

WATER EFFICIENCY

Every drop counts: New labels to help South Africans save water (and money)

A Water Efficiency Labelling Scheme (WELS) for South Africa is on its way. Sue Matthews reports.



We've probably all had experiences with water-saving devices that test our patience. Perhaps it was some ineffectual waving of hands to get the sensor of a touchless tap to recognise our presence, or having to push repeatedly on a self-closing pillar tap for enough water to rinse off soap. Or maybe it was a low-flow showerhead that delivered an insipid spray, or the dual-flush toilet that couldn't remove toilet paper from the bowl unless the full-flush button was pressed.

But these types of plumbing fittings and fixtures do play an important part in reducing water use, which is especially important in South Africa, given that a substantial water deficit is expected by the end of the decade. A Water Efficiency Labelling

Scheme (WELS) for taps, showerheads and toilets marketed in the country is therefore under development, intending to help consumers make informed purchasing decisions and encourage uptake of water-saving products.

In May 2025, a stakeholder consultation forum was held to share progress, solicit input and build partnerships as part of the national WELS development project. The project's Steering Committee is chaired by the Department of Water and Sanitation (DWS) and co-chaired by the Water Research Commission (WRC), with the South African National Energy Development Institute (SANEDI) fulfilling the secretariat function. SANEDI is also sharing its experience gained through the South

African Appliance Standards and Labelling Programme in the development of the South African Energy Efficiency Label. That process was supported by CLASP, an international non-profit organisation that was originally called the Collaborative Labelling and Appliance Standards Programme. It now goes by the acronym only and is recognised as the leading global authority on efficient appliances and their role in combating climate change and improving people's lives. CLASP provided support to the WELS project, too, and appointed Jackstra Solutions to give technical assistance to the Steering Committee.

The May consultation forum marked the conclusion of the first phase of WELS development. According to Herman Strauss of Jackstra Solutions, a mature working document containing a draft standard has since been submitted to the South African Bureau of Standards (SABS), which will take it forward according to the legislated process for creating national standards. That includes review by a Technical Committee, which will revise it where necessary to ensure it's written in the correct format and aligned with international benchmarks, followed by gazetting for public comment, further redrafting and public consultation if appropriate, verification by the SABS Standards Approval Committee and, finally, publication as a South African National Standard (SANS).

The SABS is already well informed about the topic because it participated in the International Organisation for Standardisation (ISO) committee to develop ISO 31600, 'Water efficiency labelling programmes – Requirements with guidance for implementation', which came into effect with its publication on 21 June 2022. The standard includes best practices from existing schemes around the world. Australia has the most comprehensive mandatory one, with taps, showers, flow controllers, toilet and urinal systems as well as washing machines and dishwashers, retailed since 1 July 2006 required to display their water usage information and WELS star rating – six stars being the most efficient. Prominent voluntary schemes include WaterSense in the United States, sponsored by the US Environmental Protection Agency (EPA), and the Unified Water Label in Europe.

In South Africa, the goal of implementing a WELS was noted as early as March 2000, in the then Department of Water Affairs and Forestry's 'Draft Water Conservation and Water Demand Management Strategy for the Water Services Sector'. This document was developed from the output of a workshop of key stakeholders in July 1999, but by the time the final version was published in August 2004, all mention of a WELS had been removed. Four years later, however, the WRC published a research report (**WRC Report No. TT 358/08**) by Dave Still and colleagues from Partners in Development, which explored the status and use of water-efficient devices in South Africa's domestic and commercial environments. The report recommendations highlighted the need for a WELS in South Africa and included proposed specifications for water-efficient fittings, fixtures and appliances. Still subsequently presented the project at the WRC's 40-year Celebration Conference in September 2011.

The matter appears to have been put on the back burner for a while, but in 2018, DWS released the National Water and Sanitation Master Plan, which included the establishment of a

WELS in South Africa as a key action. Responsibility for this action was assigned to the SABS and DWS, with the target date for completion listed as 2025. The following year, the SABS Technical Committee on plumbing components began participating in the ISO committee to develop ISO 31600.

In 2020, as part of a global scoping study exploring how water efficiency standards can mitigate the impacts of climate change, CLASP commissioned Solid Green Consulting to conduct research in South Africa. Given the restrictions associated with the COVID-19 pandemic, this relied on desktop research and a limited number of semi-structured interviews, but the findings – detailed in the January 2021 report 'In-depth Assessment of Water Efficiency Opportunities in South Africa' – indicated that water-efficient taps and showerheads could reduce water use by more than one trillion litres per year. What's more, the reduction in electricity use to heat some of that water translated to energy savings of 18 terawatt-hours per year, avoiding 16 million tonnes of carbon dioxide emissions per year!

The report concluded with some "recommended next steps" including a gap analysis between the various South African product and installation standards, which were perceived to focus on maximum water flow rates rather than ensuring an appropriate and sustainable supply. Acting on this recommendation, CLASP commissioned SANEDI and Jackstra Solutions to conduct a study on taps in domestic and commercial settings. The resulting report by Herman Strauss, 'South African Tap and Flow Rate Gap Analysis', which was published by CLASP in January 2022, is a comprehensive evaluation of the various SANS and international standards relevant to taps. The gap analysis was performed by recording and collating all flow rate requirements, as well as test conditions for determining the flow rates, and then conducting a modelling exercise to establish whether taps tested internationally would comply with the equivalent requirements of the applicable SANS standard.

Several misalignments between SANS and international standards were found, so it was recommended that selected requirements of the SANS standards be amended. Strauss says that SABS subsequently began working on the amendments and they are now close to finality, which helps clear the way for a WELS to be introduced in South Africa.

"Many of the SANS tap standards were developed years ago, during a period when there were sanctions against South Africa, so a lot of products were manufactured locally and to our own requirements," he explains. "Over time, we became more and more reliant on international suppliers, so it's important to acknowledge that in our standards and prevent trade barriers, while also protecting our consumers by making sure we still get taps that are appropriate for the country."

Other recommendations in the report include maximum flow rates for each type of tap to align with similar international requirements, as well as target water-saving flow rates that could be used in implementing the WELS. For taps used in a hand washbasin, for example, the recommended maximum was 16 litres per minute and the water-saving target 10 litres per minute. In the case of bath taps, though, limiting the flow rate is unlikely to contribute to water saving, so a maximum flow rate was not

recommended and the water-saving target was set at 20 litres per minute.

Later in 2022, CLASP published the “South African Showerheads Testing Report”, also written by Strauss. This covered testing of 19 showerheads representing all price categories – budget, low, medium and high – with water flow rates measured at pressures ranging from approximately 250 kPa up to about 550 kPa. Spray patterns at 300 kPa were also photographed, capturing the different settings for those showerheads that had such a feature. The results showed that the budget showerheads had an average flow rate of 26.8 litres per minute at 300 kPa, compared to 8.0 litres per minute for the high-priced showerheads. Showerheads with pressure-compensating flow rate regulators had an average flow rate of 6.6 litres per minute at 300 kPa, while those with a fixed orifice averaged 24 litres per minute, with one being as high as 37 litres per minute. A tap advertised as water-efficient had five settings, with only one of these having a flow rate under 10 litres per minute!

It was clear that a high flow rate is not necessarily equivalent to a better shower experience, because the showerhead’s width or shape and the resulting spray pattern play a role too. At the same time, showerheads with low flow rates will not achieve their water-saving objective if users compensate for poor spray force or coverage by taking longer showers, removing the flow control components or switching to a high-flow setting.

Based on the report findings, a proposal was submitted to the SABS to create a South African standard for showerheads, aligned with international standards. It was recommended that the standard should require flow rates to be measured at both 300 kPa and 150 kPa, with the flow rate not exceeding 10 litres per minute at 300 kPa. For the purpose of future WELS implementation, showerheads with a flow rate of 4.5 to 6 litres per minute would be eligible for the highest rating.

At the stakeholder consultation forum in May, it was confirmed that the draft WELS standard deals with taps, showerheads and toilet systems. Dishwashers and washing machines, which have been subject to mandatory energy efficiency labelling since 2016, are not included because industry representatives requested a deferral while they consider how to incorporate a water efficiency indicator into the energy efficiency label.

Strauss says that a decision has not yet been made as to whether the WELS will be voluntary or mandatory. He explains that standards do not prescribe who must follow them, but once they are published, a regulation can be passed to make compliance mandatory. Engagements with industry representatives revealed that there was a preference for a mandatory WELS, but the final decision is up to DWS. There are also various options for including the standard in the Building Standards Act, National Building Regulations or SANS 10400 series used to demonstrate compliance with those regulations, possibly by integrating it into the voluntary SANS 3088: Water Efficiency in Buildings, which is due to be incorporated into SANS 10400.

Another important component of a WELS is the central register that must be maintained and made accessible to anyone

wanting to confirm the validity of a label on a product. DWS is in the process of evaluating possible organisations that could host the register, and the best mechanism for appointing one.

“The model that most other countries use is to have a central body that keeps the register, but any supplier can go to an accredited test laboratory or certification body and have their products tested,” notes Strauss. “The report can then be submitted to the register, where a verification is done and the products are listed.”

He adds that consumers will soon ask questions if they walk into a shop and 80% of the taps have the WELS label, but the rest don’t.

“It becomes a compelling mechanism to encourage compliance. In fact, the industry is regulated by consumers, because they decide what they pay for. And when they get a hefty water bill, they will have the information to realise that they can swap their showerhead or taps for more efficient ones. It’s a strong motivator for consumers to adopt water-efficient devices, and I think the public is ready for it.”

Communities that have experienced water restrictions associated with droughts or water-shedding are especially sensitised to the need to save water. But bearing in mind that homeowners and businesses effectively pay for water three times in our utility bills – buying our water, heating it and then disposing of wastewater – any water-saving measures we adopt put a lot less strain on our bank accounts.

Clearly, the development of South Africa’s WELS in line with international best practices in sustainable water management represents a critical opportunity to address the country’s water security challenges. Whether voluntary or mandatory, WELS is poised to become a catalyst for behavioural change. Ultimately, by reducing our water and carbon footprints and saving us money, it will contribute to a more resilient and sustainable future for all.



Water-efficient, dual-flush toilets are a common sight in many public restrooms.