PUBLIC PROCUREMENT OF ENERGY EFFICIENT PRODUCTS
Lessons from Around the World

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Energy Sector Management Assistance Program

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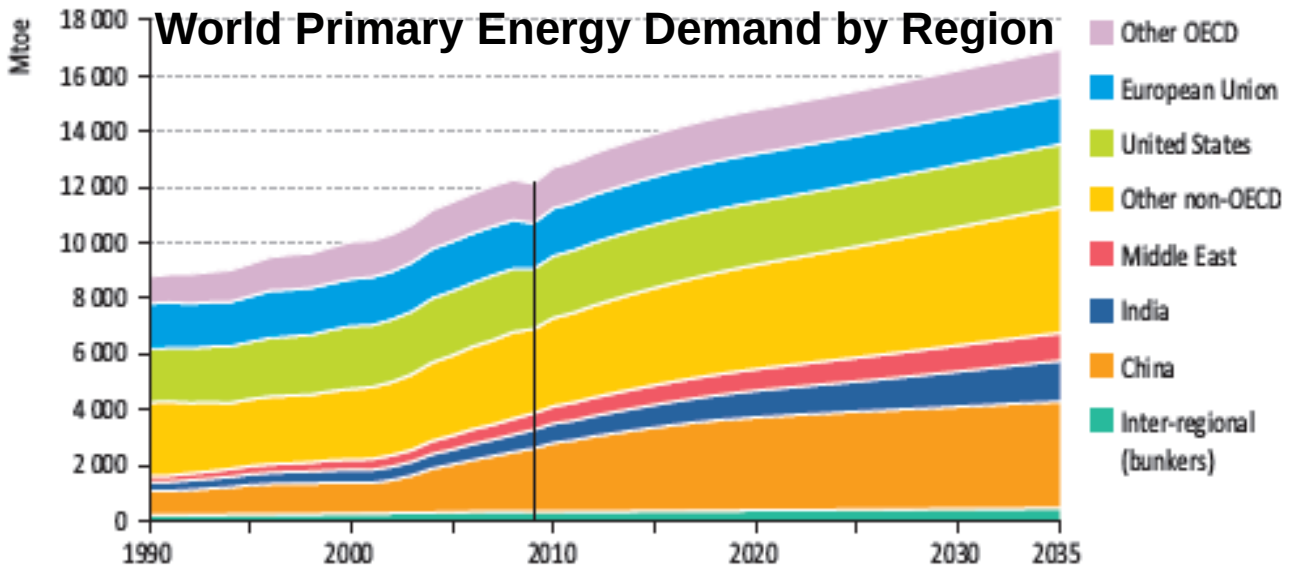
Why is EE important?

- Taps cheapest domestic energy resource
- Reduces investments needed to power economic growth
- Enhances competitiveness, creates fiscal space for other development priorities
- Reduces environmental impacts of energy use



Source: IEA, 2011

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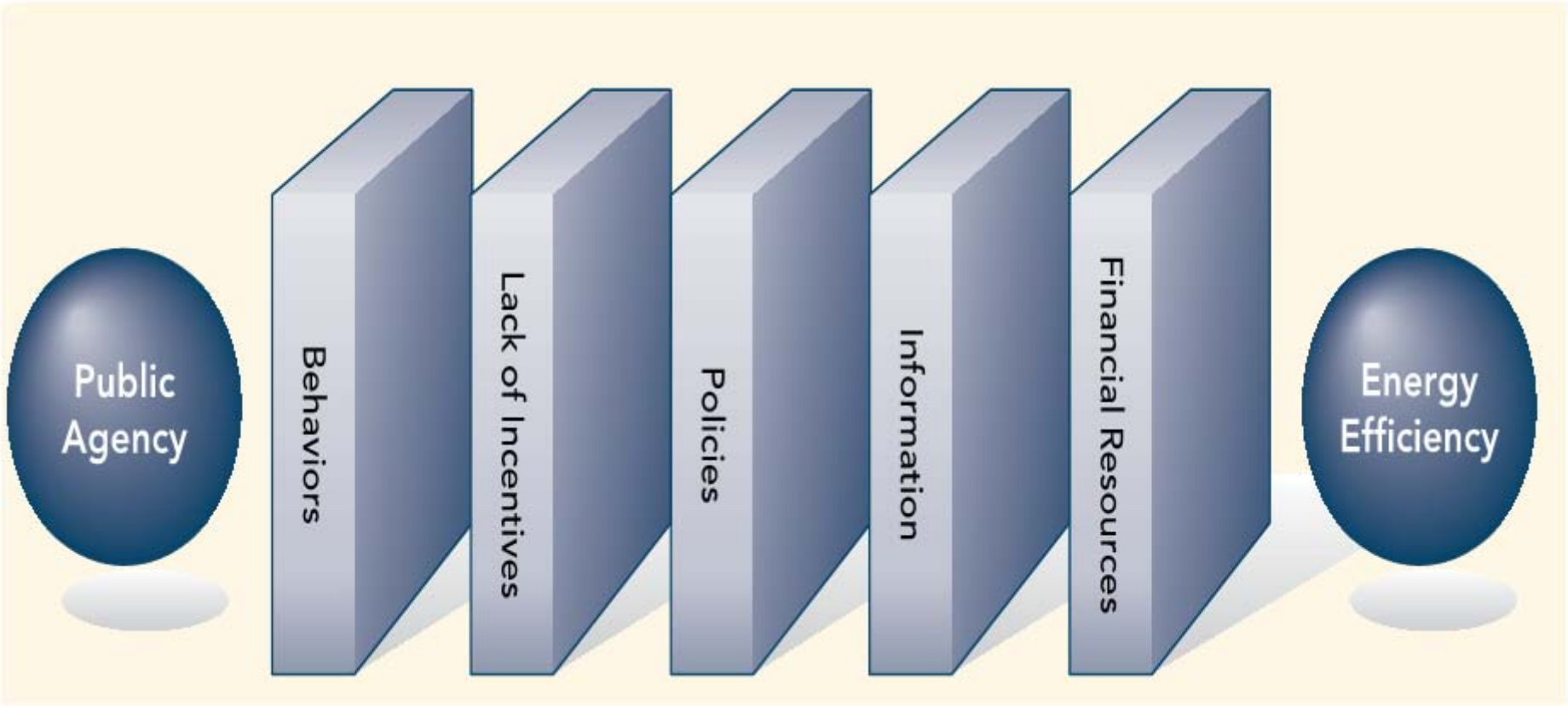
Why is the public sector important?

- Government often single largest energy user in a country
- Public sector typically represents ~2-5% of total energy use
  - 15-30% in countries with large heating loads
  - 20-30% in countries with low energy access rates
- Public facilities are highly visible, so improving EE can influence general public
- Government purchasing power creates huge opportunities to:
  - influence equipment suppliers
  - establish market norms
  - lower market prices

Public sector EE barriers



EE Purchasing (EEP)

- EEP policies encourage or require public agencies to procure energy efficient products using or influencing energy use
  - Indoor and outdoor lighting, office equipment (computers, printers, copiers), vehicles, HVAC, water/steam pumps, insulation, windows
  - Some include recycled products, water conservation, solar panels
- Key issues involve how to ensure quality, transparency, competition

Methodology

- 10 country and city EEP case studies, 50+ expert interviews, literature review
- **Countries/Regions**
  - Australia
  - China
  - European Union
  - India
  - Japan
  - South Korea
  - United States
- **Cities**
  - Portland, Oregon (U.S.)
  - Vancouver, B.C. (Canada)
  - Vienna (Austria)

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EEP vs. GPP

- **Energy Efficient Purchasing (EEP)**
  - Promotes procurement of EE products
  - Includes energy savings in cost comparison
  - Relatively simple to specify and certify
- **Green Public Procurement (GPP)**
  - Promotes environmentally preferable product procurement (EE = key attribute)
  - Includes energy savings and other environmental benefits but lifecycle cost (LCC) analysis is complex
  - Specification and certification is not straightforward

Types of EE procurement policies

EEP Policy	Examples
Product-specific requirements	China (ACs - 2004) EU (Office equipment – 2008, vehicles - 2009) City of San Francisco (computers – 2009)
Product bans	Russia (2009), City of New York (2005)
EEP program or mandate	City of Vancouver (2004), China (2004), Germany (2007), City of Madrid (2005), District of Columbia (2004), New York City (2005)
Best value procurement	Australia (1997), Canada (2006), EU (2004), India (2006), City of London (2008)
Green or sustainable procurement	City of Vienna (2003), Brazil (2012), Canada (2006), China (2006), EU (2008), Japan (2000), South Korea (2008), UK (2011), City of Portland (2009), USA (2009)
Green buildings	China (2005), City of Shanghai (2008), EU (2010), Cities of Portland (2005) and San Francisco (2008)
Sustainability or climate protection plans	Mexico City (2008), State of Maryland (2009), City of New York (2008)

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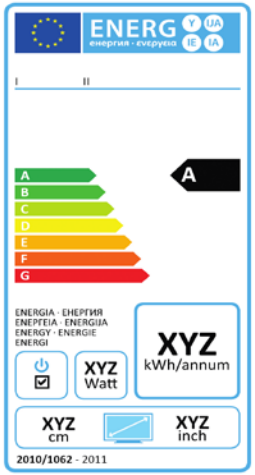
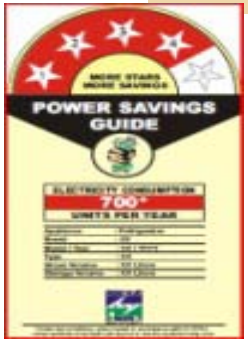
EEP program models

Model	Description	Examples
EE labels	Requirement for an existing EE label, when available	Australia, Vancouver (Canada), China, EU, Japan, Mexico, South Korea, USA
Catalogues of technical specifications	Catalogue, book, or website of EE technical specifications	Vienna (Austria), EU, Japan, Mexico, Sweden, UK, USA
LCC or best value award	LCC analysis to inform purchasers which products offer best value over their useful lifetimes	Australia, Canada, EU, UK, USA
EE preferences	Extra points or price preferences in bid evaluation for qualifying products	Australia, China, Japan, EU, South Korea, USA
Qualifying product lists	Database of products that qualify with government EE specifications	Vienna (Austria), China, EU, South Korea, UK, USA

EE Labels

- Endorsement Labels
- Comparative/ Rating Labels
- Eco-labels





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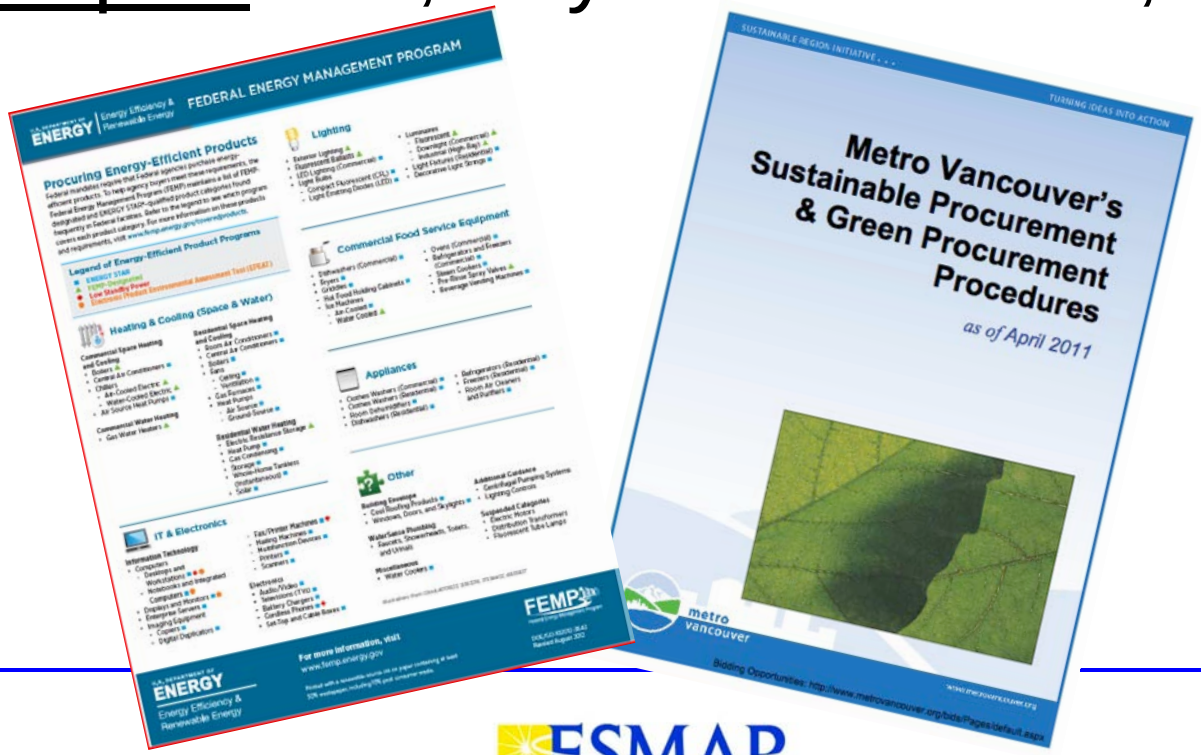
Catalogues of technical specs

- Can be used when EE labels don't exist or are not credible
- Examples: EU, City of Vancouver, USA



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LCC or best value award

- **Considers cost-effectiveness over product's lifetime**
  - Includes initial purchase price, O&M costs, produce lifetime, end-of-life (i.e., disposal, recycling) costs
  - Purchasers need training, technical support, tools
- **Many LCC calculators exist**
  - USA FEMP Energy and Cost Savings Calculators
  - EU Buy Smart Calculator, Clean Vehicle Portal
  - SEAD Street Lighting Tool
  - SEMCo (Sweden) LCC tool

Clean Vehicle EUROPE

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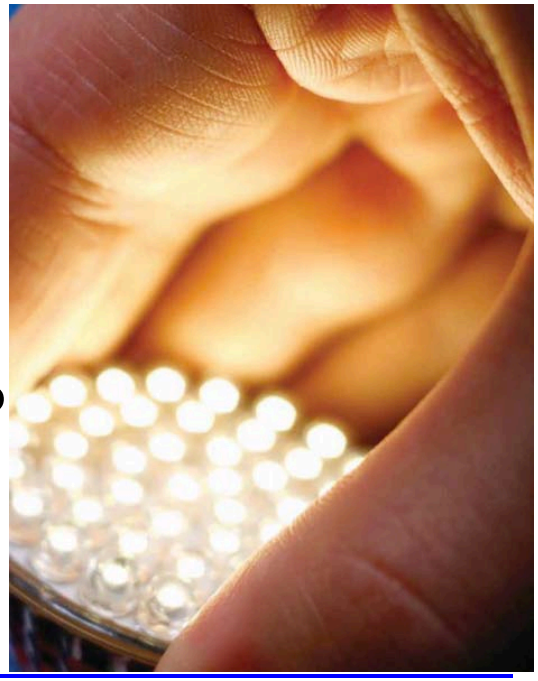
EE preferences

- **Types of EE Preferences**
  - Permits extra technical points in bid evaluation if product exceeds minimum EE (or green) criteria
  - Allowable price preference (i.e., up to 5% premium for EE or green attributes)
- **Examples**
  - South Korea - Alternative Bidding System with Extra Points
  - EU - Comprehensive (Voluntary) GPP Criteria



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Qualifying product lists

- Convenient for procurement agents but time-consuming to create, maintain
- Examples:

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Program components

Component	Options
Institutional	• Centralized, shared implementation, associations, NGOs
Testing & Certification	• Which products should be included • How to set standards, testing, who certifies, who oversees
Outreach & Training	• Understanding polices and programs • Use of tools and access to other resources (e.g., case studies, bidding document language, LCC tools)
Incentives and Behavior	• Mandatory and voluntary measures • Institutional and individual mechanisms
Partnerships	• Collaborations with other jurisdictions, NGOs, business
Tracking & Reporting	• Compliance monitoring • Results reporting and evaluation of program effectiveness

Select EEP results

City or Country	Procurement Policy	Impacts
Vienna, Austria	• Mandatory GPP policy in 1999, includes EE criteria • Guidelines cover 23 goods and services categories	• Annual savings of €17 million and 30,000 tons of CO_2 emissions
China	• EEP policy enacted in 2004, mandated to all government levels in 2006 • Guidelines cover 28 product categories (2011)	• EEP reached RMB 15.72 billion (US$ .23 billion) in 2009 • Covered 70% of products in target categories
Mexico City, Mexico	• Mandatory GPP policy in 2011, includes EE criteria • Covers 8 product categories	• Energy savings of 340 GWh/year • 6,500 tons of CO_2 emissions avoided
South Korea	• Voluntary GPP policy in 2004, includes EE criteria • Guidelines cover 11 product categories	• GPP reached KRW 1.12 trillion (US$ 1.0 billion) in 2009

Key take-aways

- Growing number of EEP programs in middle-income countries; trend toward GPP in developed countries
- Substantial anecdotal information on the benefits of EEP programs
- But, most governments do not have enforcement mechanisms in place, and none account for the costs and impacts or wider market influence
- Wide variety of resources exist to assist developing countries

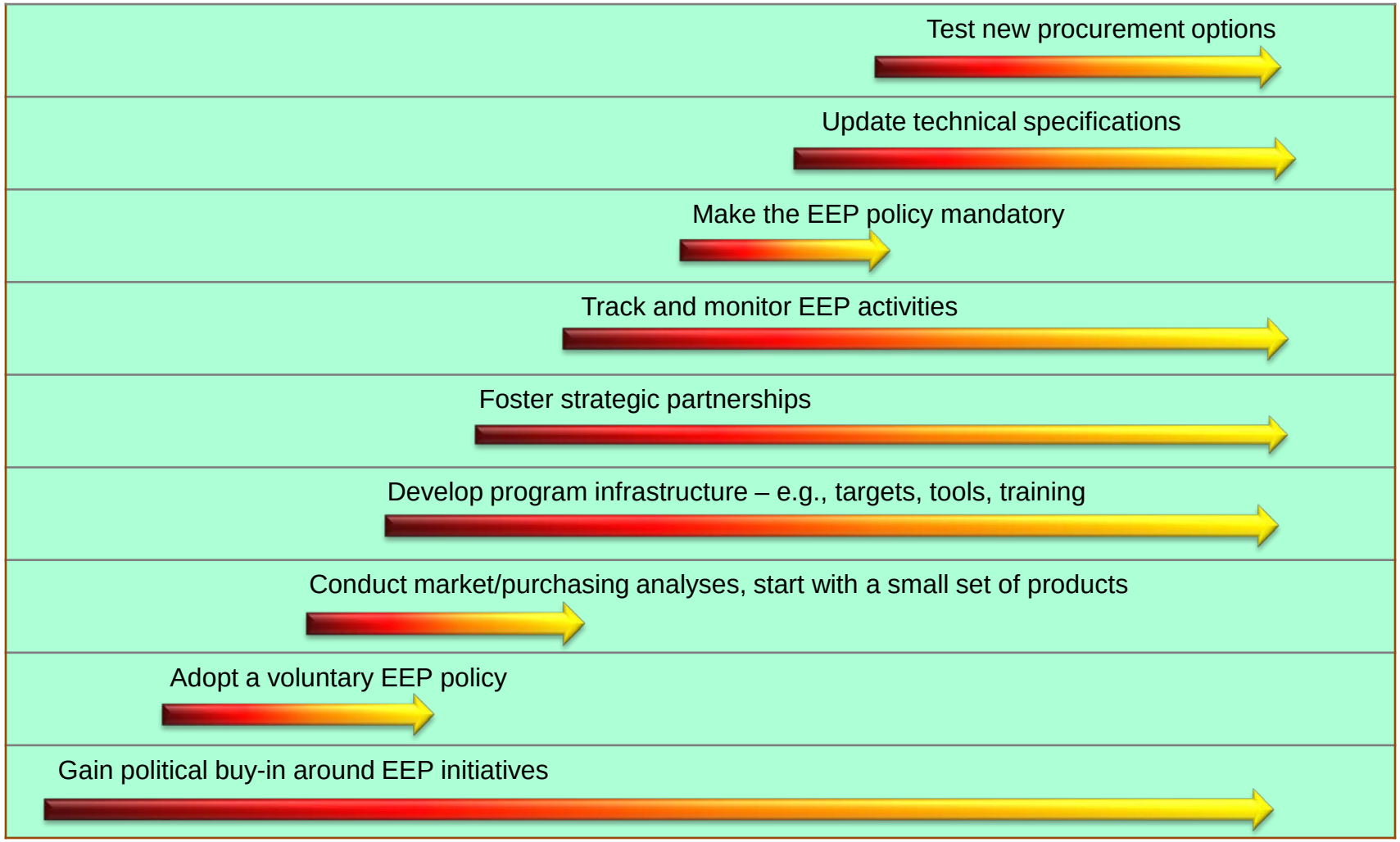
Key recommendations (part 1)

EEP Component	Recommendations
Policy	• Adopt EEP policies with proper resources, targets • Make EEP the “default” option
Tools	• Create and disseminate tools to keep transaction costs low
Institutional Arrangements	• Establish EEP program infrastructure, with roles, responsibilities, accountability • Engage procurement, energy/environment, maintenance staff
Product Testing & Certification	• Appoint credible testing labs/certification bodies • Use other jurisdiction’s EE labels if none exist locally • Spot check products if manufacturers self-certify • Start with simpler, common products • Update standards over time
Outreach & Training	• Launch aggressive outreach/training to ensure buy-in • Target purchasing agents and key product end-users

Key recommendations (part 2)

EEP Component	Recommendations
Incentives and Behavior	• Create mix of obligatory and voluntary measures (e.g., competitions, recognition) • Focus on long-term, sustained cultural changes • Require reporting and targets to help ensure participation
Partnerships	• Collaborate/consult with other jurisdictions, NGOs, business on certification, outreach, behavior change • Consider cooperative purchasing initiatives with others to reduce costs
Tracking & Reporting	• Develop compliance & results reporting plan with indicators • Use e-procurement, vendor reporting to help track purchases • Evaluate program periodically to assess program impacts and effectiveness
Alternative EEP Options	• Consider testing innovative schemes (e.g., output-based procurement, ESCOs, performance-based warranties) to promote further EE gains

Getting started



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Why should the Bank care?

- Bank operations purchase ***large quantities of energy-using equipment*** (e.g., water/steam pumps, lighting, vehicles, office/hospital equipment, etc.)
- Bank projects will procure ~***100 million CFLs*** [*global market in 2004 was 1.25B*]
- Bank procurement allows for life-cycle costing, but ***LCC is rarely used***
- Bank procurement does not lead markets; most equipment manufacturers ***do not offer highest efficiency equipment*** for Bank tenders, due to focus on lowest cost
- This creates ***vicious cycle*** of perceived lack of demand and supply

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What are the issues?

- ***Transaction costs*** for developing technical specifications is high, resulting in older specs being reused
- Lack of ***global testing and certification*** regimes make quality assurance difficult
- Limited ***technical capacities of local PIUs*** make more complex evaluations more time consuming and potentially subject to abuse
- Client concern over ***higher upfront costs***, given that many public sector agencies are subject to ***low energy pricing***
- Behavioral biases favor ***conventional practices***
- New approaches may require changes in budgeting, procurement, etc. and create ***new risks***

What can Bank TTLs do?

✓	Identify the main energy-using goods that your project expects to purchase
✓	Develop minimum EE performance requirements and verify that there are sufficient qualified suppliers
✓	Conduct LCC analyses to assess the cost-effectiveness of various technologies/ models to select the one with the lowest overall costs
✓	Prepare bidding documents; require equipment certification or commission testing to ensure compliance with the technical specifications
✓	Monitor the energy savings and, if satisfied, disseminate the specifications to other Units, ministries

Thank you!

For more information,

please visit: www.esmap.org

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