



# TECHNICAL UPDATES

## 1.0 Non-Residential Building (NRB v3.2) (September 2021)

- **Revision of the NRB 3-4 (h) – Provision of Green Fit Out Guideline**

The requirement of Green Fit Out Guideline in the NRB 3-4 (h) will be removed and will be a part of the requirement in NRB 3-4(g) Provision of Building User Guide.

Revised minimum requirement of the Building User Guide as follows:

- Details of green building certification i.e rating tier, scorecard, certificate, validity etc.
- Summary of green building features (ideally with photographs and diagrams)
- Recommended practices for enhanced environmental performance of residence
- Green fit out guidelines to detail recommended minimum environmental standards to assist building users' in making sustainable fit-out decisions.

- **Minimum floor area for Energy Modelling and Ventilation Simulation**

For single or mixed mode ventilated buildings, requirements will be based on the following aggregate area:

Aggregate Non - Air conditioned Spaces (m2)	Aggregate Air conditioned Spaces (m2)	Ventilation Simulation requirement	Energy Modelling Requirement	Detailed manual calculation for Energy Savings
≥ 2000 m2	≥ 5000 m2	Yes	Yes	-
≤ 2000 m2	≥ 5000 m2	No	Yes	-
≥ 2000 m2	≤ 5000 m2	Yes	No	Yes
≥ 2000 m2	≤ 5000 m2	No	No	Yes

- **NRB 1-2: Point scoring for mixed AC system**

Where there is a combination of centralized air-conditioned system with unitary air-conditioned system, the computation for the credits scored will be prorated according to the air conditioning capacity.

- **NRB 1-6: Artificial Lighting**

Point scoring will be allowed if the following:

- Provided by the developer
- Not provided by the developer but included as part of the green lease AND inclusion in the building user guide
- Not provided by the developer but included as obligation to a purchaser AND inclusion in building user guide

**2.0 Residential Building (NRB v3.2) (September 2021)**

**• Revision of the RES 3-4 (g) – Provision of Building User Guide**

The requirement of Green Fit Out Guideline will be a part of the requirement in RES 3-4(g) Provision of Building User Guide.

Revised minimum requirement of the Building User Guide as follows:

- Details of green building certification i.e rating tier, scorecard, certificate, validity etc.
- Summary of green building features (ideally with photographs and diagrams)
- Recommended practices for enhanced environmental performance of residence
- Green fit out guidelines to detail recommended minimum environmental standards to assist building users' in making sustainable fit-out decisions.

**• RES 1-1: RETV**

In calculating the RETV, the habitable space façade should be considered in the calculation inclusive of facilities and amenities facade.

**3.0 General**

**• Energy Modelling Template**

Every energy modelling submission must be submitted with the filled energy modelling template. Energy Modelling template is available for download from GreenRE's Website.

**• RES 1-1: RETV**

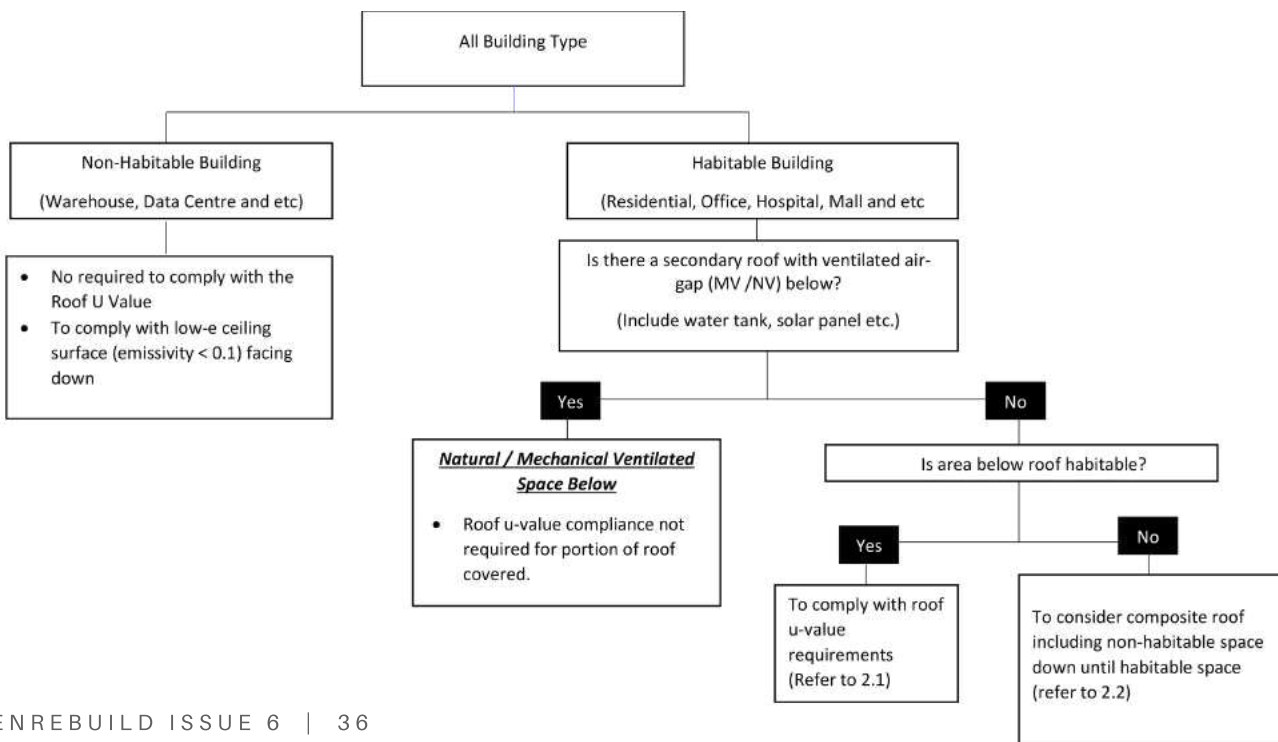
In calculating the RETV, the habitable space façade should be considered in the calculation inclusive of facilities and amenities facade.

**• Revision of Wind Data**

Tabulation of the prevailing wind direction and speed for specific zones in Malaysia has been revised and available on GreenRE's website. The data shall be used in conjunction with GreenRE's Ventilation Simulation Guideline – Appendix B for projects in Malaysia

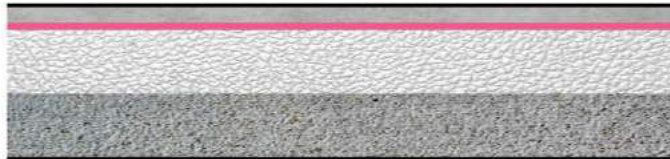
**• Roof U Value Compliance**

For the compliance of the Roof U Value of the building please refer the flowchart.



Example of Roof U Value calculation

2.1. Type : Concrete Flat Roof with Insulation  
 Construction : With habitable space below



Office Area

Component (Material Description) Outside to inside	Thickness (mm)	Thermal conductivity (W/m.k), K-Value	Thermal resistance (m <sup>2</sup> k/W), R
Outside surface resistance	-	-	0.055
Cement Screed	65	0.9	0.072
Water Proofing		0.23	0.004
Insulation (Polyurethane Foam)	50	0.027	1.852
Concrete Slab	150	1.13	0.133
Internal surface		-	0.148
Total R			2.26

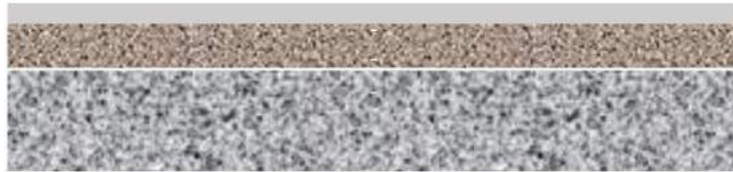
$$u\text{-value} = \frac{1}{R}$$

$$u\text{-value} = \frac{1}{2.26}$$

$$u\text{-value} = 0.442 \quad \text{W/m}^2\text{k}$$

Example of Roof U Value calculation

2.2. Type : Concrete Flat Roof without insulation  
 Construction : With non-habitable space below



Pump Room



Office Area

Component (Material Description) Outside to inside	Thickness (mm)	Thermal conductivity (W/m.k), K-Value	Thermal resistance (m <sup>2</sup> k/W), R
Outside surface resistance	-	-	0.055
Cement Screed	65	0.9	0.072
Water Proofing		0.23	0.004
Concrete Slab	150	1.13	0.133
Air Gap			1.423
Concrete Slab	150	1.13	0.133
Internal surface		1-	0.148
Total R			1.97

$$u\text{-value} = \frac{1}{R}$$

$$u\text{-value} = \frac{1}{1.97}$$

$$u\text{-value} = 0.508 \quad \text{W/m}^2\text{k}$$

#### 4.0 GreenRE Renewal Fee Update (as of January 2022)

Renewal fees are applicable for GreenRE certified non-residential buildings (including industrial and healthcare projects) and residential buildings.

Size of Development	Total Gross Floor Area (m2)*	Renewal Fee (RM)	
		Non-Residential	Residential
Single Unit / Residence	Below 2,000	1,000	500
Small	Up to 4,000	2,000	1,000
Intermediate	4001 - 10,000	3,000	2,000
Medium	10,001 - 30,000	5,000	
Large	30,001 - 50,000	6,000	
Extra Large	50,001 - 100,00	8,000	5,000 (capped)
Mega Project	> 100,000	10,000 (capped)	

\*Excluding Carpark