



# United for Efficiency Initiative

**IEA Training Week for Sub-Saharan Africa  
Pretoria, South Africa  
14-17 October 2019**

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# Presentation Overview

- ✓ Opportunities of Energy Efficient Products in Africa
- ✓ U4E Model Regulation Guidelines
- ✓ Product Registration Activities

# 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

## Manufacturers & Industry Associations



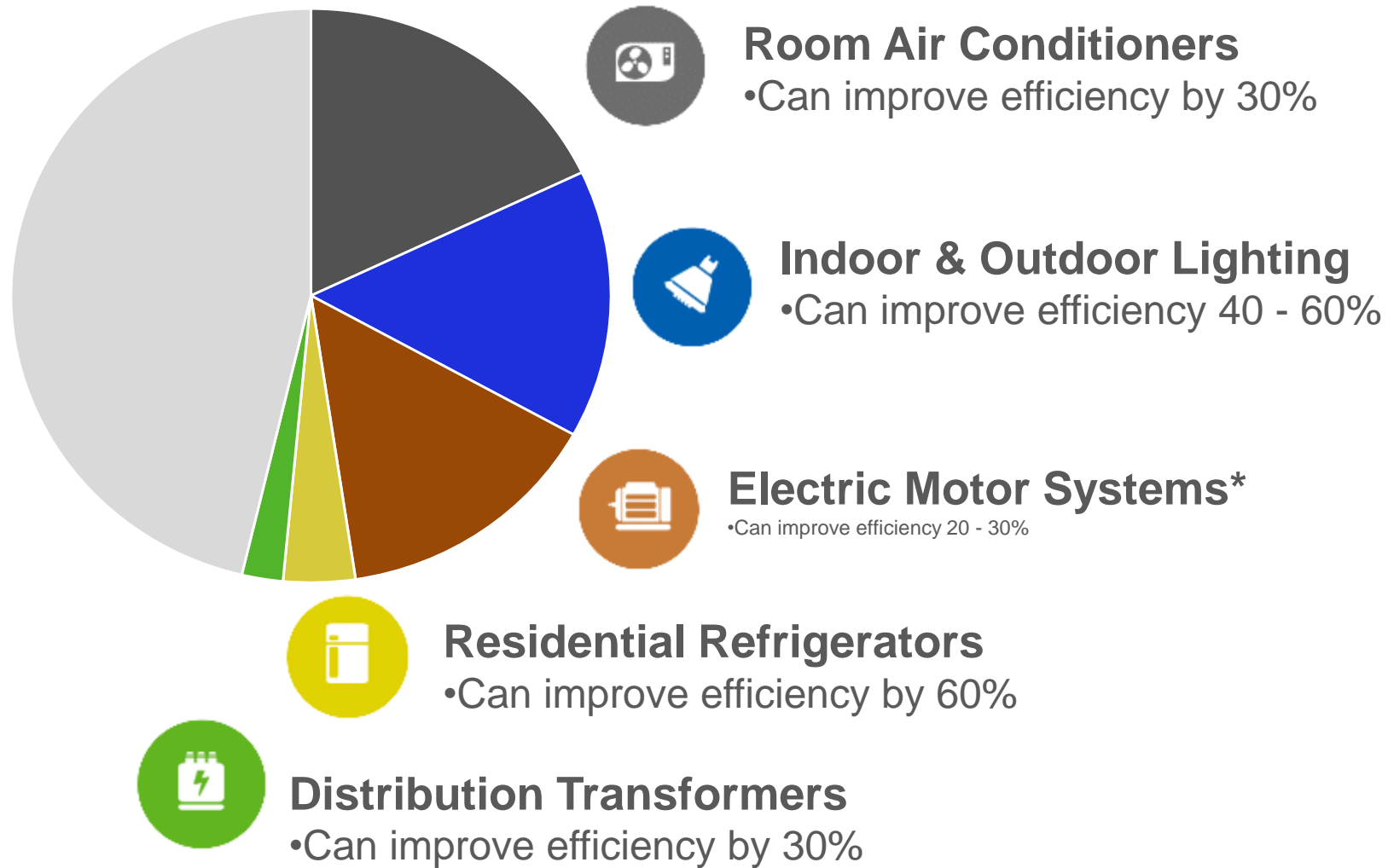
## Technical Organisations & Initiatives



## Funders & Implementing Agencies



# Tackle Products That Use >50% of Electricity

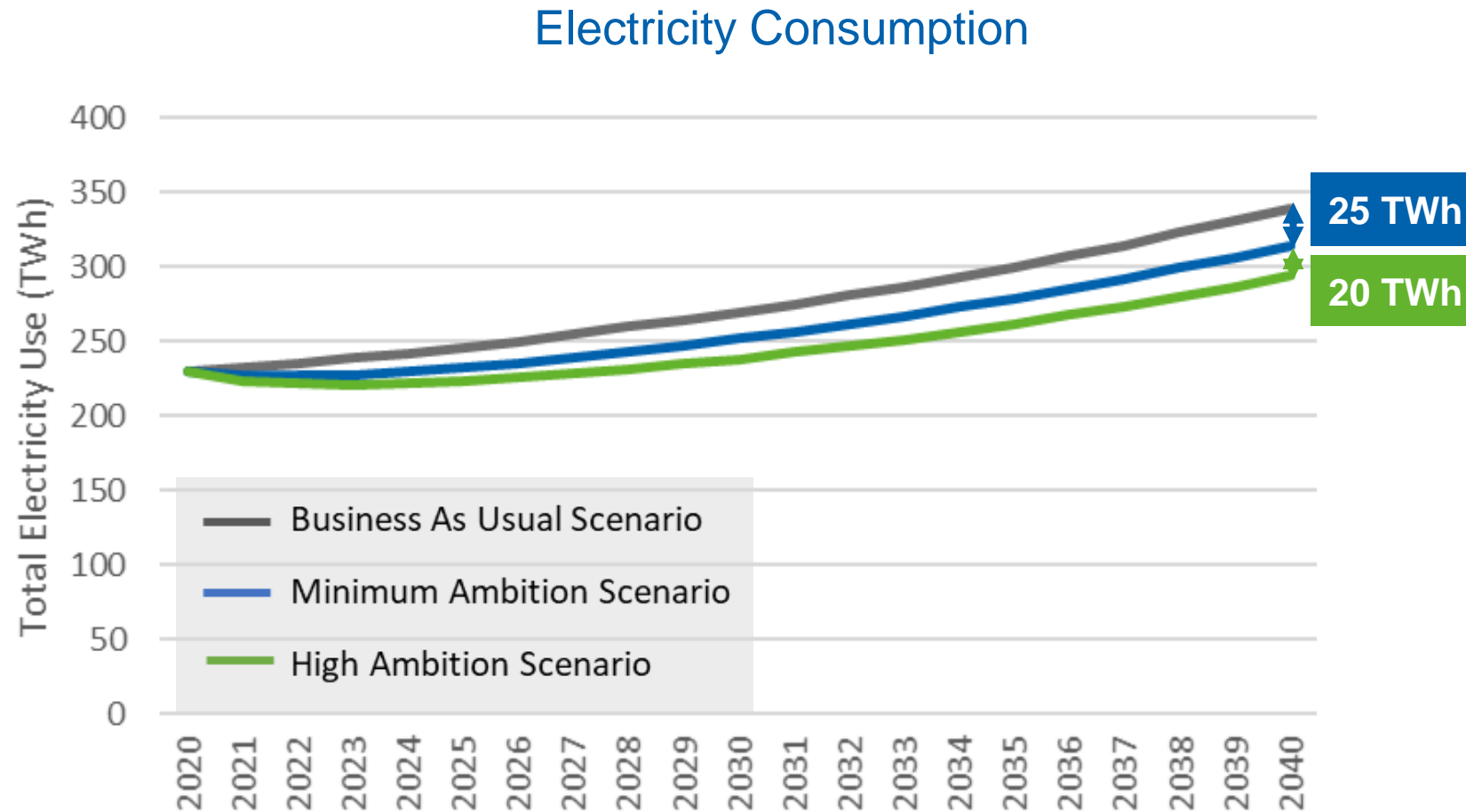


Sources: International Energy Agency; Lawrence Berkeley National Laboratory; UN Environment

Method: Approximate savings in 2030 in emerging & developing economies if today's best available technologies are adopted

\*Electric motors account for more than half of global electricity use, of which almost 60% is in AC and DC motors

# Increasing Electricity Demand and Saving Opportunities in lighting, cooling and equipment in SADC



Annual Savings in 2040\*:

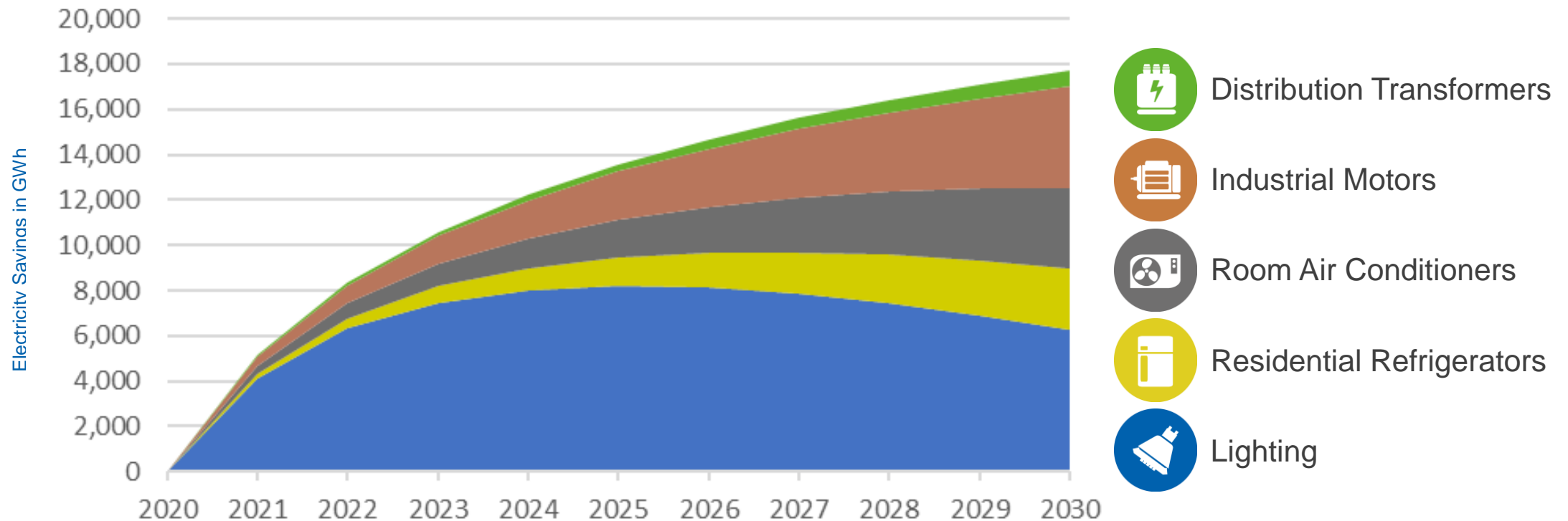
**25 TWh** of electricity consumption, which is equivalent to:

- **12 power stations** [500 MW each]
- **19 Million tonnes of CO<sub>2</sub>**
- **3 Billion USD on electricity bills**

\* With Minimum ambition scenario

# Share of Savings Opportunities in lighting, cooling and equipment in SADC

Electricity Savings\*



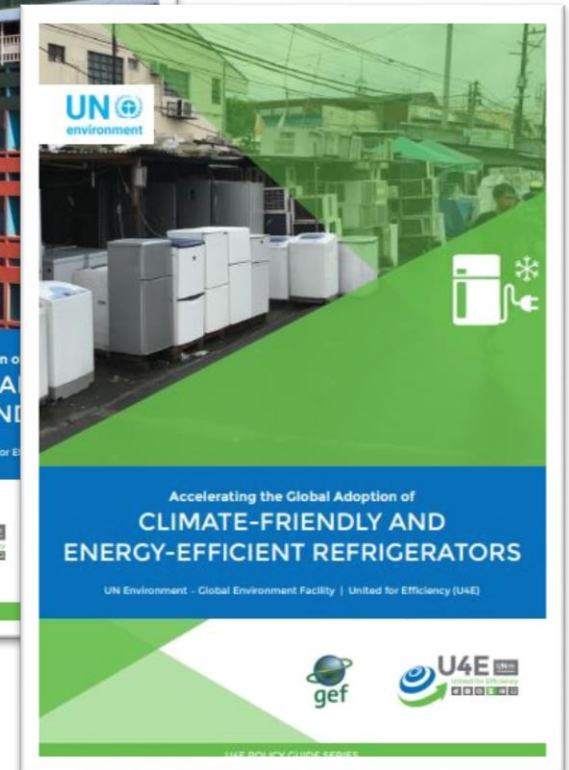
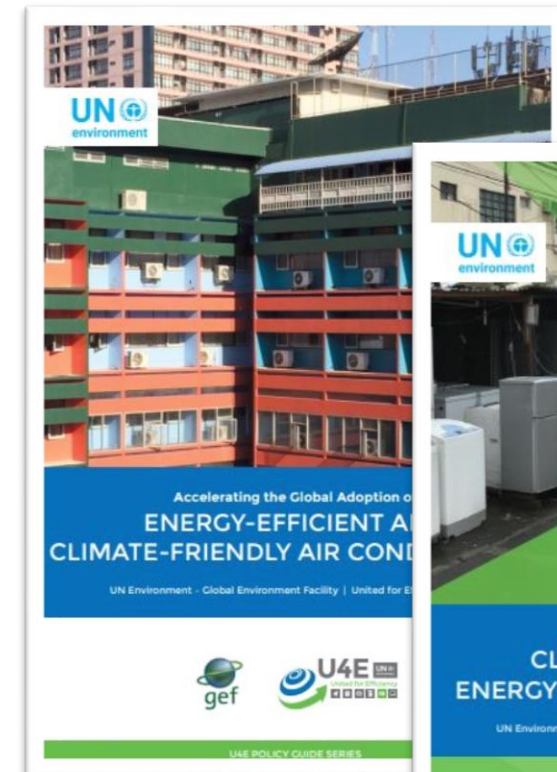
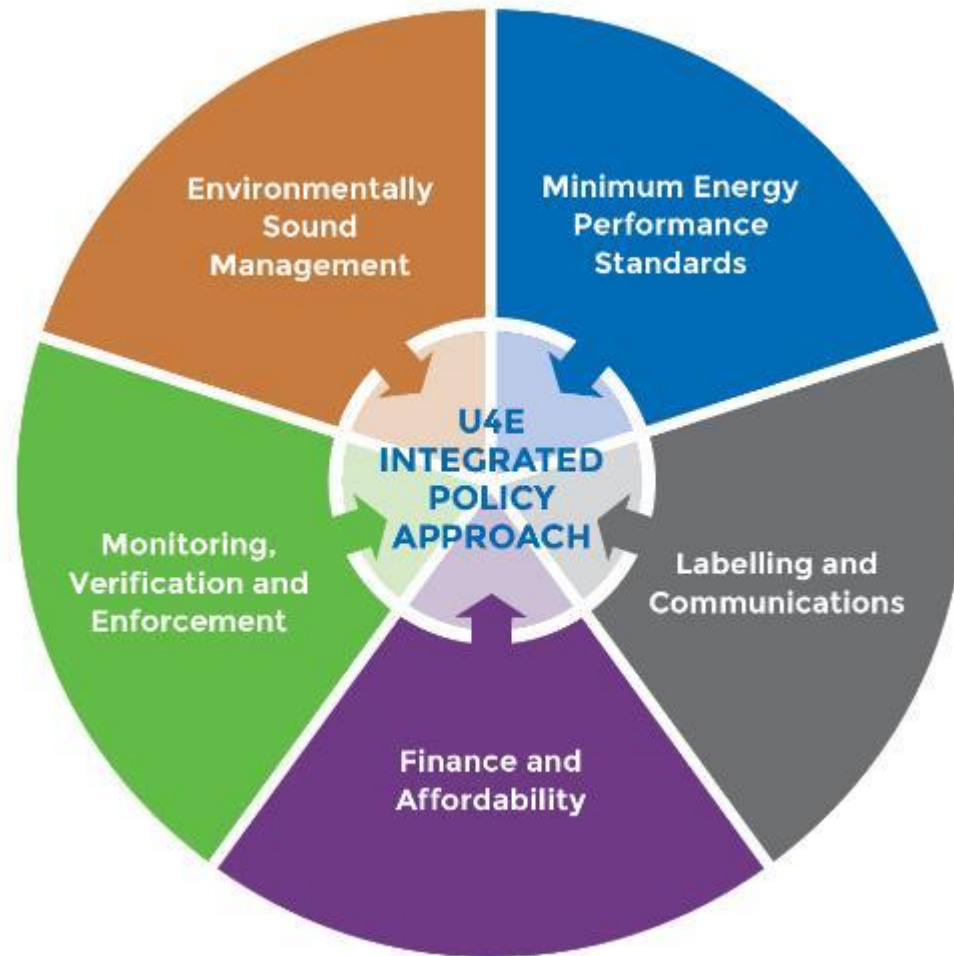
\* With Minimum ambition scenario



# U4E Approach for Transforming Markets

Comprehensive Market Transformation

Detailed Guidance Notes Available





# Recently Released - Country Saving Assessments



## South Africa



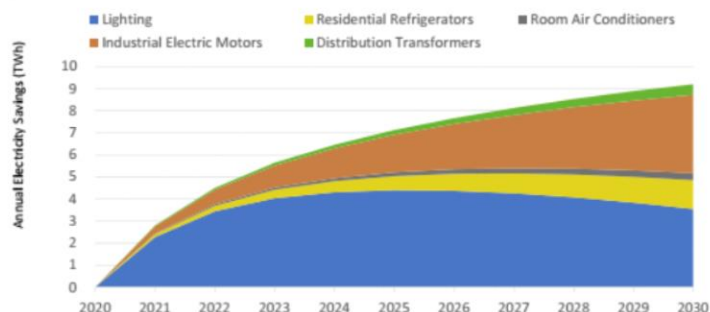
Product scope	Lighting	Cooling	Equipment
	All Lighting	Residential Refrigerators Room Air Conditioners	Industrial Electric Motors Distribution Transformers

A summary of the benefits attained from improved energy efficiency through the implementation of Minimum Energy Performance Standards at two levels of ambition (minimum and high). More detailed reports for lighting, cooling and equipment can be downloaded from the United Nations Environment Programme (UNEP) United For Efficiency (U4E) website.

### ANNUAL SAVINGS IN 2030\*

	Reduce electricity use by over <b>9.2 TWh</b> which is <b>3.9%</b> of current national electricity use
	Save electricity worth <b>1.4 Billion US\$</b>
	equivalent to over <b>4 Power Plants [500MW each]</b>
	Reduce electricity CO <sub>2</sub> emissions by over <b>9.2 Million tonnes</b>
	equivalent to <b>5.1 Million Passenger Cars</b>

### ELECTRICITY SAVINGS OVER TIME\*



\* Denotes savings are from the Minimum Ambition Scenario.  
U4E COUNTRY ASSESSMENT, SEPTEMBER 2019

## Available for:

- Cooling
- Lighting
- Equipment

Available for 150+ countries on [united4efficiency.org](http://united4efficiency.org)



## Namibia

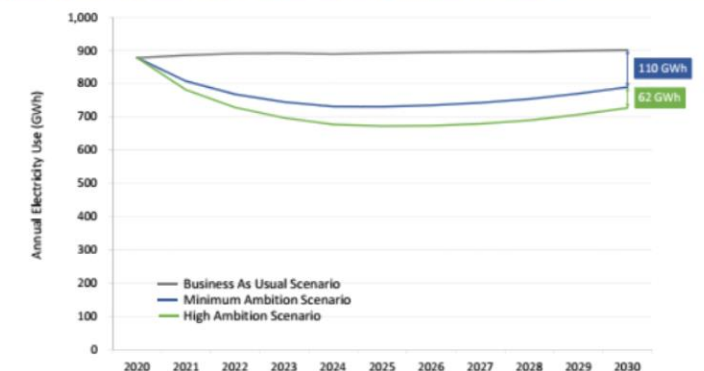


Energy efficiency benefits from the transition to energy efficient lighting in the residential, commercial, industrial and outdoor sectors for all major lamp types through the implementation of Minimum Energy Performance Standards at two levels of ambition (minimum and high).

### ANNUAL SAVINGS IN 2030\*

	Reduce electricity use by over <b>110 GWh</b> which is <b>2.79%</b> of current national electricity use
	Save electricity worth <b>10 Million US\$</b>
	equivalent to <b>1 Power Plant [20MW each]</b>
	Reduce electricity CO <sub>2</sub> emissions by over <b>160 Thousand tonnes</b>
	equivalent to <b>93 Thousand Passenger Cars</b>

### EVEN GREATER SAVINGS POSSIBLE WITH MORE STRINGENT REGULATION



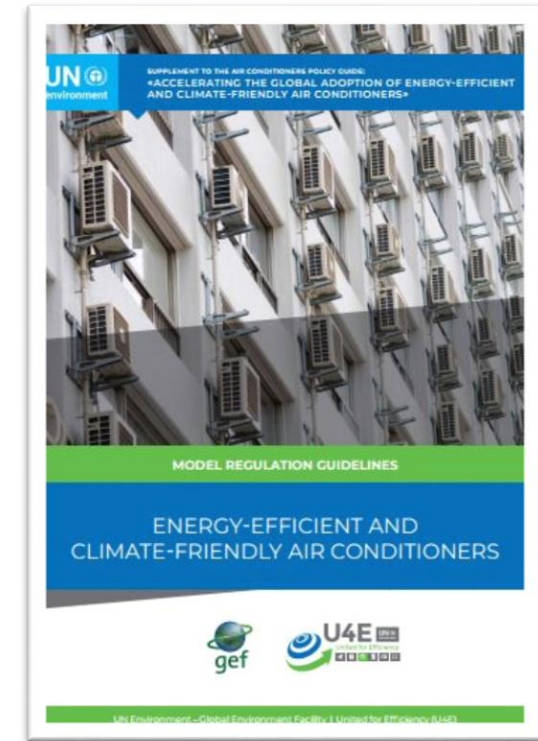
\* Denotes savings are from the Minimum Ambition Scenario.  
U4E COUNTRY ASSESSMENT, SEPTEMBER 2019

# Model Regulation Guidelines

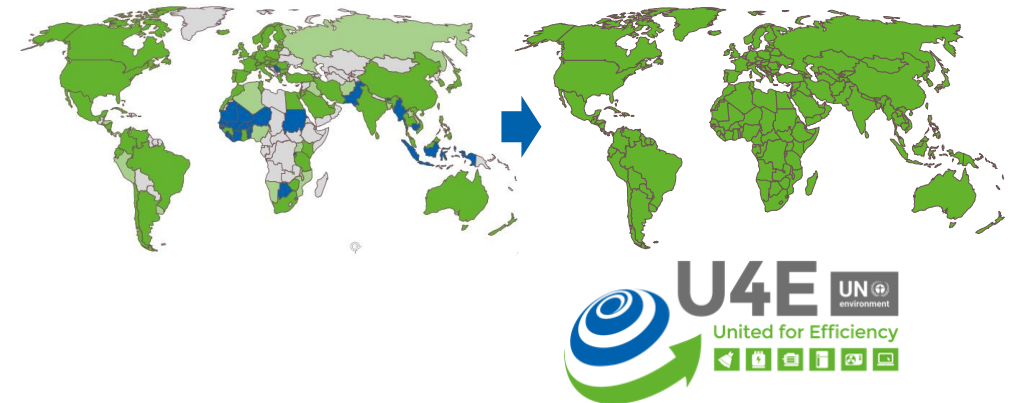
U4E Model Regulation Guidelines are:

- intended as a guideline to help **inform regulatory authorities and policy makers** in developing and emerging economies.
- sets a **minimum efficiency floor** to prohibit future sales of inefficient products from the market.

A range of stakeholders, including governments, manufacturers, technical institutions and environmental groups have contributed to their development.



Supporting Global Market Transformation:



# Aims of the Model Regulation Guidelines

## Make it easier to adopt new / enhance existing MEPS and Energy Labels:

- ✓ Target energy-efficiency
- ✓ Encourage higher performing products through labelling
- ✓ Vary requirements to capture climatic differences
- ✓ Use proven best practices and tap into global policy and technology trends

## Benefits:

- ✓ Simplify **adoption and implementation of a robust regulation**
- ✓ Catalyze **product innovation**, giving consumers more choice
- ✓ Easier to harmonize requirements to **reduce trade barriers and unlock economies of scale** to make products more affordable
- ✓ Enable more **effective market enforcement** using proven test procedures and an easier exchange of compliance info

# Template Text - Ready to Be Considered

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## Article 1. Scope of Covered products

### 1.1 Scope

This regulation applies to all refrigerating appliances of the vapor compression type, with a rated volume at or above 10 Liters (L) and at or below 1,500 L, powered by electric mains and offered for sale or installed in any application.

### 1.2 Exemptions

This regulation does not apply to:

- a) wine storage appliances,
- b) refrigerating appliances with a direct sales function,
- c) mobile refrigerating appliances,
- d) appliances where the primary function is not the storage of foodstuffs through refrigeration,
- e) other products that do not meet the definition of a Refrigerator, Refrigerator-Freezer, or Freezer, and
- f) other refrigerating appliances different than vapor compression type.

## Article 2. Terms & Definitions

Definitions of the relevant terms in this document are listed, below. Unless otherwise specified, these definitions are harmonized with those in IEC 62552:2015 *Household refrigerating appliances – Characteristics and test methods (Part 1, 2, and 3)*.

### Ambient Temperature

Temperature in the space surrounding the refrigerating appliance under test or assessment.

### Adjusted Volume (AV)

Volume for the storage of foodstuff adjusted for the relative contribution to the total energy consumption according to the different temperatures of the storage compartments. AV shall be calculated on the basis of the volume, as described in Article 3.

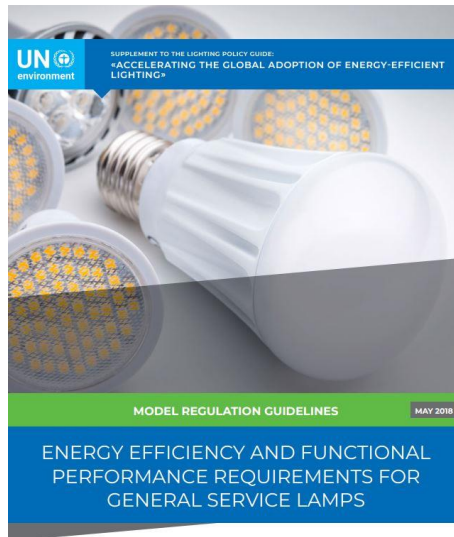
### Automatic Defrost

Defrosting where no action is necessary by the use to initiate the removal of frost accumulation at all temperature-control settings or to restore normal operation, and the disposal of the defrost water is automatic.



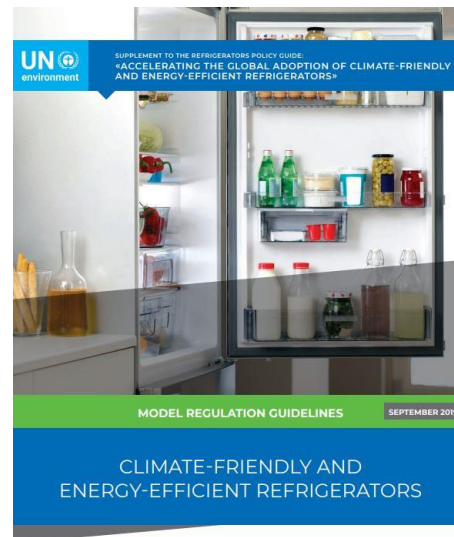
# U4E Model Regulations Guidelines

## Light Bulbs



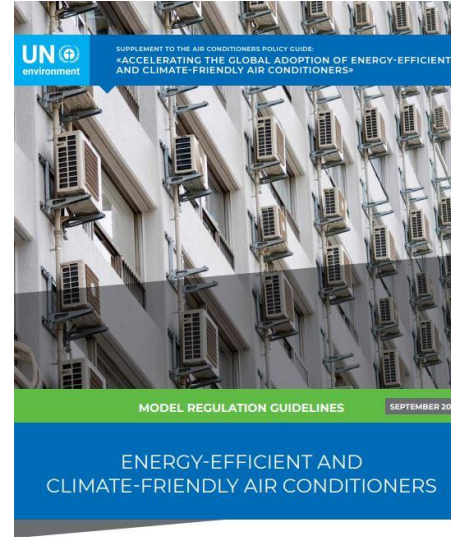
United Nations Environment Programme – Global Environment Facility | United for Efficiency (U4E)

## Residential Refrigerators



United Nations Environment Programme – Global Environment Facility | United for Efficiency (U4E)

## Air Conditioners



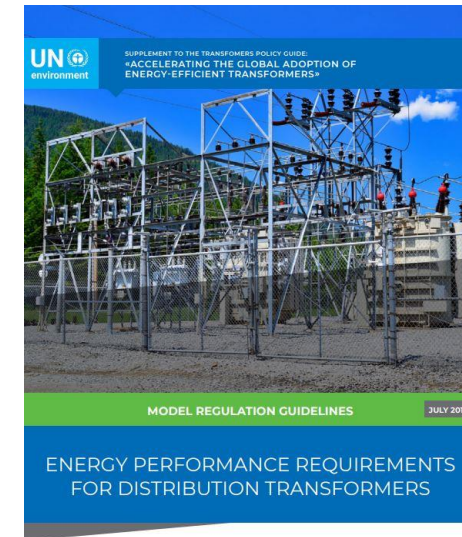
United Nations Environment Programme – Global Environment Facility | United for Efficiency (U4E)

## Electric Motors



UN Environment – Global Environment Facility | United for Efficiency (U4E)

## Distribution Transformers

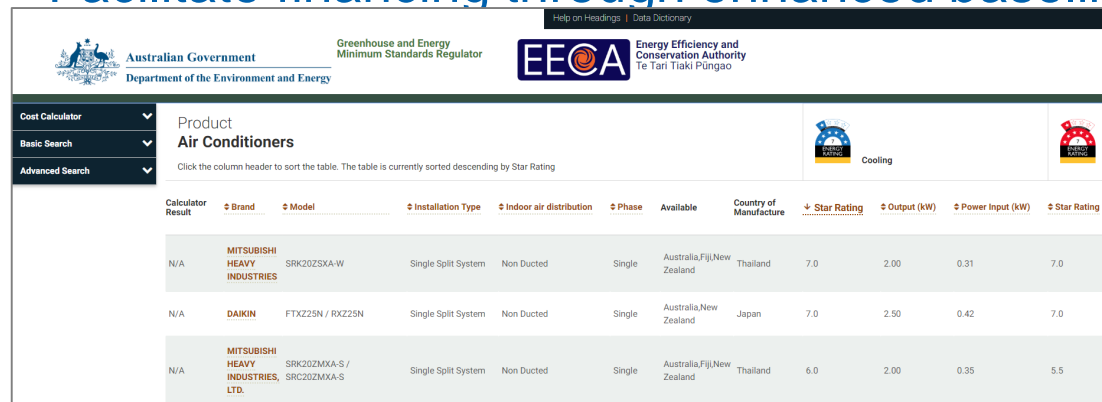


UN Environment – Global Environment Facility | United for Efficiency (U4E)

Find all on <https://united4efficiency.org/>

# Product Registration Systems – Potential Uses and Benefits

- ✓ 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)
- ✓ Facilitate financing through enhanced baseline assessments



The screenshot displays the EECOA (Energy Efficiency and Conservation Authority) Product Registration System interface. The page is titled "Product Air Conditioners" and includes a sidebar with navigation options: "Cost Calculator", "Basic Search", and "Advanced Search". The main content area shows a table of registered products, sorted by Star Rating. The table columns include: Calculator Result, Brand, Model, Installation Type, Indoor air distribution, Phase, Available, Country of Manufacture, Star Rating, Output (kW), Power Input (kW), and another Star Rating. Three products are listed: a Mitsubishi Heavy Industries SRK20ZSXA-W, a Daikin FTXZ25N / RXZ25N, and a Mitsubishi Heavy Industries SRK20ZMXA-S / SRC20ZMXA-S.

Calculator Result	Brand	Model	Installation Type	Indoor air distribution	Phase	Available	Country of Manufacture	Star Rating	Output (kW)	Power Input (kW)	Star Rating
N/A	MITSUBISHI HEAVY INDUSTRIES	SRK20ZSXA-W	Single Split System	Non Ducted	Single	Australia, Fiji, New Zealand	Thailand	7.0	2.00	0.31	7.0
N/A	DAIKIN	FTXZ25N / RXZ25N	Single Split System	Non Ducted	Single	Australia, New Zealand	Japan	7.0	2.50	0.42	7.0
N/A	MITSUBISHI HEAVY INDUSTRIES, LTD.	SRK20ZMXA-S / SRC20ZMXA-S	Single Split System	Non Ducted	Single	Australia, Fiji, New Zealand	Thailand	6.0	2.00	0.35	5.5

Australia and New Zealand Regional System



# Product Registration Systems used around the globe

Australian Government  
Department of the Environment and Energy

Greenhouse and Energy Minimum Standards Regulator

EECA Energy Efficiency and Conservation Authority  
Te Tari Tiaki Pūngao

Help on Headings | Data Dictionary

Product  
**Air Conditioners**

Click the column header to sort the table. The table is currently sorted descending by Star Rating

Calculator Result	Brand	Model	Installation Type	Indoor air distribution	Phase	Available	Country of Manufacture	Star Rating	Output (kW)	Power Input (kW)	Star Rating
N/A	MITSUBISHI HEAVY INDUSTRIES	SRK20ZSXA-W	Single Split System	Non Ducted	Single	Australia, Fiji, New Zealand	Thailand	7.0	2.00	0.31	7.0
N/A	DAIKIN	FTXZ25N / RXZ25N	Single Split System	Non Ducted	Single	Australia, New Zealand	Japan	7.0	2.50	0.42	
N/A	MITSUBISHI HEAVY INDUSTRIES, LTD.	SRK20ZMXA-S / SRC20ZMXA-S	Single Split System	Non Ducted	Single	Australia, Fiji, New Zealand	Thailand	6.0	2.00	0.35	

すべてのカテゴリー

Japanese System  
型番、製品名、メーカー名、JANコードなどを入力

製品検索

小売事業者向け

★★★★★ アコン	★★★★★ ブラウン管テレビ	★★★★★ 液晶テレビ	★★★★★ プラズマテレビ	目標年度 2021 ★★★★★ 電気冷蔵庫	目標年度 2021 ★★★★★ 電気冷凍庫
★★★★★ 電球器具	電球形蛍光灯ランプ	電球形LEDランプ	★★★★★ 電気便座	ジャー炊飯器	電子レンジ
キュート	ガス温水機器	石油温水機器	VTR	目標年度 2008 DVD2008	目標年度 2010 DVD2010
ストーブ	石油ストーブ	ガスこる	ガスオープン	VPN機能なし 小型ルーター	ボックス型 L2スイッチ

Pacific Community  
Communauté du Pacifique

Pacific Appliance Database

Home Check Database

Pacific Island Nations Regional System

PAD Registrations

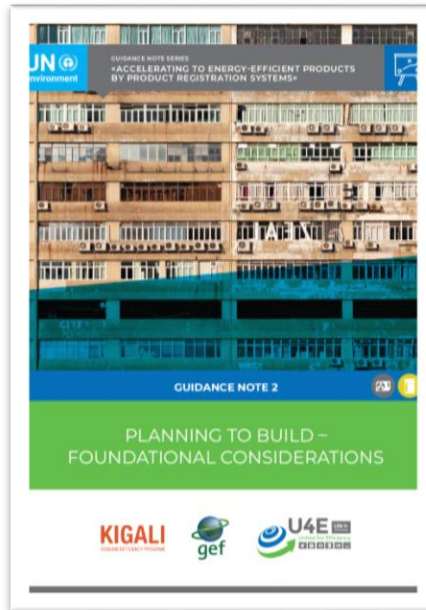
Record ID/Registration No Brand Model Product Type Jurisdiction

Search

Registration No.	Product Type	Brand	Model No.	Standard	Status	Country	Record ID
WSM-AC-000006	Air-conditioners	FUJITSU	AOTG30LBTA4	AS/NZS 3823.1.4:2012	APPROVED	Samoa	WSM-PR-000185
WSM-AC-000007	Air-conditioners	FUJITSU	AOTG24LAT3	AS/NZS 3823.1.4:2012	APPROVED	Samoa	WSM-PR-000184
WSM-AC-000005	Air-conditioners	FUJITSU	ASTG12KMCA/AOTG12KMCA	AS/NZS 3823.1.1:2012	APPROVED	Samoa	WSM-PR-000174

# Product Registration System – Global Tools and Templates

## Guidance Notes (4)

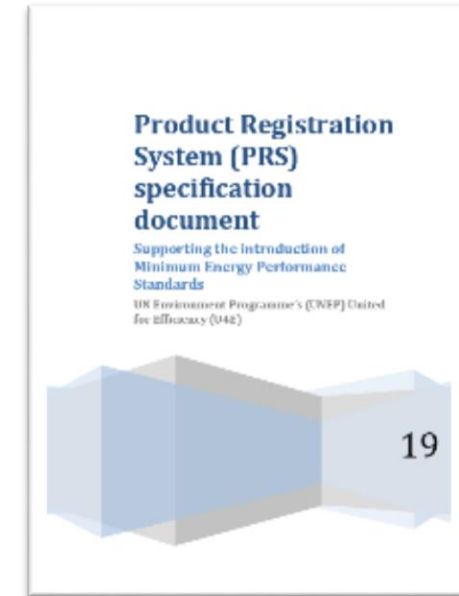


Initial guidance for stakeholders interested in PRS

## 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*



# Contact

TRANSFORMING MARKETS TO ENERGY-EFFICIENT PRODUCTS



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