

A USER GUIDE TO
**Mandatory Minimum Energy
Performance Standards (MEPS)
and Compulsory Energy
Efficiency Labelling**



Implemented in partnership with:

Department of Trade, Industry and Competition (the dtic)

Department of Forestry, Fisheries and the Environment (DFFE)

National Regulator for Compulsory Specifications (NRCS)

The South African National Energy Development Institute (SANEDI)

South African Bureau of Standards (SABS)

National Consumer Council (NCC)

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WELCOME NOTE

Welcome to the South African Energy Efficiency Label User Guide which is designed to inform and assist industry and other role-players regarding the Department of Mineral Resources and Energy's Appliance Energy Efficiency Standards and Labelling (S&L) programme. The guideline covers electrical products' energy efficiency, mandatory minimum energy performance standards (MEPS) and compulsory energy efficiency labelling in South Africa; and it unpacks the various regulatory obligations involved. This is a resource to be used nationally by all stakeholders affected by the implementation of the programme including government departments and regulatory bodies, manufacturers, importers, distributors, retailers, industry associations, interested parties (academia, NGOs, international community), or consumers looking for accessible and reliable information about the programme.

The guideline consists of three sections and an Annexure. Section 1 provides an overview of the national policy drivers that make the S&L programme a national priority project. It also details the strategic partnership that the DMRE has with the Department of Trade, Industry and Competition (programme implementation) and the Department of Forestry Fisheries and Environment (custodian of national climate change obligations).

Section 2 provides detailed information about the programme's processes and mechanics. It is presented in the simplest format in order to assist industry stakeholders to comply with the set MEPS. Section 3 then looks to the future and informs industry of government's plans for the strategic expansion of the programme. Finally, the Annexure details the technical information and design specifications to be contained in the label.

In conclusion, it is inspiring to note the programme's global and domestic success. From its humble beginnings in 2011, S&L has advanced to become a significant delivery mechanism in realising the goals of government's National Energy Efficiency Strategy; and has already resulted in considerable reductions in national energy usage and greenhouse gas emissions. On the world stage, its progress has caught the attention of the international community – making South Africa a valued global S&L partner. And nationally, the S&L programme steadfastly contributes towards safeguarding energy security, by reducing residential consumption during peak demand periods, thus allowing existing power supplies to achieve more for less. Most crucially, by enabling all South Africans to purchase more energy efficient products, the S&L programme is putting money into consumers' pockets, through the ongoing, long-term energy cost savings that energy efficiency guarantees.

**South African National Department
of Mineral Resources and Energy**
June 2022



SECTION 1. STANDARDS AND LABELLING (S&L) PROGRAMME: BACKGROUND AND RATIONALE

The central aim of the programme is to promote efficient household energy use by removing inefficient appliances and encouraging the penetration of higher energy efficient (EE) appliances in the South African (SA) market.

1.1 Why EE is a government policy priority

1.1.1 EE is vital to SA's economic development and energy security

Sustainable socio-economic development is powered by equitable access to energy. This makes energy security a key national priority, in line with SA's National Development Plan 2030 (NDP). To achieve this, increased available power and dependable energy supply must also be matched by efficient energy use. The more efficiently electricity is used, the less is the day-to-day pressure on the power system and the greater its ability to meet the nation's growing energy needs sustainably and cost-efficiently. In doing so, it can delay, or even avoid, the construction of new power generation plants. A significant reduction in residential energy demand, therefore, forms a core component of the nation's overall EE priorities. And it is a key aspect of the National Energy Efficiency Strategy (NEES) of 2005 and post-2015.



Energy security =
Ensuring an uninterrupted supply of energy at an affordable price. EE is crucial to this.

The NEES is driven by the Department of Mineral Resources and Energy (DMRE). Through the DMRE, the SA government is acting on the pressing need to decouple economic growth from energy consumption – recognising the long-term economic benefits of EE. Indeed, these benefits are so great that EE is referred to as the 'first fuel', because it is the fuel you do not have to use and therefore do not need to generate. With technology constantly improving and electrical devices continuously becoming more energy efficient, this 'first fuel' is not only abundantly available and cheap to

extract, but it is constantly growing as efficiencies increase. (IEA <https://www.iea.org/commentaries/energy-efficiency-is-the-first-fuel-and-demand-for-it-needs-to-grow>)



Vision of Post-2015 National Energy Efficiency Strategy (NEES)

To promote energy efficiency in driving balanced, socially inclusive and environmentally sustainable economic growth, boosting job creation and leading technological innovation across the region.



The SA government recognises these attributes, and the DMRE, which is the owner of the national energy policy, has prioritised the S&L programme and considers it a flagship project.

As energy policy owner, the DMRE is the key custodian of the S&L programme.

1.1.2 EE is crucial to decarbonisation and SA's global climate commitments

SA is a signatory of the Paris Climate Agreement and is strongly aligned with the global drive to decarbonise the economy and reduce greenhouse gas (GHG) emissions. So much so, that the Presidential Climate Commission (PCC), formed in late 2020, is chaired by the President and reports directly to the cabinet. A key aspect of the Paris Agreement is that signatory countries outline and communicate their climate commitments and actions, known as their Nationally Determined Contributions (NDCs).



Nationally Determined Contributions (NDCs) outline a nation's action plan for emissions reduction and climate change mitigation.

SA's NDCs – updated and enhanced in 2021 with the decisive influence of the electricity bills – fall under the ambit of the Department of Forestry, Fisheries and the Environment (DFFE). These NDCs are only achievable via the combination of a more diverse energy generation mix and efficient energy use thus; SA's ability to deliver on its international climate commitments is directly linked to the S&L programme.

The DFFE is therefore another significant stakeholder in the S&L programme.

1.1.3 EE is a key driver of a competitive national economy and benefits consumers

Rising electricity tariffs mean that old appliances with outdated and inefficient technology will now cost more to operate, creating unnecessary monthly household expenses, which many can ill afford and that become truly substantial over time. By switching to EE appliances, consumers can create significant long-term savings on their energy bills. Simultaneously, by drawing less energy, efficient appliances reduce household demand, especially during peak periods, alleviating the total demand on the power supply. This supports grid stability and in turn uninterrupted availability of electricity. Ultimately, the hefty increases in electricity tariffs that have continued over several years make EE a powerful tool in protecting consumers from energy poverty – particularly low-income households and vulnerable communities.



EE appliances save households on their monthly electricity bills – while putting the electricity grid under less pressure, particularly during peak demand times.

Moreover, product supply chains are becoming increasingly global. Successful global trade integration, however, depends on products meeting international standards for technical, health, safety, and environmental performance – made mandatory by national regulation. This also increases trade between signatories of international accords such as the Paris Climate

32,55%



HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS

Statistics SA's 2015 Living Conditions Survey found that as much as 32.6% of household consumption expenditure goes to housing and utilities – the largest expense category.
Of this, 3.6% is spent on energy.

Agreement and members of global structures such as the World Trade Organisation (WTO), who have made similar commitments and set relatively equivalent standards and regulations.

For SA within this context, market regulation is thus key to achieving national policy imperatives. These include improving competitiveness to stimulate private sector investment and increase exports; the promotion of local manufacturing; employment creation; consumer protection and discouraging the 'dumping' of inferior imported products – while contributing to international climate change obligations.



Compliance with globally consistent, well-regulated national standards, reduces costs for both consumers and producers.

It eliminates adaptation per individual export market for producers, with savings from economies of scale in production, passed on to consumers

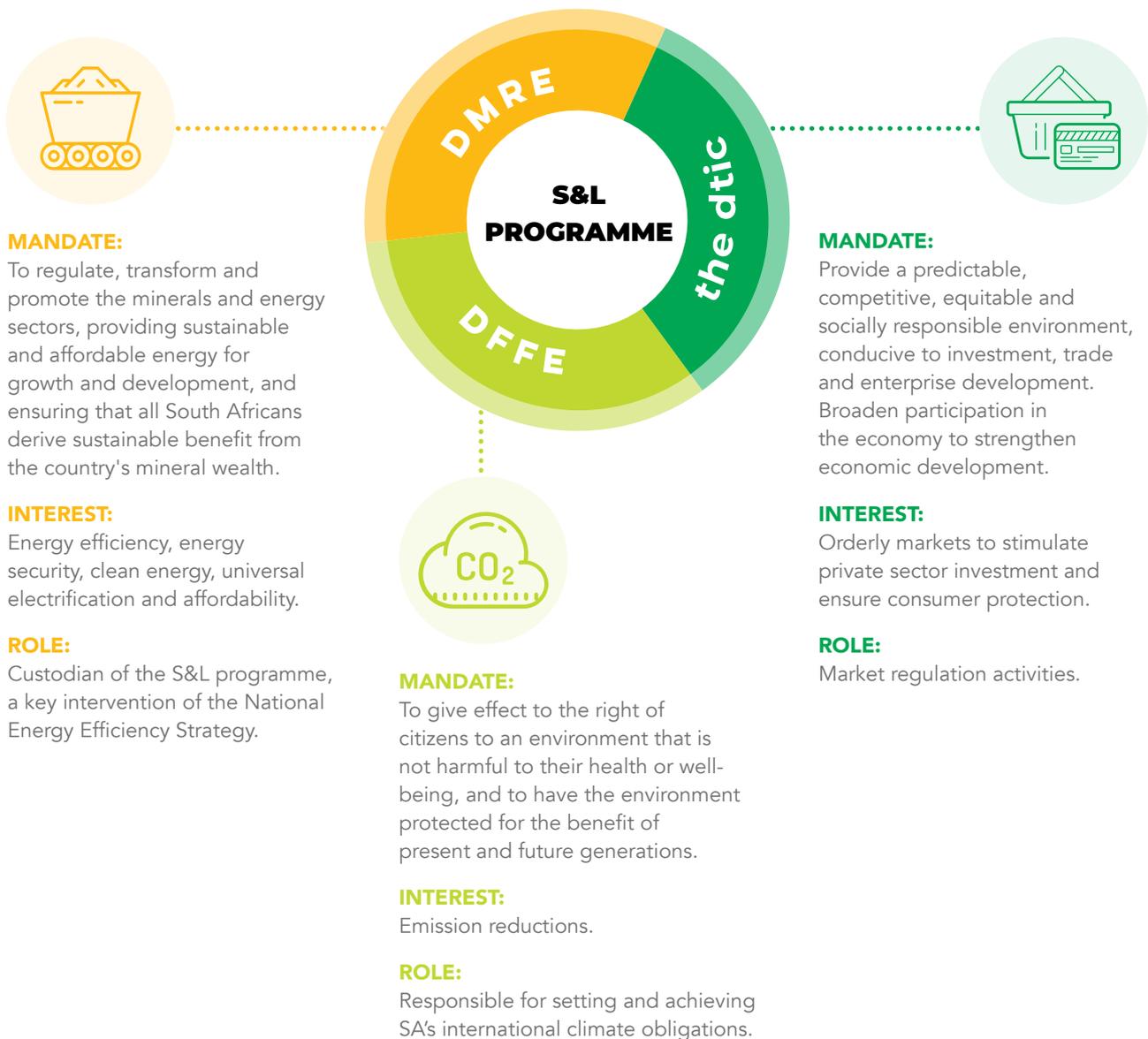
To achieve the benefits of trade integration, conformity assessment is key. It is the process used to demonstrate that a product meets specified requirements. It involves testing to an established performance standard, as well as inspection, quality management, surveillance, accreditation and declaration of conformity – whether imported or manufactured locally.

In SA, conformity assessment is dealt with by the Department of Trade, Industry and Competition (the dtic) and its agencies, the South African Bureau of Standards (SABS), the National Regulator for Compulsory Specifications (NRCS) and the National Consumer Council (NCC). The NRCS is mandated by law to administer and maintain

compulsory specifications in the interest of public safety, health, and environmental protection – and thus by extension those relating to EE. SABS is the country's national standardisation body and also provides testing and certification services. The NCC is the primary regulator of consumer-business interaction. These dtic agencies are the S&L implementing agents.

As custodians of fundamental facets of the S&L programme, the dtic and its agencies – the NRCS, SABS and NCC – are essential role-players.

The figure below summarises the role that the S&L programme plays in meeting key objectives of the DMRE, **the dtic** and DFFE.



1.2 How and why S&L programmes work

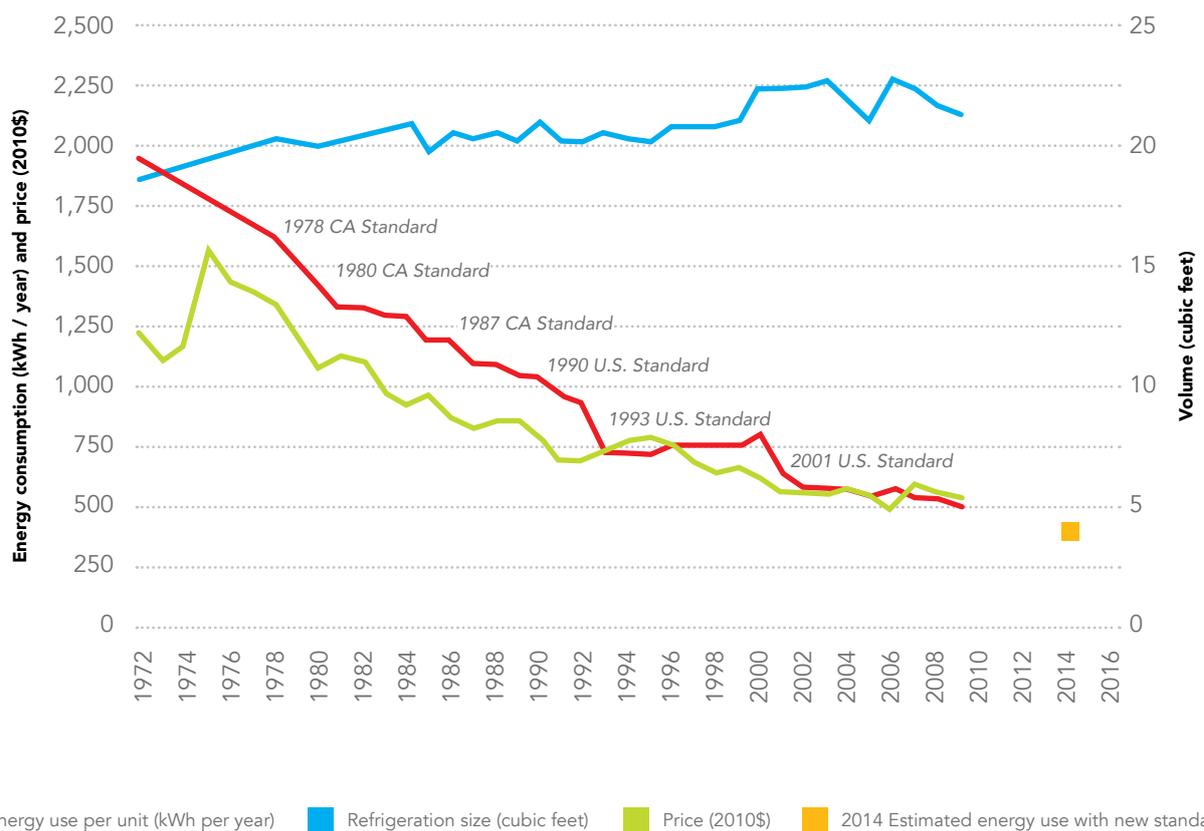
S&L programmes enable the improved EE of electric products by implementing the dual mechanisms of mandatory minimum energy performance standards (MEPS) and EE labelling.

1.2.1 MEPS

MEPS are specifications that contain several performance requirements for an energy-using device. These effectively limit the maximum amount of energy that a product performing a specified task can consume, and must be complied with by law. MEPS are now widely accepted as a key central

policy instrument to promote EE in electrical apparatus used in the home, business and industry. By banning the worst-performing appliances from the market, manufacturers are driven to further innovate while consumers are strongly encouraged to adopt more EE technologies. This is best demonstrated by the experience of California where the first standards were implemented in the early 1970s in response to the global oil crisis. After 50 years, an average refrigerator uses less than a quarter of the energy that it did, is larger but cheaper while it includes more features than ever before.

Average household refrigerator energy use, volume, and price over time



Sources: Association of Home Appliance Manufacturers (AHAM) for energy consumption and volume; U.S Census Bureau for price

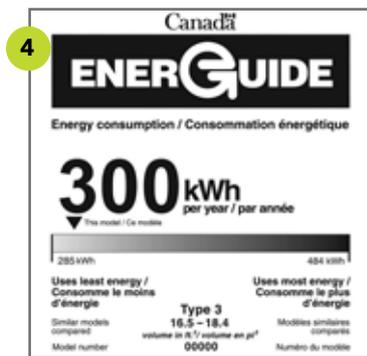
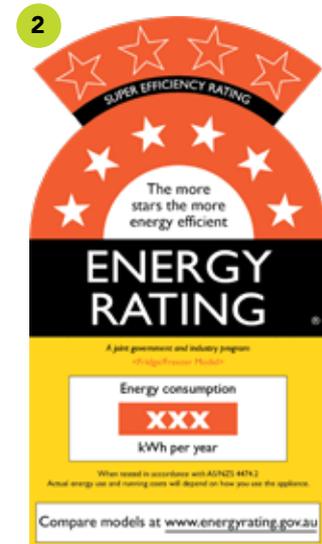
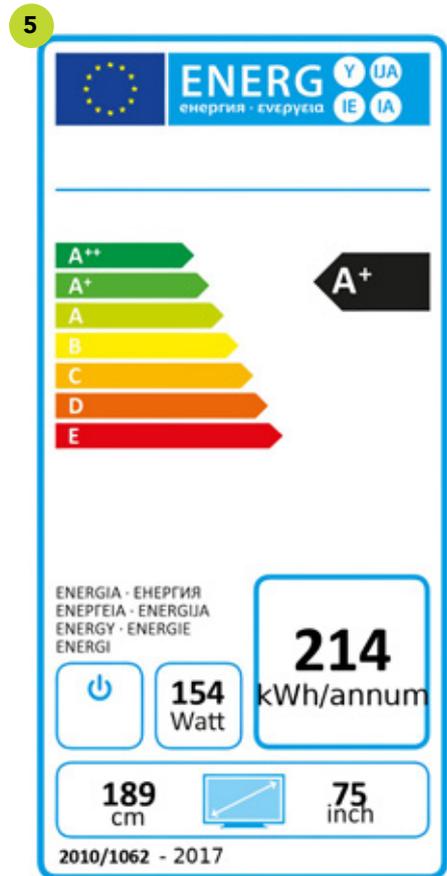
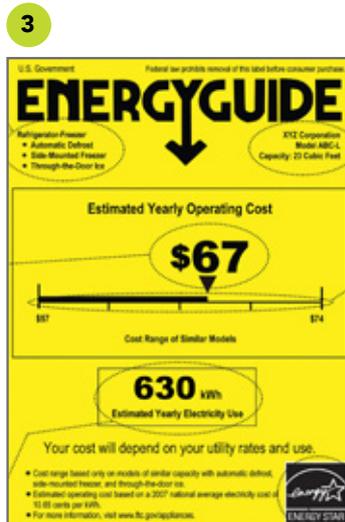
1.2.2 Energy efficiency labels

These are informative labels affixed to manufactured products to describe a specific product's energy performance (usually in the form of energy use, efficiency or energy cost). These labels give consumers the data necessary to make informed purchases regarding consumption, and therefore long-term running expenses. There are two types of labels – endorsement and comparative labels. The first is essentially a 'seal of approval', while the latter allows consumers to compare performance among similar products, using either discrete categories of performance or a continuous scale. Two label designs dominate – the report card and the star rating. By way of example, the US and Canada use a continuum approach to depict performance, while SA adopted the report card design model. Images of various EE labelling formats, as discussed above, are shown below.

EE labelling prominently displays key information about products' particular EE performance levels and specifications – essentially acting as confirmation of a certain level of expected efficiency. In SA, regulated products must meet the requisite MEPS as set out in the relevant regulation, and prominently display the required EE labelling without which they cannot be bought or sold. This also applies to products sold online. All relevant regulations can be found on the www.savingenergy.org.za website, under the Regulations and Standards menu item.



Display of SA's EE label only applies to the sale of new products. It is not applicable to the pre-used market.

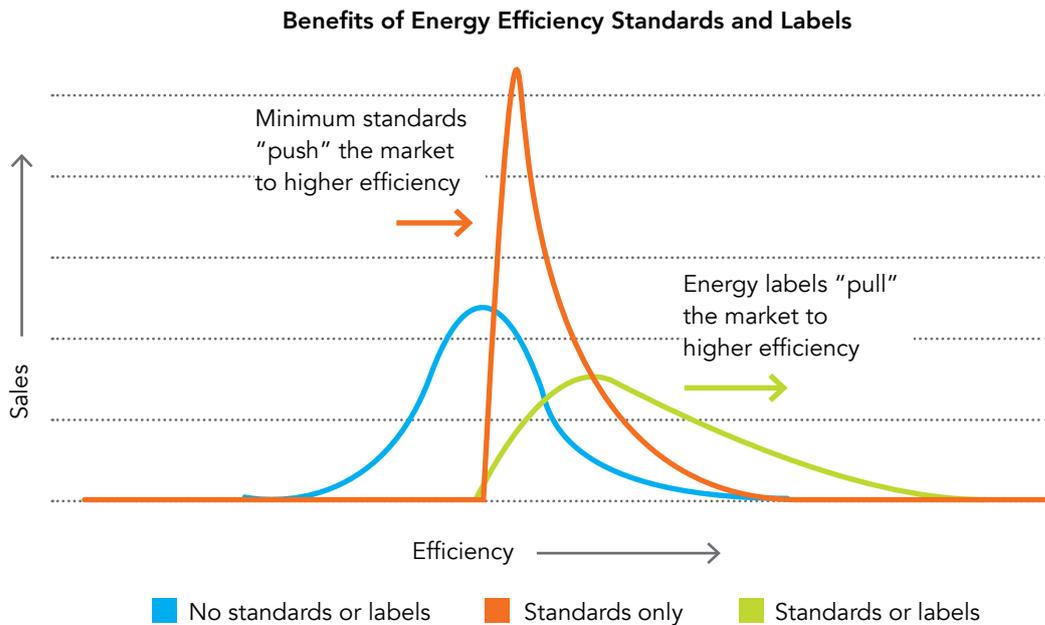


- ① Thailand
- ② Australia
- ③ USA
- ④ Canada
- ⑤ EU

1.2.3 Combining MEPS and EE labelling

MEPS and EE labelling only work optimally when combined. MEPS push the development and manufacture of more EE products. And EE labelling enables informed consumers to demand

higher efficiency – thus creating a market pull. The graphic below illustrates the combined impact of MEPS and EE with the push-pull combination clearly achieving the highest level of efficiency.



1.2.4 Global and national success

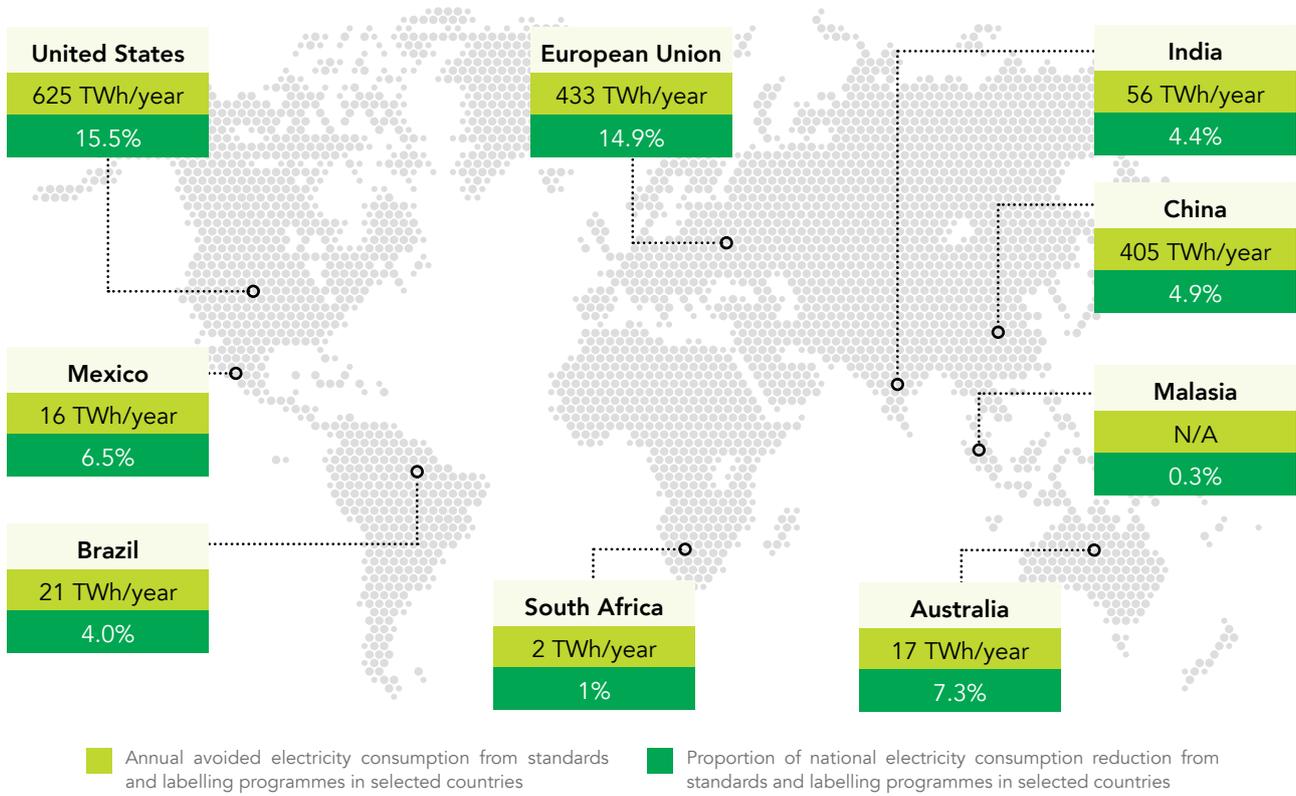
The proven effectiveness of S&L programmes has now made them routine around the world. According to the International Energy Agency (IEA), ‘S&L programmes for appliances and equipment now operate in more than 120 countries around the world and provide the cornerstone of most national energy efficiency and climate change mitigation programmes.’ Globally, there are more than 400 MEPS, covering 100 products, across eight different product categories. MEPS, supported by labelling, are the singularly most important driver of market transformation to higher efficiency products.



Over 120 countries now have S&L programmes – up from 80 when SA’s programme began.

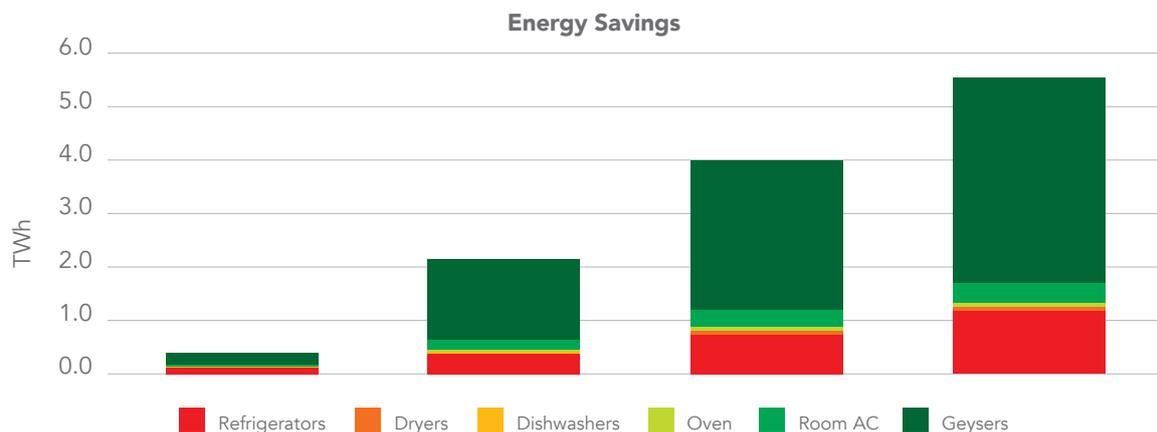


The SA S&L programme is an active member of this international community, and regularly cooperates and interacts with programmes in other regions. As the graphic from a recent IEA publication shows below, SA now features internationally in terms of reduced energy consumption created by its S&L programme.*



The success of the SA S&L programme is also reflected in energy savings for the country. The set of energy performance standards introduced for household appliances and hot water storage (see VCs 9006 and 9008 in Chapter 2) was estimated to have achieved 2.15 TWh of savings by 2020, and is projected to save 5.55TWh by 2030. To provide perspective, 5.55TWh is equivalent to the annual power output of an 800MW coal plant.

As illustrated below, water heating (or geysers) has by far contributed the largest share of electricity savings followed by refrigeration and air conditioners (AC). The regulation for geysers was a major step forward with the introduction of a B standard in a market originally dominated with technologies at C and D level.



Source: Lawrence Berkeley National Laboratory (2018).

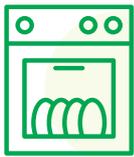
* SA energy savings - Energy and GHG Emission Savings (2014) Lawrence Berkeley National Laboratory

SECTION 2. IMPLEMENTATION OF THE S&L PROGRAMME IN SA

Implementation consists of four interconnected components: (i) performance standards, (ii) appliance labelling, (iii) market surveillance and testing, and (iv) consumer protection and empowerment.

2.1 Minimum energy performance standards in SA

SA adopted MEPS for the most commonly used household appliances, electrical water heaters and lighting as illustrated below.



Dishwashers



Washer-Dryers



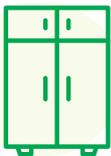
Washing Machines



Tumble Dryers



Electric Ovens



Fridges and Freezers



Water Heaters



Air Conditioners



Light Bulbs



Audio-Visual Equipment

SA MEPS are based on national standards which have been adopted from International Electrotechnical Commission (IEC) standards. The one exception is the MEPS for electric water heaters which references a locally developed standard – SANS 151. Aligning the country's requirements to international standards offer practical and cost-saving benefits to the supplier, the country and the consumer. Adoption of the same specifications and test procedures, and mutual recognition of test results, reduce the manufacturer's additional effort and costs to qualify their products for the SA market. These cost savings ultimately benefit the consumer, to whom additional costs would have been passed on. It also reduces the burden on the Regulator to test compliance of all new market entrants against a unique country-specific standard.

Compulsory specifications (or technical regulations) for EE and labelling have been promulgated for the illustrated electrical products, as follows:

- VC* 8043: Incandescent lamps (SANS 60357/60064)

*VC is a historical acronym which stands for Verpligtend Compulsory

- VC 9091: Single-capped fluorescent lamps (SANS 60901/60969)
- VC 9006: Hot water storage tanks for domestic use (SANS 151)
- VC 9008: Electrical and electronic apparatus (SANS 941), including:

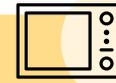
<i>Standby</i>	SANS62301/62087)
<i>Washing Machines</i>	SANS60456
<i>AC</i>	SANS54511-3
<i>Dishwashers</i>	SANS50242
<i>Oven</i>	SANS60350-1
<i>Fridge and Freezer</i>	SANS62552
<i>Tumble Dryers</i>	SANS61121
<i>Washer Dryer</i>	SANS50229



National standards remain voluntary unless converted by a regulation to a compulsory specification that makes compliance to the standard mandatory.

The promulgated regulations (published as a VC) also bring into effect the corresponding South African National Standards (SANS) for the regulated products. These are indicated in brackets for the above list. The national standard provides supplemental information regarding performance requirements and testing methodologies that are applicable to the product type. SANS are developed by a technical committee (TC) that includes industry experts and policy-makers with oversight by the SABS. The TC will always seek to adopt an International Electrotechnical Commission (IEC) – or otherwise internationally accepted, standard for the reasons already provided above.

To drive innovation and increase EE, best international practice dictates that MEPS should be reviewed and revised regularly to keep up with global technological developments. Ideally, this should be done every three, but not longer than five, years. This is to ensure SA does not become a dumping ground for technologies that are no longer welcome in other countries.



SECOND HAND / USED APPLIANCES

In terms of Section 14 of the NRCS Act, mandatory specifications also apply to second hand appliances when imported into the country, whether for retail or as a donation.

This means products that do not meet the MEPS will not be allowed market entry, irrespective of whether they are second hand and/or provided for free.

When introducing new or strengthening existing MEPS, the preferred new level of regulation is selected based on a comprehensive cost-benefit analysis (CBA). The CBA considers costs and benefits, consumer impact and socio-economic impact to recommend the most cost-effective performance level to set.

ASSESSING THE COSTS AND BENEFITS OF MEPS

MEPS are set following due consideration of the costs and benefits for the country.

When updating MEPS, any energy savings that were already achieved are quantified with the associated savings to the economy and stakeholders. Similarly, potential savings are modelled on a set of assumptions for various new MEPS levels.

The viability of strengthening the MEPS is considered with respect to:

- Advances in the energy use or efficiency of the appliance type.
- Incremental cost of products at higher EE rating levels.

- Life cycle costs of operating the higher efficiency appliance and the expected payback period for the consumer.
- Efficiency level of appliances available from the country's major trading partners or importers.
- Local manufacturing facilities and the impact on local production if the MEPS are adjusted.
- Estimating the future annual total electricity and GHG emission savings and their contribution to the NDC targets.

By quantifying and weighing these costs and savings, the CBA helps identify when the benefits exceed the costs and thus can recommend a preferred level of regulation.

As part of the revision process, the compulsory specifications are periodically revised and the MEPS strengthened (refer to Section 3 for the latest developments).

On promulgation of a new mandatory specification, a timeframe (typically 12 months) is allowed before the Regulation takes effect. This window period allows suppliers and retailers to phase out old, non-compliant stock. When the Regulation takes effect, the sale of non-compliant, old stock becomes illegal, to be dealt with in accordance with the NRCS Act.

2.2 The SA energy efficiency label

All products regulated by a MEPS are required to display an EE label – this includes products sold online. SA has opted for a comparative label (refer to earlier Section 1.2 on EE labels) that provides consumers with information about the specific appliance’s relative level of energy use.

The label is designed to provide consumers with accurate information that allows them to compare the energy use of different regulated electrical apparatus when making a purchase decision. The expectation is that the availability of this information will encourage consumers to buy more efficient appliances.

The label also indicates to the consumer that the appliance is legally compliant and may be sold and used in SA. To carry the label with the EE Logo, the product has to have passed the SA certification requirements.

2.2.1 Energy use

The focus of the label is on energy performance, with the appliance’s energy rating indicated against a colour-coded grading scale that is located centrally on the label. In addition to the rating, energy consumption is also presented in kilowatt-hours (kWh) per annum or per cycle. Appliances that operate continually throughout the year, such as refrigerators, will have energy use indicated in kWh per annum. For appliances that are used as and when needed, such as washing machines and dishwashers, energy use is shown as kWh per cycle. The value shown on the label

SA ENERGY EFFICIENCY LOGO



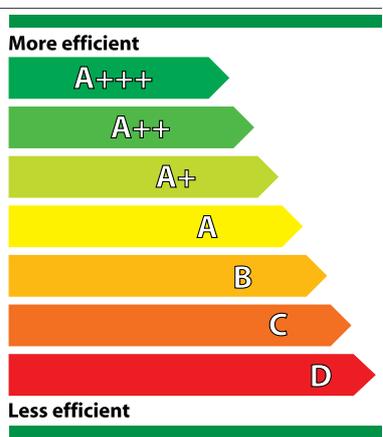
In SA, the DMRE has incorporated the national EE logo onto the energy label to communicate that S&L is a formal government programme.

This is in line with the international practice of countries customising their EE label to confirm compliance to national requirements.

is indicative of the energy used during a standard operating cycle at a standard setting used when testing all appliances of the type. In this way, the energy usage of one appliance can be compared to that of another when operated under standard conditions.

2.2.2 Appliance identification

The label also identifies the type of appliance, the manufacturer and the product model to confirm the appliance is carrying its correct label.



EFFICIENCY GRADING SCALE

SA’s energy label uses a seven-band grading scale to depict relative energy performance. The scale is shown with seven horizontal bars of differing length (longer using more energy, shorter using less) that are colour-coded from red (use more energy) to green (use less energy).

Each of the seven-bands is marked with a letter that shows the top and the bottom of the scale for the specific appliance category. Gradings are rated from an A+++ (indicating the best performing) to D, E, F or G (worst performing). For instance, for the example shown, the highest possible grade for this appliance category is an A+++ at the top of the scale and the lowest a D.

2.2.3 Additional appliance information

Depending on the type of appliance, additional information may also be provided such as water use, noise level and size or capacity. Additional information is useful to make a fair comparison between similar appliance models.

2.2.4 Elements of the label

The key elements of the energy label are introduced in the graphic below.

SA Energy Efficiency logo — points to the logo in the top left corner.

Energy grading scale: — points to the central bar chart. Text: "Colour-coded grading scale showing the top (in this case an A+++) and bottom (in this case a D) grading for this appliance type."

Additional information: — points to the bottom section of the label. Text: "Additional information for this appliance."

Product identification: — points to the top right section. Text: "Type of appliance", "Manufacturer", "Model".

Appliance rating: — points to the black arrow on the bar chart. Text: "The black arrow indicates the rating achieved by the specific appliance."

Indicative energy use: — points to the bottom right section. Text: "Energy consumption by this appliance under standard operating conditions."

ENERGY	
Fridge	
Manufacturer	
Model	
More efficient	
A+++	
A++	
A+	
A	
B	B
C	
D	
Less efficient	
Energy consumption, kWh/year <small>(based on standard test results for 24 h)</small>	XYZ
<small>Actual energy consumption will depend on how the appliance is used and where it is located</small>	
Fresh food volume, litre	YZ
Frozen food volume, litre	YZ
Noise (optional) <small>(dB(A) re 1 pW)</small>	YZ
<small>Further information is contained in the product brochure. Norm SANS 62552</small>	

2.2.5 Design specifications and appliance specific details

A style guide prescribes the colour palette, typography, font, logo placement, label placement, and label sizing as it pertains to different appliance types. It also prescribes the relative sizing of specific subsections within the label and the size of margins and borders.

These specific graphic design parameters are available in Annex A of this user guide. The Annex also illustrates the labels for each appliance type and sets out particulars regarding size, dimensions, and placement of the label on the appliance when displayed.

Retailers are required to display electrical appliances on the shop floor with a full-size energy label placed on the front, top left. **The display of the label is also mandatory for products sold**

online. For online sales, the product's energy class must be visibly presented as part of the product's online display. The whole label must be easily accessible online and energy performance details included in the product description. This ensures that all consumers have access to the same information and can make an informed choice. Consistent application of this requirement on all retail platforms also prevents unfair discrimination against direct sales.

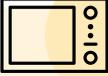
2.3 Market surveillance and testing

Once MEPS are in place, it is important to ensure the appliances available in the SA market comply with the mandatory requirements. This is vital to safeguard the energy savings and benefits of the EE programme for the country and consumers. A high level of compliance also safeguards industry players against energy inefficient, grey imports entering and competing on the market.

Globally, two regulatory systems exist: (i) First Party, a.k.a. the Supplier's Declaration of Conformity where the supplier or manufacturer demonstrates that the apparatus fulfils the specified national requirements (used in the EU); and (ii) the Third (3rd) Party approach, where the technical performance of apparatus is ascertained by an impartial, accredited test laboratory to demonstrate that it fulfils specified requirements. This is the preferred approach in the US and the one used in SA, where it adopts the following two-step process:

- **Conformity assessment or pre-approval.**
Assesses whether products meet the mandatory specifications before entering the market.
- **Monitoring, verification and enforcement (MVE).** Market surveillance to ensure product compliance, including sampling products for testing at an accredited laboratory, comparing test results to product application specifications and applying sanctions for non-compliance.

The NRCS also works closely with other government departments and agencies to support the MVE of regulated products. This includes close collaboration with the South African Revenue Service (SARS) to control the movement of regulated



A COMBINED COMPLIANCE APPROACH

Global experience has shown that effective market regulation depends on a combination of pre-certification and monitoring, verification and enforcement (MVE) to ensure market compliance.

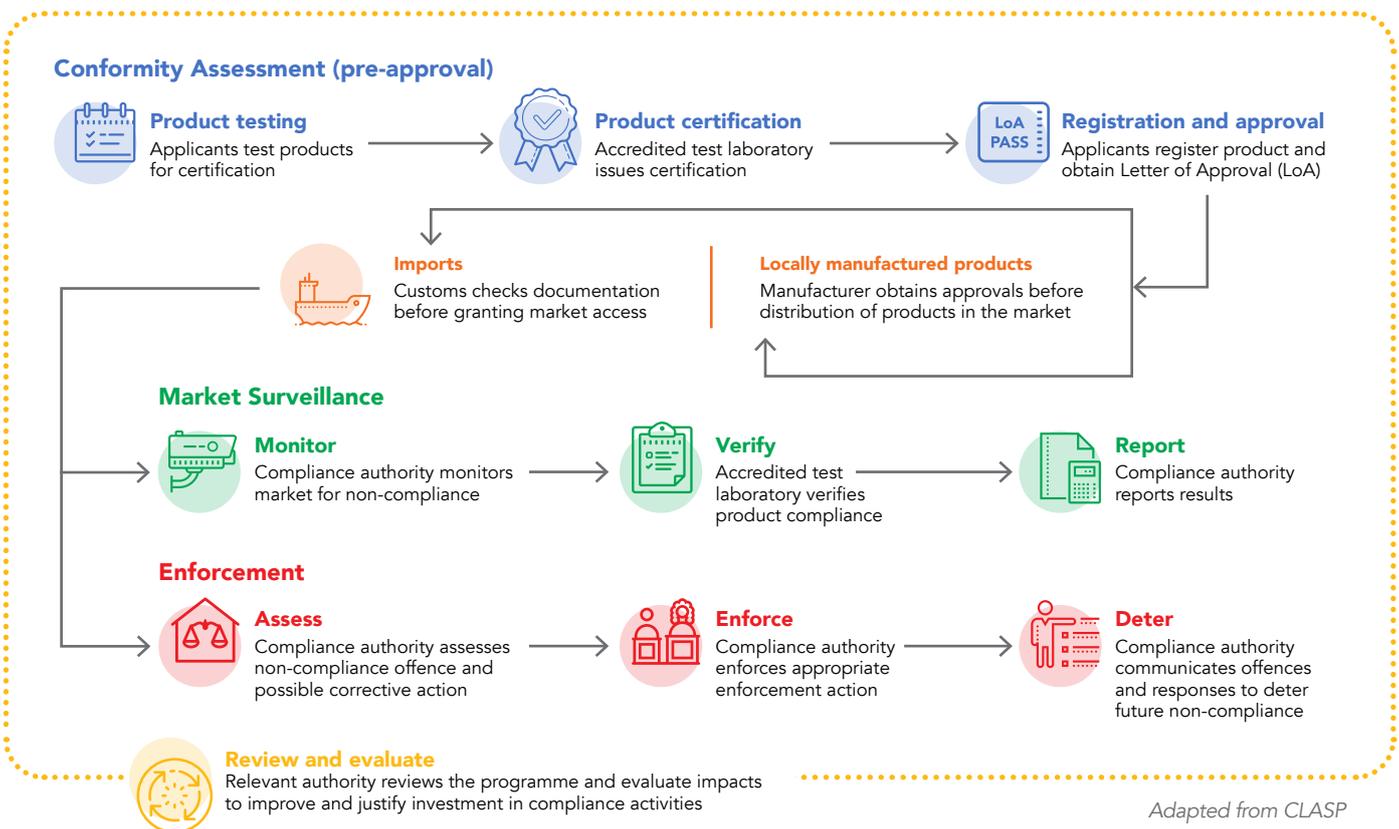
International case studies have shown compliance levels without any MVE at around 40%.

With effective MVE in place to support the regulation, compliance increases to 80%.

goods at the ports of entry and the SABS and other certified test laboratories for verification testing.

SA has accredited test facilities for both pre-approval and verification testing for most of the regulated appliances.

This holistic approach to ensuring compliance is illustrated in the diagram below.



Adapted from CLASP

2.3.1 Conformity assessment (pre-approval)

Conformity assessment or pre-approval involves evaluating regulated products before they enter the market to ensure they comply with the national requirements. In SA, the NRCS is responsible for evaluating the evidence of conformity for validity and conformity with the national requirements before approving a product for the SA market. The NRCS maintains a register of all products that have been granted approval in accordance with the requirements of the relevant compulsory specification.



Type of approval: Products that meet the requirements for safety and energy efficiency are issued a letter of authority (LoA) to confirm compliance with the relevant VC.

Products that are subject to MEPS are required to obtain two approvals, i.e. one for health and safety and one for energy performance. Both approvals must be in place before a product may enter the market.

By aligning with international standards, valid test reports from appropriately accredited and internationally recognised bodies can be submitted as evidence of conformity. This eliminates the need for retesting, so reducing the time and costs of bringing new product lines into the country. This facilitates international trade, while consumers benefit from a wider variety of products without additional costs.

From 1 April 2021 all applications for EE certification are processed through the online EE Database System available at: <https://www.applianceregistrationdatabase.org.za>. This significantly streamlines the conformity assessment process. The intention is for this database to be made available to consumers as an additional information resource where they can confirm the legal status and energy rating of the product they purchase.

2.3.2 Monitoring and verification

Market surveillance helps identify and remove non-compliant products that have entered the market. Surveillance is implemented by monitoring the market, physical inspections, sampling and testing products that fall under the regulations.

To verify compliance with compulsory specifications, NRCS market surveillance inspectors conduct inspections at manufacturer premises, ports of entry, importer premises and retailers – including online stores. They may also take product samples from the market to be kept as evidence or to be tested to verify compliance.

For the S&L programme, market surveillance includes: verifying that only products that meet the MEPS are available on the market, that they carry the compulsory EE label and that product labels are correct and show accurate performance information. Where concerns are flagged that cannot be resolved, products will be sent for verification testing against claimed energy performance.

2.3.3 Enforcement

Enforcement refers to the actions taken in response to non-compliance. It is intended to correct and discourage non-compliance by assessing the severity of cases and taking appropriate and proportionate enforcement action to deter future offences. Non-compliance can be addressed at the manufacturing or import stage or when cases of non-compliance are found in the market.

In SA, the NRCS Act provides a framework for enforcement that defines the procedures, responsibilities and penalties in cases of non-compliance. The framework provides for a suite of timely and appropriate sanctions in response to non-compliance offences. These may include stopping the sale of non-conforming products, recalling products from the market, confiscating products or product batches, destruction of products, instructing distributors to return products to their point of origin, and prosecution of offenders. The type of sanction imposed depends on whether corrective action can be taken by the offender.

Since the programme started, the Regulator has removed millions of rands worth of non-compliant products from the market, especially incandescent lamps and compact fluorescent lamps. A blitz carried out at the beginning of the program in 2015/16, yielded a low energy efficiency label compliance rate of approximately 14%, while a similar intervention in 2021/22 showed a compliance rate of approximately 86%.

2.4 Consumer protection and empowerment

Appliance standards and labels have been put in place to protect consumers against products that use a wasteful amount of energy. Market regulation and surveillance ensure that South Africans benefit from these intended savings. Product certification must be renewed every three years to confirm continued compliance. Various role players in the supply chain, including manufacturers, suppliers, distributors and retailers, carry a responsibility to ensure that the products in the market comply with mandatory specifications.

Consumer engagements, primarily in rural and peri-urban areas, are implemented to introduce the NRCS and its functions and create awareness among consumers regarding the services that are provided. This education drive includes raising awareness regarding the EE Label. Consumers are also made aware that they have the opportunity to raise product concerns with the NRCS. The NRCS deals with complaints from any party regarding any of the regulated products and services and supplies information to stakeholders and the public on all these issues.



Consumers, industry and retailers play a critical role in ensuring compliance.

Inspections are often informed by complaints or information submitted to the NRCS by concerned stakeholders. Suspected product non-compliance can be reported directly to the NRCS on **0800 214 719 / +27 12 4828 700** or submitted on the website **www.nrcc.org.za**.

Consumers are also protected under the Consumer Protection Act (CPA) which seeks to promote fair business practices and protect consumers. It establishes a comprehensive legislative framework that extends to all consumer-facing businesses that supply goods or services and regulates a wide variety of market practices that would include compliance with MEPS. The CPA establishes forums for consumer protection in the form of the National Consumer Commission and National Consumer Tribunal (refer to information box below).



NATIONAL CONSUMER COMMISSION
a member of the dti group

CONSUMER PROTECTION ACT (CPA) AND THE NATIONAL CONSUMER COMMISSION (NCC)

The S&L programme relies on consumers having (i) access to accurate information regarding the energy performance of electrical appliances in making purchasing decisions, and (ii) confidence in the performance of energy efficient products.

This right to mandatory and accurate information is protected under the CPA, which seeks to promote and protect the consumer interest; It affords consumers the right to redress; providing for a range of people to seek redress and for action to be taken against an infringement, or threatened infringement, of consumer rights, or prohibited conduct. As such, it is an important complementary tool to the NRCS Act in encouraging compliance.

Complaints can be submitted to the NCC to the NCC Call Centre: **012 428 7000** or via email: **complaints@thncc.org.za**.

Additional information regarding complaints can be found on the NCC website **www.thncc.gov.za**.

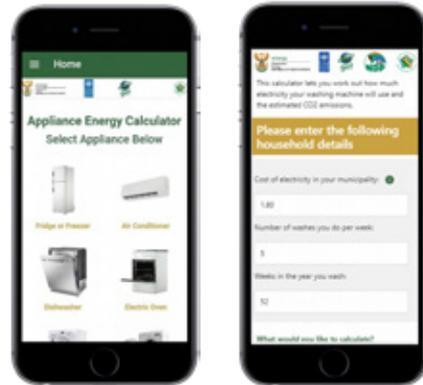
While MEPS ban the sale of the least efficient products, the EE label is a guide that empowers consumers to make a more efficient purchase. Ample online resources and tools are also available to support consumers with more informed product selection. These include:

- The www.savingenergy.org.za website provides a comprehensive set of resources with information for each appliance type, guidance for understanding the label and tips for using appliances even more efficiently.
- The website also links to appliance calculation tools to aid consumers to make more informed decisions by calculating the long term cost of running an appliance.
- An appliance energy calculator application is available for mobile phones to assist customers and retail staff to make in-store comparisons of different models. The smartphone app is freely available for download from both Android and iOS platforms. It uses information taken from the compulsory EE label on the appliance, as well as the price, to calculate the estimated running cost of the appliance over a one and ten year period. When comparing two appliances, it will identify the one with the lowest running costs.
- Multiplatform engagements using Facebook, Twitter, and Youtube for activation campaigns, to share news and updates and maintain consumer awareness.



TOOLS AND RESOURCES AVAILABLE TO SUPPORT CONSUMERS

ENERGY CALCULATOR APP



SAVING ENERGY WEBSITE



SOCIAL MEDIA PLATFORMS



South African Energy Efficiency Label



@SA_Energy_Label



SA Energy Label

SECTION 3. S&L FUTURE PLANS: NEXT STEPS FOR THE PERIOD 2022 TO 2027

The S&L programme plays a significant role in realising SA's national EE goals and substantial cost savings for energy consumers. So, it remains an ongoing government priority. Going forward, the programme will build on its current successes and activities, through many dynamic developments. These include:

1. Revising the existing MEPS.
2. Expanding the programme to include new appliances and other electronic apparatus.
3. Maximising the potential of digital tools such as the recently implemented online registration database and QR coding.
4. Redesigning the SA EE label to make it even more useful to all South Africans.
5. Strengthening industry and consumer communication and awareness activities.

3.1 Revision of MEPS

One of the key benefits of S&L programmes is that they drive constant product innovation to improve energy efficiencies. This means that MEPS should be consistently strengthened in line with technological advances – which makes their review an ongoing priority.



Today, the globally accepted benchmark for MEPS revision is every three, but no longer than five, years.

In SA, the current MEPS were set during a stakeholder consultation process in 2011, over a decade ago. Since then, technology improvements are delivering appliances with far better energy performance which, in many instances, makes the current MEPS obsolete.

To address this, in 2019 the DMRE's S&L project office undertook a detailed techno-economic study of existing MEPS and their potential for enhancement. Viable opportunities for improvement were identified for five out of the nine appliance groups that are currently covered. These were subjected to an intensive industry consultation process to review and revise the relevant MEPS. Recommendations from this process were presented to government and the DMRE issued a directive to the NRCS to revise the regulations accordingly. The agreed revisions are presented below.

Appliance	Existing MEPS	New MEPS	Proposed effective date
Standby Power AV	1W	0.5W	Earliest possible start
Electric Ovens	Small = A Medium = A Large = B	Small = A Medium = A Large = A	N/A N/A New date to be confirmed by the relevant authority*
Dishwashers	A	No change	N/A
Washer Dryer	A	No change	N/A
Washing Machines	A	A+	2022
Tumble Dryers	D	C	New date to be confirmed by the relevant authority*
Refrigerators	B A	A A+	New date to be confirmed by the relevant authority* 2026
Freezers	C A	B A+	New date to be confirmed by the relevant authority* 2026
Air Conditioners	B	A	New date to be confirmed by the relevant authority*

*Note: Although the amended VC9008 was expected to come into effect in 2021, it has been delayed by the COVID pandemic. It remains a priority for the Government of South Africa and a revised implementation date is under review.

To quantify the additional energy savings that would be achieved from the revised MEPS, the DMRE, supported by Lawrence Berkely National Laboratory in California, modelled the impact. The benefits are significant:

For consumers: revised MEPS mean the cumulative effect will be to reduce operating costs of their electric equipment by R15.1 billion in 2030. It's a huge cost saving for the nation. It is estimated that the benefits from the 2015 MEPS (as detailed in Section 1.2.4) will be increased by:

3.5 terawatt-hours (TWh) will be saved by **2030**
and **4.5** TWh will be saved in **2040**

2.15 megatons (Mt) of CO₂ will be mitigated by 2030 and **2.74** Mt in 2040



3.8 billion litres of water consumption avoided by 2030, representing approximately 60 litres per capita in 2030

2.3 kilotons (kt) of particulate emissions will be avoided, as well as 2.5 Mt of sulphur oxides (SOx) and 13.5 kt of nitrogen oxides (NOx) in 2030



3.2 Expanding the S&L programme

Recognising the high potential and effectiveness of S&L as a national energy savings mechanism, the SA government will seek to expand the number of regulated products over time. As part of this expansion, a market study was undertaken in 2018 that identified an additional set of electrical equipment. This equipment was not limited to residential appliances, and the chosen apparatus were

identified and assessed in a five-stage process (illustrated below). The assessment began with 96 candidate products that were distilled down to eight through an elimination which considered factors such as: penetration rates, availability of national standards, energy saving potential and ease of adoption.



The assessment process shortlisted the following items for further consideration:

 <p>Heating and cooling equipment</p> <ul style="list-style-type: none"> • Chiller systems 	 <p>Household appliances</p> <ul style="list-style-type: none"> • None
 <p>Office equipment and electronics</p> <ul style="list-style-type: none"> • Computers • Televisions • External power supplies 	 <p>Other equipment (mostly commercial and industrial)</p> <ul style="list-style-type: none"> • Motors – 3 phase • Pool pumps • Refrigerators – commercial • Distribution transformers

The assessment process informed further studies and led to the following implementation actions:

1. Electric motors: A techno-economic study was completed in 2022 and the DMRE has directed the NRCS to introduce MEPS at the IE3 level for motors sized between 0.75 and 375kW. It is expected that these will come into effect in 2023.
2. Televisions and electric monitors: A techno-economic study was started in 2022 and is expected to be completed during 2023.
3. Streetlighting: Lighting is an important public service that stands to benefit from technology improvements. Minimum performance specifications, that also address energy consumption, have been finalised and will come into effect in the near future.

3.3 Online registration database and QR code

The online product registration system has proven a success since its launch in April 2021. Further development is planned for the system, that will enhance the efficiency and effectiveness of product registration (significantly reducing processing time) while providing an easy interface for the efficient tracking of approval processes.

The system’s interface and database capabilities are also being expanded, to eventually provide consumers with access to the complete database of all registered household appliances in SA. The vision is for it to become a single repository and a source of key data about any regulated electrical product, including its specifications and user guide. It is foreseen that the stored information

and data will ultimately be accessed via QR codes that will seamlessly interact with the database. QR codes are already being integrated into EE labels around the world. SA will follow suit as part of the redesign process of the current EE label (detailed in section 3.4 below).

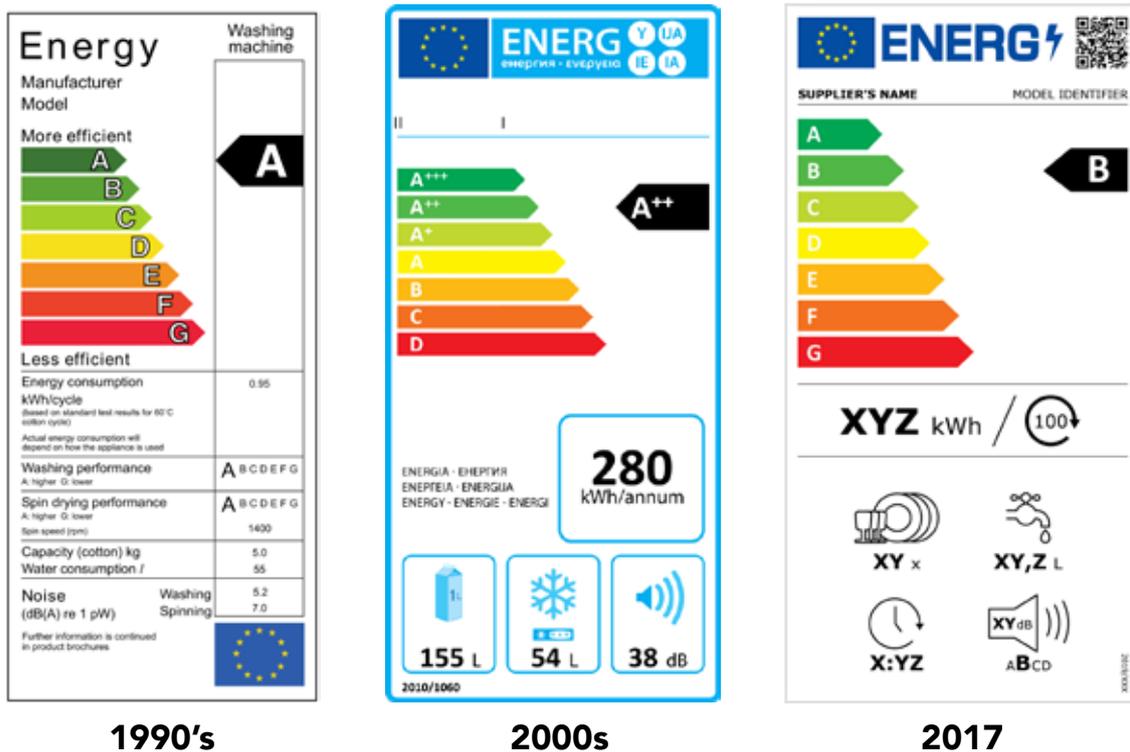


The online registration database facilitates product registration and stores key product information.

3.4 Redesigning SA's EE label

As stated earlier, EE label designs are not static. They change with time to become more relevant and useful – both in the information they communicate and how they display it. This is clearly demonstrated in the figure below that depicts the evolution of the EU label for washing

machines. With each revision, the label has been simplified. It now also includes a QR code and a simplified grading system achieved by reverting to the original A to G scale and eliminating the A+, A++ and A+++ energy classes.



As a nation continuing to play a leading role in EE, SA too is in the process of redesigning the current EE label to make it even more relevant. The redesign is based on the outcomes of two developments, as follows:

1. The findings of extensive research about appropriate international trends in EE label design.
2. The results of an extensive SA consumer survey and industry consultation. These engagements assessed various label designs to find the best way to provide useful product information via the label to South Africans of all backgrounds and literacy levels.

Most encouragingly, the survey found that consumers of large electrical appliances recognise the label and are increasingly motivated to buy

as high up on the energy scale as their budget allows. The new EE label is being designed to be more understandable; to better support the decision-making process; and to encourage greater interaction with the label and additionally available data when purchasing major electrical appliances.



The existing EE label is being redesigned to be even more useful to all South Africans. The current label remains in use until the redesign is formally complete and officially replaced by a government announcement

The primary EE label design changes are explained in the following section.

3.4.1 Expanded use of infographics

As already mentioned, more information on the label will be displayed in infographic format instead of text. Icons have been used effectively in the EU, which also faces the challenges of multiple official languages. The proposed visual elements were found to be very useful by all surveyed consumers and industry stakeholders.

3.4.2 Rescaling of energy classes

Here again, the findings from the in-depth SA surveys and international research coincide. In SA and the EU, the energy scale on the current label was often found to be confusing – going up to A+++, A++, or A+ for some appliance types and not others. Survey feedback suggested that the use of + signs impacted how the highest efficiency levels are perceived. For instance, the perceived improvement of an A++ over an A+ was less than the improvement of an A over a B rated appliance. With technological advances, most appliance types are now available with an A+++ efficiency level. This allows for a consistent rescaling across all appliance types, with the highest available level restated as an A. This means that the future SA EE label will revert to a simple A to G energy class scale for all types of appliances.

3.4.3 Incorporation of a QR code

QR code technology has fast-become a seamless way to access data and content stored online. Users request information by scanning the code

with their smartphones. The scanned code links them to an internet location where they can access the content requested.

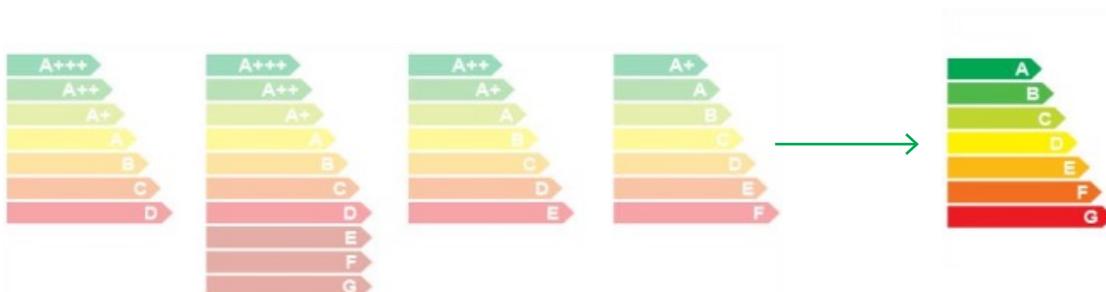
In this context, the primary benefit of QR coding is that it provides a simple access point to vast amounts of data such as the online product registration database. QR coding will therefore be incorporated into the new EE label, which means that key information on the database, which is corrected and updated as frequently as needed, will be available via a simple scan. It will empower consumers, distributors, and retailers with immediate access to relevant product information while enabling the NRCS to instantly verify registration and compliance during site inspections.

An example of the Chinese energy label that uses infographics; rescaled energy classes, that may vary by product; and a QR code can be seen here.



A simpler energy labelling system will make it easier for consumers to buy energy-efficient appliances.

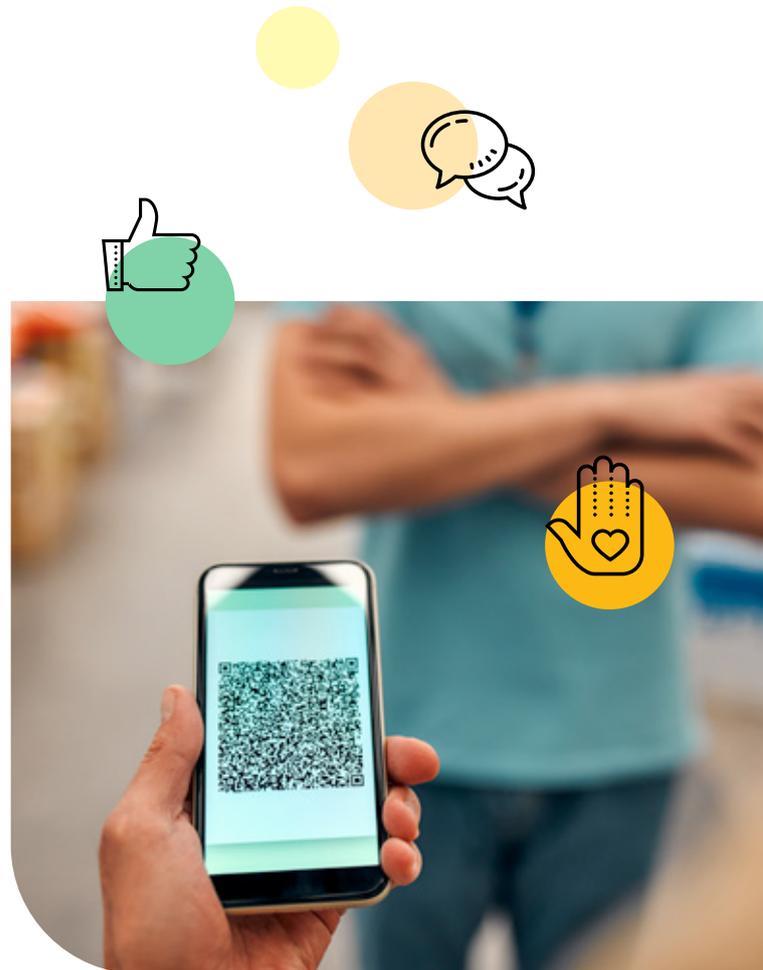
Instead of several different scales, there would be a single "A to G" label



3.5 Ongoing communication and awareness

Key to the success of the S&L programme is its ability to raise the awareness of manufacturers, distributors, retailers and consumers through integrated multiplatform communications. These are already being used to great effect and will continue and ramped up in future – spanning everything from physical retail environments to the full spectrum of the digital and mobile media space. These include:

- **Online, social, and mobile media communications and information campaigns and competitions.** These are generally targeted at consumers and sometimes integrated with in-store initiatives and other media such as radio.
- **In-store awareness campaigns, activations, and incentives.** These initiatives aim to inspire and inform both retail staff and consumers, directly at the point of purchase. This also includes awareness-raising by the NRCS during store visits, inspections, and confiscation drives of non-compliant products.



- **Industry newsletters and stakeholder updates.** Targeted stakeholder communication intends to engage and advise all those involved in the S&L programme of the latest developments and upcoming changes and advances.

Finally, the programme's dedicated website, www.savingenergy.org.za, is an important tool that provides access to the latest information and research, official notifications, communication campaigns and various useful resources. The website, with all its content, is available to the entire spectrum of stakeholders, including consumers.



ANNEX A

Technical and label design specifications



ANNEX A. TECHNICAL AND LABEL DESIGN SPECIFICATIONS

This annexure provides detailed instructions and specifications for the mandatory production and display of the EE labels. It consists of three sections, as follows:

- **Section A.1.** The first section sets out the obligations for suppliers and dealers with respect to the EE label.
- **Section A.2.** The second section covers general instructions that pertain to all appliances.
- **Section A.3.** The third section provides the specific instructions for each appliance type, covering required label content and placement unique to the appliance. This should be read and applied together with the general label specifications in Section A.2.

Section A.3 also provides information of where the label artwork can be obtained.



The display of the label is mandatory for products sold online. Consistent application of this requirement on all retail platforms ensures all consumers have equal access to energy efficiency information and can make an informed purchase decision.

A.1 Obligations for suppliers and retailers

Manufacturers and/or suppliers shall ensure that:

- All labels conform to the design specifications provided below.
- A compliant label is supplied to the retailer with every product, free of charge.
- The label is included in the product brochure or other literature provided with the product.
- The product energy consumption information provided on the label and product brochure is accurate and matches the data from the accredited test report used for the NRCS LoA application.

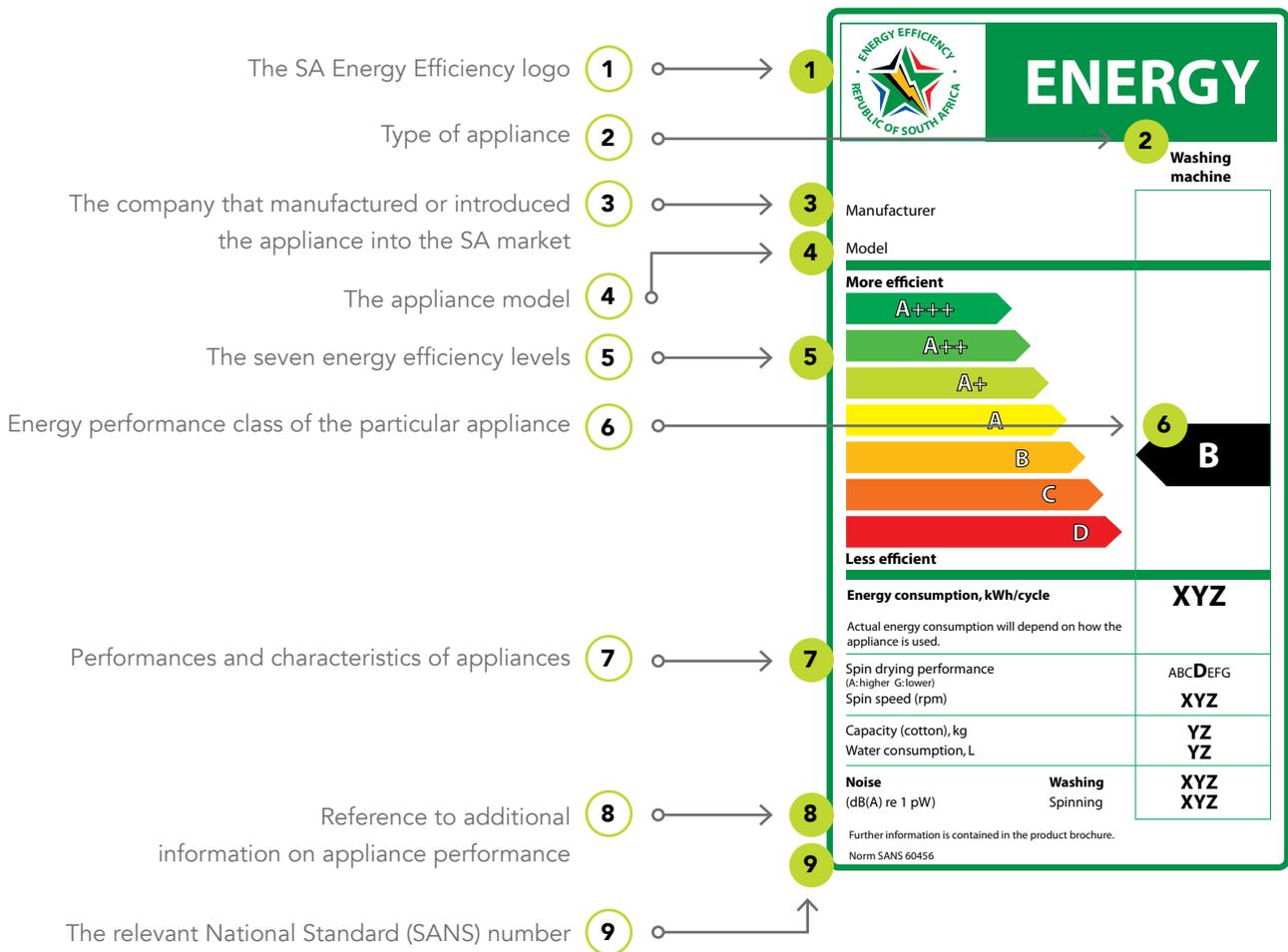
Retailers will ensure that:

- The supplied label is affixed on the outside of any appliance that is physically displayed. The full-size label must be visibly displayed as per the label position guide (refer to Section A.2.4: Label display placement, below).

- Prospective buyers have access to the product's energy class, EE information and label before purchasing.
- The EE label, energy class, and energy consumption are also shared in the case of online selling and any other form of selling where the end-user cannot see the physical product display. For online sales, the product's energy class must be visibly presented as part of the product's online display and the energy performance details included in the product description. The whole label must also be provided to the consumer in an appropriate format.
- Any advertisement or promotional material for any model of regulated equipment that discloses energy-related, price or technical information, must also indicate the energy efficiency class of that model.
- The EE label is not covered or obscured by any other label or information.

A.2 General label design specifications

Each label consists of nine generic components. These are illustrated below using a washing machine as example.



When producing the mandatory labels for different appliances, the following general instructions shall apply.

A.2.1. Label sizing

The size of the label is determined by the size of the appliance on which it should be affixed. Currently, there are two prescribed size categories, differentiating between large household appliances or equipment and lamps. A full-size label must be provided with each appliance and must meet the following size specifications:

Size (mm)	Product category	Products included
110 x 200	Large household appliances/ equipment	Fridge / freezers, dishwashers, clothes washers, clothes washers / dryers, tumble dryers, ovens, air conditioners, and storage water heaters
55 x 100	Lamps	All regulated lamps including CFLs and incandescent lamps

The electronic format of the label shall be supplied in .svg, .jpg, .png and .pdf.

A.2.2. Label typeface

Myriad typeface is used throughout the label in different weights and styles. The specific application of weight and style is specified on the individual appliance labels in Section A.3.

A.2.3. Label material

The label must be printed on a white background (with CMYK colour specification: C0 M0 Y0 K0). The material on which the label is printed must be water-resistant (Vinyl) with high-quality colours. The use of digital printing technology is recommended.

Labels must be self-adhesive and stay affixed until they are removed. On removal, the labels should be easily peeled off without leaving residue on the appliance surface i.e. a non-marking sticker adhesive.

A.2.4. Label display placement

When displayed, the full-size label should be affixed on the outside of the product in a clearly visible position. The specified label placement for different products is indicated below:

Product category	Products included	Label placement
Large household appliances/ equipment (excluding storage water heaters)	Fridge / freezers, dishwashers, clothes washers, clothes washers / dryers, tumble dryers, ovens, air conditioners	On the front of the appliance close to the appliance brand name
Storage water heaters	Storage water heaters	Close to the appliance brand name
Lamps	All regulated lamps including CFLs and incandescent lamps	On any side of the packaging close to the appliance brand name

The label should not be placed inside the displayed appliance. It should also not be covered by any other label or information. It should be clearly visible. Additional copies of the label may be displayed elsewhere and in a different size, provided these are additional to the specified label placement.

Equipment or appliances in its packaging do not need to display the sticker; it just needs to be included with the instructions and other product documents provided by the manufacturer.

A.2.5. The SA energy efficiency logo specifications 1
[item 1 on the diagram, page 28]

The energy efficiency logo is included on all labels.

PLACEMENT

The logo should always be placed at the top left of the label on a white background with white space around measuring 5mm for the 110mm x 200mm and 0.5 mm for the 55mm x100mm label.

For large household appliances, the logo must be 24mm in diameter and 11mm in diameter for lamps. The sizing and placement of the logo for each appliance type are shown more precisely in Section A.3.

LOGO COLOURS

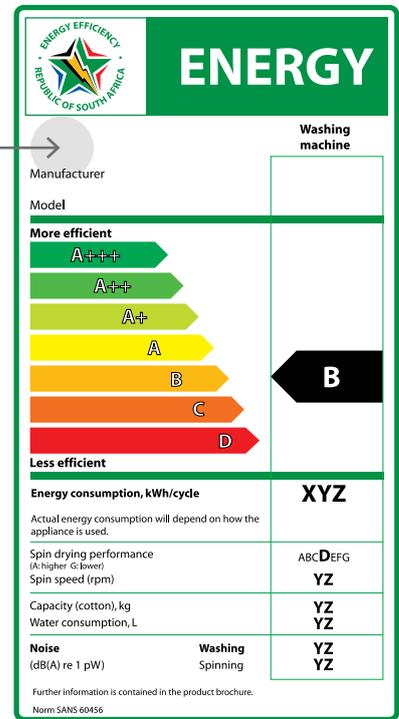
The colours that are used for the logo are in CMYK colour space. The use of any other colour space such as RGB is strictly prohibited for printing of labels. The six colours, identified and numbered on the example graphic, are:

- 1. C0 M0 Y0 K0
- 2. C100 M65 Y0 K10
- 3. C100 M0 Y100 K15
- 4. C0 M0 Y0 K100
- 5. C0 M30 Y100 K0
- 6. C0 M100 Y100 K0

The background of the logo is white and the colours of the star should visually be the same as the colours used for the SA national flag. The text around the star is green, corresponding with the colour numbered 3.

LOGO TOPOGRAPHY

The logo uses Myriad typeface.



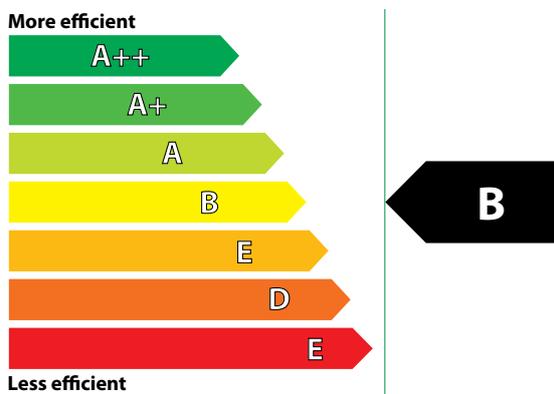
- 1
- 2
- 3
- 4
- 5
- 6

A.2.6. Energy grading scale and appliance energy class [items 5 and 6 on the diagram, page 28]

5 6

The efficiency grading scale, with seven colour-coded efficiency levels, is shown on all labels. The energy performance class for each appliance is also indicated on every label.

This part of the label, illustrated here for an appliance with a B rating against an A to G grading scale, has to comply with the design specifications indicated below.



PLACEMENT

The grading scale is the main part of the label, located approximately in the centre of the label. The exact placement of the grading scale is shown on the label for individual appliances (Section A.3)



ENERGY CLASS COLOURS AND TYPEFACE

The appliance energy efficiency class is indicated in black (C0 M0 Y0 K100) with the energy performance rating or class for the appliance in Myriad bold with a black stroke and white fill (same as the typeface used for the grading scale).

The efficiency class will be positioned to align with the corresponding efficiency level.

GRADING SCALE COLOURS AND TYPEFACE

The seven levels of the grading scale are coloured using the CMYK colour system, with each colour as indicated here.

The grading scale will always be printed on a white background (C0 M0 Y0 K0).

The text indicating the rating of each of the seven efficiency levels will be in Myriad bold with a black stroke and white fill, as shown below.

A+++	C100 M0 Y100 K0
A++	C70 M0 Y100 K0
A+	C30 M0 Y100 K0
A	C0 M0 Y100 K0
B	C0 M30 Y100 K0
C	C0 M70 Y100 K0
D	C0 M100 Y100 K0

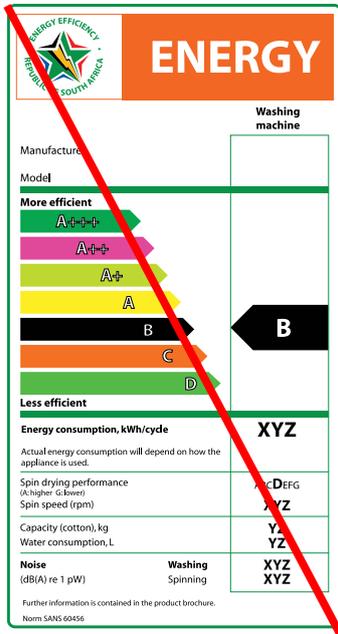
A++++ C0 M0 Y0 K0 - fill
C0 M0 Y0 K100 - stroke

These colour and typeface specifications also apply to the A++ to E, A+ to F, and A to G rating scales.

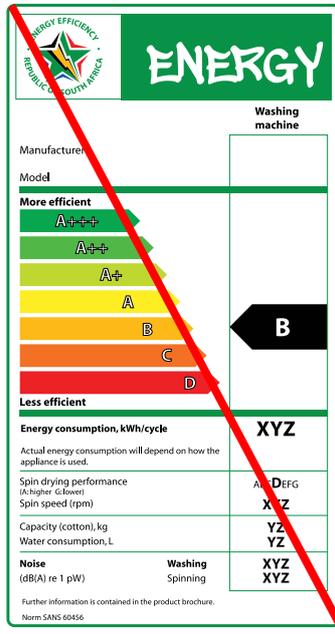


A.2.7 Incorrect use of the label

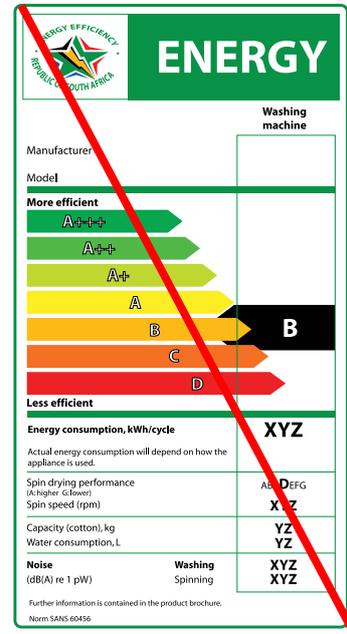
The following are examples of labels that do not follow the provided specifications.



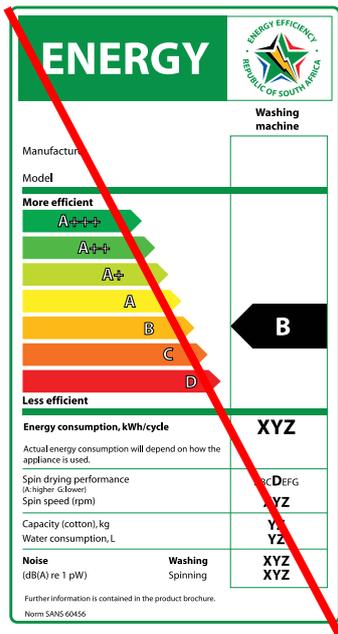
✗ Do not change the colours of any component of the label including the Energy Efficiency logo



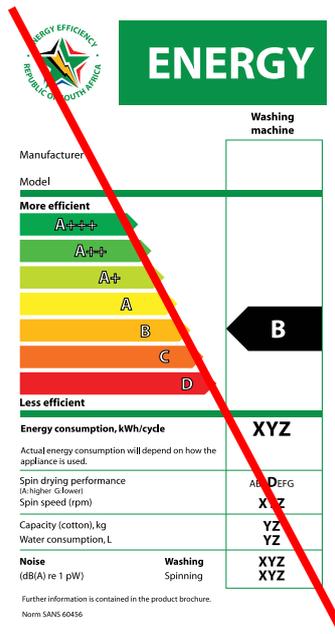
✗ Don't change the fonts of any component of the label including the Energy Efficiency logo



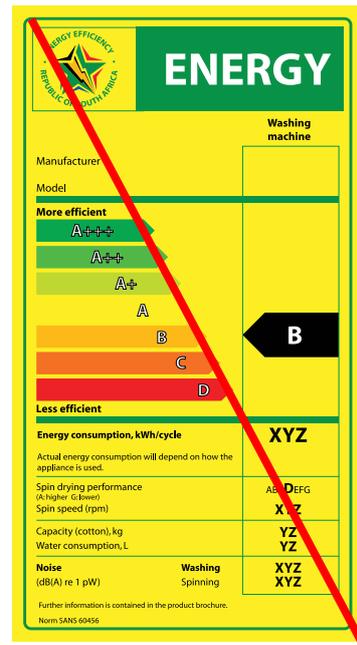
✗ Do not stretch any component of the label including the Energy Efficiency logo



✗ Do not change the position of any graphic, wording or the Energy Efficiency logo



✗ Do not omit any information or graphics from the label



✗ Do not use any colour as background for the label except white

A.3 Appliance specific label specifications

These specifications are to be read together with the preceding general specifications that guides the use of common elements including the EE logo, colours, and fonts.

The detailed specifications for appliance specific labels are provided in this section. They have been grouped together by function and the order of the labels are listed for easy location:

Product grouping	Product or appliance	Page number
Cold storage	Refrigerators (fridges) Fridge-freezers Freezers	32
Dishwashers	Dishwashers	35
Cooking	Small/medium electric ovens Large electric ovens	36
Laundry (washing and drying of clothes)	Tumble dryers Washer dryers Washing machines	38
Lighting	Lamps	41
Storage water heaters (geysers)	Storage water heaters	42
Air conditioners	Air conditioners	43

Label artwork is available online, where it can be downloaded from:
<http://www.savingenergy.org.za/Guidelines/Guidelines/guidelines.html>

Alternatively, it can be obtained directly from the DMRE / SANEDI,
 on 011 123 4567, email@webaddress.co.za

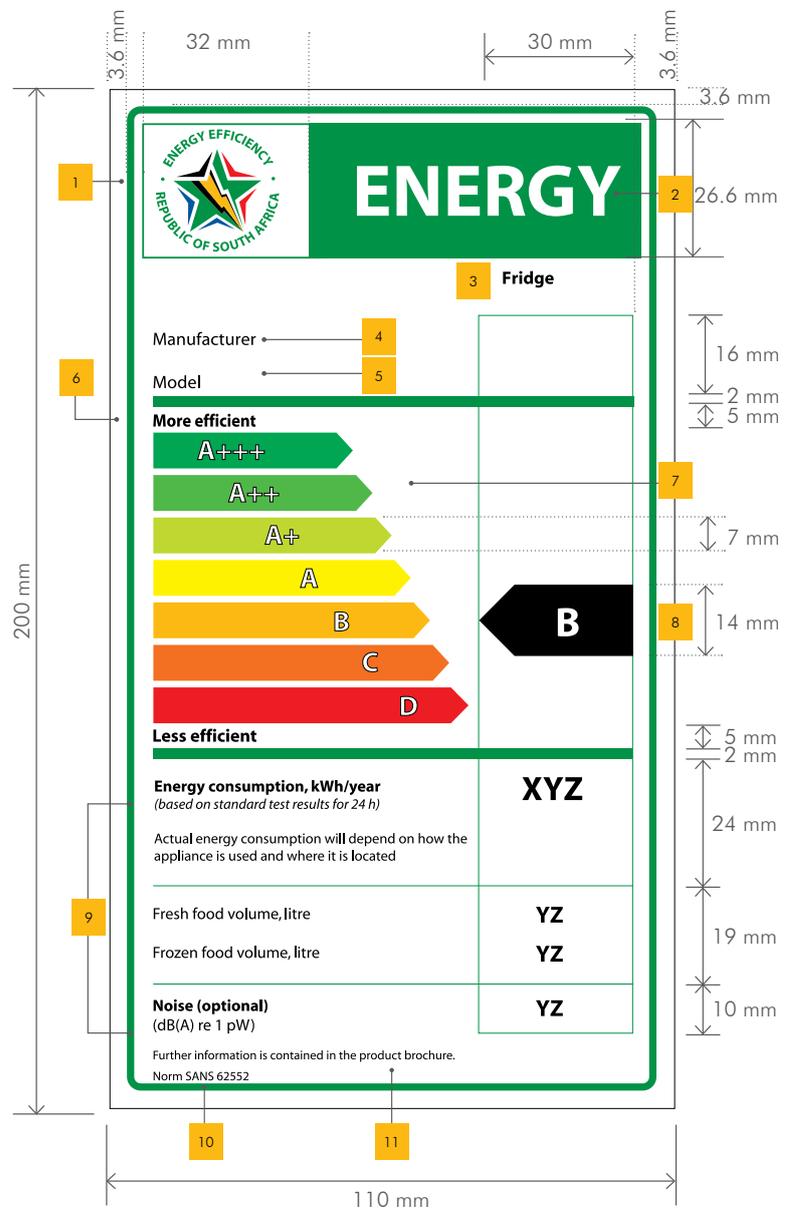
A.3.1 Refrigerators (fridges)

The energy efficiency levels for refrigerators range from A+++ to D, with A+++ indicating the most efficient and D the least efficient.

The estimated energy consumption in kWh/annum is used to compare the energy efficiency between models. The EE label for refrigerators have to comply with the following specifications:

The following information shall be included in the label:

- 1 Energy Efficiency logo:** Size: 24 mm in diameter.
Position: placed at the top left with sufficient white space around.
NB: For more information about the logo, please refer to page 10.
- 2 Energy:** text: Myriad bold 41 pt, 100% white.
- 3 Fridge:** text: Myriad bold 10 pt, 100% black.
- 4 Manufacturer:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 5 Model:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 6 More efficient, Less efficient:** Myriad bold 10 pt, 100% black.
- 7 A+++ to D scale**
Arrow: height: 7 mm, gap: 0.75 mm
Text: Myriad bold 15.45 pt, capitals and white; '+' symbols: Myriad bold 15.45 pt, capitals, white, aligned on a single row.
- 8 Energy efficiency class**
Arrow: width: 30 mm, height: 14 mm, 100% black.
Text: Myriad bold 23 pt, capitals and white.
- 9 Appliance performance:** text: Myriad regular 9 pt/bold 9 pt/italic 8 pt, XYZ: Myriad bold 19 pt, 100% black. YZ: Myriad bold 13 pt, 100% black.
- 10 SANS:** text: Myriad regular 7 pt, 100% black.
- 11 Further information is contained in the product brochure:** Text: Myriad regular 7 pt, 100% black.



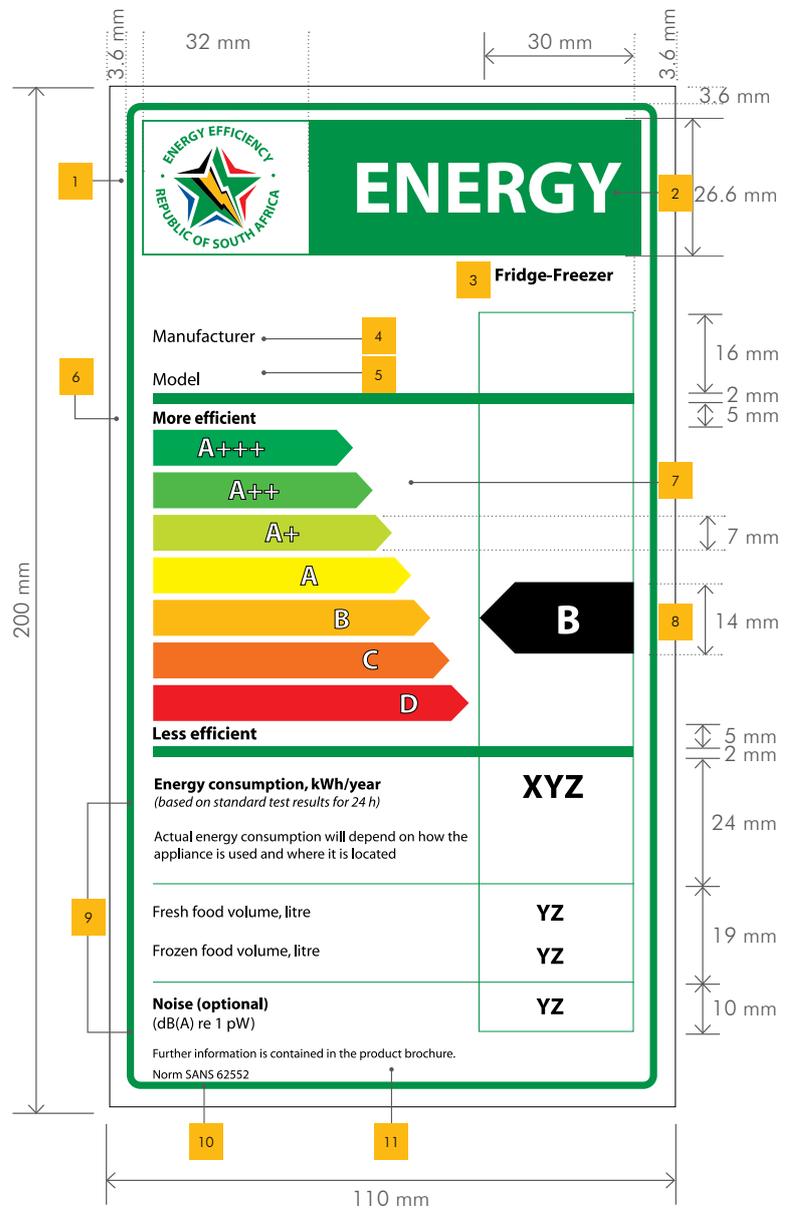
A.3.2 Fridge-freezers

The energy efficiency levels for an appliance that offers both a fridge and freezer facility, also range from A+++ to D, with A+++ indicating the most efficient and D the least efficient.

The estimated energy consumption in kWh/annum is used to compare the energy efficiency between models. The specifications for the fridge-freezer EE label are set out below.

The following information shall be included in the label:

- 1 Energy Efficiency logo:** Size: 24 mm in diameter.
Position: placed at the top left with sufficient white space around.
NB: For more information about the logo, please refer to page 10.
- 2 Energy:** text: Myriad bold 41 pt, 100% white.
- 3 Fridge-Freezer:** text: Myriad bold 10 pt, 100% black.
- 4 Manufacturer:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 5 Model:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 6 More efficient, Less efficient:** Myriad bold 10 pt, 100% black.
- 7 A+++ to D scale**
Arrow: height: 7 mm, gap: 0.75 mm
Text: Myriad bold 15.45 pt, capitals and white; '+' symbols: Myriad bold 15.45 pt, capitals, white, aligned on a single row.
- 8 Energy efficiency class**
Arrow: width: 30 mm, height: 14 mm, 100% black.
Text: Myriad bold 23 pt, capitals and white.
- 9 Appliance performance:** text: Myriad regular 9 pt/bold 9 pt/italic 8 pt, XYZ: Myriad bold 19 pt, 100% black. YZ: Myriad bold 13 pt, 100% black.
- 10 SANS:** text: Myriad regular 7 pt, 100% black.
- 11 Further information is contained in the product brochure:** Text: Myriad regular 7 pt, 100% black.



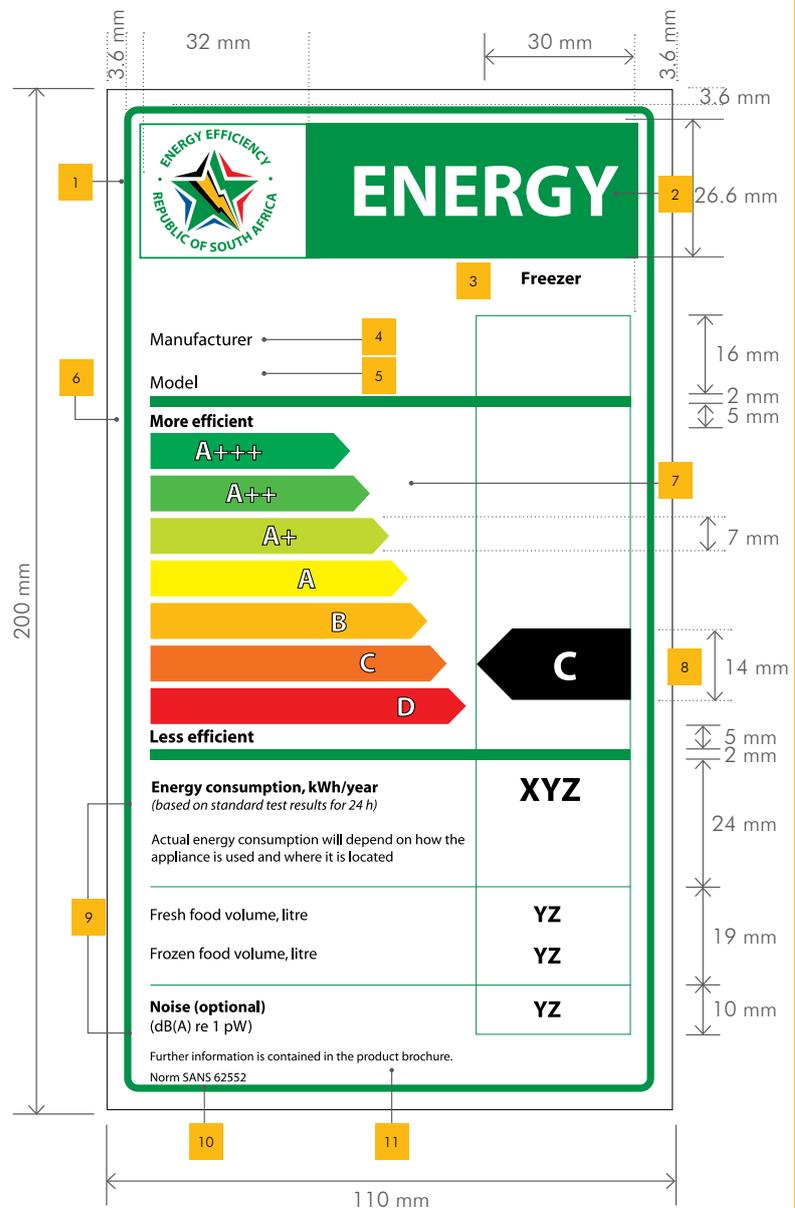
A.3.3 Freezers

Freezers are also rated with energy efficiency levels that range from A+++ to D, with A+++ indicating the most efficient and D the least efficient.

The estimated energy consumption in kWh/annum is used to compare the energy efficiency between models. The specifications for the EE label for freezers are set out below.

The following information shall be included in the label:

- 1 **Energy Efficiency logo:** Size: 24 mm in diameter.
Position: placed at the top left with sufficient white space around.
NB: For more information about the logo, please refer to page 10.
- 2 **Energy:** text: Myriad bold 41 pt, 100% white.
- 3 **Freezer:** text: Myriad bold 10 pt, 100% black.
- 4 **Manufacturer:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 5 **Model:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 6 **More efficient, Less efficient:** Myriad bold 10 pt, 100% black.
- 7 **A+++ to D scale**
Arrow: height: 7 mm, gap: 0.75 mm
Text: Myriad bold 15.45 pt, capitals and white; '+' symbols: Myriad bold 15.45 pt, capitals, white, aligned on a single row.
- 8 **Energy efficiency class**
Arrow: width: 30 mm, height: 14 mm, 100% black.
Text: Myriad bold 23 pt, capitals and white.
- 9 **Appliance performance:** text: Myriad regular 9 pt/bold 9 pt/italic 8 pt, XYZ: Myriad bold 19 pt, 100% black YZ: Myriad bold 13 pt, 100% black.
- 10 **SANS:** text: Myriad regular 7 pt, 100% black.
- 11 **Further information is contained in the product brochure:** Text: Myriad regular 7 pt, 100% black.



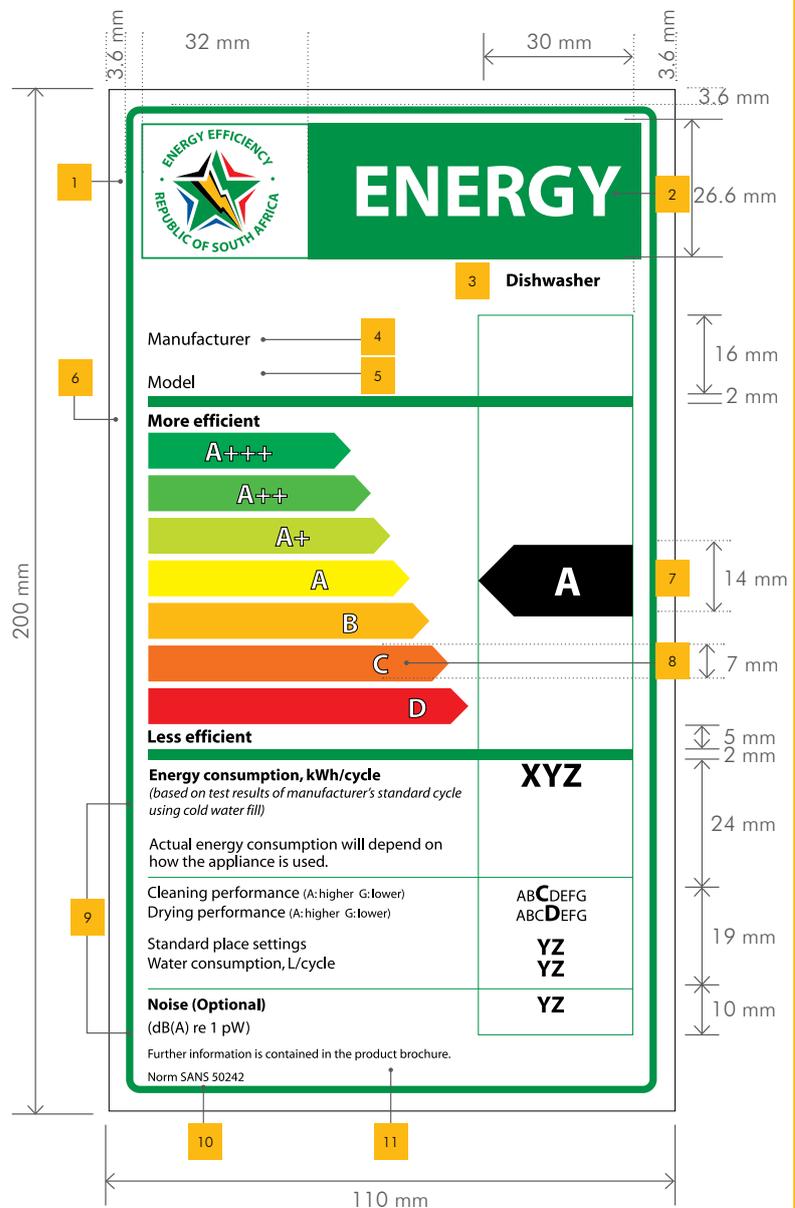
A.3.4 Dishwashers

Dishwashers are rated with energy efficiency levels that range from A+++ to D, with A+++ indicating the most efficient and D the least efficient.

The estimated energy consumption in kWh/cycle is used to compare the energy efficiency between models. The specifications for the EE label for dishwashers are set out below.

The following information shall be included in the label:

- 1 **Energy Efficiency logo:** Size: 24 mm in diameter.
Position: placed at the top left with sufficient white space around.
NB: For more information about the logo, please refer to page 10.
- 2 **Energy:** text: Myriad bold 41 pt, 100% white.
- 3 **Dishwasher:** text: Myriad bold 10 pt, 100% black.
- 4 **Manufacturer:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 5 **Model:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 6 **More efficient, Less efficient:** Myriad bold 10 pt, 100% black.
- 7 **Energy efficiency class**
Arrow: width: 30 mm, height: 14 mm, 100% black.
Text: Myriad bold 23 pt, capitals and white.
- 8 **A+++ to D scale**
Arrow: height: 7 mm, gap: 0.75 mm
Text: Myriad bold 15.45 pt, capitals and white; '+' symbols: Myriad bold 15.45 pt, capitals, white, aligned on a single row.
- 9 **Appliance performance:** text: Myriad regular 9 pt/bold 9 pt/italic 8 pt, XYZ: Myriad bold 19 pt, 100% black YZ: Myriad bold 13 pt, 100% black.
- 10 **SANS:** text: Myriad regular 7 pt, 100% black.
- 11 **Further information is contained in the product brochure:** Text: Myriad regular 7 pt, 100% black.



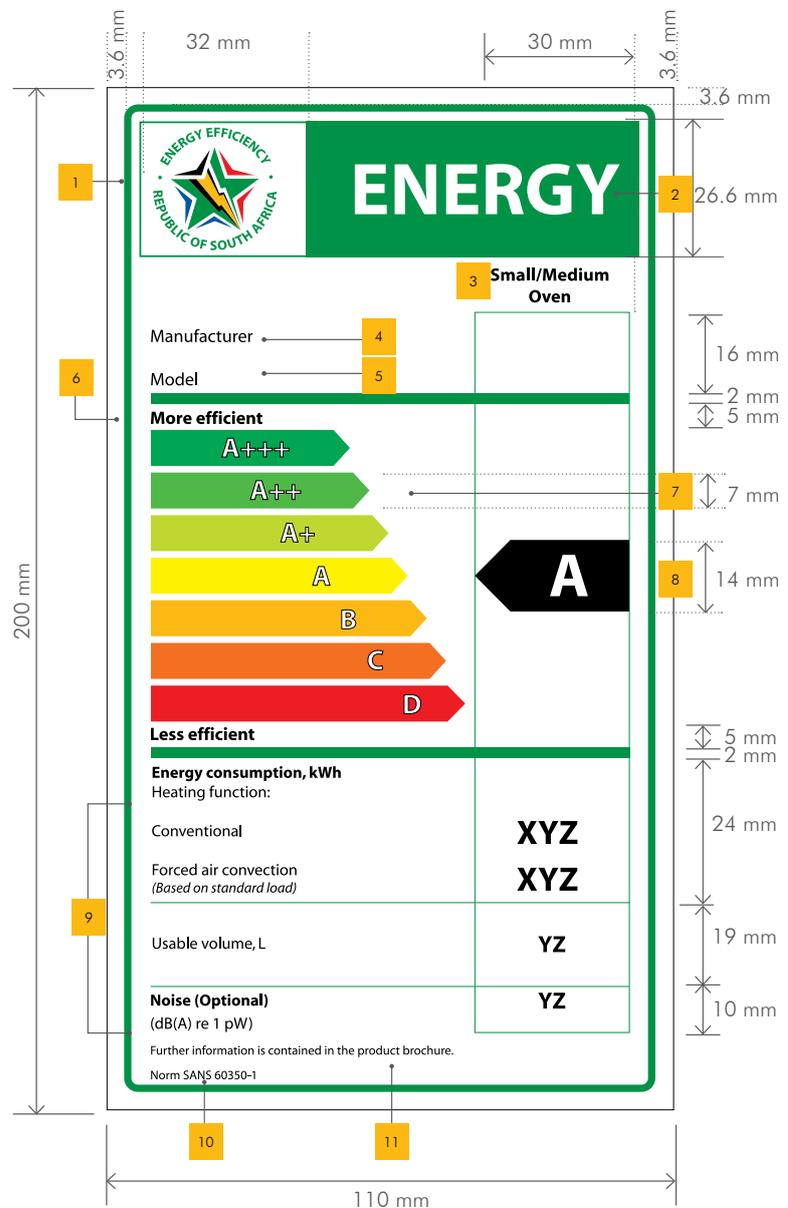
A.3.5 Small/medium electric ovens

The energy efficiency levels for ovens range from A+++ to D, with A+++ indicating the most efficient and D the least efficient.

The estimated energy consumption in kWh is used to compare the energy efficiency between models. The following specifications are prescribed for the EE label for small or medium sized electric ovens:

The following information shall be included in the label:

- 1 Energy Efficiency logo:** Size: 24 mm in diameter.
Position: placed at the top left with sufficient white space around.
NB: For more information about the logo, please refer to page 10.
- 2 Energy:** text: Myriad bold 41 pt, 100% white.
- 3 Small/Medium Oven:** text: Myriad bold 10 pt, 100% black.
- 4 Manufacturer:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 5 Model:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 6 More efficient, Less efficient:** Myriad bold 10 pt, 100% black.
- 7 A+++ to D scale**
Arrow: height: 7 mm, gap: 0.75 mm
Text: Myriad bold 15.45 pt, capitals and white; '+' symbols: Myriad bold 15.45 pt, capitals, white, aligned on a single row.
- 8 Energy efficiency class**
Arrow: width: 30 mm, height: 14 mm, 100% black.
Text: Myriad bold 23 pt, capitals and white.
- 9 Appliance performance:** text: Myriad regular 9 pt/bold 9 pt/italic 8 pt, XYZ: Myriad bold 19 pt, 100% black. YZ: Myriad bold 13 pt, 100% black.
- 10 SANS:** text: Myriad regular 7 pt, 100% black.
- 11 Further information is contained in the product brochure:** Text: Myriad regular 7 pt, 100% black.



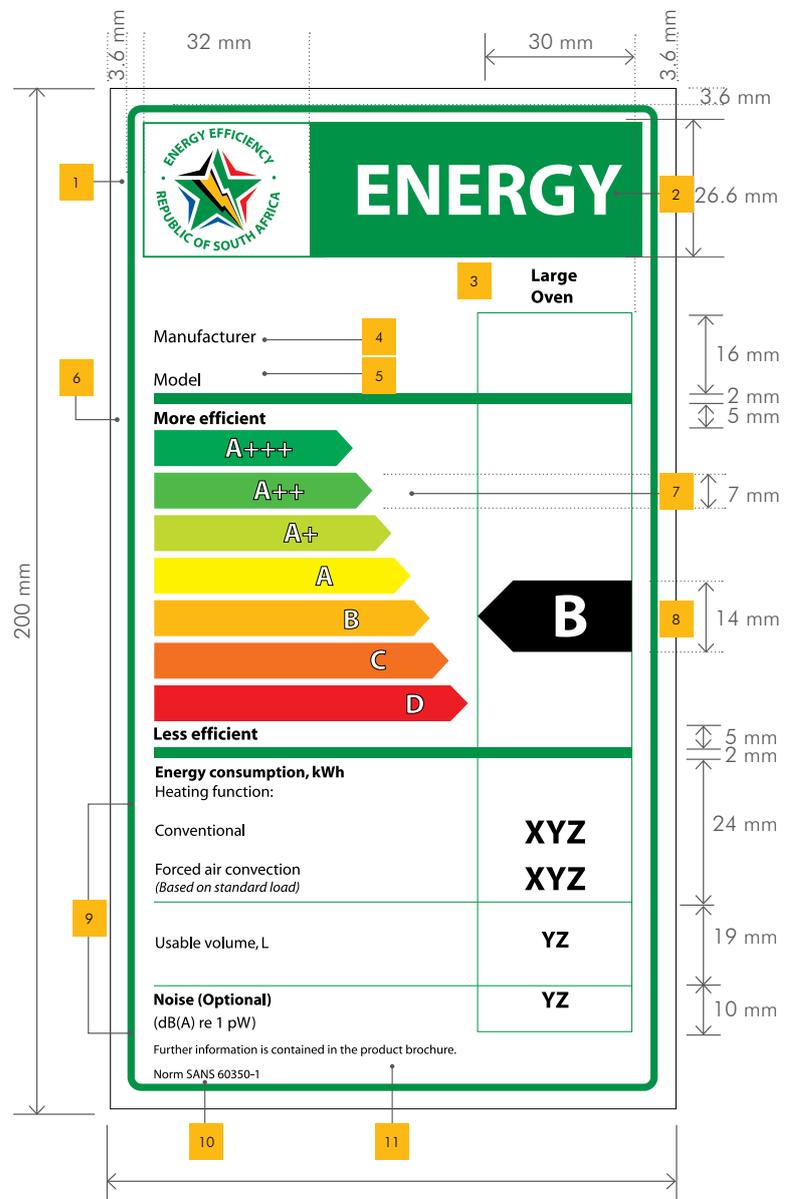
A.3.6 Large electric ovens

As for smaller ovens, the energy efficiency levels for large ovens range from A+++ to D, with A+++ indicating the most efficient and D the least efficient.

The estimated energy consumption in kWh is used to compare the energy efficiency between models. The following specifications are prescribed for the EE label for large, electric ovens:

The following information shall be included in the label:

- 1 **Energy Efficiency logo:** Size: 24 mm in diameter.
Position: placed at the top left with sufficient white space around.
NB: For more information about the logo, please refer to page 10.
- 2 **Energy:** text: Myriad bold 41 pt, 100% white.
- 3 **Large Oven:** text: Myriad bold 10 pt, 100% black.
- 4 **Manufacturer:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 5 **Model:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 6 **More efficient, Less efficient:** Myriad bold 10 pt, 100% black.
- 7 **A+++ to D scale**
Arrow: height: 7 mm, gap: 0.75 mm
Text: Myriad bold 15.45 pt, capitals and white; '+' symbols: Myriad bold 15.45 pt, capitals, white, aligned on a single row.
- 8 **Energy efficiency class**
Arrow: width: 30 mm, height: 14 mm, 100% black.
Text: Myriad bold 23 pt, capitals and white.
- 9 **Appliance performance:** text: Myriad regular 9 pt/bold 9 pt/italic 8 pt, XYZ: Myriad bold 19 pt, 100% black. YZ: Myriad bold 13 pt, 100% black.
- 10 **SANS:** text: Myriad regular 7 pt, 100% black.



Further information is contained in the product brochure: Text: Myriad regular 7 pt, 100% black.

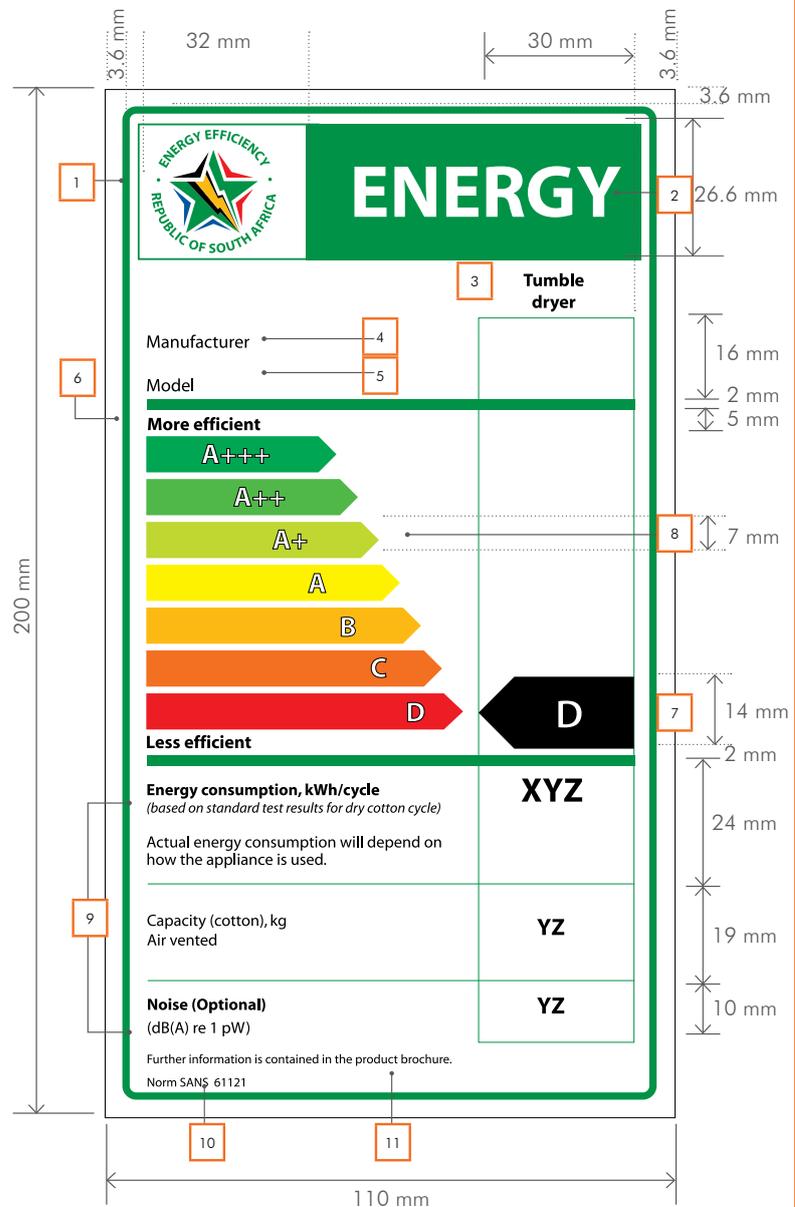
A.3.7 Tumble dryers

Electric tumble dryers are given a rating between A+++ for the most efficient, and D for the least efficient tumble dryers.

The estimated energy consumption in kWh/cycle is used to compare the energy efficiency between models. The specifications prescribed for the EE label of tumble dryers are as follows:

The following information shall be included in the label:

- 1 **Energy Efficiency logo:** Size: 24 mm in diameter.
Position: placed at the top left with sufficient white space around.
NB: For more information about the logo, please refer to page 10.
- 2 **Energy:** text: Myriad bold 41 pt, 100% white.
- 3 **Tumble Dryer:** text: Myriad bold 10 pt, 100% black.
- 4 **Manufacturer:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 5 **Model:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 6 **More efficient, Less efficient:** Myriad bold 10 pt, 100% black.
- 7 **A+++ to D scale**
Arrow: height: 7 mm, gap: 0.75 mm
Text: Myriad bold 15.45 pt, capitals and white; '+' symbols: Myriad bold 15.45 pt, capitals, white, aligned on a single row.
- 8 **Energy efficiency class**
Arrow: width: 30 mm, height: 14 mm, 100% black.
Text: Myriad bold 23 pt, capitals and white.
- 9 **Appliance performance:** text: Myriad regular 9 pt/bold 9 pt/italic 8 pt, XYZ: Myriad bold 19 pt, 100% black. YZ: Myriad bold 13 pt, 100% black.
- 10 **SANS:** text: Myriad regular 7 pt, 100% black.
- 11 **Further information is contained in the product brochure:** Text: Myriad regular 7 pt, 100% black.



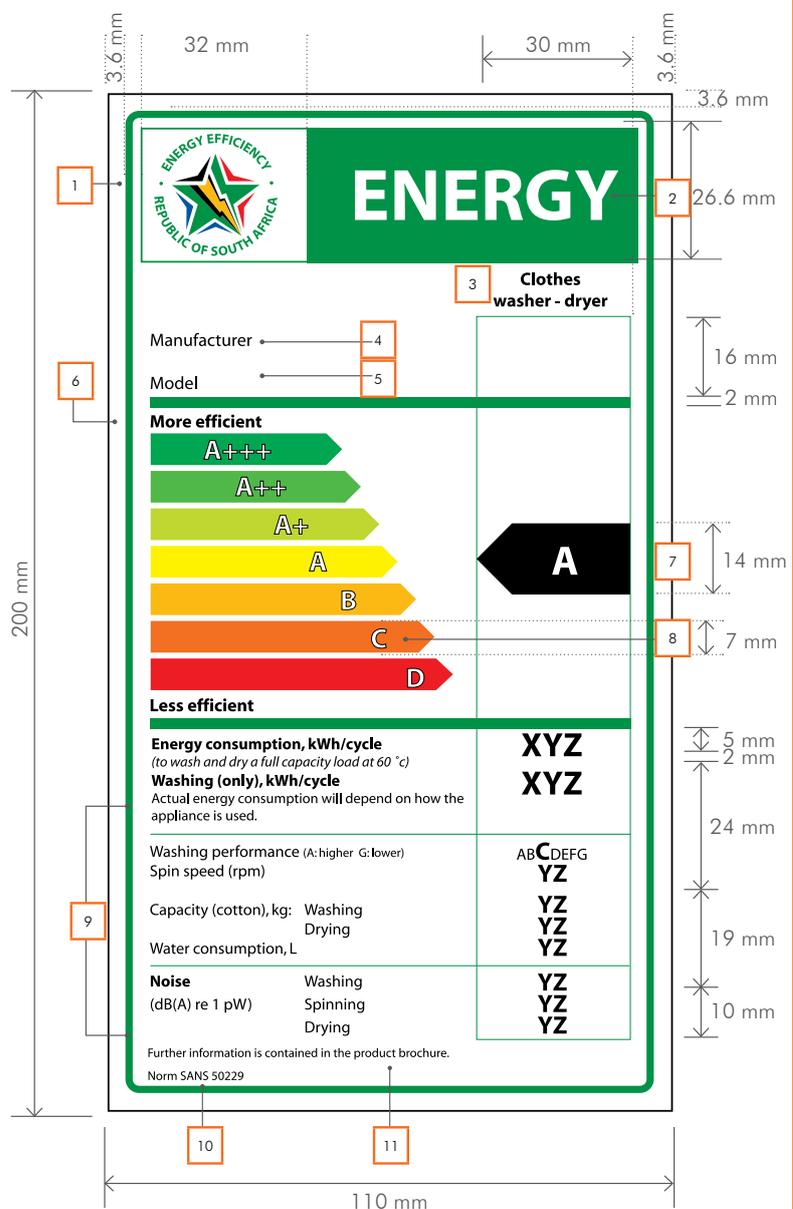
A.3.8 Washer-dryers

The energy efficiency label for washer-dryer machines uses an energy class range from A (A being the most efficient) to G (the least efficient). The label also includes information on the water consumption per washing cycle.

The estimated energy consumption in kWh/cycle is used to compare the energy efficiency between models. Two values must be provided, one for a complete washing and drying cycle and one for a washing cycle only. The EE label specifications prescribed for washer-dryers are set out below.

The following information shall be included in the label:

- 1 **Energy Efficiency logo:** Size: 24 mm in diameter.
Position: placed at the top left with sufficient white space around.
NB: For more information about the logo, please refer to page 10.
- 2 **Energy:** text: Myriad bold 41 pt, 100% white.
- 3 **Washer-Dryer:** text: Myriad bold 10 pt, 100% black.
- 4 **Manufacturer:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 5 **Model:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 6 **More efficient, Less efficient:** Myriad bold 10 pt, 100% black.
- 7 **Energy efficiency class**
Arrow: width: 30 mm, height: 14 mm, 100% black.
Text: Myriad bold 23 pt, capitals and white.
- 8 **A+++ to D scale**
Arrow: height: 7 mm, gap: 0.75 mm
Text: Myriad bold 15.45 pt, capitals and white; '+' symbols: Myriad bold 15.45 pt, capitals, white, aligned on a single row.
- 9 **Appliance performance:** text: Myriad regular 9 pt/bold 9 pt/italic 8 pt, XYZ: Myriad bold 19 pt, 100% black. YZ: Myriad bold 13 pt, 100% black.
- 10 **SANS:** text: Myriad regular 7 pt, 100% black.
- 11 **Further information is contained in the product brochure:** Text: Myriad regular 7 pt, 100% black.



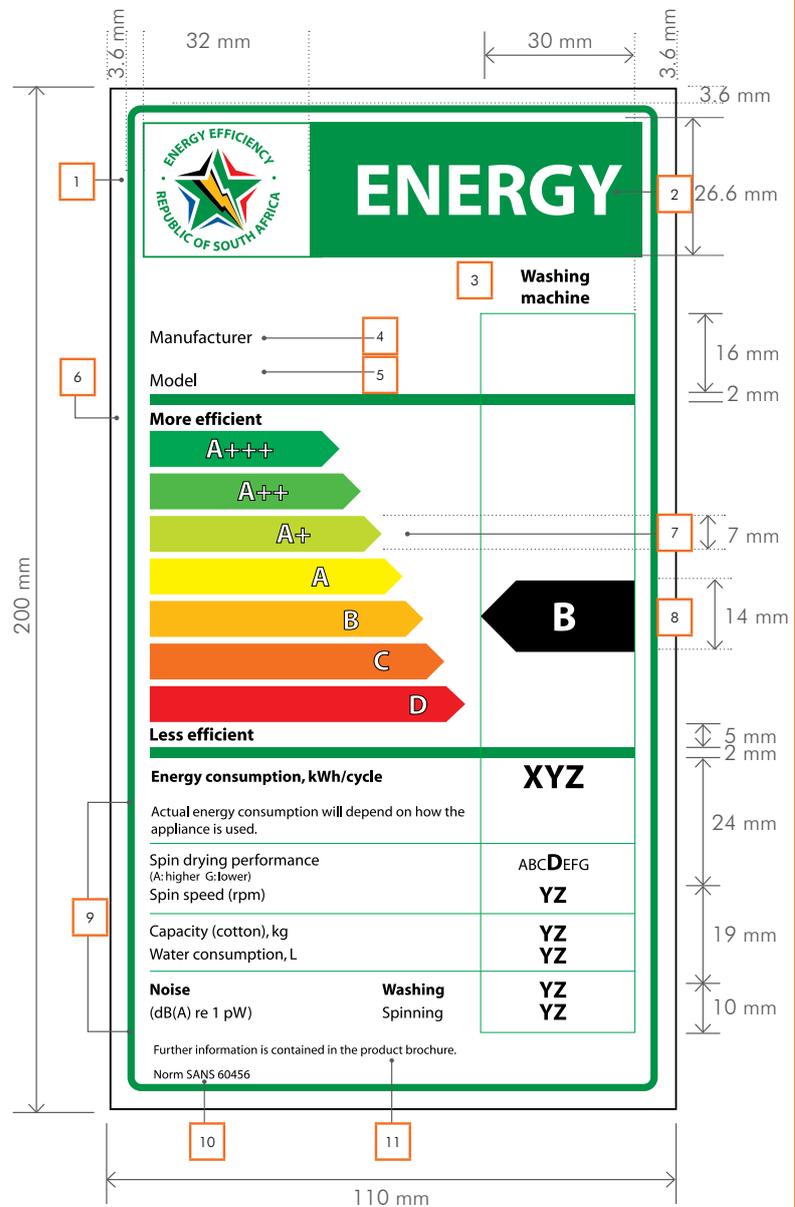
A.3.9 Washing machines

The energy efficiency scale for washing machines range from A+++ (most efficient) to D (least efficient). As for washer-dryers, the label also includes information on the water consumption per washing cycle.

The estimated energy consumption in kWh/cycle is used to compare the energy efficiency between models. The EE label specifications prescribed for washing machines are provided below.

The following information shall be included in the label:

- 1 **Energy Efficiency logo:** Size: 24 mm in diameter.
Position: placed at the top left with sufficient white space around.
NB: For more information about the logo, please refer to page 10.
- 2 **Energy:** text: Myriad bold 41 pt, 100% white.
- 3 **Washing Machine:** text: Myriad bold 10 pt, 100% black.
- 4 **Manufacturer:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 5 **Model:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 6 **More efficient, Less efficient:** Myriad bold 10 pt, 100% black.
- 7 **A+++ to D scale**
Arrow: height: 7 mm, gap: 0.75 mm
Text: Myriad bold 15.45 pt, capitals and white; '+' symbols: Myriad bold 15.45 pt, capitals, white, aligned on a single row.
- 8 **Energy efficiency class**
Arrow: width: 30 mm, height: 14 mm, 100% black.
Text: Myriad bold 23 pt, capitals and white.
- 9 **Appliance performance:** text: Myriad regular 9 pt/bold 9 pt/italic 8 pt, XYZ: Myriad bold 19 pt, 100% black. YZ: Myriad bold 13 pt, 100% black.
- 10 **SANS:** text: Myriad regular 7 pt, 100% black.
- 11 **Further information is contained in the product brochure:** Text: Myriad regular 7 pt, 100% black.



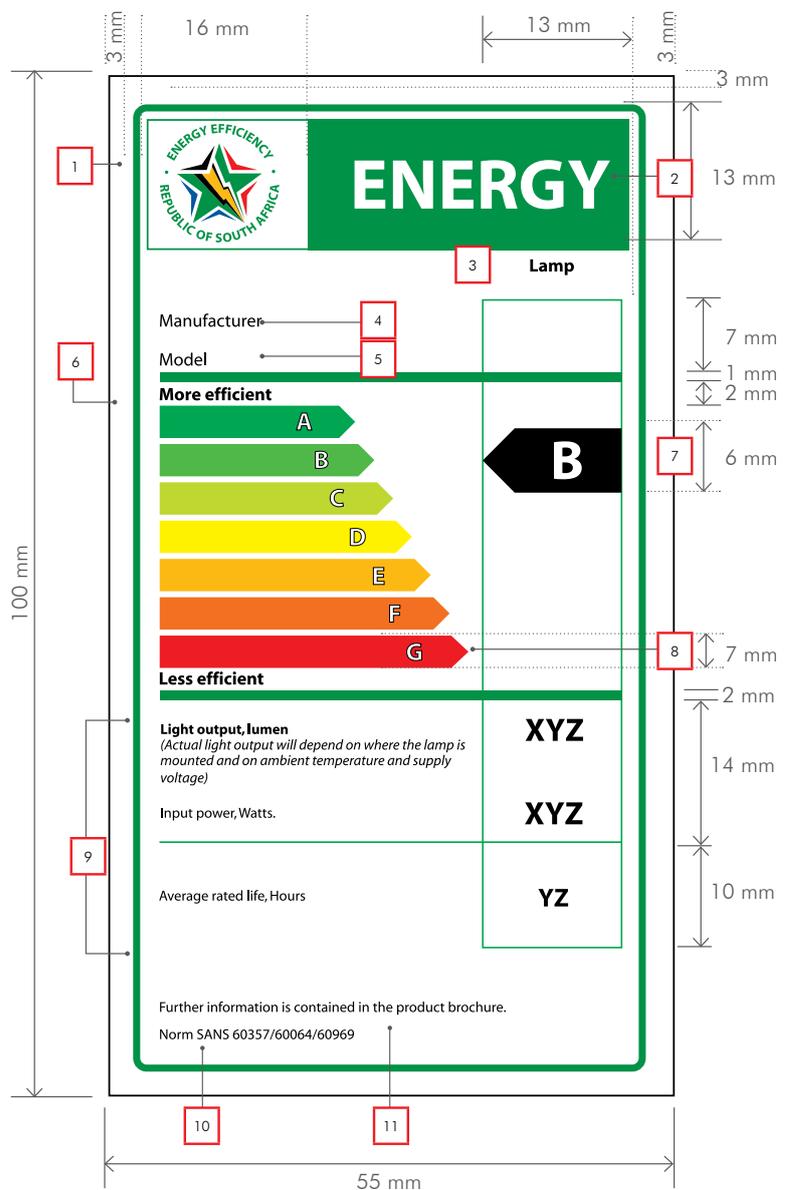
A.3.10 Lamps

The energy efficiency of a lamp is rated on a scale ranging from A (highest efficiency) to G (lowest efficiency).

The estimated energy consumption in Watts per Lumen (light output) is used to compare the energy efficiency between lamps. The EE label specifications prescribed for lamps are provided below.

The following information shall be included in the label:

- 1 Energy Efficiency logo:** Size: 11 mm in diameter.
Position: placed at the top left with sufficient white space around.
NB: For more information about the logo, please refer to page 10.
- 2 Energy:** text: Myriad bold 20 pt, 100% white.
- 3 Lamp:** text: Myriad bold 5 pt, 100% black.
- 4 Manufacturer:** text: Myriad regular 5 pt, 100% black. **Data entered:** Myriad bold 5 pt, 100% black.
- 5 Model:** text: Myriad regular 5 pt, 100% black. **Data entered:** Myriad bold 5 pt, 100% black.
- 6 More efficient, Less efficient:** Myriad bold 5 pt, 100% black.
- 7 Energy efficiency class**
Arrow: width: 30 mm, height: 14 mm, 100% black.
Text: Myriad bold 15 pt, capitals and white.
- 8 A to G scale**
Arrow: height: 3.5 mm, gap: 0.6 mm
Text: Myriad bold 7 pt, capitals and white; '+' symbols: Myriad bold 7 pt, capitals, white, aligned on a single row.
- 9 Appliance performance:** text: Myriad regular 4 pt/bold 4 pt/italic 4 pt, XYZ: Myriad bold 9 pt, 100% black. YZ: Myriad bold 7 pt 100% black.
- 10 SANS:** text: Myriad regular 4 pt, 100% black.
- 11 Further information is contained in the product brochure:** Text: Myriad regular 4 pt, 100% black.



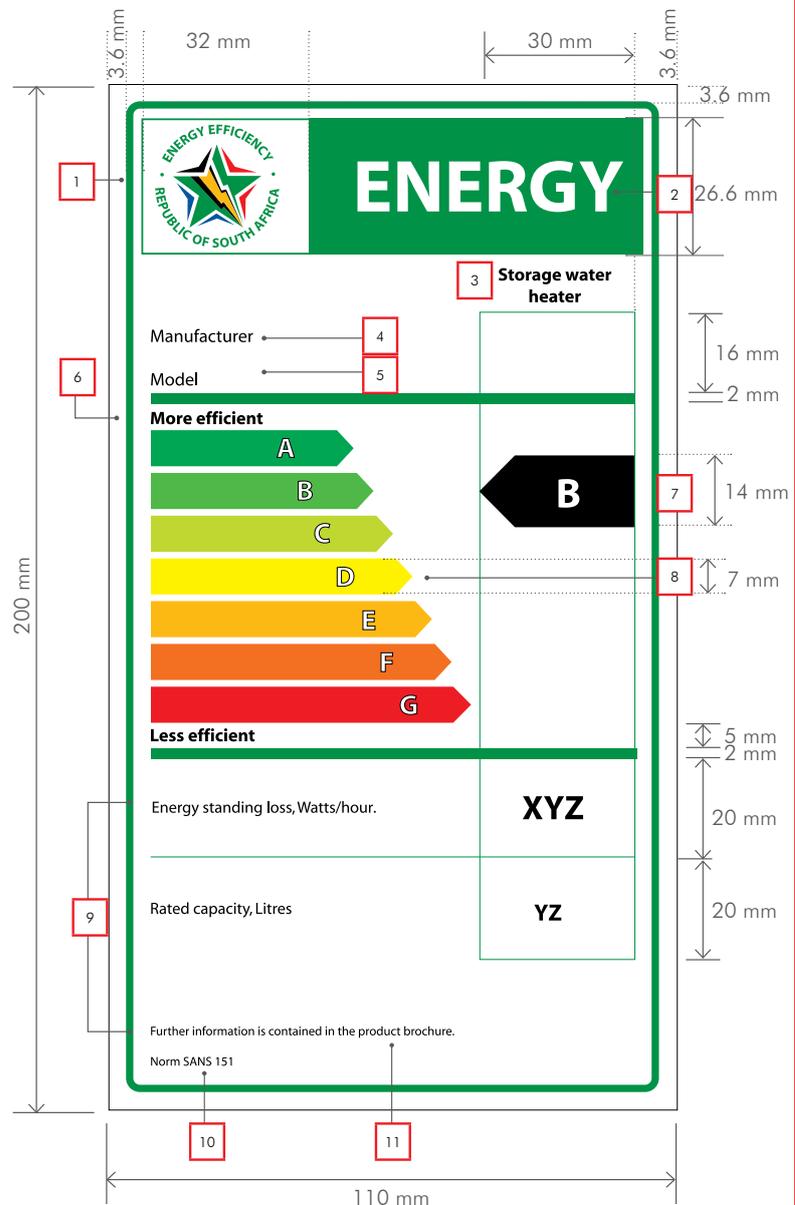
A.3.11 Storage water heaters (geysers)

The energy efficiency scale for storage water heaters have a range from A (most efficient) to G (least efficient).

The estimated energy losses in Watts/hour are used to compare the energy efficiency between geyser models. The EE label specifications prescribed for storage water heaters are provided below.

The following information shall be included in the label:

- 1 **Energy Efficiency logo:** Size: 30 mm in diameter.
Position: placed at the bottom right with 5 mm white space around.
NB: For more information about the logo, please refer to page 10.
- 2 **Energy:** text: Myriad bold 41 pt, 100% white.
- 3 **Storage water heater:** text: Myriad bold 10 pt, 100% black.
- 4 **Manufacturer:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 5 **Model:** text: Myriad regular 10 pt, 100% black. **Data entered:** Myriad bold 10 pt, 100% black.
- 6 **More efficient, Less efficient:** Myriad bold 10 pt, 100% black.
- 7 **Energy efficiency class**
Arrow: width: 30 mm, height: 14 mm, 100% black.
Text: Myriad bold 23 pt, capitals and white.
- 8 **A to G scale**
Arrow: height: 7 mm, gap: 0.75 mm
Text: Myriad bold 15.45 pt, capitals and white.
- 9 **Appliance performance:** text:
Myriad regular 9 pt.
XYZ: Myriad bold 19 pt, 100% black.
YZ: Myriad bold 13 pt 100% black.
- 10 **SANS:** text: Myriad regular 7 pt, 100% black.
- 11 **Further information is contained in the product brochure:** Text: Myriad regular 7 pt, 100% black.



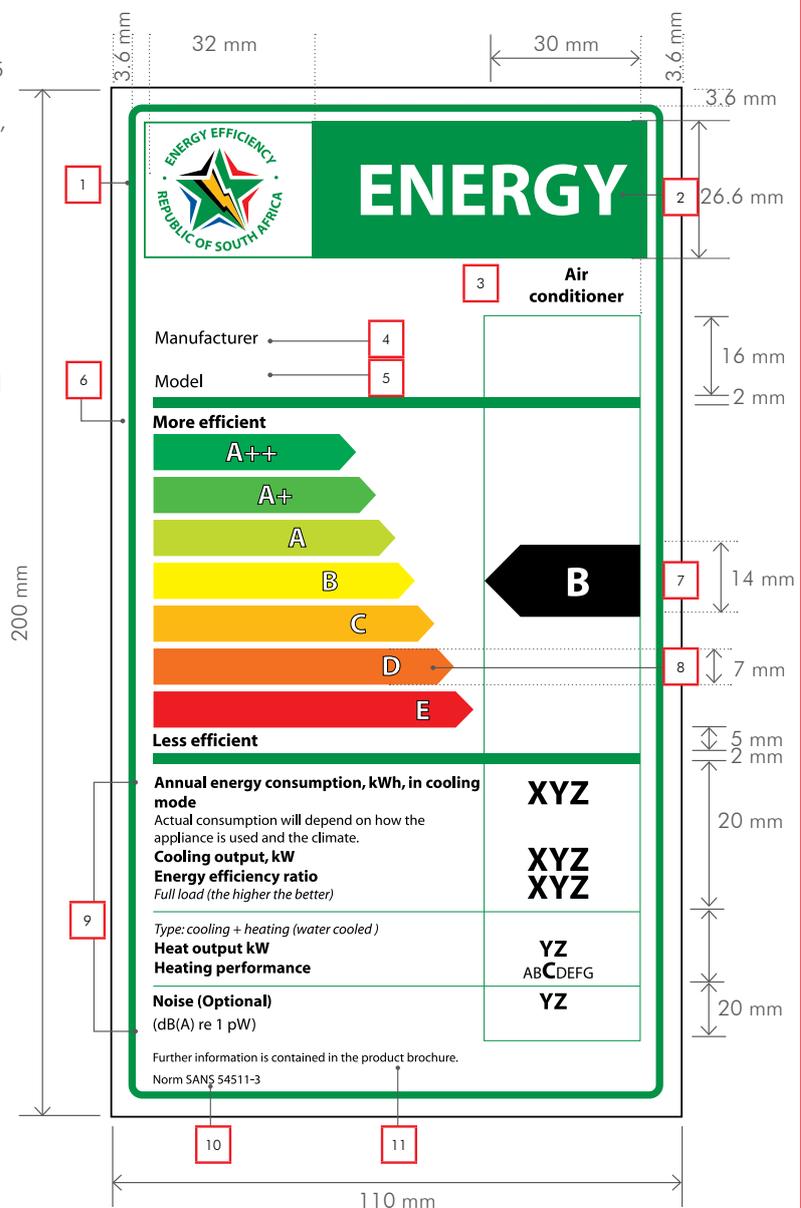
A.3.12 Air conditioners

The energy efficiency scale for air conditioners range from A++ (most efficient) to E (least efficient).

The estimated energy consumption is quantified using three dimensions i.e.: kWh in cooling mode, cooling output (kW) and energy efficiency ratio at full load. A higher energy efficiency ratio indicates the more efficient option. The specifications prescribed for air conditioner EE labels are provided below.

The following information shall be included in the label:

- 1 **Energy Efficiency logo;** Size: 30 mm in diameter.
Position: placed at the bottom right with 5 mm white space around.
NB: For more information about the logo, please refer to page 10.
- 2 **Energy;** text: Myriad bold 41 pt, 100% white.
- 3 **Air conditioner;** text: Myriad bold 10 pt, 100% black.
- 4 **Manufacturer;** text: Myriad regular 5 pt, 100% black. **Data entered:** Myriad bold 5 pt, 100% black.
- 5 **Model;** text: Myriad regular 5 pt, 100% black. **Data entered:** Myriad bold 5 pt, 100% black.
- 6 **More efficient, Less efficient;** Myriad bold 10 pt, 100% black.
- 7 **A++ to E scale**
Arrow: height: 7 mm, gap: 0.75 mm
Text: Myriad bold 15.45 pt, capitals and white.
'+' symbols: Myriad bold 15.45 pt, capitals, white, aligned on a single row.
- 8 **Energy efficiency class**
Arrow: width: 30 mm, height: 14 mm, 100% black.
Text: Myriad bold 23 pt, capitals and white.
- 9 **Appliance performance:** text: Myriad regular 8 pt/bold 9 pt/italic 8 pt, 100% black.
XYZ: Myriad bold 19 pt 100% black.
YZ: Myriad bold 13 pt 100% black.
ABCDEFGF: Myriad regular 9 pt, (C: 13 bold) 100% black.
- 10 **SANS;** text: Myriad regular 7 pt, 100% black.
- 11 **Further information is contained in the product brochure;** Text: Myriad regular 7 pt, 100% black.



GLOSSARY OF TERMS

- Energy efficiency:** Using less energy to complete the same task thus lessening energy demand, and in the process cutting energy bills and reducing emissions. In this context, energy efficiency is achieved by more energy efficient equipment or devices.
- Energy versus electricity:** Energy is a broad term that encompasses various energy sources for different applications, such as electricity or liquid fuel. Electricity is thus a specific form of energy. South Africa’s S&L programme is limited to electrical apparatus, excluding other forms such as gas or heating oil, and in certain instances the terms electricity and energy may be used interchangeably.
- Demand-side management (DSM):** Refers to the planning, implementing, and monitoring of interventions to manage and optimize energy consumption – including encouraging consumers to modify their level and pattern of electricity usage. Globally, S&L is the cornerstone of most residential S&L DSM programmes.
- Energy security:** Ensuring uninterrupted supply of energy sources at an affordable price
- Nationally Determined Contributions (NDCs):** National plans developed by individual states to mitigate climate change. These include setting national targets for greenhouse gas emission reductions together with policies and actions that the government will implement to reach those targets and ultimately achieve the global goals of the Paris Agreement.
- Peak demand:** Refers to the highest level of electrical power demand from the grid over a specific time or period – be it annual, daily or seasonal. For example, daily household demand may peak in the early evening when household members are all home and using various devices simultaneously.
- Energy-based carbon emissions:** Most of South Africa’s electricity is generated from coal (84.4% in 2021). This generates significant carbon emissions, the primary cause of climate change resulting in the country having a very high grid emissions factor in relation to its economic output.
- Grid emissions factor:** Grid emissions factor. The volume of carbon produced per unit of electricity. In South Africa this is approximately 0.97 kilogram carbon dioxide (CO₂) per kilowatt-hour (Eskom, 2018).

ACRONYMS AND ABBREVIATIONS

AC	Air conditioner	Mt	megatons
CO ₂	Carbon dioxide	MVE	monitoring, verification and enforcement
DFFE	Department of Forestry, Fisheries and the Environment	NCC	National Consumer Council
DMRE	Department of Mineral Resources and Energy	NDC	Nationally Determined Contribution
dtic (the dtic)	Department of Trade, Industry and Competition	NDP	National Development Plan
EE	energy efficient or energy efficiency	NEES	National Energy Efficiency Strategy
EU	European Union	NRCS	National Regulator for Compulsory Specifications
GHG	greenhouse gas	PCC	Presidential Climate Commission
kWh	kilowatt-hour or kilowatt-hours	SA	South Africa or South African
kt	kilotons	SABS	South African Bureau of Standards
IEA	International Energy Agency	S&L	standards and labelling
LOA	letter of authority	TWh	terawatt-hour or terawatt-hours
MEPS	minimum energy performance standards	WTO	World Trade Organisation

