U4E Sustainable Public Procurement (SPP)

Workshop on New SPP Toolkit Asia Pacific

03 June 2021
09:00-10:30 Paris, France (UTC+2)
Learning Objectives

**General**

- Understand how the newly-developed UNEP SPP Toolkit can help you to procure sustainable lighting and cooling products.

- Comprehend the main features of the UNEP SPP Toolkit, its integrated purchasing process approach and how it feeds into the existing UNEP SPP Implementation Guidelines.

**Specific**

- Understand the key sustainability aspects of cooling and lighting products from a procurement perspective.

- Become familiar with the main challenges and opportunities of SPP cooling and lighting projects to facilitate SPP decision-making and implementation.

- Understand the criteria to assess the ESG risks of vendors, and how these can be incorporated into the standard set of vendor criteria.

- Become familiar with technical specifications and award criteria for SPP cooling and lighting products.

- Become aware of existing and planned SPP resources, including SPP Procurement Guidelines, and Green Public Procurement Technical Guidelines and Specifications.
15:00 - 15:15  Welcome and introductory survey
15:15 - 15:30  Key Sustainability Aspects, Barriers
15:30 - 15:50  Open Discussion – Procurement Models
15:50 - 16:10  The Different Delivery Models
16:10 - 16:25  Proposed Technical Specifications & Approaches, and ESG
16:25 - 16:30  Conclusions & wrap-up
Welcome
Meet the U4E team

Management and Core Team

Miriam HINOSTROZA  
Senior Programme Management Officer

Paul KELLETT  
Programme Management Officer

Brian HOLUJ  
Programme Management Officer

Patrick BLAKE  
Programme Management Officer

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Energy Efficiency Specialist

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Energy Efficiency Specialist

Souhir HAMMAMI  
Energy Efficiency Specialist

Hao WU  
Energy Efficiency Specialist

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Energy Efficiency Specialist

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Alexandra KAREKAHO  
Programme Management Officer, UNEP Caribbean

Regional Office Collaboration

Sudhir SHARMA  
Programme Management Officer, UNEP Asia Pacific

Mohammed ANGAWI  
Programme Management Officer, UNEP West Asia

Dolores BARRIENTOS  
Representative Officer, UNEP Mexico
1. Which procurement activities are you currently working on or recently completed? Indicate all that apply

<table>
<thead>
<tr>
<th>Activity</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street lighting</td>
<td>5</td>
</tr>
<tr>
<td>Indoor lighting</td>
<td>1</td>
</tr>
<tr>
<td>Air conditioning - single units (split type)</td>
<td>1</td>
</tr>
<tr>
<td>Air conditioning - centralised system</td>
<td>1</td>
</tr>
<tr>
<td>Refrigerators</td>
<td>5</td>
</tr>
<tr>
<td>Vehicles</td>
<td>4</td>
</tr>
<tr>
<td>Computers</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
</tr>
</tbody>
</table>

2. Which procurement processes are you anticipating in the next year or so?

- Expansion on green specifications so people may procure more green it...
- "Shopping"
- "Unsure"

3. Which capacity constraints do you face? Indicate all that apply

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>No time to organize SPP process.</td>
<td>0</td>
</tr>
<tr>
<td>Unfamiliar with the development of Life Cycle Cost assessments</td>
<td>5</td>
</tr>
<tr>
<td>Unfamiliar with the technical characteristics of sustainable products</td>
<td>5</td>
</tr>
<tr>
<td>Lack of legal and financial experience on alternative procurement options (beyond budget allocations).</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
</tbody>
</table>
Public Procurement

Relevance

Transforming appliances market

- 23% GDP
  Government expenditure in ASEAN countries

- Retailers favor import of low-cost (outdated) technologies

- 2-3 years
  Payback for extra cost of an efficient AC

- SPP can build upon existing legislation: MEPS & Labels, Kigali amendment, NDCs, etc.
SPP Toolkit

Approach

Integrated purchasing process

Legislation framework
- International: NDC, Kigali, ILO, etc.
- National: Public finances & procurement

Financing models
- “Regular” capex procurement
- Alternative delivery models

Sustainability requirements
- Product: primarily environmental
- Supplier: primarily social & governance

Soft factors
- Additional community benefits
- Political buy-in

Toolkit includes:
Assessment document & Excel worksheet
Key Sustainability Aspects, and Barriers
## Three Sustainability Aspects

### Overview of considerations

<table>
<thead>
<tr>
<th>Assessment areas</th>
<th>Environmental</th>
<th>Social</th>
<th>Economic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone depletion</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct GHG emissions</td>
<td>Medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indirect GHG emissions</td>
<td>Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazardous substances</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste minimisation</td>
<td>Medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light pollution</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effect of lighting and cooling on quality of life</td>
<td>Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worker rights</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budget implications</td>
<td>Medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local job creation</td>
<td>High</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Influencers

<table>
<thead>
<tr>
<th>Influencers</th>
<th>Product</th>
<th>Vendor/Manufacturer</th>
<th>Delivery model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Social</td>
<td>Low</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Economic</td>
<td>High</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

- GPP Technical guidelines and specifications
- Toolkit & GPP Technical guidelines and specifications
- Toolkit
### Three Sustainability Aspects

#### International conventions

<table>
<thead>
<tr>
<th>Convention / Agreement</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental</strong></td>
<td></td>
</tr>
<tr>
<td>Montreal Protocol – Kigali amendment</td>
<td>HFC phasedown – Sets targets &amp; timelines for reducing the consumption and production of hydrofluorocarbons (HFCs)</td>
</tr>
<tr>
<td>UNFCCC - Paris agreement</td>
<td>Nationally Determined Contributions - Individual national targets on Greenhouse Gas emissions reduction.</td>
</tr>
<tr>
<td>Stockholm convention</td>
<td>Prohibit and/or eliminate the production and use, as well as the import and export, of the intentionally produced Persistent Organic Pollutants.</td>
</tr>
<tr>
<td>Minamata convention</td>
<td>Phase out and phase down of mercury in a number of products and processes, amongst other measures.</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td></td>
</tr>
<tr>
<td>International Labour Organization</td>
<td>189 conventions and treaties promoting decent work.</td>
</tr>
<tr>
<td><strong>Economic</strong></td>
<td></td>
</tr>
<tr>
<td>UNCITRAL model law on public procurement</td>
<td>Model law on public procurement aimed at assisting states in formulating modern procurement regulations.</td>
</tr>
<tr>
<td>International Financial Reporting Standards</td>
<td>Standard way of describing the institution's financial performance and position</td>
</tr>
</tbody>
</table>

*This list does not mean to be exhaustive. It covers most relevant examples*
## Barriers to SPP

### The Problem

<table>
<thead>
<tr>
<th>Financial Barriers</th>
<th>Awareness barriers</th>
<th>Capacity barriers</th>
<th>Regulatory barriers</th>
</tr>
</thead>
</table>
| • Higher initial cost | • Business as usual momentum | • Public entities:  
  o Lack of personnel  
  o Lack of knowledge / training | • Vendors:  
  o Limited experience with newer technologies (e.g. hydrocarbon refrigerants)  
  o Unadapted business models |
| • Competing projects | • Lack of reliable data and comparability between products | | • For all delivery models:  
  o Rigid procurement regulations  
  o Lack of standards |
| • Limited revenue-generating capability | • Inadequately informed of sustainable technologies and pros / cons | • For alternative delivery models:  
  o Limited financial commitments  
  o Accounting regulations |
3 Delivery Models
From the Standard Project Development Model...

Overview

Characteristics

- Separates the technical process from the funding process
- Public institution’s funding availability and debt limitations are among the constraints
Delivery Models

**Standard Project development – own resources/grant funding**

- **Public entity**
  - Project to **Supplier / Installer**
  - ToR / specifications
  - Payment

**Own resources**

- **Grant provider**
  - Grant Funds to **Public entity**

- **Public entity**
  - Project to **Supplier / Installer**
  - ToR / specifications
  - Payment

**Grant Funding**
Delivery Models

Standard Project development – financing the end-client

Debt financing model
Delivery Models

ESCO model: performance guarantee – financing the end-client

Performance guarantee model

- Lender
- Public entity
- ESCO

Arrows indicating:
- Repayment
- Funds
- Project
- Performance guarantee
- Maintenance and M&V
- ToR / specifications
- Project payment
- M&V & maintenance payment
Some of the Benefits of “Asset-as-a-service:”

• With transfer of asset ownership, the government receives the rights and benefits of use without having to own and maintain the equipment.

• Allows the government or government-owned entities to have a reduced debt burden and tax liability.

• Facilitates project investment since there is no competition with CAPEX in the budgeting process.
ESCO model: Energy Services Agreement (ESA) / shared-savings

Delivery Models

Investor

ESCO

Public entity

Asset utilization service
Performance-based Service fee
Maintenance & M&V payment
Performance guarantee, maintenance & M&V service
Project payment
Asset ownership

ESA model with ESCO selling assets to investor
ESCO model: Managed Energy Services Agreement (MESA) – financing the ESCO

MESA model, with ESCO selling the assets to an investor
ESCO model: Managed Energy Services Agreement (MESA) – financing the ESCO

MESA model, including energy transformation, with ESCO selling the assets to an investor.
Survey & Open discussion

1. Which delivery models are available in your regulations? Indicate all that apply.
   - Self-developed project - budget financing
   - Self-developed project - dedicated financing (e.g. project finance, leasing)
   - ESCO model - performance guarantee
   - ESCO model ESA & similar (e.g. shared-savings, asset-as-a-service)
   - ESCO model MESA & similar (e.g. energy supply contracts)
   - Public-Private Partnership
   - Other

2. Which assessment models have you used in the past? Indicate all that apply.
   - Price-only
   - Price, once minimum technical criteria are met
   - Best value
   - Life Cycle Cost (LCC) assessment
   - Other

3. Which assessment models are available in your regulations? Indicate all that apply.
   - Price-only
   - Price, once minimum technical criteria are met
   - Best value
   - Life Cycle Cost (LCC) assessment
   - Other
## Advantages

### Delivery Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Keeps public entity in control of infrastructure</th>
<th>Lowest lifetime cost</th>
<th>Lower upfront cost</th>
<th>Easy-to-understand model</th>
<th>Less limited by the technical capability of the public entity</th>
<th>Performance risk transferred to ESCO</th>
<th>No upfront cost</th>
<th>Potential OpEx funding – Off-balance sheet and reduces tax liability</th>
<th>Bundles projects into a single funding recipient – scalable and attractive for financial institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard project development – own resources / grant funding</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard project development – debt funding</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>ESCO model, performance guarantee - financing the end-client</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>ESCO model shared savings - financing the ESCO</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>ESCO model, ESA/MESA – financing the ESCO</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</table>
## Delivery Models

### Disadvantages

<table>
<thead>
<tr>
<th>Model</th>
<th>Funding may be limited</th>
<th>Public entity keeps performance risk</th>
<th>Competition with other CapEx projects in annual budget</th>
<th>Requires technically competent project preparation</th>
<th>Requires a credit-worthy public entity that can raise debt.</th>
<th>On-balance sheet financing</th>
<th>Limited benefit for technically-competent entities</th>
<th>Higher costs due to continuous Monitoring &amp; Verification</th>
<th>Requires presence of ESCOs in the market</th>
<th>Requires sophisticated financial institutions that understand ESCO models</th>
<th>Public entity willing to transfer the operation of critical infrastructure to a private company?</th>
<th>Negative perception of new models by the general public?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard project development – own resources</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td></td>
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<tr>
<td>Standard project development - debt funding</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESCO model, performance guarantee</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
<td>X</td>
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<td></td>
</tr>
<tr>
<td>ESCO model ESA/shared savings</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESCO model, MESA</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Proposed Approach for Implementation

SPP Policy & Action Plan

- Execute entity interested in SPP
- Possible to standardize equipment criteria?
  - Yes: Develop "business case" to setup standard equipment SPP guidelines/criteria.
  - No: Project -by- project
- Budget funds available?
  - Yes: Allocate funds from budget
  - No: Split incentive Capex-Opex?
  - Yes: Assess inter-agency budget balancing mechanism
  - No: Build additional benefits in the project & prepare "business case". Consider other public entities and general public needs.
- Project includes additional benefits that make it broadly attractive?
  - Yes: Continue...
  - No: Continue...
Proposed Approach for Implementation (continued)

SPP Policy & Action Plan

1. Initiate external funding process
   - Yes
     - External funding possible? (grants/loans)
     - No
       - Park the project
     - Yes
       - ESCOs active in the market?
       - No
         - Park the project
       - Yes
         - Regulations allow multi-year contracts?
         - No
           - Investigate if feasible to update regulations
         - Yes
           - Regulations allow servitization models?
           - No
             - Investigate if feasible to update regulations
           - Yes
             - Develop tender with price+quality criteria using SPP technical criteria + option performance guarantee
   - No
     - Regulations allow LCC evaluation?
     - Yes
       - Develop tender with LCC evaluation criteria + option performance guarantee
     - No
       - Park the project
     - Yes
       - Regulations allow price+quality evaluation?
       - No
         - Park the project
       - Yes
         - Review conditions for accounting of ESA/MESA & develop tender

...continued
# Delivery Models - Examples

**Standard delivery model – own resources, sustainable AC policy**

## Air conditioning

### RESULTS

<table>
<thead>
<tr>
<th></th>
<th>BASELINE</th>
<th>SPP PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project costs</td>
<td>$3,440,000</td>
<td>$7,300,000</td>
</tr>
<tr>
<td>Initial investment</td>
<td>$3,440,000</td>
<td>$7,300,000</td>
</tr>
<tr>
<td>Lifetime costs (excluding externalities)</td>
<td>$115,692,895</td>
<td>$77,217,344</td>
</tr>
<tr>
<td>Lifetime externalities costs</td>
<td>$11,467,712</td>
<td>$6,137,323</td>
</tr>
<tr>
<td>Average annual savings in first 10 years SPP PROJECT vs BASELINE</td>
<td>$2,245,311 p.a.</td>
<td></td>
</tr>
<tr>
<td>IRR SPP PROJECT vs BASELINE</td>
<td>47.6%</td>
<td></td>
</tr>
<tr>
<td>Simple payback (net positive cumulative cash flow)</td>
<td>2.4 years</td>
<td></td>
</tr>
</tbody>
</table>

**Note**

BASELINE and SPP PROJECT financed with own resources

### PROJECT SETTINGS

- **Project type**: New installation
- **Remaining lifetime existing equipment**: 5 years (only replacement projects)
- **Annual active time**: 4973 h (weather dependent)
- **Equivalent Full Load Hours**: 2812 h (weather dependent)

### BASELINE vs SPP PROJECT

<table>
<thead>
<tr>
<th>Model</th>
<th>Units</th>
<th>Model</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5 kW - Non-MEPS new equipment -</td>
<td>4000</td>
<td>3.5 kW - M.Regs Intermediate E</td>
<td>4000</td>
</tr>
<tr>
<td>3.5 kW - Non-MEPS new equipment -</td>
<td>3000</td>
<td>3.5 kW - M.Regs Intermediate E</td>
<td>3000</td>
</tr>
<tr>
<td>5.3 kW - Non-MEPS new equipment -</td>
<td>2000</td>
<td>5.3 kW - M.Regs Intermediate E</td>
<td>2000</td>
</tr>
<tr>
<td>5.3 kW - Non-MEPS new equipment -</td>
<td>1000</td>
<td>5.3 kW - M.Regs Intermediate E</td>
<td>1000</td>
</tr>
</tbody>
</table>
Delivery Models - Examples

Standard delivery model – own resources, sustainable AC policy

CASE 2: Air Conditioning New installation.
Standard project development, own resources.

Cumulative life cycle costs

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

$0 $20,000,000 $40,000,000 $60,000,000 $80,000,000 $100,000,000 $120,000,000 $140,000,000

BASELINE
SPP PROJECT

Air conditioning
## Delivery Models - Examples

### ESCO model: MESA – financing the ESCO

**Street lighting replacement**

**“Lighting-as-a-service”**

<table>
<thead>
<tr>
<th>DELIVERY MODEL SETTINGS</th>
<th>BASELINE</th>
<th>SPP PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan tenor</td>
<td>0 years</td>
<td>7 years</td>
</tr>
<tr>
<td>Interest rate</td>
<td>0.0%</td>
<td>12.0%</td>
</tr>
<tr>
<td>Loan to project cost ratio</td>
<td>0.0%</td>
<td>70%</td>
</tr>
<tr>
<td>SPP PROJECT contract duration ESCO (same as loan tenor from FI)</td>
<td></td>
<td>7 years</td>
</tr>
<tr>
<td>SPP PROJECT interest rate (from FI to ESCO)</td>
<td></td>
<td>12.0%</td>
</tr>
<tr>
<td>SPP PROJECT loan to project cost ratio (from FI to ESCO)</td>
<td></td>
<td>70%</td>
</tr>
<tr>
<td>SPP PROJECT M&amp;V annual costs (between 2-5% depending on project size, guarantee type, etc.)</td>
<td></td>
<td>5% of savings</td>
</tr>
<tr>
<td>SPP PROJECT Safety margin on utility costs ESCO (between 5-15% depending on project &amp; guarantee)</td>
<td></td>
<td>5% of O&amp;M costs</td>
</tr>
<tr>
<td>SPP PROJECT Expected savings after performance period</td>
<td></td>
<td>90% of theoretical savings</td>
</tr>
<tr>
<td>SPP PROJECT Expected ESCO extra costs on installation (due to monitoring equipment, audits, etc.)</td>
<td></td>
<td>10% of standard costs</td>
</tr>
<tr>
<td>SPP PROJECT Expected ESCO return on its own equity (for non-100% financed projects)</td>
<td></td>
<td>20%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESULTS</th>
<th>BASELINE</th>
<th>SPP PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project costs</td>
<td>$0</td>
<td>$52,250,000</td>
</tr>
<tr>
<td>Initial investment</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Debt increase in balance sheet</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Lifetime costs (excluding externalities)</td>
<td>$723,962,134</td>
<td>$402,578,217</td>
</tr>
<tr>
<td>Lifetime externalities costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRR SPP PROJECT vs BASELINE</td>
<td></td>
<td>better cash flows SPP PROJECT since day 1</td>
</tr>
<tr>
<td>Simple payback (net positive cummulative cash flow)</td>
<td></td>
<td>0.0 years</td>
</tr>
</tbody>
</table>

Note: BASELINE case financed by external FI to public entity, ESCO MESA model financed by external FI to ESCO. Model includes Monitoring & Verification, utility and maintenance costs in service fee.
Delivery Models - Examples

ESCO model: MESA – financing the ESCO

Street lighting replacement

“Lighting-as-a-service”
Proposed Technical Specifications & Vendor/Manufacturer ESG risk assessment
## Proposed SPP Product Specifications

### Lighting – sample criteria

<table>
<thead>
<tr>
<th>Light Category</th>
<th>Street Lighting</th>
<th>Indoor Lighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Luminous Efficacy</strong></td>
<td>For luminaires ≤ 90W → ≥120 lm/W</td>
<td>≥ 110 lm/W for lamps</td>
</tr>
<tr>
<td></td>
<td>For luminaires &gt; 90W → ≥140 lm/W</td>
<td></td>
</tr>
<tr>
<td><strong>Equipment lifetime</strong></td>
<td>≥ 50,000h</td>
<td>≥ 20,000h</td>
</tr>
<tr>
<td>**Light spill (street)/</td>
<td>97% must fall within a downward angle of 75.5°</td>
<td>≤ 0.4</td>
</tr>
<tr>
<td>Stroboscopic Effect Visibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(SVM) (indoor)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fundamental power factor</strong></td>
<td>≥ 0.9</td>
<td></td>
</tr>
<tr>
<td><strong>Mercury content</strong></td>
<td></td>
<td>No mercury</td>
</tr>
<tr>
<td><strong>Repairability</strong></td>
<td>Feasible and practical to access components. Components must be accessible and removable.</td>
<td></td>
</tr>
</tbody>
</table>

### Available resources:
- SPP Toolkit (includes proposed Award Criteria)
- GPP Technical Guidelines and Specifications
- U4E Model Regulations
### Proposed SPP Product Specifications

#### Room Air Conditioners – sample criteria

<table>
<thead>
<tr>
<th></th>
<th>Room Air Conditioners</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cooling capacity</strong></td>
<td>&lt; 16kW</td>
</tr>
<tr>
<td><strong>Refrigerant</strong></td>
<td>GWP limit of 750 (ductless split) ODP limit of 0</td>
</tr>
<tr>
<td><strong>Energy Efficiency</strong></td>
<td>“Intermediate” efficiency grade according to the U4E model regulations.</td>
</tr>
<tr>
<td><strong>Recycled Plastic Components</strong></td>
<td>Designed to be recycled, with ≥ 80% recycled plastic components</td>
</tr>
<tr>
<td><strong>Packaging</strong></td>
<td>Made of recycled or biodegradable materials</td>
</tr>
<tr>
<td><strong>Paint</strong></td>
<td>No heavy metals nor their compounds (mercury, lead, cadmium, chromium)</td>
</tr>
</tbody>
</table>

#### Available resources:
- SPP Toolkit (includes proposed Award Criteria)
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Proposed SPP Product Specifications

Refrigeration – sample criteria

<table>
<thead>
<tr>
<th>Refrigerant</th>
<th>Refrigerating appliances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refrigerant</td>
<td>GWP limit of 20 ODP limit of 0</td>
</tr>
<tr>
<td>Energy Efficiency</td>
<td>Target efficiency class corresponding to the ca. 20% most energy efficient models in the market</td>
</tr>
<tr>
<td>Spare parts</td>
<td>The manufacturer/supplier should ensure availability of spare parts, even when the model is no longer in the market.</td>
</tr>
<tr>
<td>Packaging</td>
<td>Minimum possible to facilitate handling the equipment and it should be recyclable.</td>
</tr>
</tbody>
</table>

Available resources:
- SPP Toolkit (includes proposed Award Criteria)
- GPP Technical Guidelines and Specifications
- U4E Model Regulations
# ESG Risk Assessment

## Of Vendors and Equipment Manufacturers

<table>
<thead>
<tr>
<th></th>
<th>Vendors</th>
<th>Equipment Manufacturers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental</strong></td>
<td>Hazardous Substance Management</td>
<td>Hazardous Substance Management, Ozone Depletion, Pollution, Environmental Management Standard Certification.</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td>Labor Laws, Employee Health and Safety (including training), and non-discriminatory employment practices.</td>
<td>Labor Laws, Employee Health &amp; Safety, and non-discriminatory employment practices.</td>
</tr>
<tr>
<td><strong>Governance</strong></td>
<td>Tax Compliance, Sanctions lists.</td>
<td>Sanctions lists.</td>
</tr>
</tbody>
</table>
Examples of remote technical assistance for a selected project could include:

✓ Evaluation of possible delivery models.
✓ Preparation of business cases.
✓ Integration of sustainability criteria within existing procurement processes.
✓ Ad-hoc support on implementation of Toolkit.
5 Conclusion and Wrap-up

Expect Follow-up Survey
Thank you!

TRANSFORMING MARKETS TO ENERGY-EFFICIENT PRODUCTS

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