purchasing (EEP)

• Purchasing energy-using products that meet certain energy-efficient criteria

• Approaches and tools for EEPs:
  - EE Labelling
  - Technical Specification Catalogue
  - LLC, Best Value Award
  - EE Product Preference
  - Qualifying Product List

Source: ESMAP Driving Energy Efficiency Markets through Municipal Procurement
Energy Savings Performance Contract (ESPC)

- A financing mechanism to implement EE projects and deliver energy savings


Energy Savings Performance Contract (ESPC)

- Compensation by Client
- Based on Demonstrated Performance
- In terms of...
- Energy or Energy Cost Savings
Energy Savings Performance Contract (ESPC)

• A financing mechanism to implement EE projects and deliver energy savings

• Energy service companies (ESCOs) often deliver on ESPCs:
  - Can **provide financing** for energy efficiency
  - Can **provide services** for energy efficiency
  - Typically tasked with **delivering/guaranteeing energy savings**

4. Case Studies
Case Study: Thailand ESCO Revolving Fund

THAILAND ESCO FUND
Established:  2008
Objectives:
- Stimulate private financing for energy efficiency and renewable energy projects
- Support private investments through ESCOs
- Promote $40+ million in investment
- Accrue $8 million in energy savings

HOW IT WORKS:

ESCO Fund
Investment Committee

FINANCING INSTRUMENTS
- Equity Investment
- Venture Capital
- Equipment Leasing
- Technical Assistance
- Carbon Credit Market
- Credit Guarantee Facility

Implementation Results:

- Projects supported: 39
- Total investment: $ 160 million
- Energy savings: $ 18 million/year
- Energy savings: 21 ktoe/year

(No. of ESCOs: 45)

Financing Approach
Revolving Fund
Case Study: Malaysia Green Technology Financing Scheme

HOW IT WORKS:

**MALAYSIA GREEN TECHNOLOGY FINANCING SCHEME**

**Established:** 2010

**Objectives:** Promote investments by providing easier access to financing and at a lower financing costs

**Partners:**
- Financial Institutions (Credit assessment, financing)
- Greentech Malaysia (Promotions; Green Certification, Monitoring)
- MOF (Coordinator, regulator)
- Credit Guarantee Corporation CGC (Administer guarantee & rebate)

Implementation Results:
- Total projects supported: **272**
- EE projects supported: **15**
- Total investment: **$28 million**

Expected impact:
- Green investment: **$1.36 billion**
- Jobs created: **4,645**
- Emission reduction: **3.16 mtCO2eq/yr**

*From total 272 projects*
Case Study: Emfuleni Water Leak Management Project

**EMFULENI WATER LEAK MANAGEMENT PROJECT**
 Implemented: 2005
Objectives: Reduce water leakage secure energy savings through an ESPC
Partners:

**HOW IT WORKS:**

- **Bank**: Loan
- **ESCO**: Payment based on obtained savings
- **Client**: ESCO implements project

**PPP Build-Own-Operate-Transfer Shared Savings Performance Contract**

**Implementation Results:**

- Water savings: **7-8 million m³/yr**
  - (30% of former supply saved)
- Energy savings: **$3.8 million/yr**
- Energy savings: **14,250 MWh/yr**
- GHG emission reduction: **12,000 tonnes/yr**
- Payback period of initial investment: **<3 months**
How Energy Efficient Purchasing addresses barriers

<table>
<thead>
<tr>
<th>Enact EE procurement policies/programs...</th>
<th>To overcome restrictive policies and procedures</th>
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<tbody>
<tr>
<td>Create tools that can facilitate EEP efforts; provide training and dissemination plans...</td>
<td>To overcome poor or no access to information about EE opportunities</td>
</tr>
<tr>
<td>Develop incentives strategies</td>
<td>To counteract behavioural inertia</td>
</tr>
<tr>
<td>Ensure robustness of certification process through independent inspections; monitor compliance</td>
<td>To enable successful realisation of energy efficiency post-implementation</td>
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Source: ESMAP Driving Energy Efficiency Markets through Municipal Procurement

Source: IEA Energy Service Companies and Financing Presentation
How ESPCs can address the barriers

- Develop credible and reputable ESCOs
- Develop a local financing market (e.g. ESCO funds)
- Develop certification/insurance for ESCO projects
- Create government initiatives (EE targets; training; promotion and awareness)

To overcome uncertain government support

To overcome high transaction costs

To overcome limited interest from financial institutions

Source: ESMAP Driving Energy Efficiency Markets through Municipal Procurement
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Source: IEA Energy Service Companies and Financing Presentation
5. Public Procurement Trends and Digitalisation
Trends in Public Procurement

Harmonisation of public procurement policies

E-procurement
Digitalisation for Energy Efficiency Financing

- Blockchain and smart contracts for ESPCs
  - Automating transactions and repayments