



INTRODUCTION TO SAP CALCULATIONS AND ENERGY PERFORMANCE CERTIFICATES



3Co Consultancy Services
www.3co.im
info@3co.im
+44 (0) 7624 423412



ISLE OF MAN GOVERNMENT'S CLIMATE CHANGE POLICY

Priority actions, which have been initiated over the previous 12 months, include:

- Improving energy efficiency in buildings.
- Creating green jobs and a skilled workforce to deliver net-zero carbon.
- Further developing low carbon travel options.
- Renewable energy initiatives and grants.
- Promoting natural carbon capture.
- A future ban on diesel and petrol engine cars by 2040.
- A ban on new-build housing having fossil fuel boilers as early as 2025.





Green Living Grants Scheme in 2021

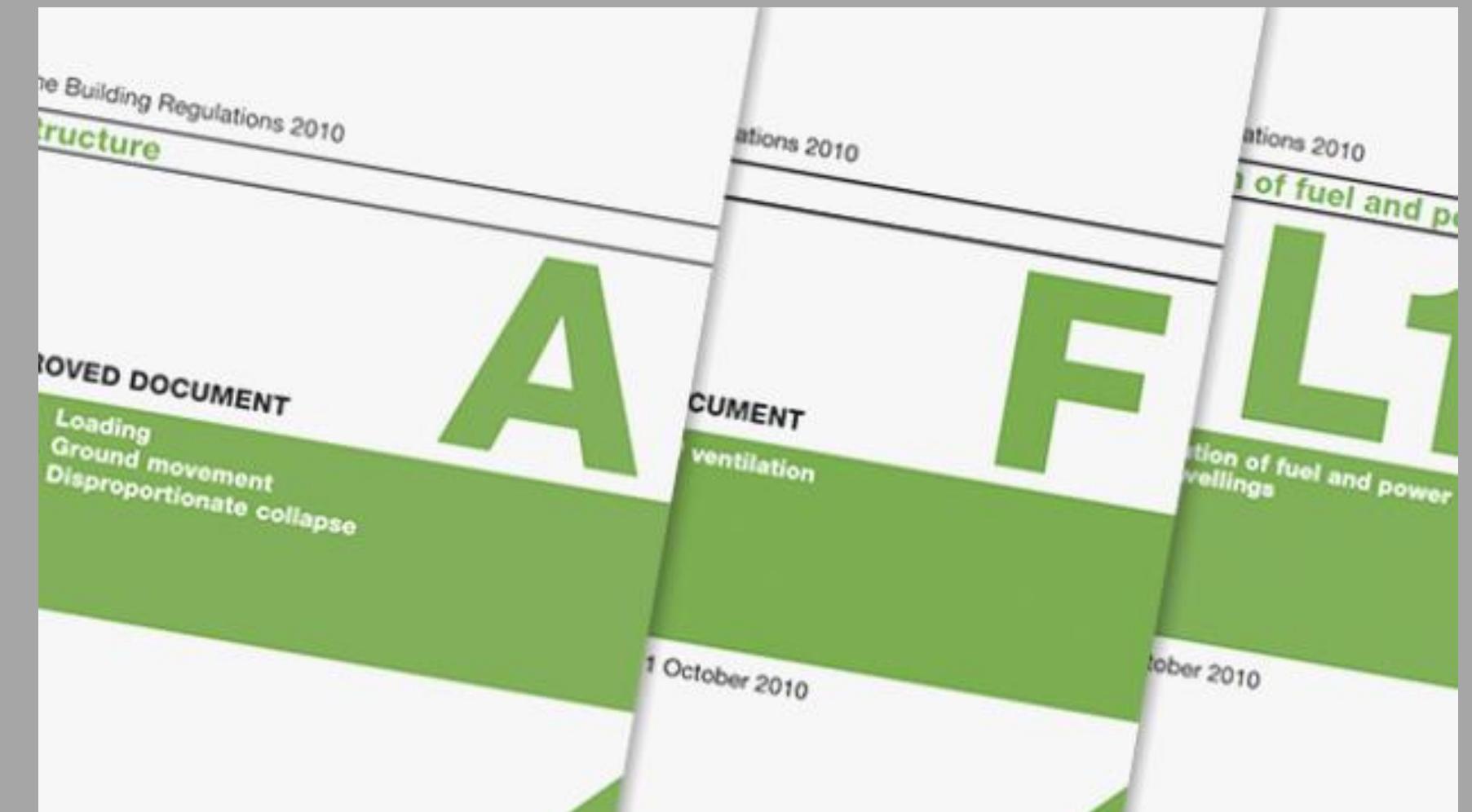
- Designed to assist the energy efficiency of existing housing stock.
- Residents can claim up to £6,000 towards improvements that will make your home more energy-efficient.
- A qualified domestic energy assessor will undertake a free Energy Performance Certificate ('EPC').
- The EPC will provide you with your current rating and suggested improvements to improve your rating.
- A building must be rated a 'D' or under by the EPC to qualify for support.



IMPROVING THE ENERGY EFFICIENCY IN BUILDINGS

Implementation of Approved Document L (Part L):

- Supersession of Building Regulation Order 2014.
- 'Standard Assessment Procedure' ('SAP') for new and some existing dwellings.
- 'Simplified Building Energy Model' ('SBEM') for non dwellings (commercial properties).



WHAT IS A SAP CALCULATION?

- An asset rating system introduced under Building Regulation Approved Document L to assess the annual energy use of new dwellings.
- Measures how much energy is needed to heat, ventilate and light your home.

A SAP calculation indicates a score from 1 to 100+

- **100 = Zero energy costs for the end-user.**
- **100+ = Energy exporter.**



Minimum SAP Ratings introduced for the Isle of Man- New Builds:

- **1st January – 31st December 2020:** 80
- **1st January 2021 - 31st December 2023:** 88
- **1st January 2024 - 31st December 2026:** 93
- **1st January 2027 onwards:** 97

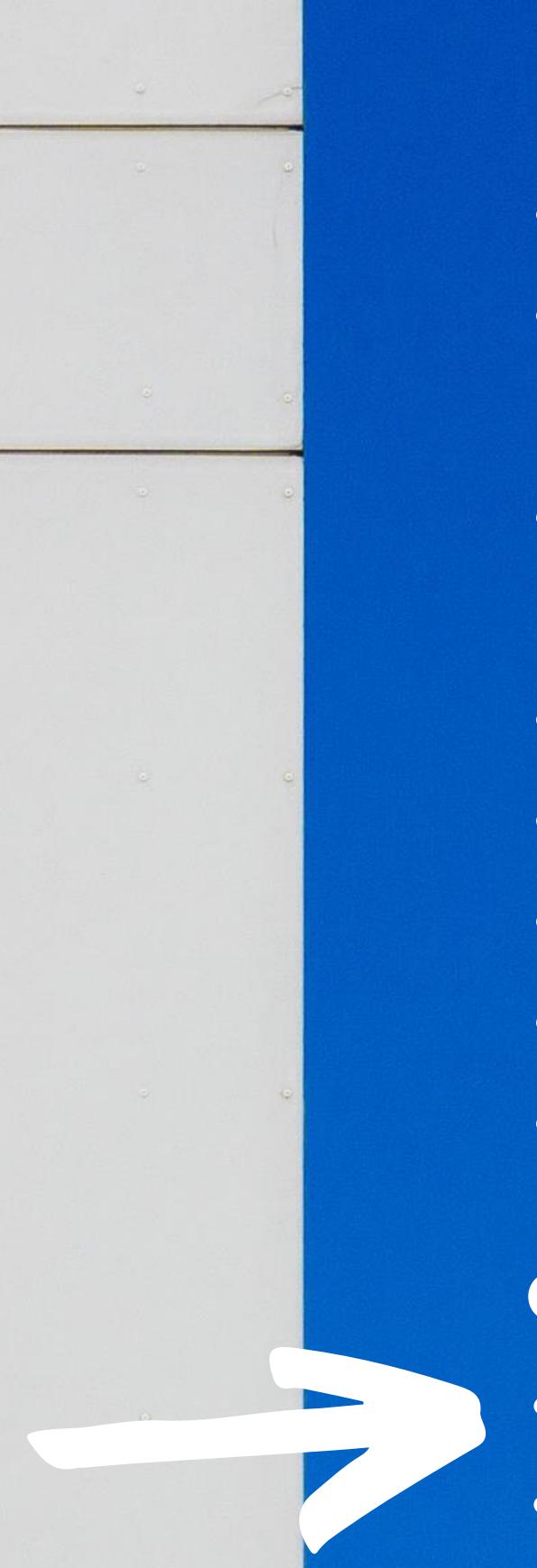




Minimum SAP Ratings introduced for the Isle of Man- New Builds:

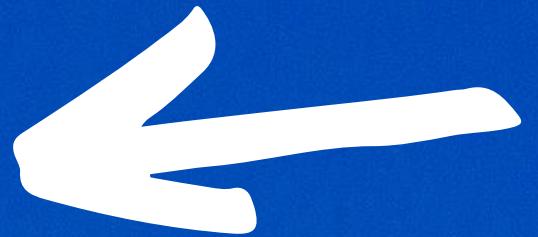
- **1st January – 31st December 2020:** 80
- **1st January 2021 - 31st December 2023:** 88
- **1st January 2024 - 31st December 2026:** 93
- **1st January 2027 onwards:** 97





Inputs into SAP calculation:

- Materials used in construction.
- Thermal resistance of main building elements.
- Airtightness – how much air is lost through leaks in the building fabric.
- Thermal bridging.
- Efficiency & control of heating system.
- Solar gains.
- Type of fuel used.
- Renewable technologies.



Outputs (annual data):



- Energy Consumption per kWh.
- Carbon Emissions.
- Predicted Running Costs.
- SAP score.



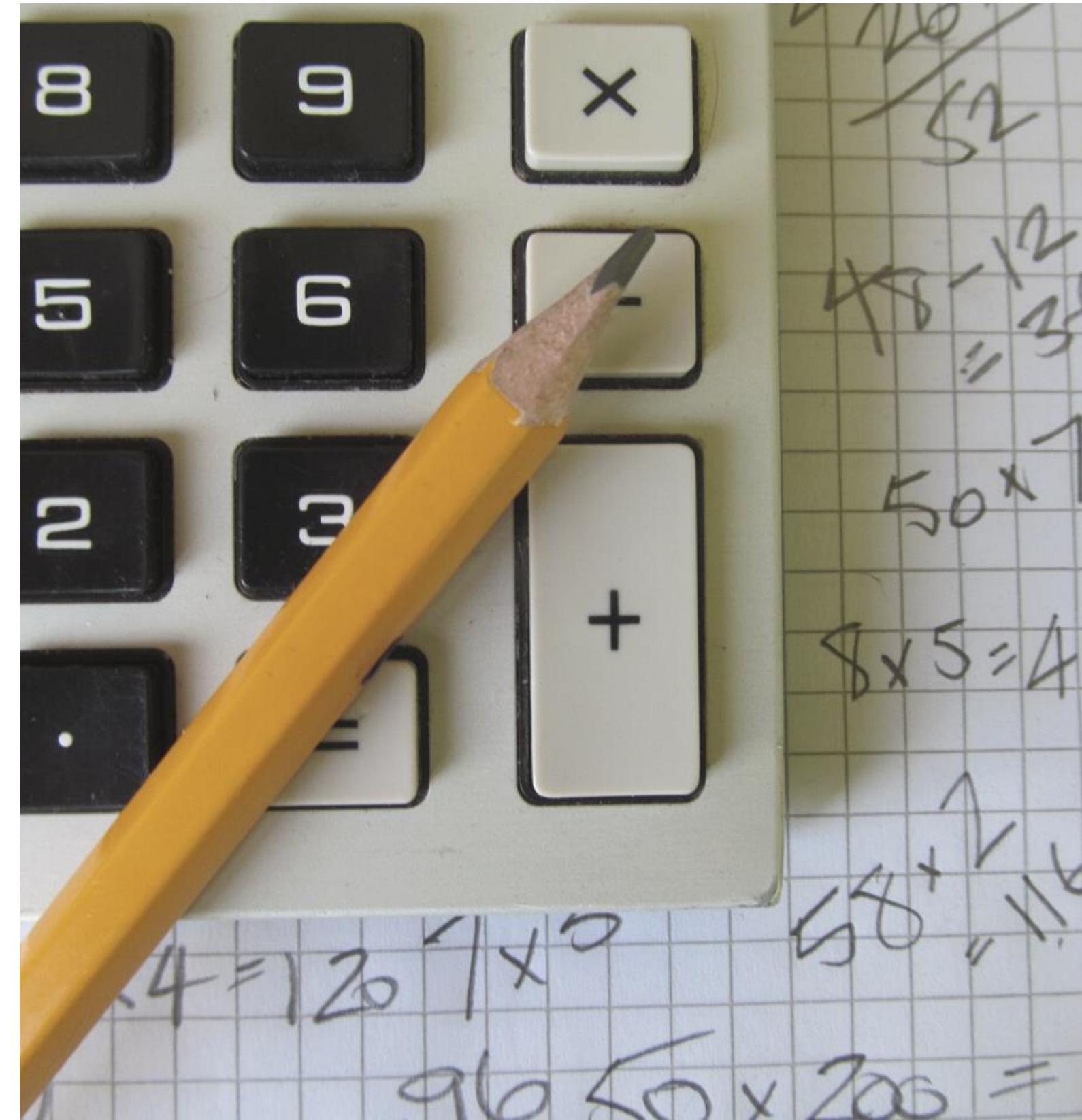
WHAT BUILDING PROJECTS REQUIRE A SAP CALCULATION?

All new build houses (Part L1A):

- At the 'as designed' stage (to be submitted as part of the Building Control application).
- At the 'as-built' stage (required to get final sign-off from Building Control).

A heavily glazed extension (Part L1B) where the glazing is greater than 25% of the floor area of the extension.

Change of use as defined by Part L1B, for example, a change of use from commercial to residential.



Minimum SAP Ratings introduced for the Isle of Man- New Builds:

- **1st January – 31st December 2020:** 80
- **1st January 2021 - 31st December 2023:** 88
- **1st January 2024 - 31st December 2026:** 93
- **1st January 2027 onwards:** 97

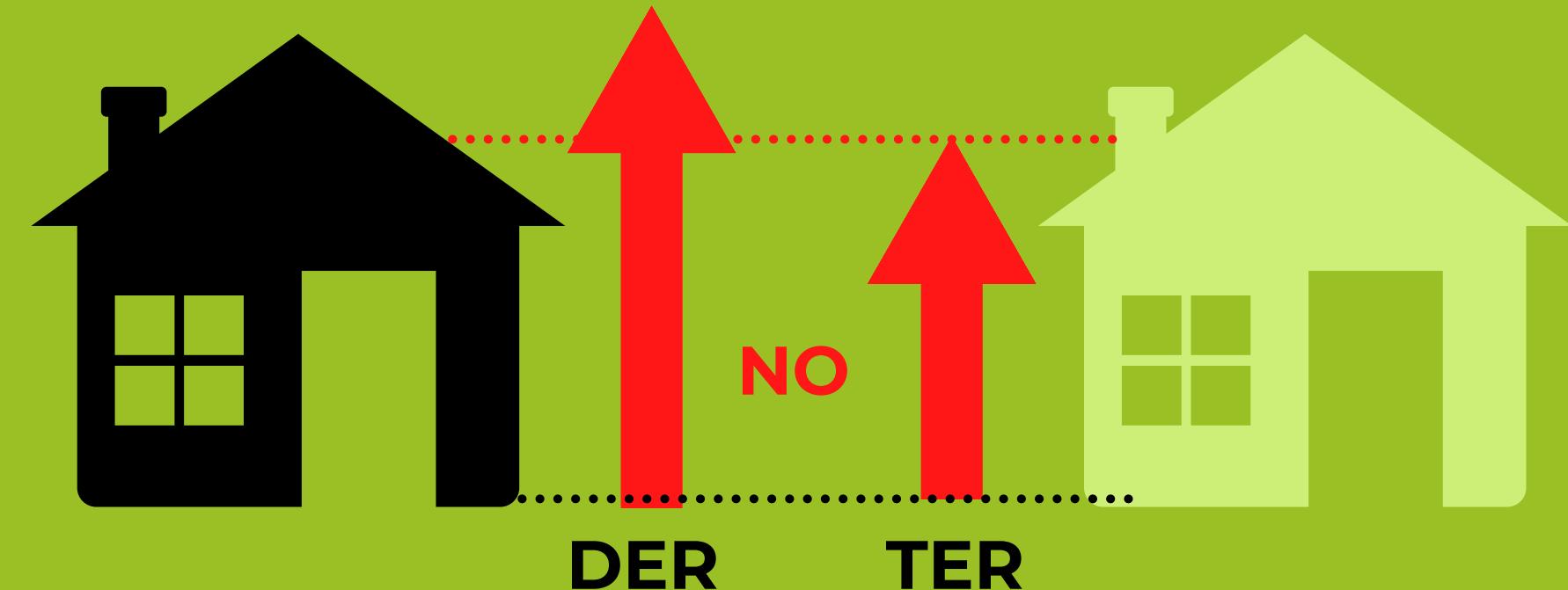


HOW ARE THE IOM REGULATIONS DIFFERENT FROM THOSE IN THE UK?

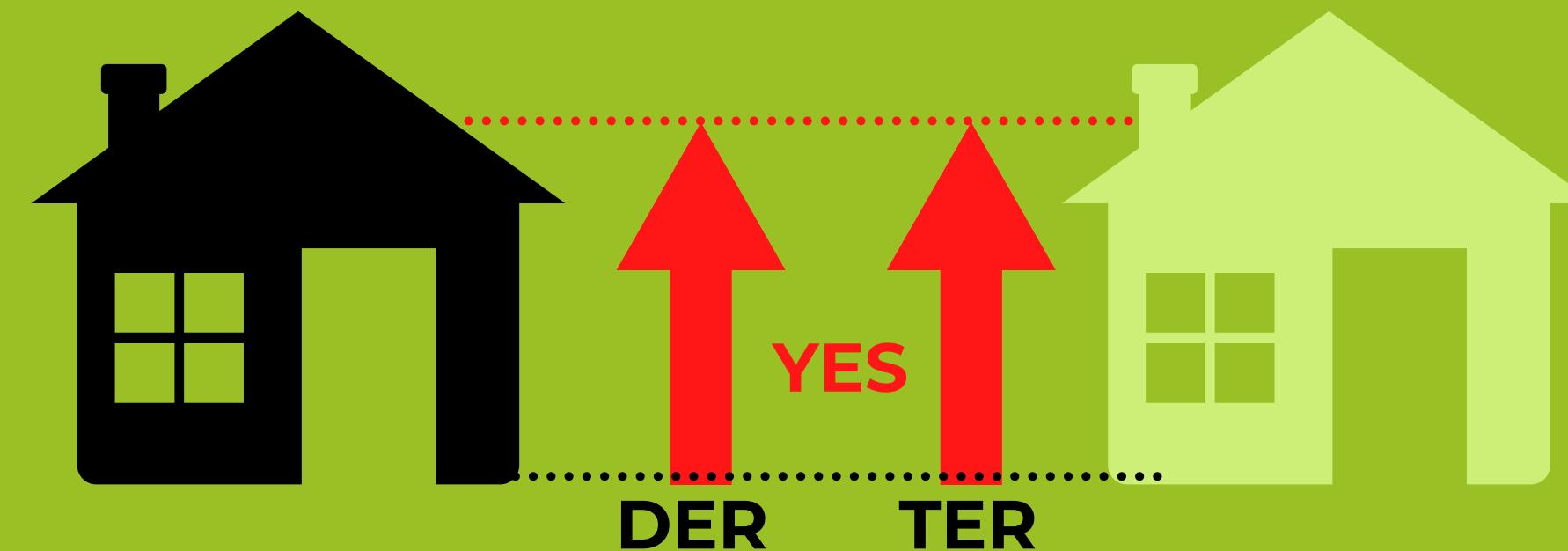
IOM not required to measure CO₂ emissions to comply with Part L.

- The 'Target Emission Rate' (TER) is the maximum emissions allowed.
- Measured in kg of CO₂ per m².
- 'Dwelling Emission Rate' (DER) needs to be equal to or lower than the TER at both the design stage and the 'as built' stage of construction.
- DER influenced by control and efficiency of heating system, fuel choice, and use of renewables.

Regulations compliance?



Regulations compliance?

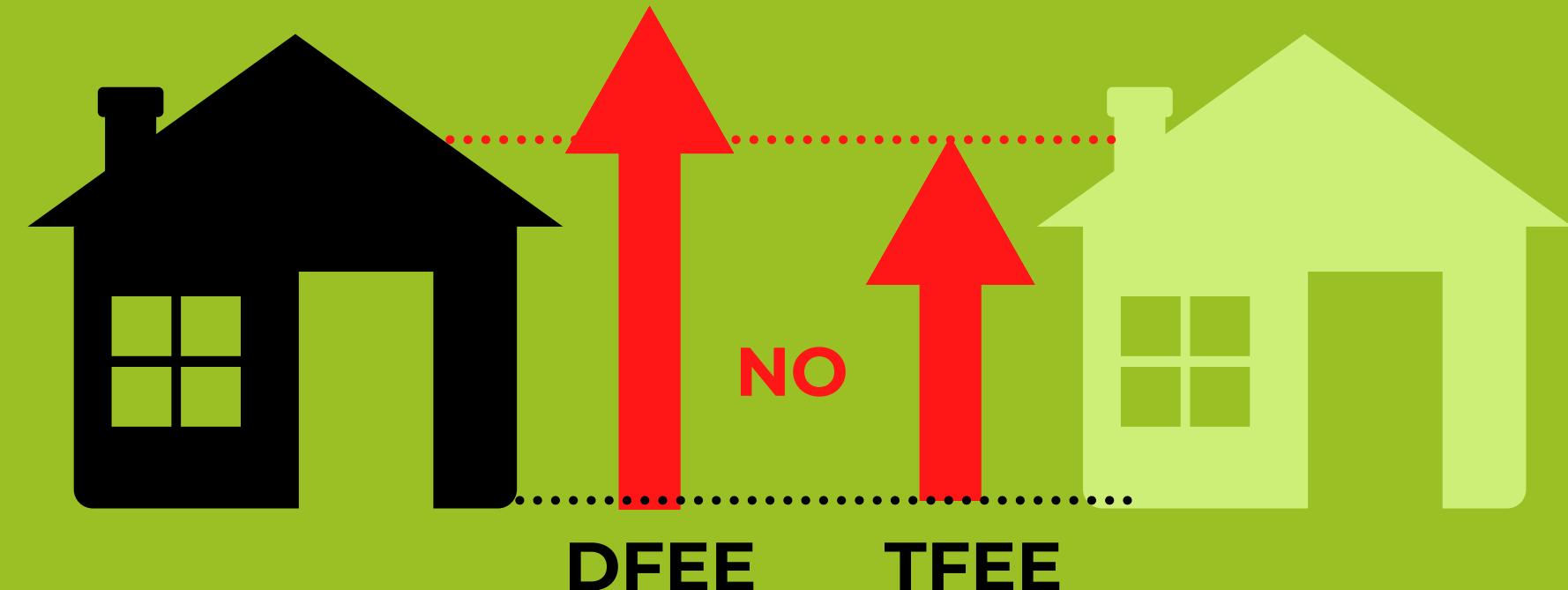


HOW ARE THE IOM REGULATIONS DIFFERENT FROM THOSE IN THE UK?

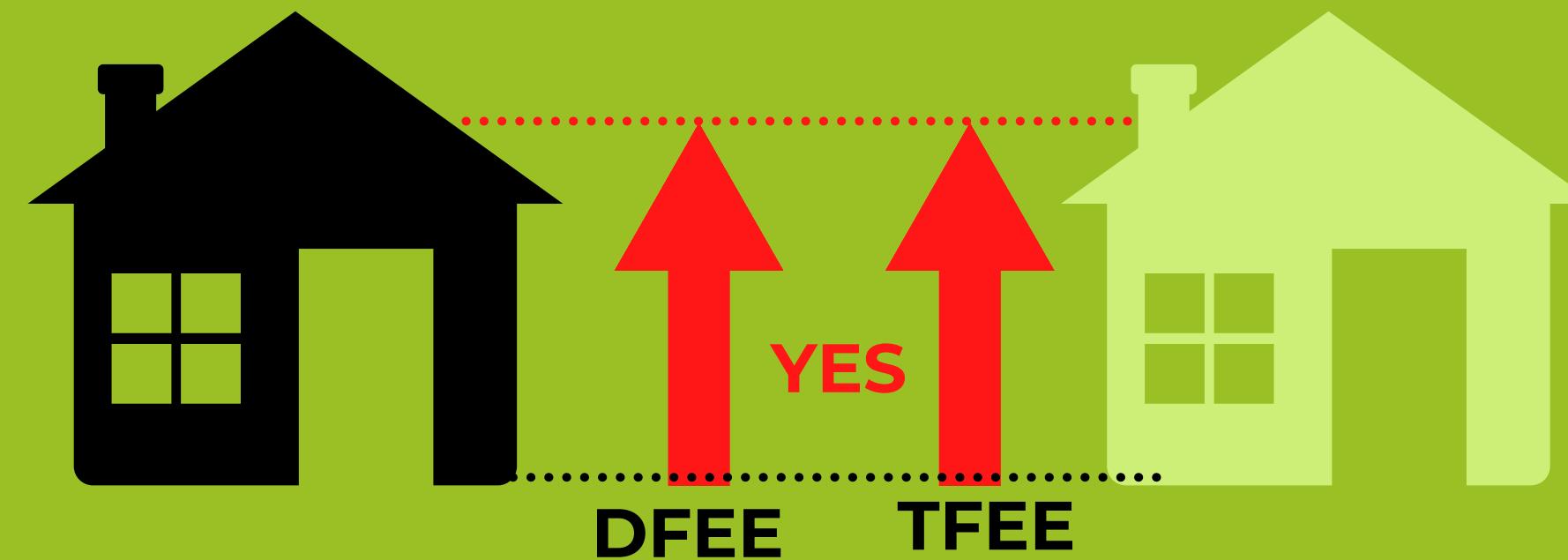
No Target Fabric Energy Efficiency

- Target Fabric Energy Efficiency (TFEE) is the space heating and cooling requirements per sq m of floor area per year.
- Influenced by insulation levels, thermal mass, thermal bridging, airtightness, and solar gains.
- 'Dwelling Fabric Energy Efficiency' (DFEE) needs to be equal to or lower than the TFEE at both the design stage and 'as built' stage of construction.

Regulations compliance?

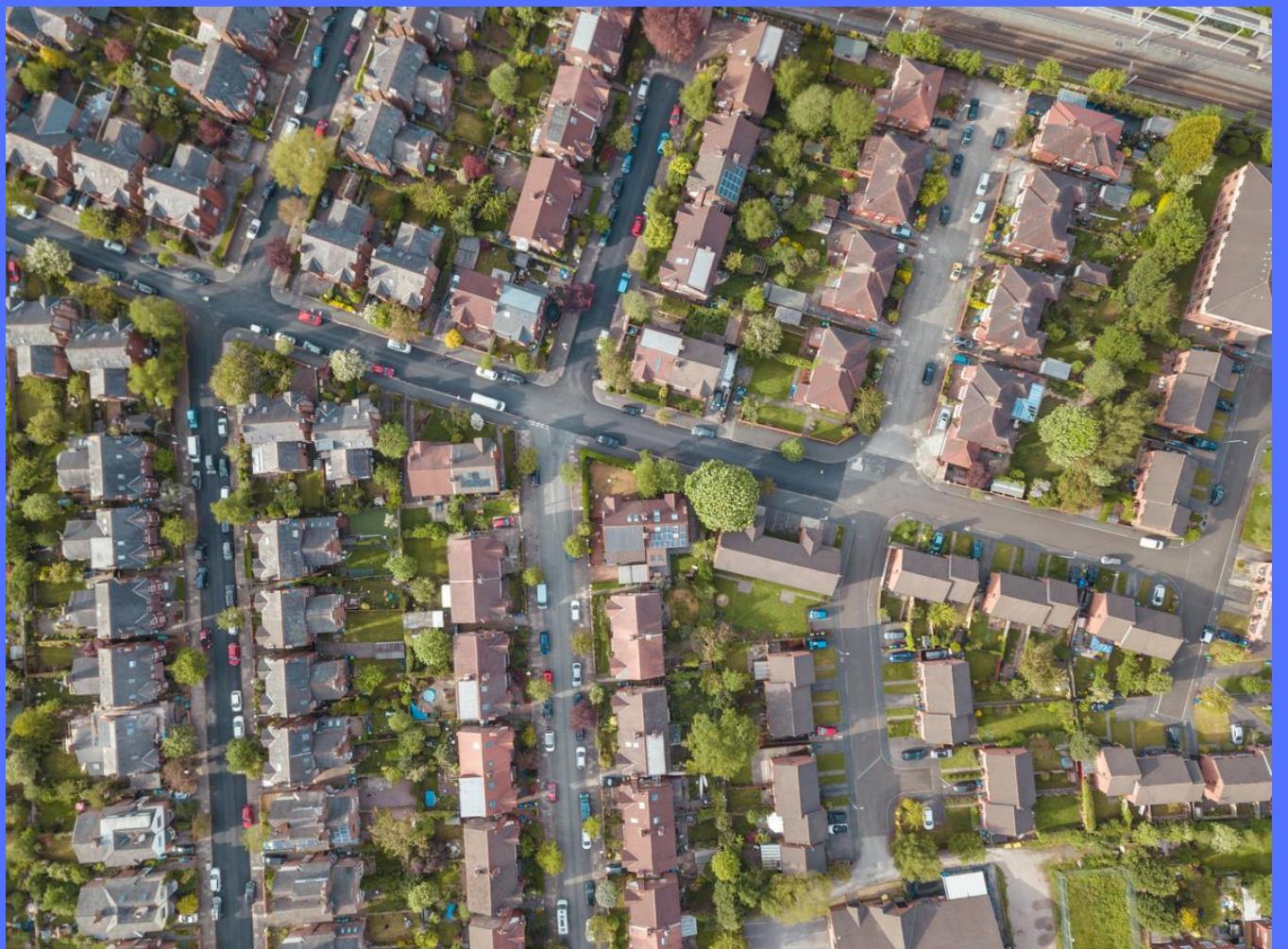


Regulations compliance?



WHY DOES THE UK HAVE BOTH TER AND TFEE AS PERFORMANCE TARGETS?

- **TER and TFEE ensure all new dwellings are built to good standards in terms of fabric energy efficiency.**
- **With an efficient heating system.**
- **& with the possible installation of renewable technologies.**
- **Achieved by meeting both these targets.**
- **Are houses in IOM meeting the same standards as those currently in the UK?**



SUMMARY FOR INPUT DATA

Calculation Type: New Build (As Designed)



Property Reference	V2	Issued on Date	09/04/2021
Assessment Reference	001	Prop Type Ref	
Property			
SAP Rating	81 B	DER	19.97
Environmental	83 B	% DER<TER	46.86
CO ₂ Emissions (t/year)	2.13	DFEE	116.73
General Requirements Compliance	Fail	% DFEE<TFEE	-20.81
Assessor Details	Julia Erskine, 3Co Consultancy Services, Tel: +44 (0) 7624 423412, info@3co.im		Assessor ID



HOW ARE THE IOM REGULATIONS DIFFERENT FROM THOSE IN THE UK?

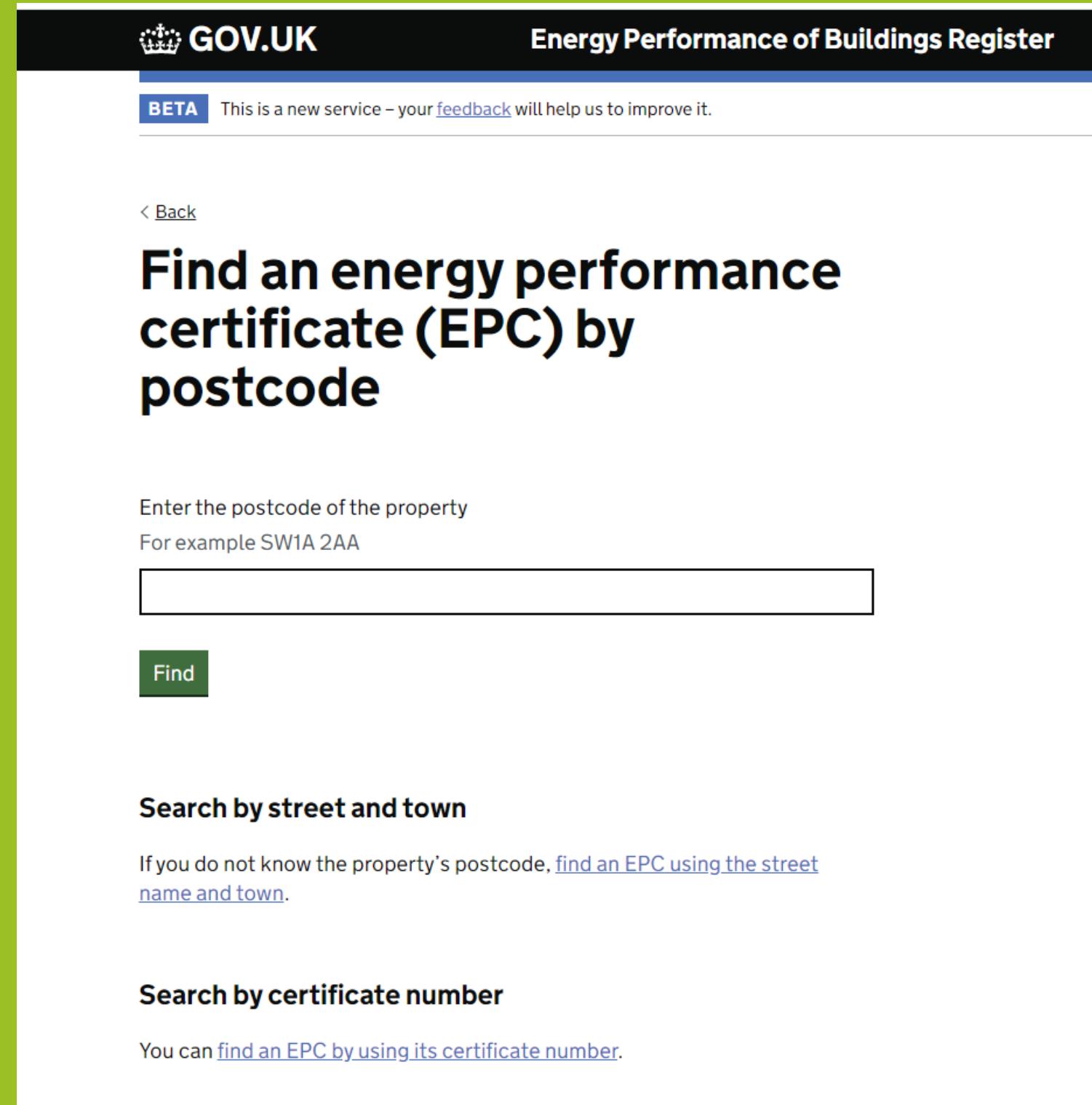
No requirement on IOM to hold and display Energy Performance Certificates (EPC's.).

- In the UK, any building unit which is sold or rented out must have a valid EPC.
- A legal requirement since 2007.
- Must be renewed every 10 years.
- Provides a rating from A (most efficient) to G (least efficient).
- Must be lodged in a central database, accessible to the public.



CENTRAL DATABASE:

[HTTPS://EPC.OPENDATACOMMUNITIES.ORG/](https://epc.opendatacommunities.org/)



The screenshot shows the 'Energy Performance of Buildings Register' website. The header includes the GOV.UK logo and the title 'Energy Performance of Buildings Register'. A 'BETA' label with a note 'This is a new service – your [feedback](#) will help us to improve it.' is present. A back navigation link '[< Back](#)' is visible. The main heading is 'Find an energy performance certificate (EPC) by postcode'. Below it, instructions say 'Enter the postcode of the property' and 'For example SW1A 2AA'. A text input field is followed by a 'Find' button. Other search options like 'Search by street and town' and 'Search by certificate number' are also shown.

GOV.UK

Energy Performance of Buildings Register

BETA This is a new service – your [feedback](#) will help us to improve it.

< Back

Find an energy performance certificate (EPC) by postcode

Enter the postcode of the property
For example SW1A 2AA

Find

Search by street and town

If you do not know the property's postcode, [find an EPC using the street name and town](#).

Search by certificate number

You can [find an EPC by using its certificate number](#).



HOW ARE THE IOM REGULATIONS DIFFERENT FROM THOSE IN THE UK?

No 'Minimum Energy Efficiency Standards' (MEES) in IOM.

- In the UK, a Landlord cannot renew or grant a new tenancy of longer than 6 months if a property has a low EPC rating.
- A property of F or lower means the Landlord is liable to pay a substantial fine.
- Came into effect in April 2018 and from 1st April 2023, MEES will be extended to cover all leases.



Understanding SAP – Isle of Man

Workshop – 20th October (am)

PART 1

30 minutes

- Building Regulation Approved Document L
- Standard Assessment Procedure 'SAP'
- Regulations: (UK vs IOM)

PART 2

30 minutes

Fabric Energy Efficiency:

- *Elemental u-values*
- *Thermal Mass*
- *Air Tightness*
- *Thermal Bridging*

PART 3

30 minutes

Low and Zero Carbon Technologies:

- *Heat Pumps*
- *Photovoltaics (PV)*
- *Domestic Solar Hot Water*
- *Ventilation & Waste Water Heat Recovery*

PART 4

20 minutes

- The Future Home Standard
- Achieve a SAP score of 93 (2024) & 97 (2027)



INTRODUCTION TO SAP CALCULATIONS AND ENERGY PERFORMANCE CERTIFICATES



3Co Consultancy Services
www.3co.im
info@3co.im
+44 (0) 7624 423412