South African National Accreditation System

Driving energy efficiency

South Africa has come a long way since the formal introduction of measurement and verification (M&V) to energy efficiency, in 2000, says South African National Accreditation System (Sanas) field manager Linda Grundlingh.

"The country was the first globally to officially introduce a standard (SANS 50010:2011) for M&V and the accreditation of those that may perform M&V, which has led to South Africa becoming involved and nominated to lead the international (technical committee) dealing with the M&V of energy efficiency."

The government's National Energy Efficiency Strategy, currently under review, sets a target for energy savings of 12% by 2015.

This target, to be achieved through energy efficiency measures, was originally driven by the need to mitigate the negative effects of energy use on the environment. Following the 2008/2009 electricity blackouts, energy efficiency also became one of the cheapest and quickest ways to reduce demand in order to bridge the supply gap until new build programmes could increase base-load provision.

"Sanas was requested to develop fit-for-purpose guidance documents, qualification criteria and training material for M&V assessors," says Sanas senior manager Mpho Phaloane.

"Sanas fast-tracked the process and launched its M&V accreditation programme for M&V bodies in the fourth quarter of 2010."

South Africa has also launched tax incentives around energy efficiency. Phaloane says: "To the best of our knowledge, South Africa is the only country globally that has essentially declared through the promulgation of the 12-L regulations, that energy efficiency is a source of energy that has a price and can be procured and traded as we would trade renewable energy or fossil fuels.

"Tax incentives are being introduced for businesses that can show measurable energy savings. The promulgation of the regulations on the allowance for energy efficiency savings came into operation in November 2013.

"The 12-L regulation sets out the process for determining the amount of energy efficiency savings, and the requirements for claiming the proposed tax deduction."

Accrediting M&V facilities

Sanas' accreditation programme for M&V bodies serves to provide government with the assurance that the companies assessing M&V tax claims are qualified to do so and that the savings claimed are valid.

The energy efficiency tax incentives (12-I and 12-L) were introduced recently and require a high level of accuracy.

This has necessitated the introduction of an independent accreditation system to ensure that M&V practitioners do have the necessary competence, which includes qualifications, systems and equipment in place, to accurately perform the task of M&V.

Criteria for accreditation have been established and agreed to by relevant stakeholders, including specific requirements for various scopes.

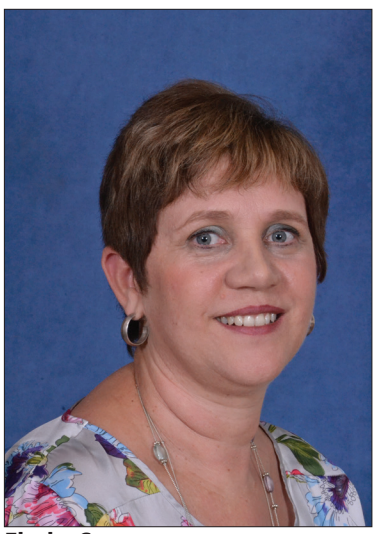
Sanas is therefore "open for business" to accredit M&V facilities in South Africa, in line with SANS 50010 and ISO/IEC 17020, Phaloane says.

The uptake of companies (facilities) requesting Sanas-accreditation has been sluggish, he notes, seemingly because most M&Vs were waiting for the tax incentive regulation to be promulgated, as this would guarantee a demand for accredited M&V service.

The regulations for the 12-L Energy Efficiency Tax Incentives were released in November 2013 and this regulation does indeed stipulate the compulsory requirement of using a Sanas accredited facility (with the requisite M&V professional/practitioner), to carry out the necessary baseline determinations and annual performance assessments, to qualify for the tax incentive.

Addressing greenhouse gas emissions

Sanas senior manager Dr Elsabe Steyn says: "In addressing climate change, countries including South Africa are developing policies to reduce their resource consumption, energy consumption as well as the carbon intensity of their economies.



Elsabe Steyn

"South African organisations also have to manage and save energy, reduce their greenhouse gas (GHG) emissions and operate in an environmentally sustainable manner because organisational performance is no longer measured only on profits, but also on how sustainable and environmentally-friendly the activity that generated those profits was.

"Energy and environmental management as well as climate change response plans have become some of the key performance indicators in the measure of organisational performance," she says.

Sanas supports South African organisations' efforts to make their industries greener.

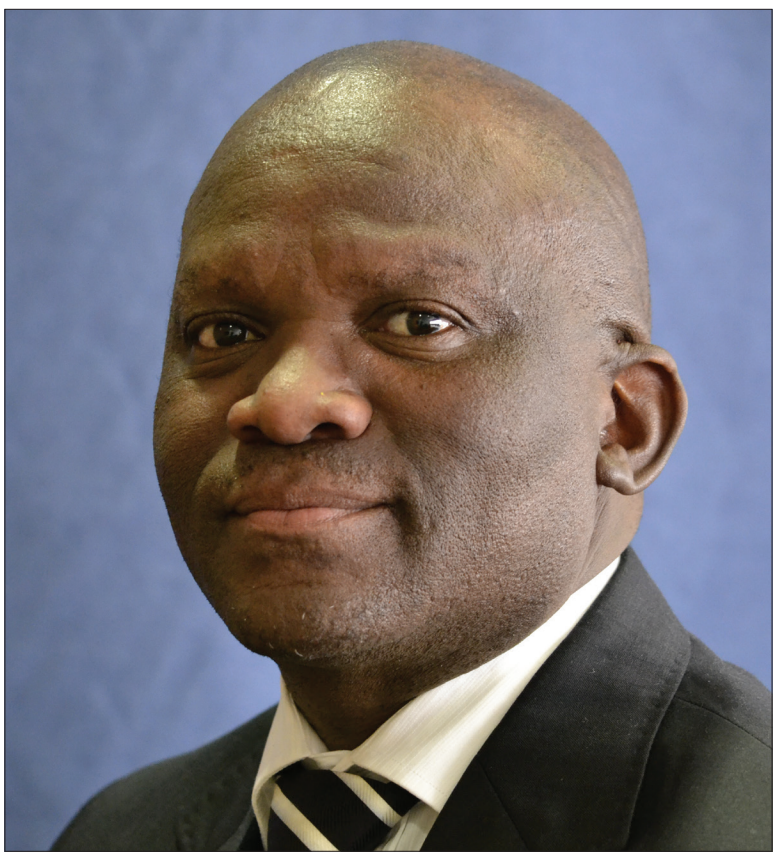
The South African industry, through Business Unity South Africa (Busa), identified the need for an accreditation programme for GHG validation and verification bodies, says Steyn.

"Busa approached Sanas through the department of trade and industry (dti) in 2012 with a request that we develop an accreditation programme for validation and verification bodies for greenhouse gases emissions of organisations and projects. The aim is to have a pool of accredited validation and verification bodies available in South Africa," she says.

The overall aim of GHG validation or verification activities is to give confidence to industry, government and other stakeholders that rely upon a GHG assertion, Steyn says.

"The industry that makes the GHG assertion is responsible for conformity with requirements of the relevant standards or GHG programmes such as SANS/ISO 14 064, which helps organisations to quantify their greenhouse gas emissions and communicate on them, and SANS/ISO 14 064 and SANS/ISO 14 065, which provide an internationally agreed framework for measuring GHG emissions and verifying claims made about them so that "a tonne of carbon is always a tonne of carbon".

The validation or verification body is responsible for completing an objective assessment and providing a validation or verification statement concerning the responsible party's GHG assertion based on evidence.



Mpho Phaloane

Using a Sanas accredited validation and verification body improves the integrity, transparency and credibility of data used for organisational GHG assertion statements.

"In addition to the above programmes," says Sanas project manager for research and development Tumelo Ledimo, "Sanas is busy developing an accreditation programme for energy performance certification bodies that will evaluate the energy efficiency of a building and provide a certificate to that effect for renters/buyers to use to see how much energy is used by a facility before they rent or buy it, in the same way people compare the fuel efficiency of various cars."

The programme, says Ledimo, is being developed and piloted this year and is expected to launch in 2015.

The support provided to industry in its use of energy is incentivised by several dti programmes, in addition to the tax incentives in place. Dti chief director for industrial development, Dr Tshenge Demane, says: "We have a number of incentives through the dti's flagship Industrial Policy Action Plan and are leveraging government's infrastructure building programme to support the industrial sector."

Under the Manufacturing Competitive Enhancement Programme, grant funding is available for industrial policy projects including greenfield or brownfield installations.

Section 12i of the Income Tax Act provides for an additional allowance on assets (new or used), applied to a project that qualifies as an Industrial Policy Project (IPP) defined in relation to assets used in the manufacturing sector. The project must be approved by the minister of trade and industry.

Projects larger than R200-million qualify for this allowance.

The incentive in relation to a qualifying project comprises:

- 75% of the cost of a new and unused manufacturing asset used in an IPP within an Industrial Development Zone (IDZ); or
- 35% of the cost of a new and unused manufacturing asset that is used in an IPP

If the qualifying project constitutes a preferred project, the incentive comprises:

- 100% of the cost of a new and unused manufacturing asset used in an IPP within an IDZ; or
- 55% of the cost of a new and unused manufacturing asset used in an IPP.

The incentive (tax deduction) is limited to:

- R900-million for greenfield projects with preferred status
- R550-million for greenfield projects with qualifying status
- R550-million for brownfield projects with preferred status
- R350-million for brownfield projects with qualifying status.

Measurement and verification of savings will be required to verify that savings are sustained over the incentive benefit period of four years.

What Sanas accreditation is not

- It is not merely a means of registering or listing personnel, products and processes;
- It is not a management system assessment/audit that is merely enhanced by scientific/technical elements;
- It is not the recognition of reputation/affiliation; these things change over time;
- It is not the recognition of future capabilities;
- It is not the recognition of an individual's qualifications;
- It is not broad approval of every activity that a conformity assessment body might engage in.

Sanas measurement and verification (M&V) accreditation process

The function of Sanas is to assess and recognise the competence of measurement and verification (M&V) bodies to competently carry out measurement and verification of energy savings and subsequently to ensure that the required accreditation standards are maintained.

Sanas accredits M&V bodies against a set of international and national standards, namely ISO/IEC 17020: 2012, Conformity assessment – Requirements for the operation of various types of bodies performing inspection and SANS 50010: 2011, measurement and verification of energy savings.

Assessment of the competence of an M&V body is carried out using document reviews, visits to the facility's central administrative office and other locations and on-site assessment of inspections.

The purpose of the assessment is to determine whether an M&V body complies with the requirements of ISO/IEC 17020 and SANS 50010, as well as the relevant Sanas and International Laboratory Accreditation Co-operation (ILAC) requirements.

Sanas is a signatory to the ILAC Mutual Recognition Arrangement and regularly undergoes peer evaluations to confirm its continued compliance with international requirements.

Sanas uses technical assessors and/or experts with the relevant specialist knowledge to assess the competence of the M&V bodies to perform measurements and verifications. The assessment teams are required by Sanas to maintain confidentiality, and to sign a confidentiality form specifying the need to declare any potential conflict of interest.

Sanas assessors are monitored regularly to ensure that they comply with the stringent terms and conditions of their registration.

Following accreditation, Sanas will check for continuing compliance with accreditation requirements by carrying out surveillance visits at periods not exceeding 24 months.

Surveillance visits will be planned to cover the majority of the scope of accreditation over the assessment cycle, which is four years. A representative sample of the scope of accreditation is assessed at each surveillance assessment.

Sanas conducts re-assessments at least six months prior to the start of each new accreditation cycle, which is every four years. Re-assessment visits will be similar to the initial assessment, except that experience gained during previous assessment will be taken into account.

Following successful assessment, the scope, including standard specifications, methods and procedures relevant to the inspections concerned will be identified on the certificate and schedule of accreditation.

Accredited M&V Facilities
EEMV0001: Veritek (Pty) Ltd — accredited on February 7 2013.
EEMV0002: Onga Energy Efficiency and Management (Pty) Ltd — accredited on 17 May 2012.
EEMV0003: Stellenbosch University Measurement and Verification (SUMV) — accredited on December 19 2013