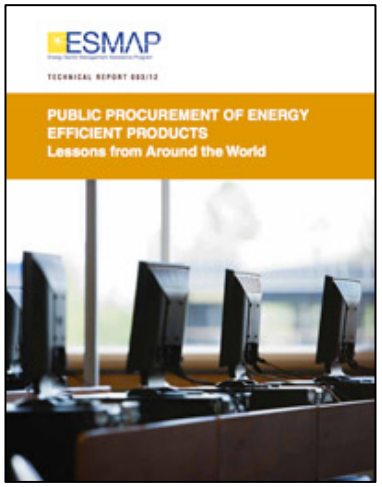
Public Procurement of Energy-Efficient Products

Lessons from Around the World



RPN Webinar

February 20, 2013

RPN

www.ResponsiblePurchasing.org

Questions?

Submit questions by typing them into the Questions box in your GoToWebinar application.

We will compile and answer them during the Q&A at the end of the webinar.

Agenda

1. Welcome and Introduction
2. Jas Singh, World Bank
3. Una Song, U.S. EPA ENERGY STAR Program
4. Jonathan Rifkin, DC Office of Contracting & Procurement
5. Q&A

Introduction

Alicia Culver
Executive Director
Responsible Purchasing Network

Public Procurement of Energy-Efficient Products

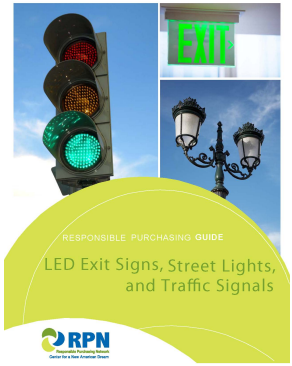
February 20, 2013

Who is RPN?

International Network

- State and local governments
- Federal agencies
- Colleges and universities
- School districts
- Businesses
- Nonprofit organizations
- Faith-based organizations

RPN Resources



- *Responsible Purchasing Guides* for 15 product categories

- Webinars on "green" procurement issues
- Quarterly newsletter highlighting "green" purchasing activities and resources

- Sustainable purchasing policies and specifications

- *Model Responsible Purchasing Report*
- Calculators and other tools

Why Does Energy Efficiency Matter?

- **Measurable environmental benefits**

- **Cost savings (typically on a life-cycle basis)**

Growing # of EE Procurement Policies

State of New York

Executive Chamber

Printer-friendly version

中文 | Español | Français | Kreyòl Ayisyen | Italiano | 한국어 | Русский

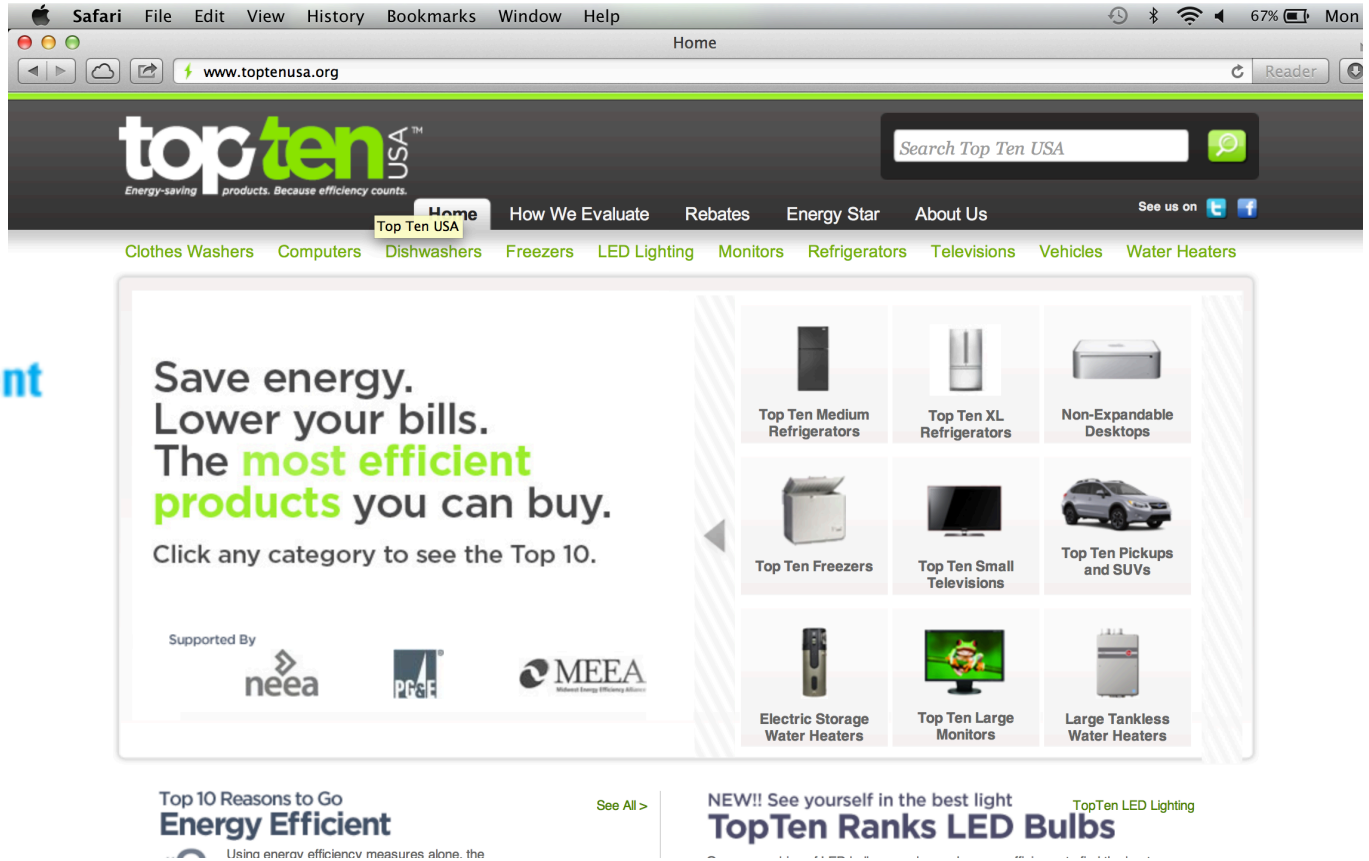
DIRECTING STATE AGENCIES AND AUTHORITIES TO IMPROVE THE ENERGY EFFICIENCY OF STATE BUILDINGS

WHEREAS, New York is dedicated to the mutually compatible goals of environmental protection, energy security, and economic growth; and

WHEREAS, increasing energy efficiency has been identified as among the most cost-effective methods for reducing greenhouse gas and other environmental pollutant emissions and increasing energy security; and

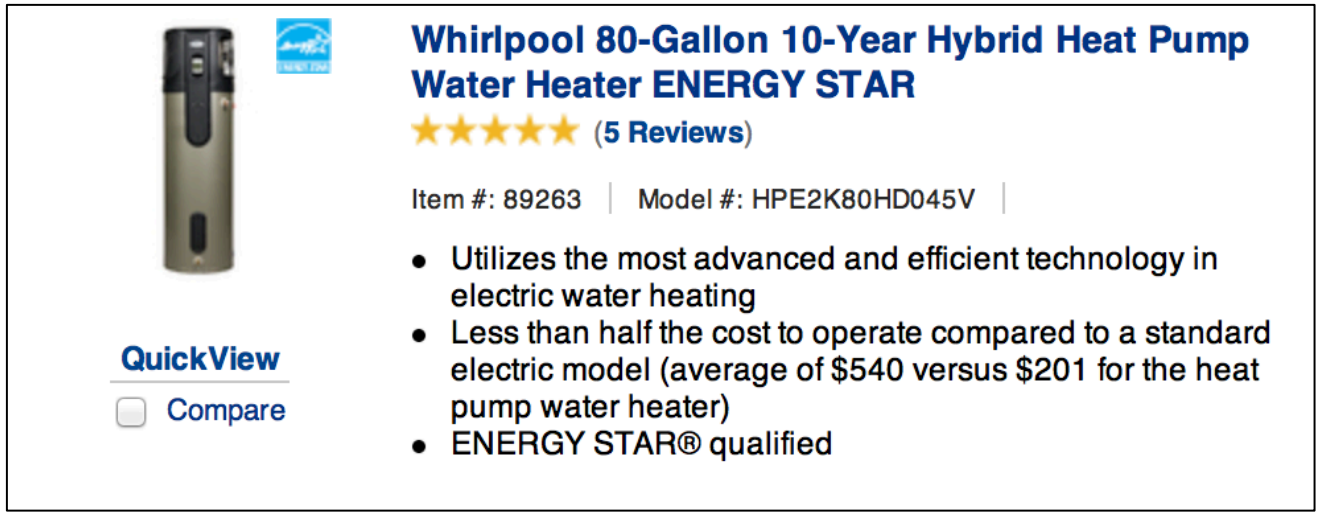
WHEREAS, increasing energy efficiency can lead to increased jobs and a reduction in building operating expenses; and

New Tools for Identifying Most Efficient Products



ENERGY STAR Most Efficient 2013 www.energystar.gov

More Effective EE Product Labeling Systems



Questions?
Comments?

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PUBLIC PROCUREMENT OF ENERGY EFFICIENT PRODUCTS

Lessons from Around the World

ESMAP
Energy Sector Management Assistance Program

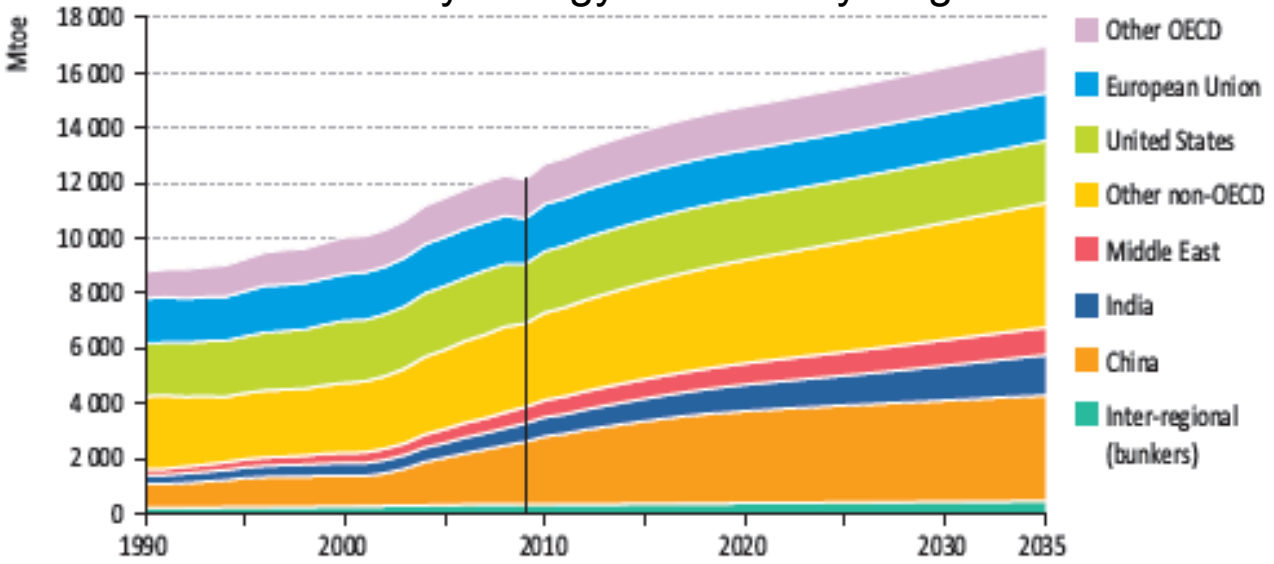
Jas Singh, Senior Energy Specialist

RPN Webinar • February 20, 2013

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

World Primary Energy Demand by Region

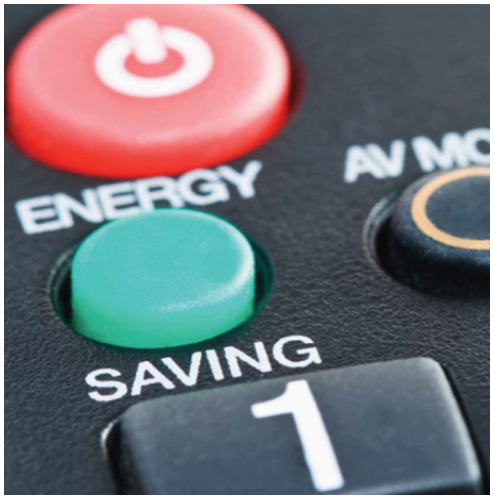


Source: IEA, 2011

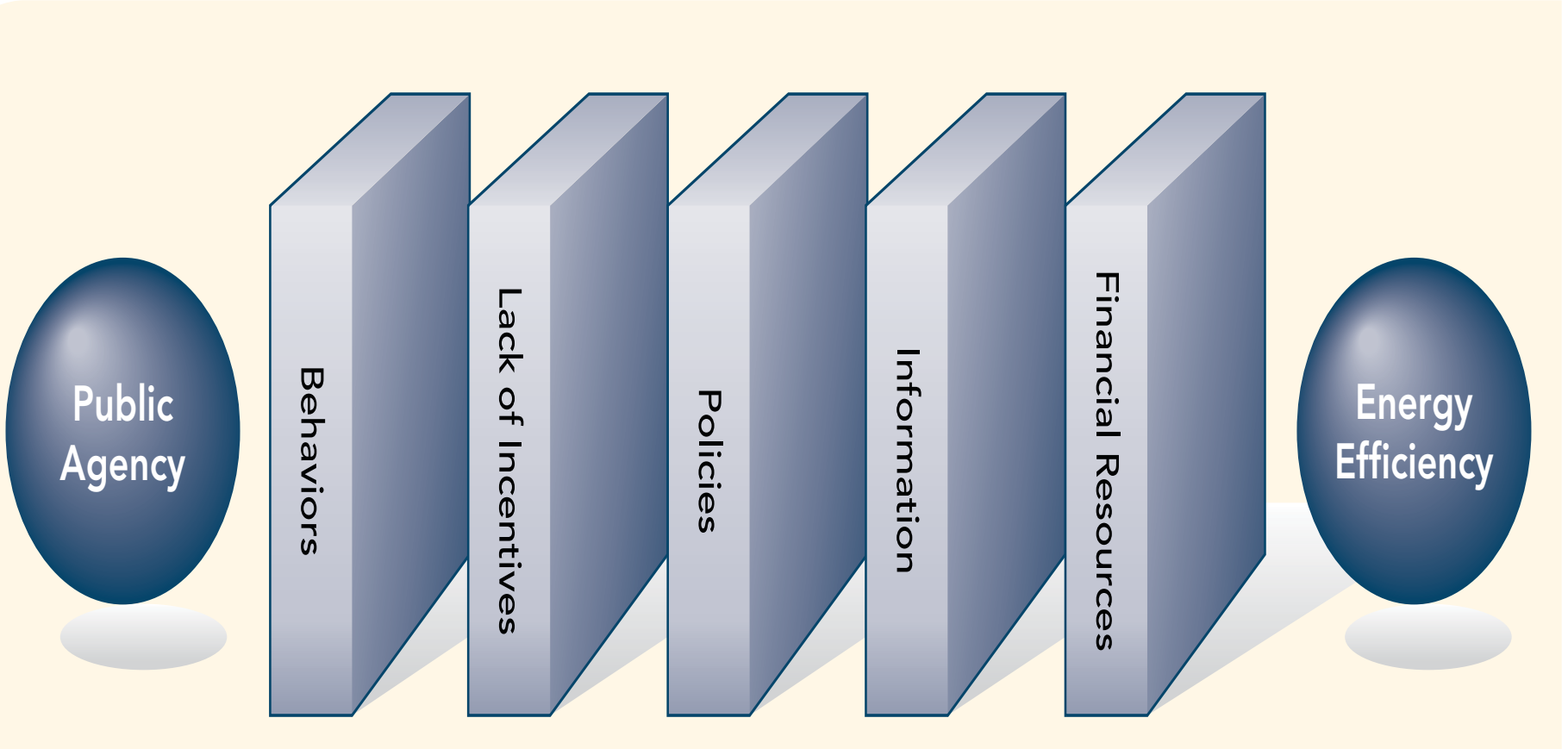
ESMAP
The Energy Sector Management Assistance Program

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



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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

ESMAP
The Energy Sector Management Assistance Program

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)

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

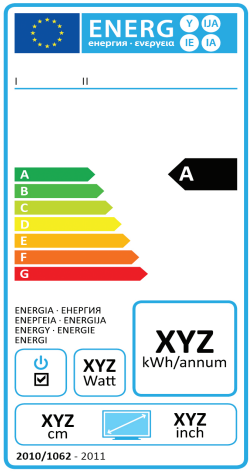
Poll Question #1

- Which program models has your jurisdiction or organization used to support energy-efficient procurement?

VOTE NOW

EE Labels

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



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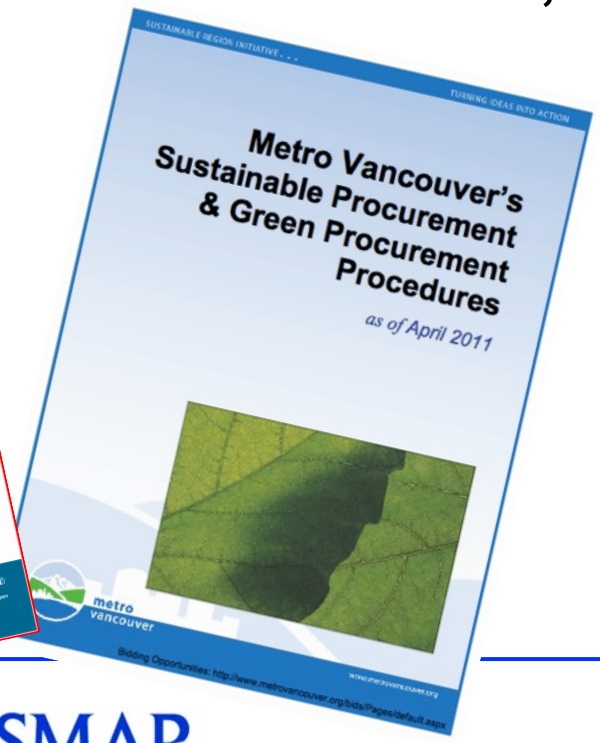
Catalogues of technical specs

- 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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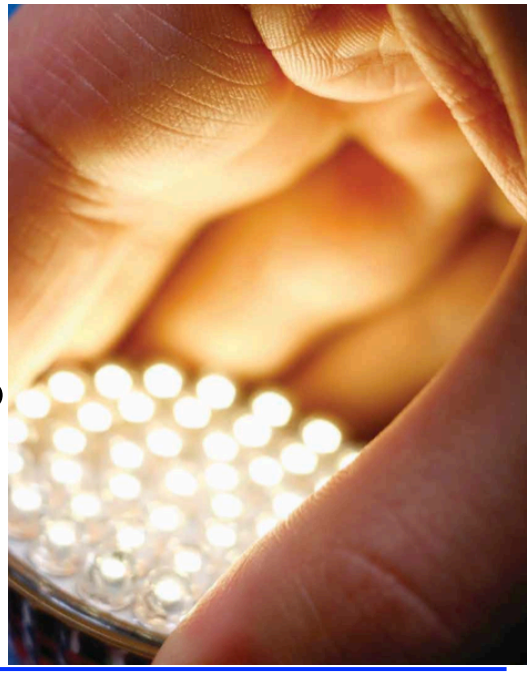
EE preferences

- **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	Key Issues
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

Alternative procurement strategies

Barriers	Inaccurate LCC	Changing products	Proprietary technologies	Performance Risk
LCC analysis by bidders	✓	✓	✓	
Output-based procurement	✓	✓	✓	
Product competition		✓	✓	
Energy use warranties				✓
Performance-based warranties				✓
Energy supply contracting	✓	✓	✓	✓
ESPCs	✓	✓	✓	✓

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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

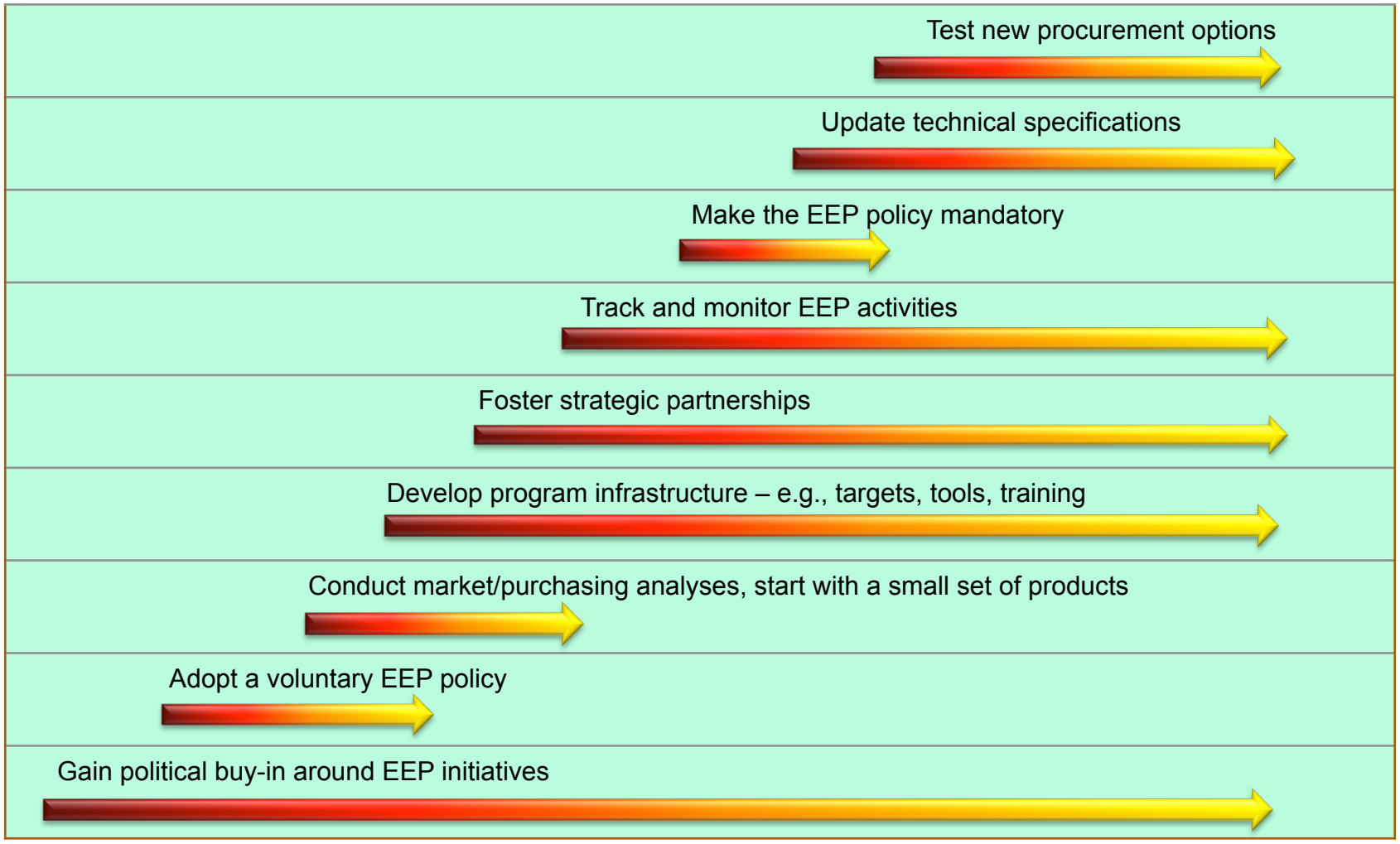
Key recommendations (part 1)

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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Key challenges ahead

- ***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 counterparts*** make more complex evaluations more time consuming and potentially subject to abuse
- Country concerns over ***higher upfront costs***, given that many public agencies subject to ***low energy pricing***
- Behavioral biases favor ***conventional practices***
- New approaches may require changes in budgeting, procurement, etc. and create ***new risks***

How can RPN network help? (ideas for discussion)

✓	Share best practice EE technical specs for key equipment, w/ LCC analyses
✓	Pilot some alternative procurement methods and document experiences, lessons and results for dissemination
✓	Foster harmonization of testing protocols, standards and labels
✓	Offer suggestions to ongoing Bank procurement review at: http://go.worldbank.org/KVOEGWC8Q0

Thank you!

For more information, please visit:
www.esmap.org

Jas Singh
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Email: jsingh3@worldbank.org

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The Energy Sector Management Assistance Program

ENERGY STAR Update

Una Song
U.S. EPA, ENERGY STAR Program

February 2012

What Is ENERGY STAR?

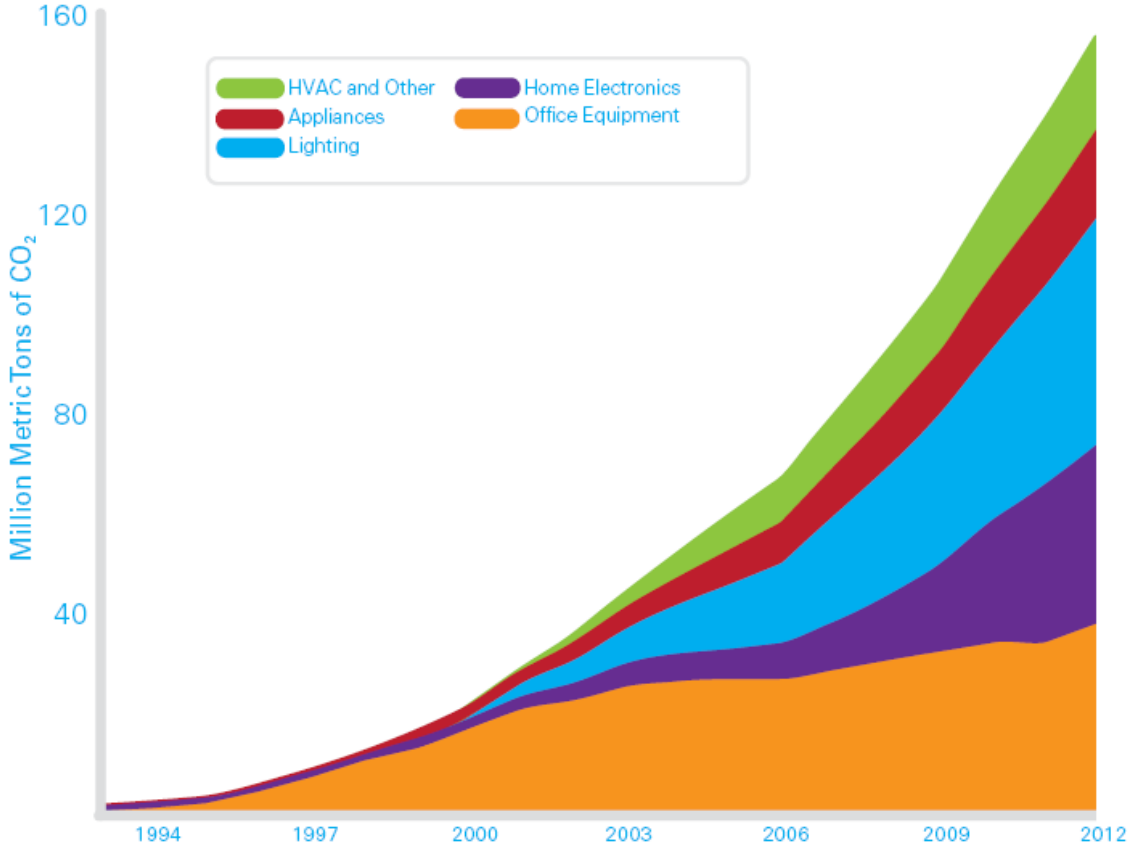
- Voluntary labeling program managed the U.S. Environmental Protection Agency (EPA)
- Strategic approach to energy management, promoting energy efficient products and practices
- Tools and resources to help save money and protect the environment
- Influential brand recognized by over 80 percent of Americans

EPA

Celebrating 20 Years of ENERGY STAR

Environmental Results

Annual Greenhouse Gas Emissions Avoided



As of 2012, EPA estimates that ENERGY STAR products prevent more than 150 million metric tons of greenhouse gas emissions annually. More than 200 billion kilowatt-hours (kWh) of electricity is saved per year, which represents 15 percent of U.S. residential electricity use. These savings have offset the need for more than 185 additional power plants.

Key Guiding Principles for Specifications

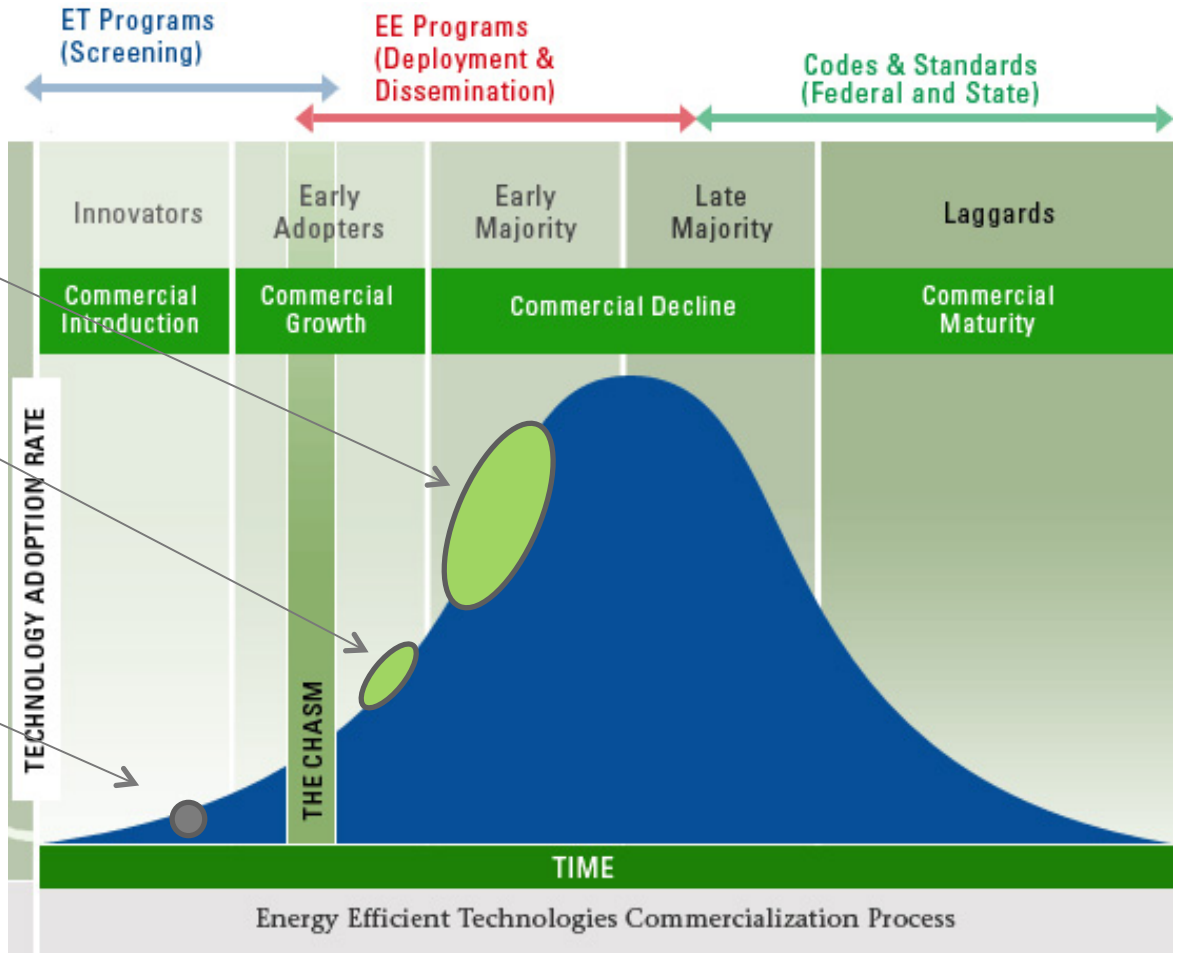
- Significant energy savings
- Product performance can be maintained or enhanced
- Cost-effective
- Energy-efficiency can be achieved through one or more technologies
- Product energy consumption and performance can be measured and verified with testing

ENERGY STAR Most Efficient

ENERGY STAR

ENERGY STAR:
Most Efficient

ENERGY STAR:
Emerging Tech



Main Program Elements

- Specifications
  - ENERGY STAR
  - Federal Energy Management Program
- Implementation Support
  - Working Groups
  - Tools
  - Purchasing vehicles

Poll Question #2

- Do you leverage ENERGY STAR in your purchasing policies or contracts?

VOTE NOW

Best Practices

- Tools
  - Product specifications
  - Product lists
  - Acquisition guidance
  - Training
  - Energy savings calculators
  - Sample procurement language
  - Case Studies – Best Practices
- Purchasing Vehicles
  - GSA Advantage – environmental aisle
  - DOD Emall
  - GSA Multiple Award Schedules
  - Blanket Purchase Agreements
- Working groups
  - Interagency Energy-Efficient Product Procurement
  - Federal Electronic Stewardship

International Objectives

- Committed to current International agreements
  - Engaged with partner countries on US ENERGY STAR efforts with enhanced testing and verification
  - Interest from many countries to recognize international-based certification programs
- Enhance other ENERGY STAR relationships
  - contributing to high-profile international energy efficiency projects
  - sharing successful approaches and best practices
- Continue to pursue test procedure harmonization
  - providing in-depth coordination with countries that are developing new/revised product standards

Thank you

Una Song

US EPA

ENERGY STAR program

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Operationalizing Green Purchasing in an Institutional Purchasing Environment

The Government of the District of Columbia

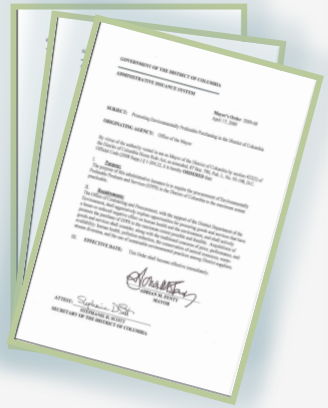
Jonathan Rifkin

Green Purchasing Coordinator

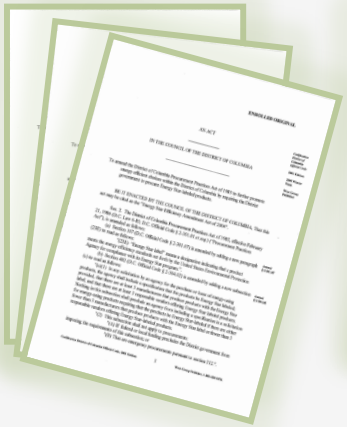
Green Purchasing: Where We've Been

Policy, Mayoral Orders & Legislation:

OCP EPP Policy 1303

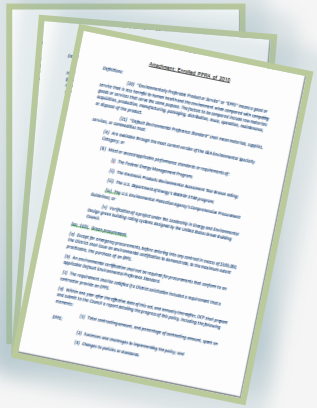


Mayoral Order 2009-60



Energy Efficiency Amendment Act

LEED Building Act



PPRA Section 1101

Though well intentioned, existing policies are overly vague, under resourced, and generally lost in glare of competing priorities.

Green Purchasing: Where We've Been

Following issuance of PPRA OCP took all "practicable" steps to comply with Section 1101.

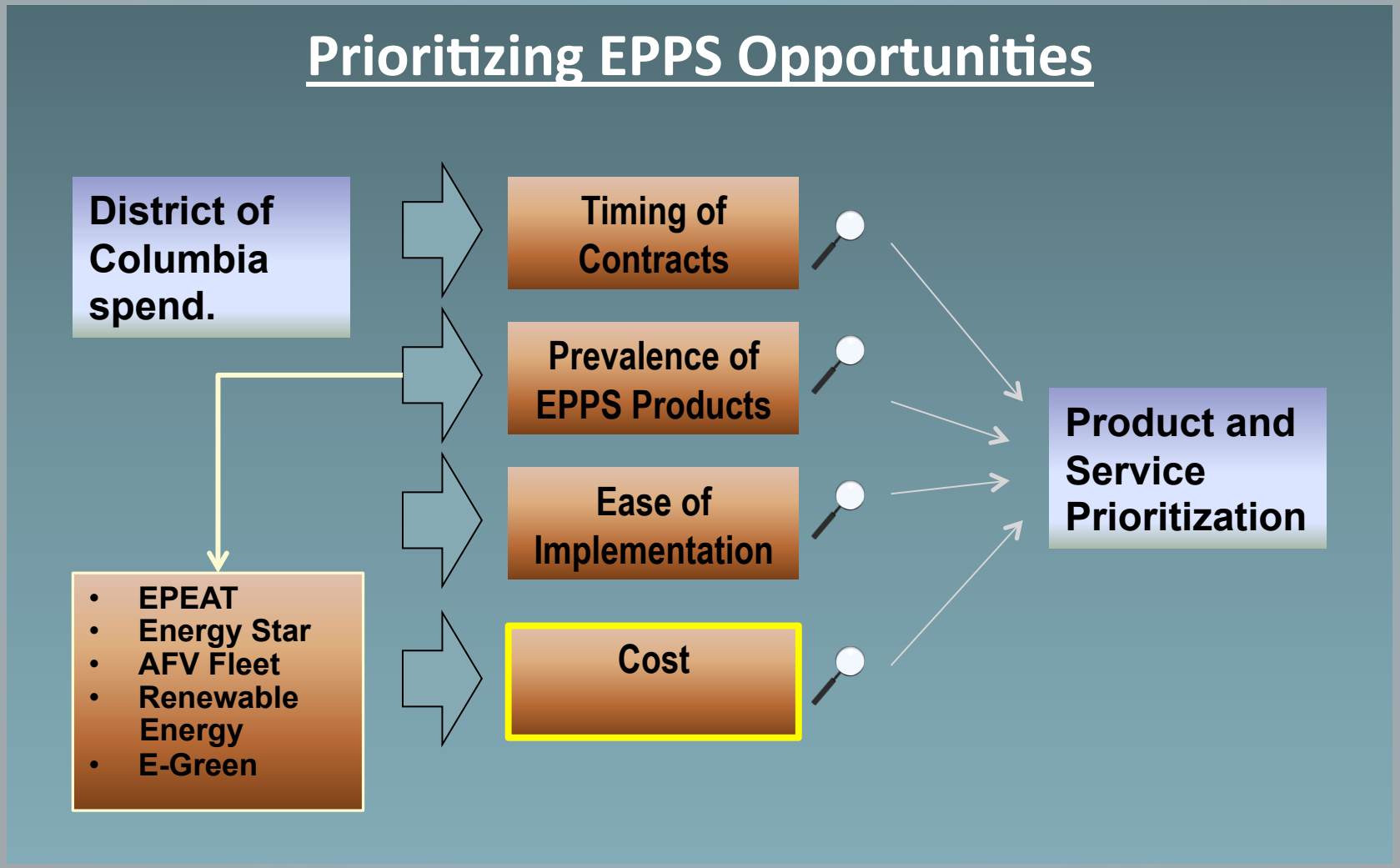
Section 1101. OCP Shall (Summarized):
For all contracts over $100K:

- Apply an "Environmental Certification" to all contracts and/ or,
- Require use of "Default Environmental Standards" in the solicitation, and,
- Submit a Green Spend Report to Council annually, that provides: Total "Green" spend, successes and challenges to implementing the policy, and changes to policy or standards.

FY 2010-11 Green Initiatives

- Created and convened Green Procurement Team – OCP Serviced Agencies participated monthly.
- Conducted prioritization exercise to maximize initial impact of efforts.
- Developed "Environmental Analysis" to serve as proof of PPRA required "Environmental Certification."
- Piloted Contract Expiration Reviews.
- Compiled and submitted FY2011 Green Purchasing Report to council, with $44.7M in substantiated green spend reported.

Prioritization & Environmental Analysis



Prioritization & Environmental Analysis

Prioritized Products and Service receive an Environmental Analysis. What is an Environmental Analysis?

<u>Environmental Analysis</u>

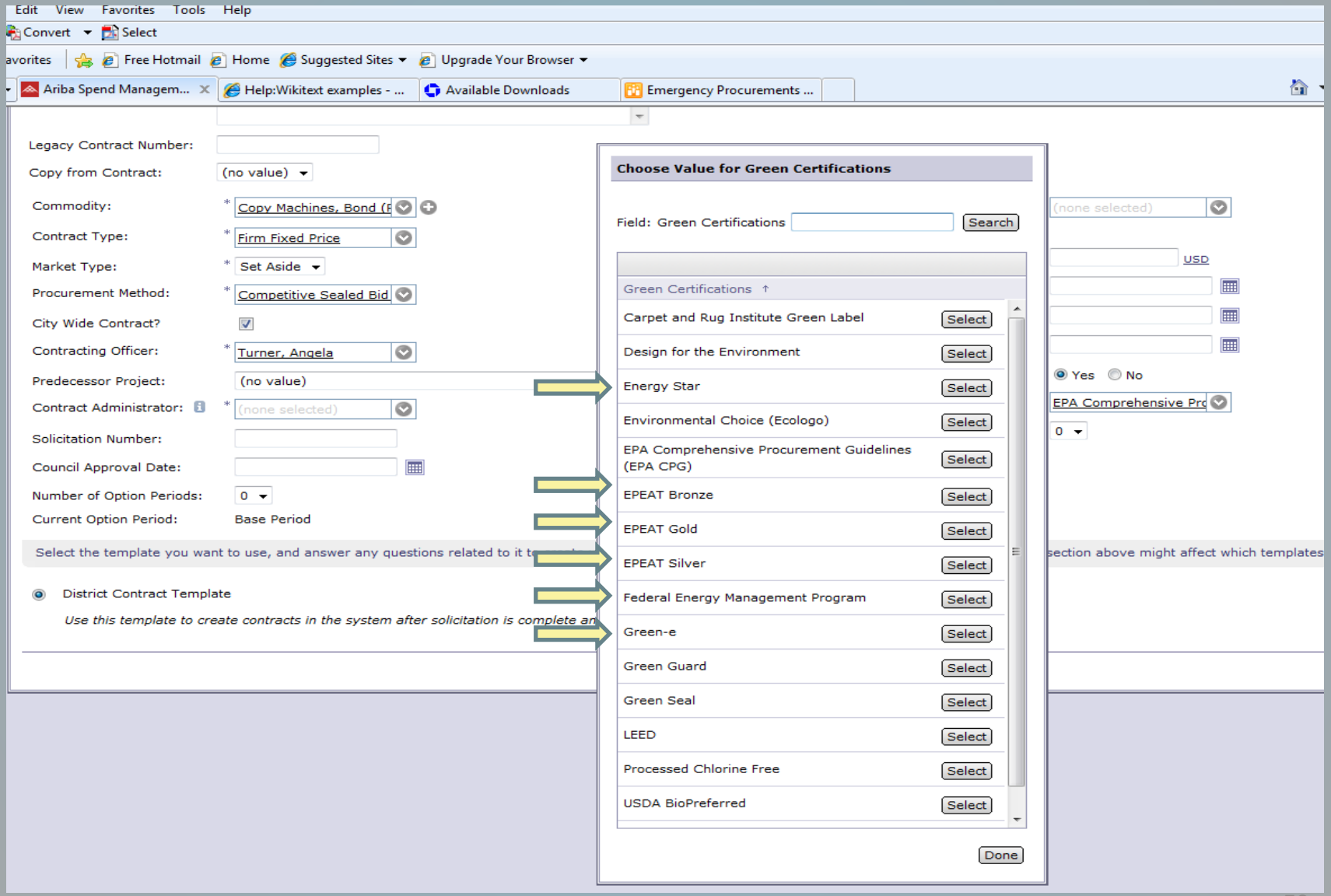
- GSA Recognized Standards and Certifications.
- Successful specs endorsed by other jurisdictions.
- Options available via the local marketplace.
- End-user comfort with the specification: Performance.
- Cost.

Poll Question #3

- How does your organization track purchases of energy-efficient products?

VOTE NOW

New Tracking Mechanisms



Lessons Learned Inform New Initiatives

- ✓ Harness the political power of the small business community.
- ✓ Standards and certifications are a keystone of any program.
- ✓ Political will must be strong and conveyed from top-down. Agency and stakeholder buy-in is essential.
- ✓ Dedicated resources are necessary to realize goals of the program.
- ✓ DC needs a precise definition for specific green products that is developed with the input of diverse stakeholders.
- ✓ Green considerations will never be "institutionalized" if decision points are not baked into procurement process.

Mayor's Green Purchasing Program

OCP and DDOE were awarded a grant as part of the Mayor's SDCBC to develop a more robust Green Purchasing Program for the City.

The Green Purchasing Program

1) Establish definitive "green" specifications with the input of relevant stakeholders.

2) Re-engineer purchasing policies and procedures so that "green" considerations are routinely embedded into the solicitation process, and,

3) Train key procurement stakeholders in how to pursue environmentally preferable products early in the solicitation process per new green definitions and purchasing procedures.

Thank You for Attending RPN's Webinar on Public Procurement of Energy-Efficient Products: Lessons from Around the World

Questions? Comments?