

GUIDANCE NOTE FOR EDGE PRELIMINARY CERTIFICATION OF FREEHOLD DEVELOPMENTS

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Introduction

The GBCSA has partnered with the International Finance Corporation (IFC) to facilitate certification using the EDGE tool in South Africa, and Africa. We are continually looking for ways to improve the EDGE certification process, and benefits.

This guidance note is intended for the attention of Clients, EDGE Experts, EDGE Auditors and EDGE Reviewers to explain an alternative approach to Preliminary certification of freehold developments. This is a methodology to align with the actual roll out of these developments. These developments typically offer a few different design (e.g. 1 bed, 2 bed, etc) and specification options to prospective buyers. This therefore implies that accurate information of how the development is going to roll out is not available at early stages. The set design and specification options to be modelled in such a way on the EDGE App as to confirm EDGE compliance at a more general and conservative level at Preliminary stage, which would then need to be confirmed at Post construction stage.

Why is an alternative approach required?

Waiting for the detail (design and specifications) to be confirmed before proceeding to Preliminary certification results in:

- significant delays to achieving Preliminary certification
- additional costs to proceed with Preliminary submission phases
- timing of Preliminary and Final EDGE certification being within months of each other.

What is the alternative approach?

The alternative approach relates to the whole development Preliminary certification whereby:

- projects are submitted as worst case / conservative (as applicable per measure) based on the different design and specification options
- the total development area is predicted and represented in the submission
- only Project Level certificates are issued, i.e. no unit/home certificates

Requirements for the alternative approach Eligibility request:

In order to confirm that the alternative approach can be applied a project specific eligibility request must be submitted via Zendesk, including:

- a request from the Client motivating why the alternative approach is required/applicable for the project;
- and

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- details from the Client and/or EDGE Expert on the proposed strategy / methodology (project level and per measure) based on the project specific design and specification options.
- confirmation from the EDGE Auditor on the alternative approach.

How should the alternative approach be applied?

Client / EDGE Expert Guidance:

All EDGE App inputs should be clearly supported with project specific documentation, in line with the strategy/methodology as approved by the GBCSA. The strategy applied must be clearly indicated within the submission, i.e. the EDGE User Guide or EDGE Freehold Guidance Note.

EDGE Auditor Guidance:

The EDGE Auditor must perform a full review of the project in line with the EDGE User Guide and/or this Guidance Note.

Guidance for Freehold Developments

This guidance serves to provide:

- a minimum product specification (i.e. what are the minimum efficiencies, U-values, etc.)
- a design concept (i.e. how the product specification, together with the design intentions will be able to achieve the requirements of the measures)

Please refer to the table below, which provides a summary of the design requirements and the preliminary specification requirements for each measure.

Measure	Preliminary specifications document	Design Requirements for Preliminary Certification
EEM01 - Window-to-Wall Ratio	N/A.	The WWR should already be developed at the concept stage. There may be slight modifications between preliminary & post construction phase, but the intended design must show estimated WWR.
EEM02 - Reflective Roof	The intended roof color must be specified, as well as the targeted SRI if the roof color is not white.	Areas need to be clearly marked and indicated in a drawing.
EEM03 - Reflective Exterior Wall	The intended wall color must be specified, as well as the targeted SRI if the roof color will not be white.	Areas need to be clearly marked and indicated in a drawing.

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EEM04 - External Shading Devices	N/A.	Design documentation needs to show calculations for AASF. If this is still early in the design phase, the project may omit this measure during preliminary certification.
EEM05 - Insulation of Roof	The intended maximum allowable U-value, or construction details, for the roof must be specified.	A likely design guidance to be included in design documentation on how the project can achieve the said U-value for the project.
EEM06 - Insulation of Ground/Raised Floor Slab	The intended maximum allowable U-value, or construction details, for the floor slab must be specified.	A likely design guidance to be included in design documentation on how the project can achieve the said U-value for the project.
EEM07 - Green Roof	N/A.	This is a design element and cannot be included as an intent to comply. If this is still early in the design phase, project may omit this measure during preliminary certification. Design documentation needs to show calculations for Green Roof
EEM08 - Insulation of Exterior Walls	The intended maximum allowable U-value, or construction details, for the exterior walls must be specified.	A likely design guidance to be included in design documentation on how the project can achieve the said U value for the project.
EEM09 - Efficiency of Glass	A maximum allowable U value, and an acceptable range for SHGC and VT must be specified. The U value, SHGC & VT entered in EDGE must be the maximum allowed value.	As per preliminary specification document
EEM10 - Air Infiltration of Envelope	The intended overall air infiltration through the various building envelope components, as well as the air tightness testing type, must be specified. Include the recommended airtightness strategy including the allowable air infiltration.	As per preliminary specification document

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EEM11 - Natural Ventilation	N/A	The intended number of windows and opening size for similar areas, and whether ventilation will be single sided or cross flow, must be included.
EEM12 - Ceiling Fans	The intended number of fans and fan diameter in rooms of the same type must be specified. Include a minimum fan size and type	Estimated Coverage area must be provided.
EEM13 - Cooling System Efficiency	Minimum efficiency may be included in product specification.	System type must be identified.
EEM14 - Variable Speed Drives	Project must include in design specifications if pursuing this measure.	As per preliminary specification document
EEM15 - Fresh Air Pre-Conditioning System	Project must include in design specifications if pursuing this measure.	As per preliminary specification document
EEM16 - Space Heating System Efficiency	Minimum efficiency may be included in product specification.	System type must be identified.
EEM17 - Room Heating Controls with Thermostatic Valves	Project must include in design specifications if pursuing this measure.	Project must include this in design documentation if pursuing this measure.
EEM18 - Domestic Hot Water (DHW) System Efficiency	Minimum efficiency may be included in product specification. The intended DHW systems, % water usage, corresponding efficiency, and fuel usage must be specified.	The proposed type of hot water unit and fuel type used must be identified.
EEM19 - Domestic Hot Water Preheating System	Project must include this in design specifications if pursuing this measure. Specify which systems the developer intend to fit with a heat recovery device to preheat DHW, and the minimum efficiency of the heat recovery devices.	As per preliminary specification document
EEM20 - Economizers	Specify if HVAC systems include air and/or water economizers.	As per preliminary specification document
EEM21 - Demand Control	Project must include in design specifications if pursuing this measure.	Project must include this in design documentation if pursuing this measure.

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Ventilation Using CO ₂ Sensors	CO ₂ sensor description to be indicated in specifications.	
EEM22 - Efficient Lighting for Internal Areas	The minimum luminous efficacy or maximum lighting power density for internal areas must be specified.	The minimum luminous efficacy or maximum lighting power density for internal areas must be specified.
EEM23 - Efficient Lighting for External Areas	The minimum luminous efficacy or maximum lighting power density for external areas must be specified.	The minimum luminous efficacy or maximum lighting power density for external areas must be specified.
EEM24 - Lighting Controls	Types of lighting control and technical specifications of controls.	Lighting control strategy must be specified
EEM25 - Skylights	A maximum allowable U value, and an acceptable range for SHGC and VT must be specified for skylights. The U value, SHGC & VT entered in EDGE must be the maximum allowed value. Controls required to meet the requirements must be included in specifications.	Details of the skylight areas and daylight control intended to be installed.
EEM26 - Demand Control Ventilation for Parking Using CO Sensors	Any requirements for sensor specification to be included in design specs. (e.g., averaging time and CO level settings).	Coverage area to be identified where CO sensors are to be installed.
EEM27 – Insulation for cold storage envelope	The intended maximum allowable U-value, or construction details, for the cold storage envelope must be specified.	The project must include this in design documentation if this measure is pursued.
EEM28 - Efficient Refrigeration for Cold Storage	Equipment / Refrigeration system description or equivalent must be included.	The project must include a proposed refrigeration system type. Volume may be estimated.
EEM29 - Efficient Refrigerators and Clothes Washing Machines	The minimum energy rating of refrigerators and clothes washing machines must be specified.	The project must include this in design documentation if this measure is pursued.
EEM30 - Submeters for	Description of meters and systems to meet requirements must be detailed in the preliminary specifications.	Metering strategy to meet measure requirements is required.

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Heating and/or Cooling Systems		
EEM31 - Smart Meters for Energy	Description of meters and systems to meet requirements must be detailed in the preliminary specifications.	Metering strategy to meet measure requirements is required.
EEM32 - Power Factor Corrections	The intended power factor correction devices to be installed must be specified in preliminary specifications.	Power factor correction devices used in the project is required.
EEM33 - Onsite Renewable Energy	Specification of minimum product efficiency and system size is required.	The intended number of solar panels, and average and peak production wattage of the solar panel to be installed must be specified, as well as targeted annual energy production. Calculations of estimated renewable energy must be provided.
WEM01 - Water-Efficient Showerheads	<p>Maximum flow rate for showerheads to be included in either specifications, or bill of quantities.</p> <p>Confirm calculated total quantities per typology: totals based on # fixtures/typology x #units/typology that will be installed onsite. For projects that will not provide 100% of fixtures on site, calculations using base case penalty factors.</p>	Calculations for maximum flow rate for showerheads to be included in design documentation.
WEM02/03 - Water-Efficient Faucets for Private/Public Bathrooms	<p>Maximum flow rate for faucets to be included in either specifications, or bill of quantities.</p> <p>Confirm calculated total quantities per typology: totals based on # fixtures/typology x #units/typology that will be installed onsite. For projects that will not provide 100% of fixtures on site, calculations using base case penalty factors.</p>	Calculations for maximum flow rate for faucets to be included in design documentation

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WEM04/05 - Efficient Water Closets for Private/Public Bathrooms	<p>Maximum flush rate for water closets to be included in either specifications, or bill of quantities.</p> <p>Confirm calculated total quantities per typology: totals based on #/typology x #units/typology that will be installed onsite. For projects that will not provide 100% of fixtures on site, calculations using base case penalty factors.</p>	Calculations for maximum flush rate for water closets to be included in design documentation
WEM06 - Water-Efficient Bidet	Maximum flow rate for bidets to be included in specifications	Calculations for maximum flow rate for bidets to be included in design documentation
WEM08 - Water-Efficient Faucets for Kitchen Sinks	<p>Maximum flow rate for kitchen faucets to be included in either specifications, or bill of quantities.</p> <p>Confirm calculated total quantities per typology: totals based on # fixtures/typology x #units/typology that will be installed onsite. For projects that will not provide 100% of fixtures on site, calculations using base case penalty factors.</p>	Calculations for maximum flow rate for kitchen faucets to be included in design documentation
WEM09 - Water-Efficient Dishwashers	<p>Maximum water consumption for dishwashers to be included in either specifications, or bill of quantities.</p> <p>Confirm calculated total quantities per typology: totals based on #/typology x #units/typology that will be installed onsite. For projects that will not provide 100% of fixtures on site, calculations using base case penalty factors.</p>	As per preliminary specification document
WEM10 - Water Efficient Pre-Rinse	Maximum flow rate for pre-rinse spray valve to be included in either specifications, or bill of quantities.	Calculations for pre-rinse spray valve faucets to be included in design documentation

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Spray Valves for Kitchen	Total quantities, and number of fixtures to be delivered onsite shall be confirmed.	
WEM11 - Water-Efficient Washing Machines	Maximum water consumption for washing machines to be included in either specifications, or bill of quantities. Total quantities, and number of fixtures to be delivered onsite shall be confirmed.	As per preliminary specification document
WEM12 - Swimming Pool Covers	Specification of requirements of the pool cover type	Estimated area that will be covered
WEM13 - Water-Efficient Landscape Irrigation System	Specification to include an overview of the type of irrigation system to be included in the design.	Irrigation strategy should be included in the design submission with estimated irrigation calculations
WEM14 - Rainwater Harvesting System	The intended catchment area, tank capacity, and rainwater end-uses must be specified.	Rainwater harvesting strategy including estimated calculations of rainwater capture and storage must be provided.
WEM15 - Waste Water Treatment and Recycling System	The intended water treatment system type, treatment plant technology, and efficiency of recycled water systems must be specified.	Design capacity of gray water treatment and recycling quantity calculations shall be provided.
WEM16 - Condensate Water Recovery	N/A	The strategy around condensate water recovery percentage and recovered water end-uses must be provided. Calculations shall demonstrate the water collected.
WEM17 - Smart Meters for Water	Description of meters and systems to meet requirements must be detailed in the preliminary specifications.	Metering strategy to meet measure requirements is required.
MEM01 - Bottom Floor Construction	The material must be identified in the specification along with the design thickness and steel content.	Design submission must identify type of material for each building element.
MEM02 - Intermediate Floor Construction		The thickness of the material for each element must be available. Where

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MEM03 - Floor Finish	For projects using customized materials, the maximum embodied carbon should be identified in the specifications.	applicable, steel content must be specified.
MEM04 - Roof Construction		
MEM05 - Exterior Walls	If the developer intends to re-use existing building materials it must be specified.	
MEM06 - Interior Walls		
MEM07 - Window Frames		
MEM08 - Window Glazing		
MEM09 - Roof Insulation		
MEM10 - Wall Insulation		
MEM11 - Floor Insulation		

Also, please be aware that if installations are not complete during site audit, these will account as base case, which may compromise the certification of the entire project.

Additionally, be aware that in EDGE v3.1, to be released in June, if the developers are not / cannot / will not provide water fixtures and finishes, or part thereof, the following measures must be entered as base case as a weighted average, with a penalty factor as outlined below:

- WEM01: Water efficient showerheads
- WEM02: Water efficient faucets for all bathrooms
- WEM04: Efficient water closets for all bathrooms
- WEM06: Water efficient bidets
- WEM08: Water efficient faucets for kitchen sinks

In addition, the higher the percentage of unfinished works delivered, the greater the probability that they will deviate from the base case; therefore, an increasing base case penalty will be applied when calculating the weighted average improved case.

% of the units without fixtures	Base Case Penalty Factor
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0 < current % ≤ 10	1.1
10 < current % ≤ 20	1.15
20 < current % ≤ 30	1.20
30 < current % ≤ 40	1.28
40 < current % ≤ 50	1.38
current % > 50	1.53

[See the user guide for more information.](#)

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