

A nighttime photograph of a city skyline, likely Johannesburg, with numerous skyscrapers and buildings illuminated against a dark sky. The image is slightly faded to allow text to be overlaid.

# ENERGY PERFORMANCE CERTIFICATES REGULATIONS AND

# MUNICIPAL ENERGY MANAGEMENT SYSTEMS

EASTERN CAPE  
AMEU BRANCH MEETING  
Thursday, 9 December 2021



SUSTAINABLE  
ENERGY  
AFRICA



# Overview of presentation

- New regulations for buildings -The National Energy Act 2008, Regulations for mandatory display and submission of EPCs for Buildings
- What are Energy Performance Certificates (EPCs)?
- What needs to be done to comply with the EPC regulation?
- What needs to be measured and what needs to be displayed on the EPC?
- Using EPCs to drive Municipal Energy Management Systems – the example of Nelson Mandela Bay Municipality and Buffalo City
- Where to go for support and resources

# Regulations for mandatory display and submission of EPCs for Buildings

- Legislation: SANS 10400 XA, SANS1544, The National Energy Act of 2008, and Regulations for the Mandatory Display and Submission of Energy Performance Certificates for Buildings
- Required to publicly display an EPC at the entrance of a building that is owned, operated or occupied by **7 December 2022**
- Each certificate is **valid for a period of 5 years**.
- EPCs must be submitted by the relevant accounting officer to **SANEDI** within 3 months of the EPC being completed.
- Responsibility of Accounting Officer (public) or building owner (private)
- Fine of R5M or 6 months jail time or both!!!



**Buildings in these classes:**

- A1 Entertainment and public assembly
- A2 Theatrical and indoor sport
- A3 Places of instruction
- G1 Offices

Used as intended for the past 2 years with no major renovations

Occupied, operated or owned by the municipality

After excluded areas floor area is  $\geq 1000m^2$   
(Private buildings  $\geq 2000m^2$ )

**EPC REQUIRED**  
by Dec 2022

Building occupancy classes requiring EPCs

Building Occupancy Class	Occupancy	Description
A1	Entertainment & public assembly	Where persons gather to eat, drink, dance or participate in other recreation.
A2	Theatrical & indoor sport	Where persons gather for the viewing of theatrical, operatic, orchestral, choral, cinematographic or sport performances.
A3	Places of instruction	Where school children, students or other persons assemble for the purpose of tuition or learning.
G1	Offices	Comprising offices, banks, consulting rooms and other similar usage.



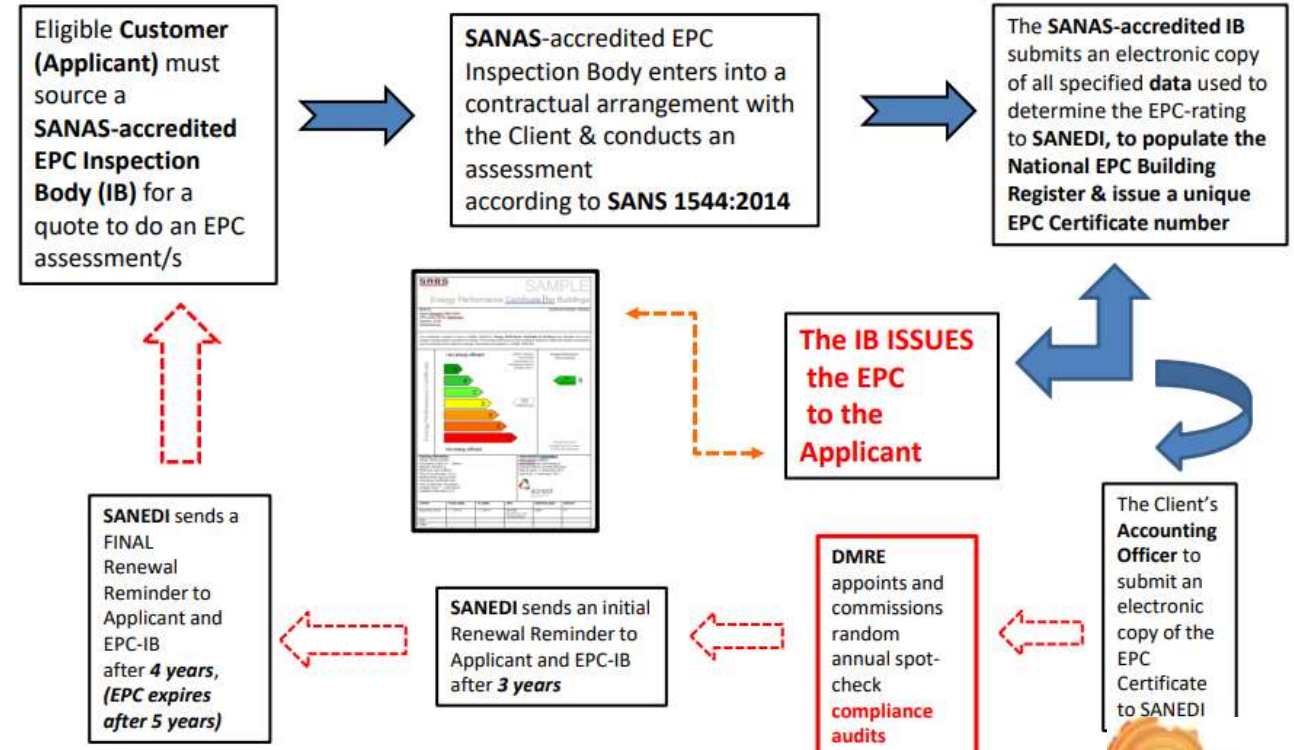
# What are Energy Performance Certificates (EPCs)?

A certificate issued by an accredited body, South African National Energy Development Institute (SANEDI), in respect of a building in accordance with the South African National Standard SANS 1544: 2014 Energy performance certificates for buildings that indicates the energy performance of that building

A Government Building Light House 23 Energy Street Anytown 12345		Certificate Number 123-456
This certificate is issued in terms of SANS 1544:2014, Energy performance certificates for buildings, and indicates how much energy is being used to operate this building. The energy performance of the building is based on measured energy performance and is compared to the maximum energy consumption provided for in SANS 10400 XA.		
Energy performance certificate	Very energy efficient  Not energy efficient	SANS 10400-XA maximum energy consumption in occupancy class in climatic zone 1  200 kWh/(m <sup>2</sup> ·a)
	Energy performance of your building  259 kWh/(m <sup>2</sup> ·a)	Energy excluded (outside net floor area) 73 kWh/m <sup>2</sup> ·a
<b>Building information:</b> Owner: Property Portfolio (Pty) Ltd Occupancy class/es: G1 – Offices Number of floors: 12 Net floor area: 2 730 m <sup>2</sup> Year of construction: 1955 Building plan approval: 1955/02/21 Occupancy certificate: 1956/05/21 Year of last major renovation: 1999 Climatic zone: 3 – Hot interior Cadastral information: Erf 3 Farm Soutfontein		<b>Administrative information:</b> Accredited body: Energy Auditors Inc Accreditation No.: SANAS 98765 Assessor name: AN Assessor Date of issue: 1 July 2013 Valid until: 31 June 2018

# What needs to be done to comply with the EPC regulation?

- Energy needs to be measured - (kWh/m<sup>2</sup>/pa), of the net floor area
  - All energy carriers, (not only electricity);
  - One year's energy consumption, from recorded data, energy bills or Measurements
- EPC to be done and issued by a SANAS Accredited body
- SANAS to submit EPC to SANEDI



# What needs to be measured and what needs to be displayed on the EPC?

- Unique certificate number
- Full physical address of the building
- Owner of the building
- Occupancy class (A1 etc)
- Number of floors
- Net floor area only if available
- Year of construction
- Building plan approval date
- Occupancy certificate date
- Year of last major renovation
- Energy Zone as per SANS10400-XA
- Erf no. registered on the deed
- Name of the SANAS Accredited EPC Inspection Body
- EPC Inspection Body accreditation number
- Name of EPC Technical Signatory that assessed the building
- Date of issue of the certificate
- Expiry date of the certificate
- Details on ALL the energy carrier/s, the kWh energy use for the evaluated year, net floor area and the calculated kWh per square meter. [All energy used (eg. gas, diesel etc) converted to kWh.]

**Energy Performance Certificate for Buildings**

Street address: Suburb, City, Code. Certificate Number: SPC-SA 1000-2021

The certificate is issued in terms of SANS 1044:2014, Energy performance certificates for buildings, and indicates how much energy is being used to operate this building. The energy performance of the building is based on measured energy performance and is compared to maximum energy consumption provided in SANS 10400 XA.

**Energy Performance Certificate**

SANS 10400 XA 2021 maximum energy consumption in occupancy class of Energy Zone 4

Energy performance of your building: 100 kWh/m<sup>2</sup>/a

Very energy efficient (A, B, C, D, E, F, G) to Not energy efficient (G)

**Building Information:**  
 Owner: A Municipality  
 Occupancy Classes: G1 - Offices  
 Number of Floors: 14  
 Net Floor area: 6474 m<sup>2</sup>  
 Year of construction:  
 Building plan approval:  
 Occupancy certificate:  
 Year of last major renovation:  
 Energy zone: 4 - Temperate coastal  
 (Additional information: 1:1110)

**Administration Information:**  
 Accredited body: An Energy Assessor name: A Person  
 Date of Issue: 06 September 2021  
 Valid until: 05 September 2028  
 Record nr:

Carrier	From (date)	To (date)	Energy (kWh)	Net Floor Area	Performance (kWh/m <sup>2</sup> )	Exclusions Performance (kWh/m <sup>2</sup> )
Electricity (gas)	2019/01/01	2019/12/31	1 021 848	6 474	156	D
Gas	N/A	N/A	N/A	N/A	N/A	N/A
Solid Fuel	N/A	N/A	N/A	N/A	N/A	N/A
Liquid Fuel	2019/01/01	2019/12/31	4 750	6 474	1	D
Other	N/A	N/A	N/A	N/A	N/A	N/A

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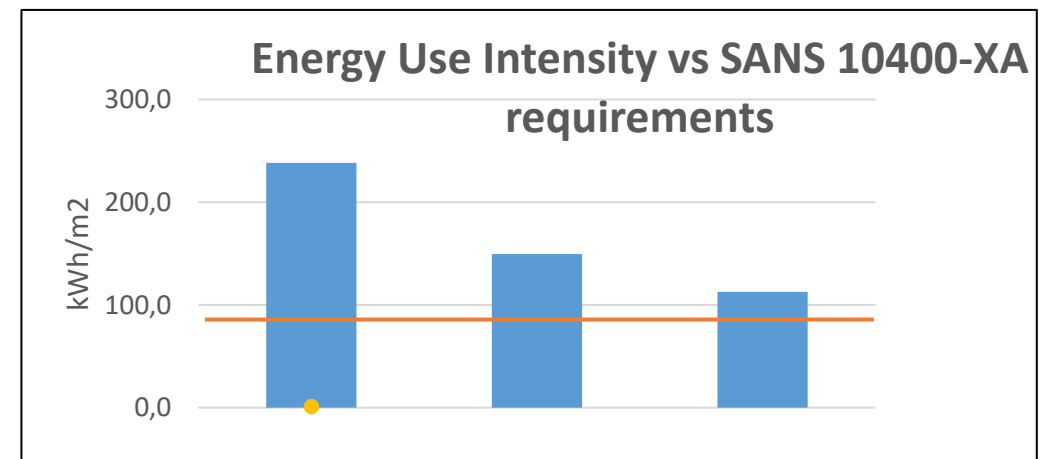
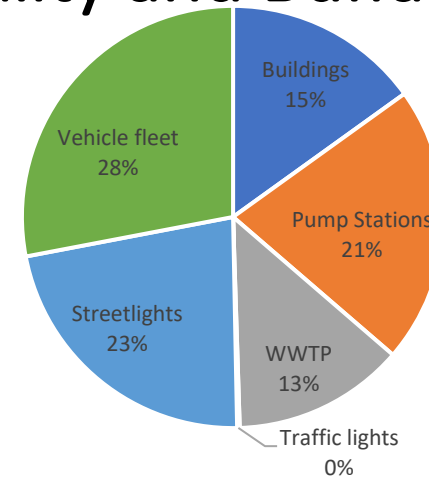
**Callout Bubbles:**

- SANEDI logs EPCs on the National Building Energy Performance Register**
- Measured in energy use per square meter of net floor area per year (kWh / m<sup>2</sup> / year)**  
Note: this is an operational energy use figure
- SANS10400 XA maximum energy consumption for this class of building in this energy zone**  
Note: this is a base load figure - only for guidance
- Information on the SANAS accredited EPC Inspection body**
- A year of energy consumption data is required**
- Building Information**
- All energy sources to be included and converted to kWh**



# Using EPCs to drive Municipal Energy Management Systems – the example of Nelson Mandela Bay Municipality and Buffalo City

EPCs require the collection and analysis of data on buildings and their energy consumption. EPCs therefore both provide data for a municipal energy management system



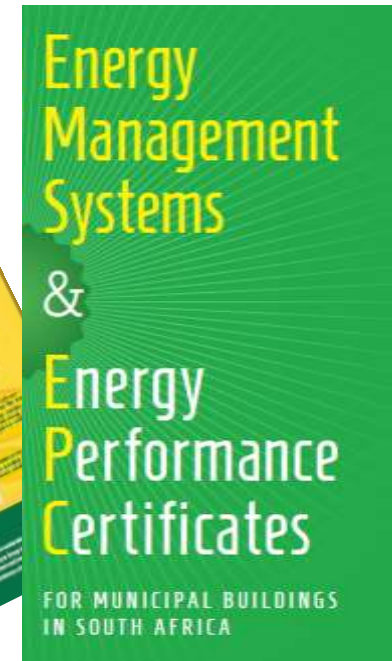
# Where to go for support and resources

## Organisations:

- SA National Energy Development Institute
- Council for Scientific and Industrial Research
- Green Building Council of South Africa SA Local Government Association
- Sustainable Energy Africa

## Resources:

- SANEDI:  
[https://www.sanedi.org.za/Energy\\_Performance\\_Certificates.html](https://www.sanedi.org.za/Energy_Performance_Certificates.html)
- Smart Buildings web hub: [www.smartbuilding.org.za](http://www.smartbuilding.org.za)
- Urban Energy Support hub: [www.cityenergy.org.za](http://www.cityenergy.org.za)



REQUEST FOR PROPOSALS (RFP) FOR ISSUING OF ENERGY PERFORMANCE CERTIFICATES (EPCs) FOR MUNICIPAL BUILDINGS



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