

Developing the SADC Regional EE Label and its importance

EELA WEBINAR SERIES: “Upscaling Uptake of EE Appliances and Equipment through MEPS and Labels Implementation”

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2025.07.15

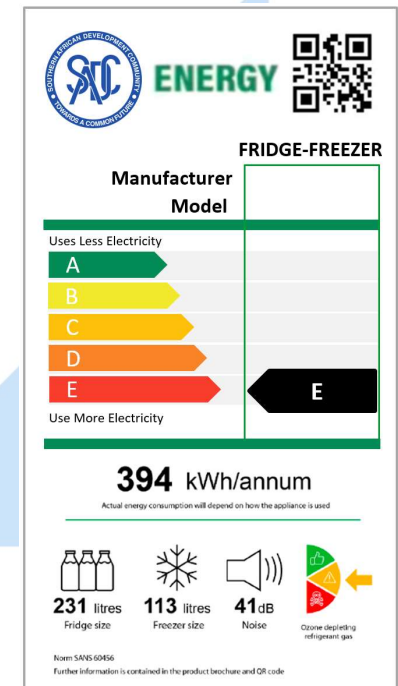
Meeting Agenda

1 Energy Labels and Regional Labelling Project

2 SADC Regional S&L Status

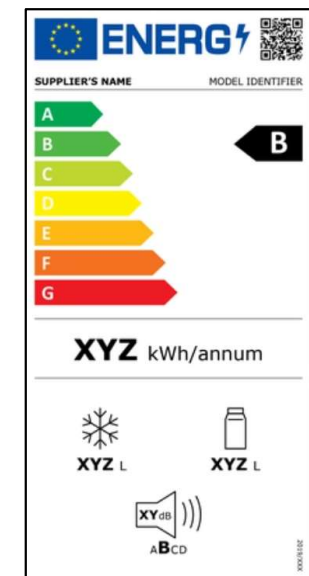
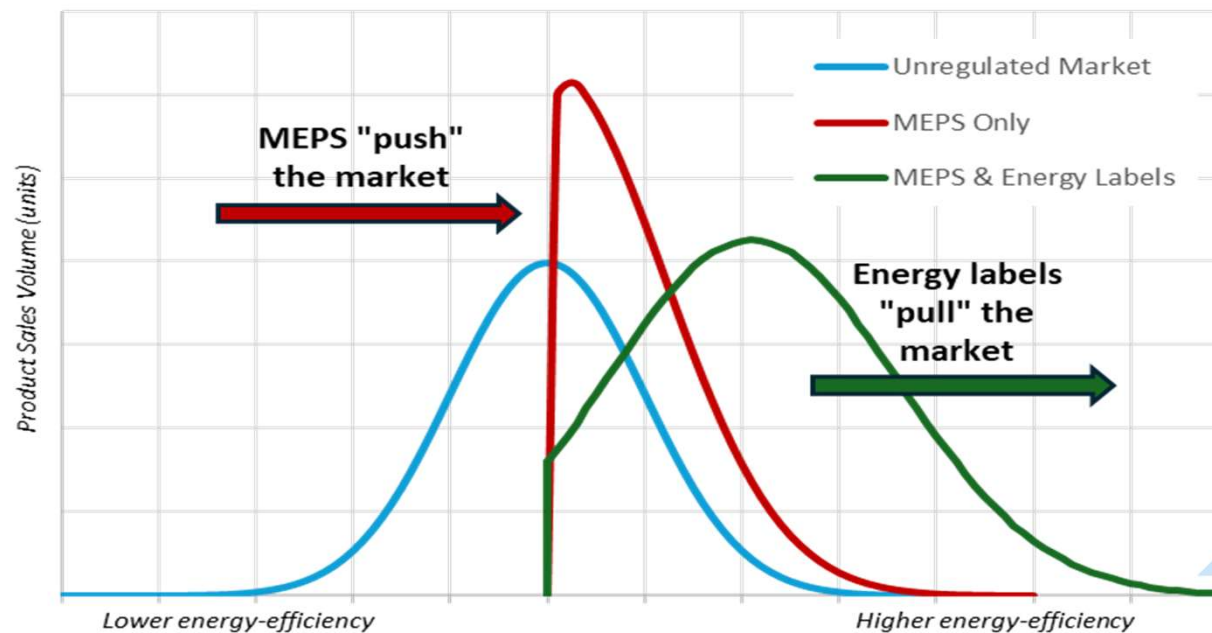
3 Key Parts of an Energy Label

4 SADC Design Options



Market Transformation: MEPS & Energy Labels

For sustained market transformation, MEPS “push” the market and Energy Labels “pull” the market



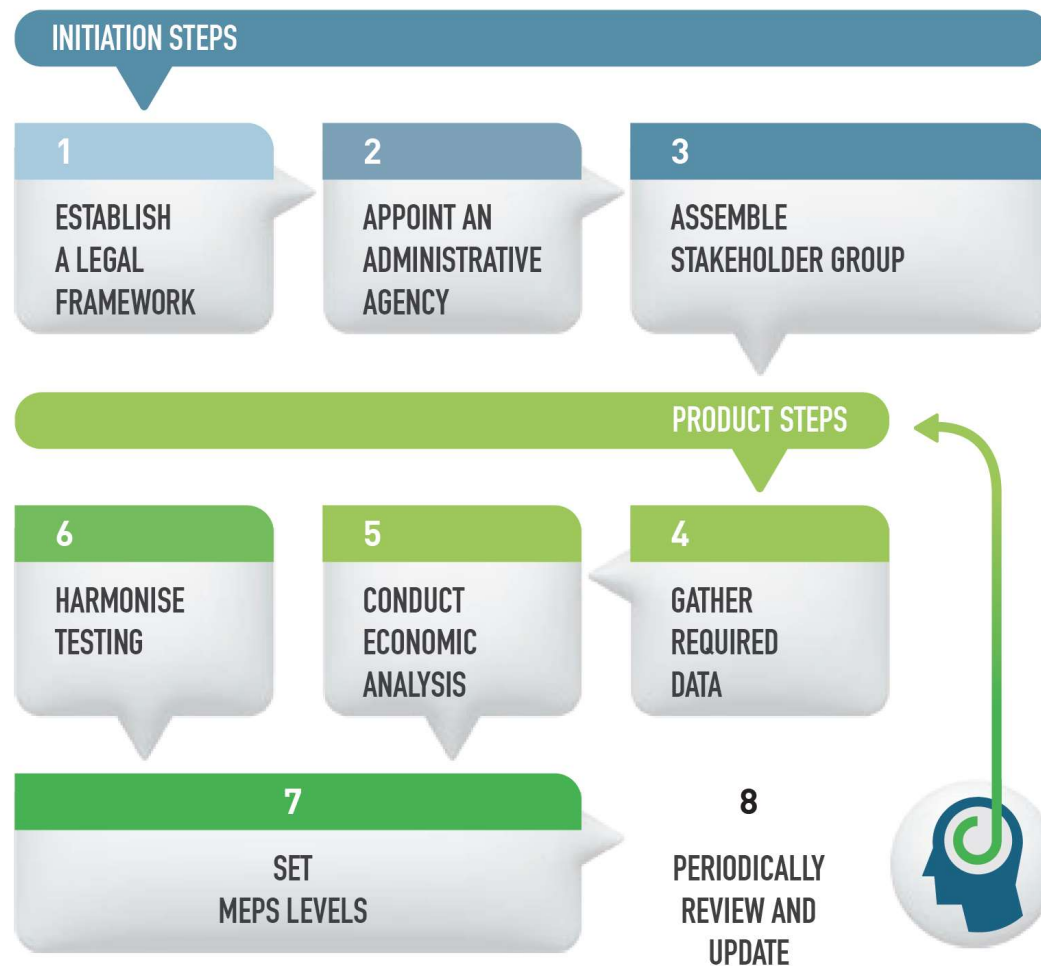
MEPS focus on the product supply side; it pushes the market to higher efficiency

Energy Labels address the demand side; they pull the market by informing & empowering consumers

The combined effect of MEPS and Energy Labels sustainably transforms markets to higher efficiency products

Minimum Energy and Performance Standards

Countries need to have the legal authority & stakeholder group; then the “product steps”.



Details on MEPS diagram ...

INITIATION STEPS

- 1. Establish a legal framework:** Review existing legislation and establish framework legislation to develop a legal basis for, and political commitment to, mandatory efficiency standards and energy labels.
- 2. Appoint an administrative agency:** Assess existing institutional capacity for developing, implementing and maintaining a standards and labelling programme. Develop an overall standards and labelling plan and assign one government agency with primary responsibility for driving each element of the programme.
- 3. Assemble a stakeholder group:** Identify the key relevant people in your economy who would be interested and invite them to participate in the process.

PRODUCT STEPS

- 4. Gather required data:** Establish minimum data needs and develop a plan for collecting the data necessary to conduct analysis to support the programme. This includes information on the market, technology, engineering and usage of the product.

5. Conduct an economic analysis: Use cost-effectiveness analysis to determine the appropriate level of ambition for the regulatory measure(s).

6. Harmonise testing: To the greatest extent possible, harmonise energy performance test procedures with international protocols (such as International Electrotechnical Commission test standards) to facilitate testing and reduce barriers to trade.

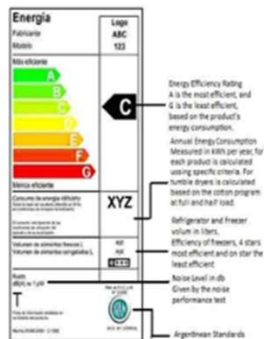
7. Set MEPS levels: Determine the technically feasible, economically optimal regulatory level; invite stakeholder comment and refine MEPS if necessary; secure political endorsement; publish regulatory notice; and specify a future date when MEPS will take effect.

8. Review and update: Plan to periodically review and update the standards every few years to ensure they remain appropriate and relevant.

More info: [Developing Minimum Energy Performance Standards for Lighting Products](#), Guidance Note for Policy Makers, M. Scholand, UNEP, June 2015

Many countries use Energy Labels

These are some examples of energy labels from around the world ...



Argentina



Brazil



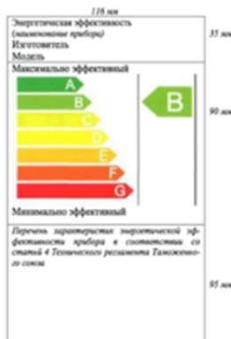
China



Egypt



Korea



Russia



South Africa



Iran



Tunisia



Turkey

SADC & EAC Energy Labelling Project (2024)

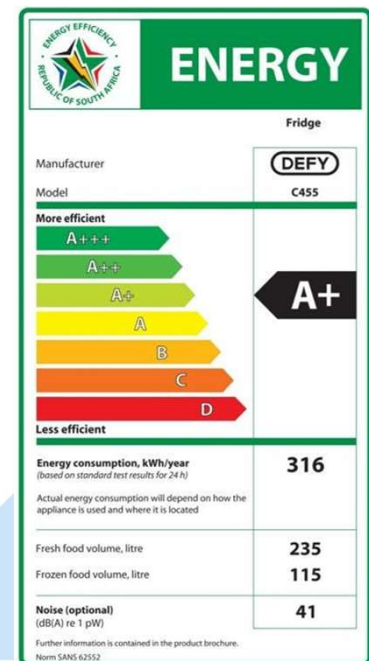
A project working across the region to develop designs for a regional label in SADC and EAC

Project Objectives

1. Conduct a market assessment of the appliance energy labels across SADC and EAC
2. Consult stakeholders in both regions to assess potential for regionally harmonised energy labels
3. Develop label designs for review and gather input on regionally harmonised SADC and EAC energy labels

Project Summary

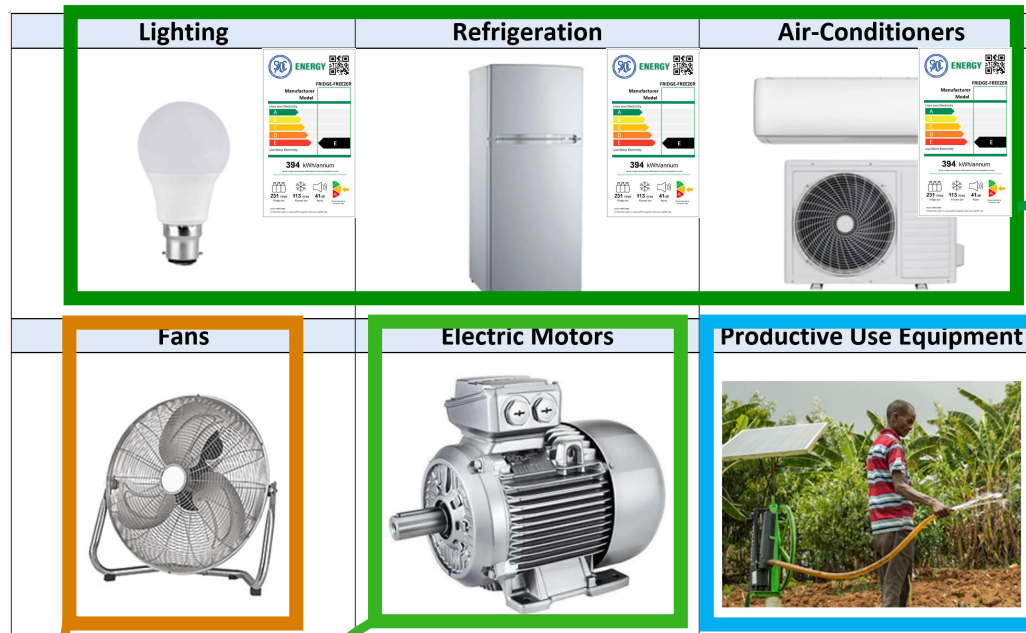
- Project timeline: Feb. to Sept. 2024
- Team: Michael Scholand, Theo Covary and Mari-Louise van der Walt
- Worked closely with SACREEE, EACREEE and UNIDO/EELA
- Literature review; interviewed all SADC and EAC governments, Regional Centres, Verasol and other stakeholders
- Regional presentations and consultations; standardisation meetings, reports, label design artist and more



**The South African
Energy Label**

Labelling Project Evaluated Six Products

Six priority products assessed; three found to be ready for regionally harmonised energy labels



SADC/EAC - setting regionally harmonised test standards and MEPS, energy labels can be easily adopted.

No test standard in SADC/EAC, test standard needed as first step

Test Standard needed

B2B product (not consumer); IE rating on IEC nameplate; label not needed

Endorsement label recommended for limited PUE Equipment product groups (Verasol)



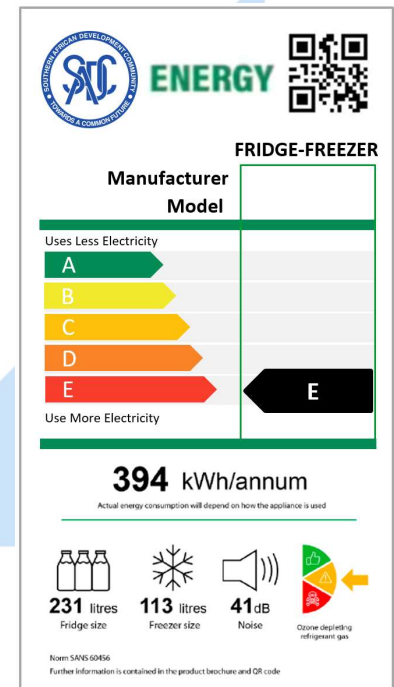
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4 SADC Design Options



SADC countries see S&L as an important intervention, but implementation varies

Questions asked of the Member State Representative	Angola	Botswana	Comoros	eSwatini	Lesotho	Madagascar	Malawi	Mauritius	Mozambique	Namibia	Seychelles	South Africa	Zambia	Zimbabwe
Is appliance and equipment energy efficiency included in your country's national policy?	TBC	Y	N	N	P	P	P	Y	Y	P	P	Y	P	P
Has your country adopted energy efficiency standards (MEPS)?	TBC	N	P	P	P	N	P	Y	P	P	P	Y	P	P
Does your country have a clearly defined implementation framework for S&L?	TBC	N	N	P	N	N	N	Y	P	P	N	Y	P	N
Is your country developing a country specific energy label?	N	Y	N	N	N	N	N	Y	N†	N	N	Y	N†	N
Does your country support the principle of a regional label?	Y	Y	Y	Y	Y	Y	Y	P	Y~	Y	Y	TBC	Y	Y
Does your country support the adoption of the A to G scale, as used by South Africa?	Y	Y	Y	Y	Y	Y	P	Y*	Y	Y	Y	Y	Y	Y

* already adopted this format, by virtue of the EU label and transition

† identified for development, but not yet initiated

‡ provided due process for selection or design is followed across all member states

~ With strong proviso that would be subject to national acceptance, that adaptation may be required and no commitment can be made prior to consultation

Ⓢ noted that legislation is needed to enforce the requirements

Key:

Y	Yes or high
P	Partly or in Process
N	No or low

A more graphic label design and a regional logo received broad support in the region

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Questions asked of the Member State Representative	Angola	Botswana	Comoros	eSwatini	Lesotho	Madagascar	Malawi	Mauritius	Mozambique	Namibia	Seychelles	South Africa	Zambia	Zimbabwe
Does your country agree to the idea of reducing / replacing text on the label with infographics?	-	Y	Y	Y	Y	Y	Y	Y*	Y~	Y	-	Y	Y	Y
Does your country agree with the appliances selected by SACREEE for a regional label?	Y	Y	N	P	-	-	Y	N/A	Y	P	P	TBC	Y	P
Does your country support the use of a regional logo, to replace the South African EE logo?	-	Y	Y	Y	Y	Y	Y	N	-	Y	Y	TBC	Y†	Y
Are QR codes typically understood by government officials?	Y	Y	-	Y	N	P	Y	Y	P	Y	P	Y	Y	P
Are QR codes believed to be understood by the general public?	Y	Y	-	N	N	N	P	P	N	P	N	Y	Y	P
Does the government have concerns about monitoring and enforcement of S&L?	N	P	-	-	Y ^Φ	Y	-	N	P	Y	Y	P	P	Y

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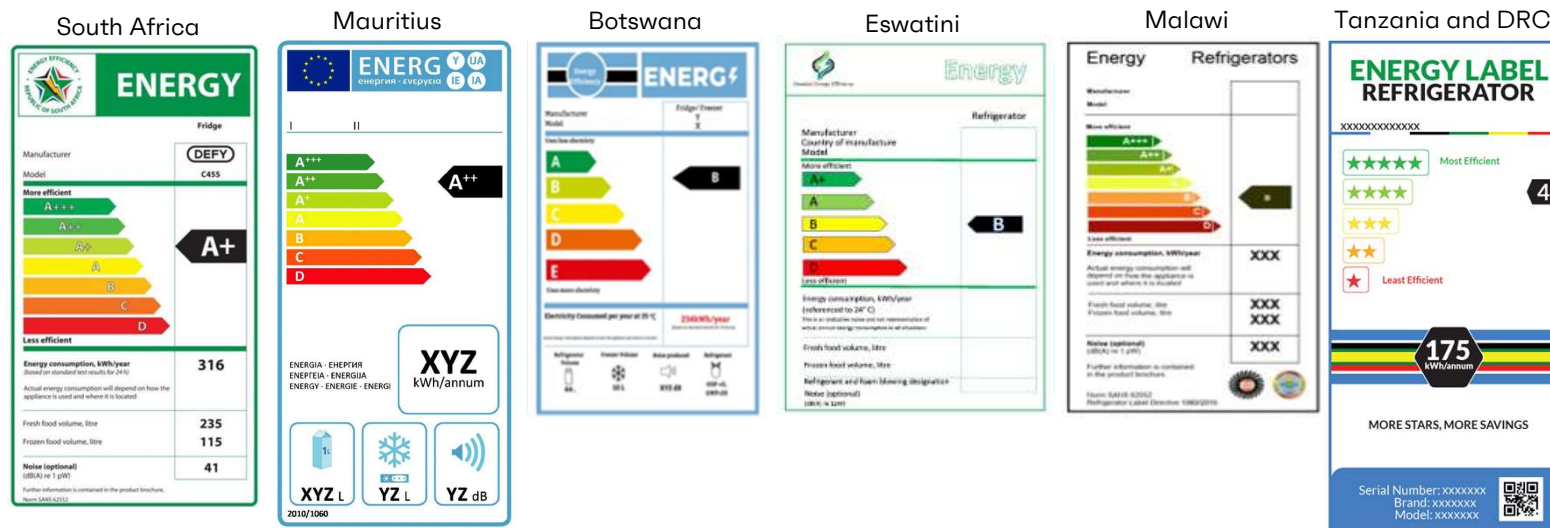
Φ noted that legislation is needed to enforce the requirements

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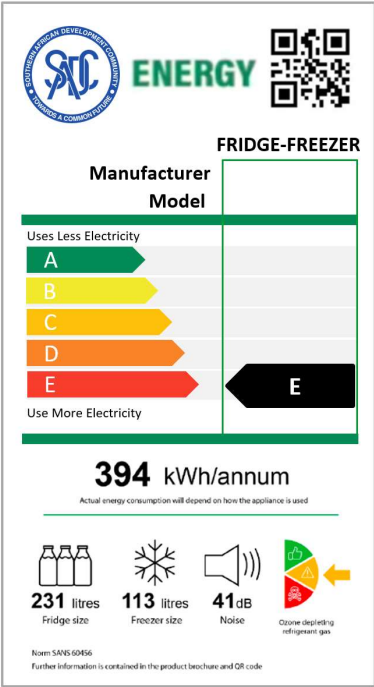
Several SADC countries have considered energy labels and concept designs

- **South Africa** has the only locally-designed mandatory energy label, and it can be found in other countries around SADC
- **Note: South Africa** is currently updating their energy labels
- **Mauritius** decided to use the EU label, but has not ruled out harmonising with SADC if a regional label is developed
- **Botswana, Eswatini, Malawi** and **Tanzania/Democratic Republic of Congo** all have draft label concepts that use the bar-type design

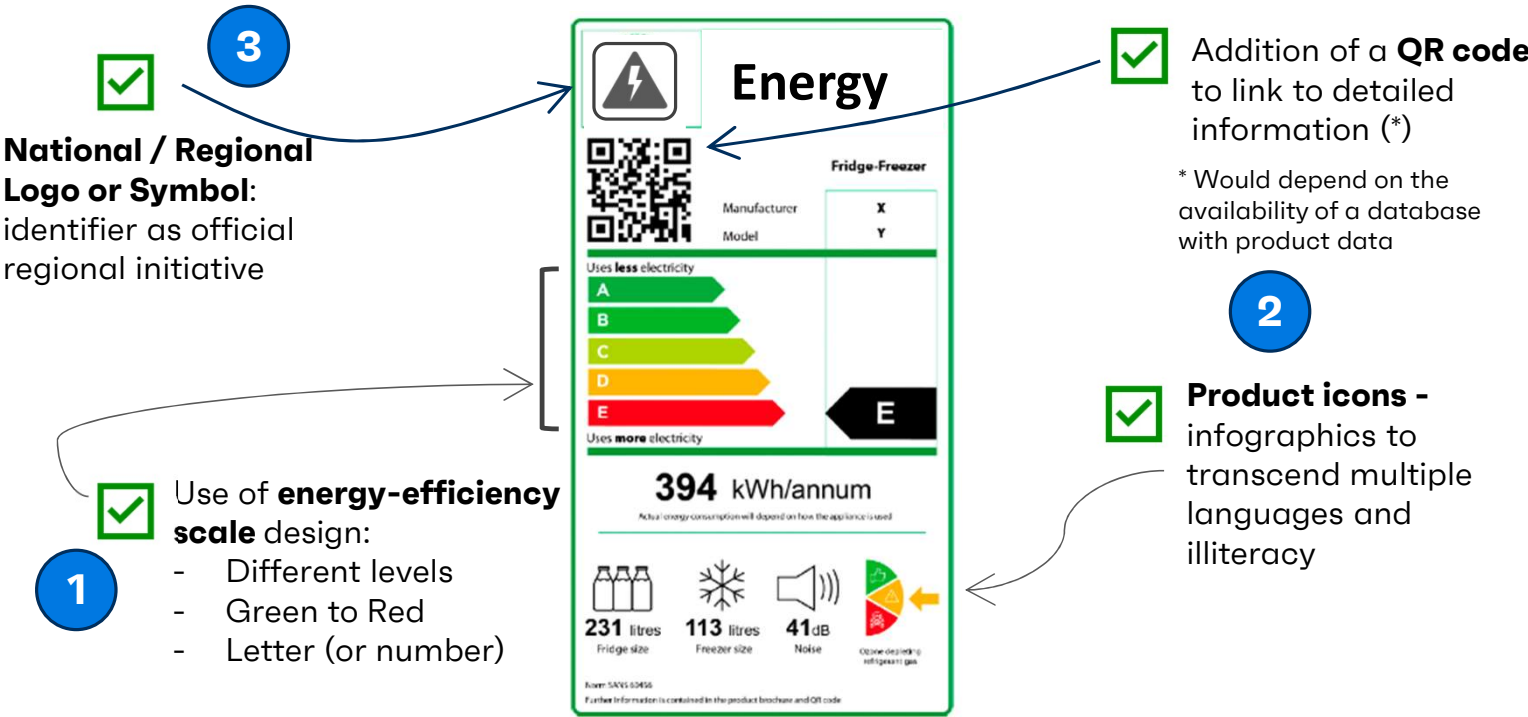


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Key Components of an Energy Label



Three key components of an Energy Label: Energy-Efficiency Scale, Product Icons & QR Code and Official National/Regional Logo

1 Energy Efficiency Scale

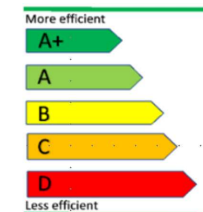
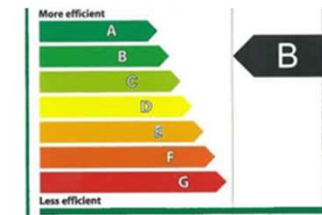
Purpose: to enable consumers to compare the energy performance of one product with another easily. An “at a glance” life-cycle cost comparison.

Points to consider:

- 5 levels is less complicated; aligns with countries that have five levels (e.g., Australia, Kenya, Ghana, India)
- Stacked bar chart is commonly used around the world, including in China, the EU and South Africa
- Stacked bar is intuitive and EASC proposal to use stars offers an interesting innovation to combine stars and bars
- Some stacks have: A (high efficiency) to E (low efficiency) or numbers 1 (high efficiency) to 5 (low efficiency)
- Colour is important, green for the high efficiency or ‘eco’ and red for the low, conveying ‘stop’ or ‘avoid’



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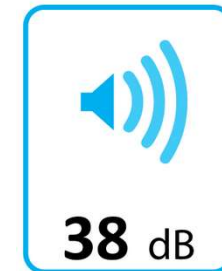
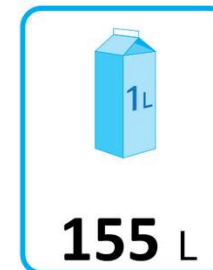


2 Product Icons & QR Code

Purpose: to convey key information about the product or appliance graphically (rather than using words)

Points to consider:

- Try to use icons that are widely known or very clear with what they represent
- Only include icons for the most important information for consumers, try to avoid making the slide look cluttered
- Consider the fact that there is a QR code which can instantly bring more information directly to their phone (can be in a different language)
- Very often requires focus groups to test whether icons are understood and convey the necessary information



3 Regional Logo or Symbol

Purpose: an indicator of credibility / official endorsement of an energy label, should be recognisable and inspire trust




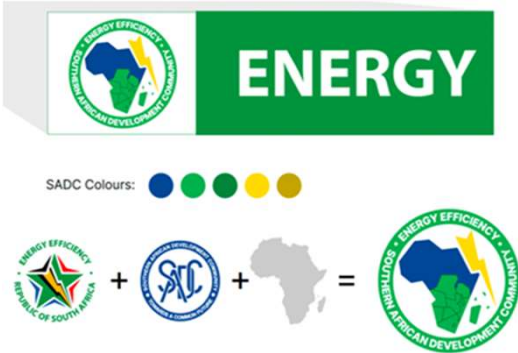
Points to consider:

- 1) A symbol that is recognisable to all the people of the region where it will be deployed
- 2) Official certification of the label, inspiring trust in consumers about the information presented on the label
- 3) Ideally a regional public / government institution, not a private company; can be original art or an existing logo used with permission
- 4) Often requires focus groups to ensure the regional logo is effective, meeting the above criteria



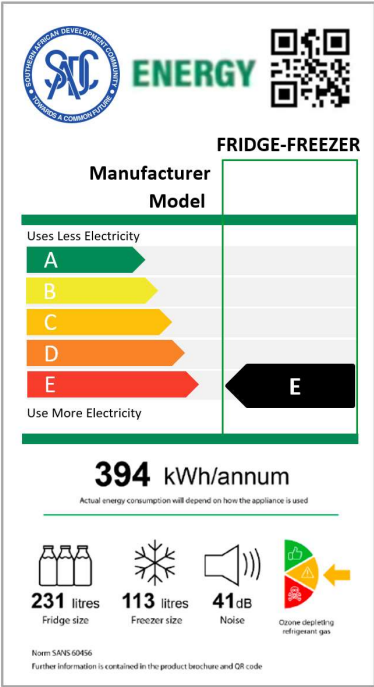
For regional adoption, the **region would have to decide on an appropriate logo.**

3 Examples of designs considered

<p>Option 1. SADC Logo</p> 	<p>Option 2. SADC Logo + RSA Star Combo</p> 
<p>Option 3. SADC EE Star Logo</p> 	<p>Option 4. Pan-African Logo</p> 

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A regional label increases leverage with Suppliers

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- Consultation confirmed a strong willingness for the development of a harmonised energy label in SADC.
- A regional approach makes sense. While national economies are generally small, the joint GDP for the region exceeded US\$ 806 billion.
- As an illustration, product imports for cooling appliances in 2022 were valued at US\$ 256 million. For most SADC countries this regional buying power presents a 100-fold increase over their national levels of consumption, which means significantly stronger leverage when engaging product manufacturers and suppliers.

And strengthens
the region's ability
to safeguard their
markets

Examples of logo designs considered

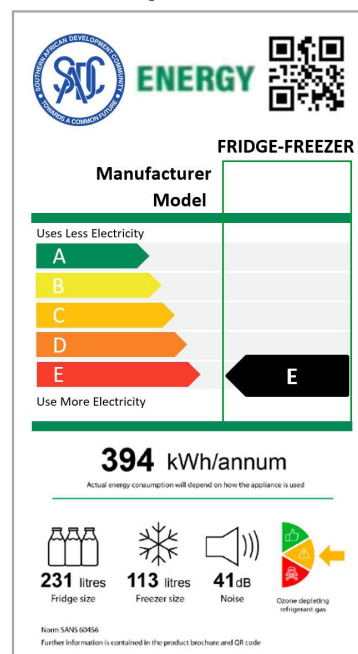
Option 1. SADC Logo	Option 2. SADC Logo + RSA Star Combo
 <p>The logo consists of the SADC emblem on the left and a green rectangle with the word "ENERGY" in white capital letters on the right.</p>	 <p>The logo consists of the SADC emblem on the left and a green rectangle with the word "ENERGY" in white capital letters on the right.</p> <p>SADC Colours: </p>  <p>A diagram showing the combination of the Energy Efficiency logo, a lightning bolt, and the SADC logo to form the final design.</p>
Option 3. SADC EE Star Logo	Option 4. Pan-African Logo
 <p>The logo consists of the SADC emblem on the left and a green rectangle with the word "ENERGY" in white capital letters on the right.</p> <p>SADC Colours: </p> <p>EE Colours: </p>  <p>A diagram showing the combination of the SADC logo, a green star, and a yellow lightning bolt to form the final design.</p>	 <p>The logo consists of the SADC emblem on the left and a green rectangle with the word "ENERGY" in white capital letters on the right.</p> <p>SADC Colours: </p>  <p>A diagram showing the combination of the Energy Efficiency logo, the SADC logo, and a grey map of Africa to form the final design.</p>

Two optional pathways to a SADC label

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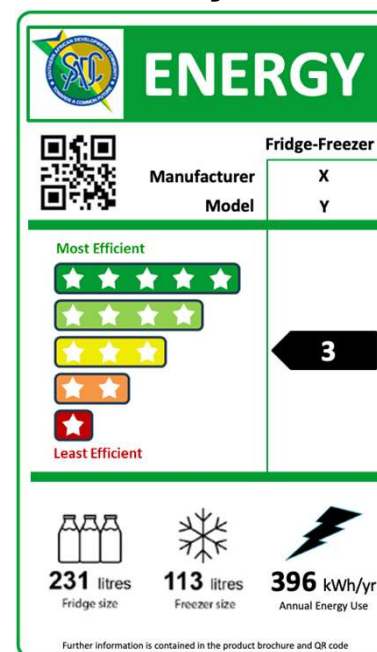
Option 1. SADC engages in South Africa's Energy Label Revision Process* and Adopts Final Design

Mock up of a fridge-freezer energy label based on a draft design for the revised SA label (as of June 2024). Design subject to change due to on-going stakeholder consultations.



* South Africa has labels for many products, but SADC would initially only adopt those where it has harmonised test standards and MEPS: lighting, air conditioning and refrigeration.

Option 2. SADC designs its own Energy Label by Choosing Designs in the Three Key Areas of a Label*



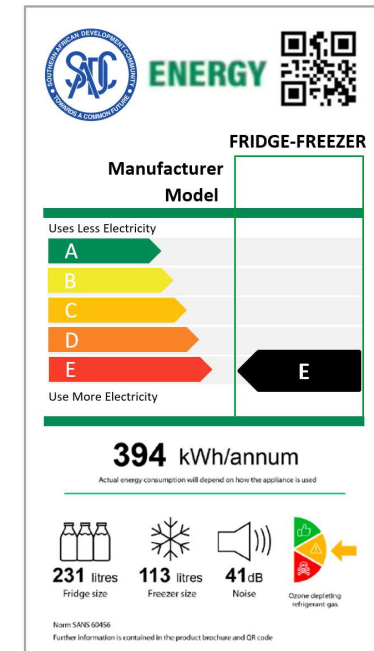
Mock up of a fridge-freezer energy label based on choosing a star-based energy bar scale, three icons and a custom SADC logo option. Other design elements and components could be chosen for this custom design.

* Three key areas are the energy scale, the icons & QR code and the regional logo. Options for all of these can be found in the "backup" slides.

With consideration of time and costs, country representatives supported Option 1 at a SADC regional meeting in Harare, 31 July 2024

The Potential for a Regional Label in SADC


- Further development of the SADC label will await the review of the South African EE Label which is expected to be finalised in the fourth quarter of 2024.
- Once concluded, development of a regional label will require a **regional logo** to be developed and the **terms of adaption and use of the South African EE Label** to be established.



If timelines proceed as planned and the process is concluded successfully, a regional label could be adopted for lighting and residential air conditioning equipment before the end of 2025.


More Information is Available...

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Mapping and Review of EE Labels and Policies in SADC


Provision for Services for the Development of Regional Energy
Efficiency Labels in SADC and EAC Regions




Efficient electricity use in homes, businesses and public facilities in these growing regions is one of the fastest and cheapest ways of accelerating sustainable development.

M2S2 Energy and Partners
UNIDO Contract No. 3000124388


31 July 2024





Overview of the Development and Management of Energy Labels in Kenya and South Africa


Provision for Services for the Development of Regional Energy
Efficiency Labels in SADC and EAC Regions




Efficient electricity use in homes, businesses and public facilities in these growing regions is one of the fastest and cheapest ways of accelerating sustainable development.

M2S2 Energy and Partners
UNIDO Contract No. 3000124388


31 July 2024





Development of Energy Efficiency Labels in SADC and EAC Regions: Label Options for the SADC region


Provision for Services for the Development of Regional Energy
Efficiency Labels in SADC and EAC Regions



Efficient electricity use in homes, businesses and public facilities in these growing regions is one of the fastest and cheapest ways of accelerating sustainable development.

M2S2 Energy and Partners
UNIDO Contract No. 3000124388

3 October 2024



Thank you for your time and attention.

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Backup Slides

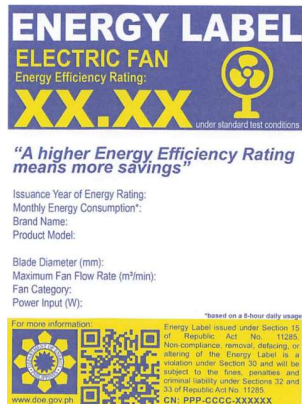


Comfort Fans

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Philippines



Pakistan



- SADC has not yet adopted a harmonised test standard for comfort fans
- Having one test standard for the region is a pre-requisite to having an energy label
- An energy label could be designed in a consistent manner with the labels for lighting, A/C and refrigeration
- Comfort fan efficiency depends on the motor efficiency, the blade efficiency and the baffle / protective cage
- Energy labels could play a critical role in helping consumers in SADC identify and select more efficient models.

Recommendation: Develop and adopt a regionally harmonised test standard for fans, then develop a label consistent with the SADC label design selected for lighting, AC and refrigerators.

Electric Motors

Efficiency Code

This shows the percentage of the input power that is actually converted to work output from the motor shaft.

The motor will have a "nominal" efficiency shown on the plate, this is the average efficiency. The closer this value is to 100%, the lower the electricity consumption cost is going to be.

The four levels of motor efficiency are

- IE1 – Standard Efficiency
- IE 2 – High Efficiency
- IE 3 – Premium Efficiency
- IE 4 – Super Premium Efficiency

In our example, we are shown an IE Code of IE3 which indicating premium efficiency.

W22 Premium

IE3 - 91.2%

33FEV10 0000000000

S. FRAME 132W 40°C INS. CL. F Δ 80 k 1 P55 DUTY S1

S.F. 1.00 AMB. 40°C ALT. 1000 m.a.s.l.

V-Δ Hz	kW	min ⁻¹	A	P.F.
380/660		1460 14.4/8.29	0.87	
400/690		1465 13.9/8.06	0.85	
415/-	50	1470 13.5/-	0.84	
440/-		1760 13.9/-	0.87	
460/-	60	1765 13.5/-	0.86	

MOBIL POLYREX EM 78 kg

6308-ZZ
6207-ZZ

VDE 0530
IEC 60034



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- Electric motors already have an IEC nameplate. IEC standards require that motors to report their % energy efficiency and IEC IE class on the nameplate.
- Electric motors are not purchased in retail establishments by the general public, they are specified and procured by sophisticated consumers who know their application requirements and consider running costs. Nameplate efficiency and IE class is already factored in.
- Requiring additional labelling to electric motors would add cost for negligible impact in the market.

Recommendation: No energy-efficiency label for electric motors; the IEC nameplate already contains the efficiency information needed for B2B transactions.

Productive Use of Energy (PUE) Equipment: Endorsement label based on VeraSol

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- PUEs include (1) a diverse range of equipment; (2) with limited test standards; (3) custom/home-made equipment; and (4) a limited number of accredited labs.
- New standards are being developed with IEC for off-grid appliances. Standards for three sets of appliances are available or planned and could be suited to a label in the short to medium term:



Recommendation: Develop and adopt a regional endorsement label based on the criteria established by the VeraSol programme. Start with Solar kits and off-grid refrigeration.