Unlocking Financing with Energy Efficiency Baselines

International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL)

6-8 November 2019

Patrick Blake, UN Environment Programme (UNEP)
United for Efficiency – Leapfrogging to Energy-Efficient Lighting, Appliances and Equipment

• Launched United for Efficiency (U4E) in 2014 at the UN Secretary General’s Climate Summit.

• The Programme combines the forces of the private and public sectors on high impact opportunities – lighting, appliances and equipment.

• Supports the second goal of the UN Secretary General’s SE4ALL initiative: to double the global rate of improvement in energy efficiency.
## Partner Organisations

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U4E Approach for Transforming Markets

Comprehensive Market Transformation

- Environmentally Sound Management
- Minimum Energy Performance Standards
- Monitoring, Verification and Enforcement
- Labelling and Communications
- Finance and Affordability

U4E INTEGRATED POLICY APPROACH
Barriers for Financial Institutions to Invest in Energy-Efficient Products

✓ Collection of information related to the energy consumption (e.g. EER) of the financed appliances is difficult to obtain;

✓ Lack of trust that the energy-efficiency projects will deliver savings opportunity;

✓ Significant costs for financial institutions to collect and update the necessary information on financing energy-efficient products;

✓ Lack of understanding of local commercial banks or national development banks to identify energy-efficiency products.
Baseline Development for Financing EE Products

**Objective**

- ✓ Increase the use of energy-efficient lighting, appliances and equipment by establishing baselines for GCPF to be able to provide loans for products that are at least 20% more energy-efficient than the baseline.
- ✓ Assist countries in Policy making and future project development in selected countries.

**Countries included:**

- Ecuador
- Dominican Republic
- Costa Rica
- Panama
- Peru
- Paraguay
- El Salvador
- Vietnam
- Cambodia
- Bangladesh
- Sri Lanka

**Data collection**

On-line and in-country data collection

**Manufacturer Inputs**

Market intelligence from U4E manufacturing partners

**Enhanced Country Profiles**

UN Environment will develop a Country Profile

- ✓ Loans provided
- ✓ Policy developed
U4E Tools – Applying to EE Finance (1/2)
Recently Released - Country Saving Assessments

Available for:
• Cooling
• Lighting
• Equipment

Available for 150+ countries on united4efficiency.org
How the savings analysis works

- Stock and sales projection
  - Stock model based on established market analyses
  - Projection from 1960-2040
  - Validated and calibrated against market data
- Based on underlying research from model regulations:
  - Uses a typical product approach:
    - Refrigerator freezer
    - Market average for capacity and fixed/variable for RAC
  - Uses data from model regulations expert review
  - Validated against market data
  - Existing local regulations taken into account

A. Estimate stock and sales over time

B. Define typical product UECs

C. Define future scenarios

D. Calculate energy savings
How the savings analysis works

- Three future scenarios considered
  - Business As Usual
    - No policy intervention – incremental improvement in UECs
  - Policy
    - Derived from MEPS in model regulation guidelines
  - Ambitious Policy
    - More stringent MEPS (based on Top Tier for cooling)

- Savings method:
  - Stock data from stock model and UEC data from scenarios allow savings to be calculated:

\[
\text{Energy savings} = \sum S \times (AUEC_{BAU} - AUEC_{Policy})
\]
U4E Tools – Applying to EE Finance (2/2)
Product Registration Systems – Potential Uses and Benefits

Traditional usages:

✓ Facilitate the transformation of markets (reduces barriers to trade in EE products, reduces complexity)

✓ Provide a data resource – (Governments, Industry and Consumers)

✓ Enable Monitoring, Verification and Enforcement activities (MV&E)

Other usages

✓ Facilitate financing through enhanced baseline assessments
Product Registration Systems used around the globe
Product Registration System – Global Tools and Templates

Guidance Notes (4)

Initial guidance for stakeholders interested in PRS

Prototype

Framework of a product registration, including recommended pages and fields

Specifications

Specifications for use by software developer to develop a PRS

Based off the U4E Model Regulation Guidelines
Innovative financial mechanisms in development

Types of Energy Efficiency Financial Mechanisms

• On-bill financing
• Service Model (“cooling as a service”)
• Revolving loan fund
• Vendor/retail financing
• Qualified purchase lists
• Partial risk guarantees
• Bulk procurement

Examples of Current Projects Underway

• Vietnam: established financing with NamA Bank for AC and refrigerators that are 4 or 5 stars on the Vietnam.

• Rwanda: coolease scheme that enables suppliers and consumers of air conditioning and refrigeration products to transition to the latest technology without an upfront investment.

• Dominican Republic: cooling as a service model, which moves from the traditional product purchase model to a pay-per-service model.
Summary

• Consider how the financial industry can be included (as a future user) in developing market assessments and planning for data collection process systems;

• Anticipate that climate finance is largely moving from grant funding to development private sector approach (e.g. business models and financial mechanisms).

• Recognize that establishing a baseline for energy efficient products can be done in a simple manner using existing system rather than developing complex monitoring tools and activities.

• Adapt data collection tools and resource that have traditionally been for policy development for the finance sector in order to meet their specific needs (ability to easily recognize EE and none EE products).
Tools to Transition a Market

Energy Efficiency of Products in the Market

Minimum Energy Performance Standards (MEPS) ban the worst products

Financial incentives support adoption of the best products

Labels help buyers understand energy efficiency benefits

Monitor what enters

Test to Verify compliance, Enforce rules