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PROPOSED STRATEGIC
HOUSING RESIDENTIAL DEVELOPMENT.
AT CARLEY'S BRIDGE, TOM DUFF
ENNISCORTHY, CO. WEXFORD.
FOR TORCA DEVELOPMENTS. LTD.

RESIDENTIAL ENERGY STATEMENT

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1. Introduction

The purpose of this Energy Statement is to provide a report on the energy performance and sustainability of a proposed residential development at CARLEY'S BRIDGE, TOM DUFF, ENNISCORTHY, CO. WEXFORD. It outlines how the construction and performance of the proposed development will meet or exceed legislative and planning requirements, with particular emphasis on meeting the upcoming Nearly Zero Energy Buildings standards. The report is intended as part of the Strategic Housing Development Application for the above development.

1.1 Compliance Standards

The report will review the proposed development in terms of:

- The Building Regulations 1997-2019, specifically Part L (Conservation of Fuel and Energy – Dwellings) in terms of Technical Guidance Document L;
- The changes to Part L, to include the Nearly Zero Energy Buildings standards; and
- Building Energy Rating in terms of the Sustainable Energy Authority of Ireland requirements and the Dwelling Energy Assessment Procedure methodology.

The assessments herein are based on the drawings and design information current at the date of this report and are subject to change pending Planning outcomes and detailed design. Please refer to the drawings and documents accompanying the Strategic Housing Development Application.

1.1.1 Abbreviations and Terms Used in this Report

TGD L	Technical Guidance Document L
NZEB	Nearly Zero Energy Buildings
BER	Building Energy Rating
DEAP	Dwelling Energy Assessment Procedure
CPC	Carbon Performance Coefficient
MPCPC	Maximum Permitted Carbon Performance Coefficient
EPC	Energy Performance Coefficient
MPEPC	Maximum Permitted Energy Performance Coefficient

1.2 Development Summary

The proposed residential development comprises:

	ACCOMMODATION PROVISION	% SPLIT
08 NO.	4 BEDROOM HOUSES	3.4 %
45 NO.	3 BEDROOM HOUSES	19.4 %
63 NO.	3 BEDROOM DUPLEX	27.0 %
27 NO.	2 BEDROOM DUPLEX	11.6 %
5 NO.	3 BEDROOM APARTMENYS	2.1 %
13 NO.	2 BEDROOM APARTMENTS	5.60 %
72 NO.	1 BEDROOM APARTMENTS	30.9 %
233 NO	TOTAL RESIDENTIAL UNITS	100 %

Please refer to the drawings and documents accompanying the Strategic Housing Development Application for further details, e.g. the area schedule and residential quality audit.

2. Legislative and Planning Requirements

2.1 Part L

In this document, Part L of the Building Regulations will be referred to in terms of TGD L. TGD L stipulates the requirements on:

- Building geometry factors;
- Building fabric performance;
- Air permeability;
- External environment factors;
- Primary energy use;
- Carbon dioxide emissions; and
- The use of renewable energy.

The method for assessing the building's performance in relation to these standards is DEAP, the national standard for domestic Building Energy Rating.

2.1.1 Limits for CO₂ Emissions and Primary Energy Use

Under Part L currently, the limits for CO₂ emissions (MPCPC) and Primary Energy Use (MPEPC) are:

Previous Part L		Current For NZEB	
MPCPC	0.46	MPCPC	0.35
MPEPC	0.40	MPEPC	0.30

Due to the expected timeframe for the proposed construction, and in the interest of sustainability, this report will assess compliance with NZEB requirements.

2.1.2 Building Fabric

The previous maximum area-weighted elemental U-values in TGD L are:

Element	U-value (W/m ² .K)
Pitched Roof (insulated on slope or ceiling)	0.16
Flat Roof	0.20
Walls	0.21
Ground Floor	0.21
Ground Floor with Underfloor Heating	0.15
Exposed Floor	0.21
External doors, windows and roof windows	1.60*

* Applies where the combined area equals 25% of the building floor area. Variations up and down are permissible under 1.3.2.4 and Table 2 of TGD L.

New maximum area-weighted elemental U-values 2019 Part L changes are:

Element	U-value (W/m ² .K)
Walls	0.18
Ground Floor	0.18
External doors, windows and roof windows	1.40

In order to achieve the NZEB standards, in most cases the above standards will be exceeded in the proposed development.

New limits for overheating via glazing are anticipated in the upcoming Part L, the details of which are to be ascertained. However, very large glazed areas are avoided in the proposed scheme in order to avoid excessive heat loss and excessive solar gain, with the associated glare and comfort issues.

2.1.3 Building Fabric – Air Permeability

The current requirement under TGD L 2019 is a maximum air permeability of $5\text{m}^3/\text{hr.m}^2$.

In this report, the dwellings will be assessed in relation to a lower rate of $5\text{m}^3/\text{hr.m}^2$, in line with the NZEB requirement and being a realistic target. Please note an air tightness test below $5\text{m}^3/\text{hr.m}^2$

2.1.4 Renewable Energy Contribution

Under TGD L currently, the required contributions by renewable energy technologies are:

- A minimum of 20% of a dwelling's primary energy use shall come from renewable sources.

3. Test Cases

3.1 Methodology

The method of case-testing was as follows:

- A number of typical unit types and scenarios were selected, with best-case scenarios deliberately omitted to avoid misleading results;
- Taking viability and buildability into account, various configurations of fabric and systems were input and assessed through DEAP; and
- Reports were produced summarising optimal configurations.

3.2 Test Case Inputs

3.2.1 Geometry and External Environment

To avoid misleading outputs and ensure compliance throughout, the typical unit types and Configurations were selected avoiding “ideal” conditions, whether they were conditions of the external environment or interior configuration.

The units were designed to allow variation in aspect and orientation, with the apartments for example being predominantly dual-aspect, allowing flexibility in the proportions of glazing.

3.2.2 Ventilation

Considering flexibility for potential occupants, the option of natural ventilation was used in the calculations. Mechanical ventilation with heat recovery, for example, would therefore be an improvement option for an already compliant dwelling.

Mechanical extract fans in the kitchens, utility rooms and sanitary spaces are proposed.

There are no open chimneys proposed.

PLEASE NOTE: if air tightness test results of less than $3\text{m}^3/\text{hr}/\text{m}^2$ mechanical ventilation will be required under TGD F 2019

3.2.3 Air Permeability

An input of $5\text{m}^3/\text{hr}.\text{m}^2$ was used in anticipation of NZEB.

3.2.4 Building elements

A summary of the typical build-ups and U-values used:

Element	U-value (W/m ² .K)	
Ground Floor	0.12	(NZEB 0.18)
Roof (insulated on slope or ceiling)	0.12	(NZEB 0.16)
Walls	0.15	(NZEB 0.18)
External Doors	0.90	(NZEB 1.40)
External Windows	0.90	(NZEB 1.40)
Roof Windows	1.30	(NZEB 1.40)

These U-values are in anticipation of the upcoming Part L changes and NZEB.

U-value ranges are shown in some instances – please refer to individual reports for specific U-values.

3.2.4.1 Thermal Bridging Factor

The default Thermal Bridging Factor of 0.08 for Acceptable Construction Details under the current TGD L is used. If a lower factor or thermal modelling is required by forthcoming changes, the rating will improve – the results of this assessment would therefore remain valid.

3.2.5 Space and Water Heating

An air-to-water heat pump system is proposed for each dwelling as the optimal balance of practicality, efficiency and contribution of renewable energy. Each heat pump system shall be listed on the HARP database or have IS EN14825, IS EN 16147 or Eco Design test certificates (or otherwise as required by changes to the Regulations).

The hot water storage will form part of the composite heat-pump systems, with certified loss factors. The Season Performance for Hot Water generation must not be less than 250%

Space heat distribution will be via low-temperature radiators generally, and the space and hot water system will have full time and temperature controls. The seasonal performance of the heat pump must not be less than 560%

No secondary heating system, e.g. fireplace or stove, is proposed.

3.2.6 Low Energy Lighting

Each dwelling shall have 100% dedicated low-energy fittings or low-energy bulbs.

3.2.7 Thermal Mass

The construction – block/concrete with some timber or metal stud partitions – is expected to have a medium average thermal mass. Low mass loses heat quickly but high mass is not best suited to the temperate Irish climate with its relatively low variation of day to night temperatures. Therefore, the range of medium-low to medium-high is the most appropriate for this climate.

3.3 Case Study Inputs and Outputs Summaries

3.3.1 Inputs Summary

Ventilation	Natural	
Air Permeability	5m ³ /hr.m ²	
U-values	Ground Floor	0.12 150mm insulation at 0.022 W/mK
	Pitched Roof	0.12 400mm insulation at 0.044 W/mK
	Walls	0.15 110mm part-fill insulation at 0.020 W/mK
	Exposed Floor	0.17 400mm insulation at 0.044 W/mK + 25mm insulation at 0.022 W/mK
	External Doors	0.9
	External Windows	0.9
	Roof Windows	1.3
Thermal Bridging Factor	0.08	
Space and Water Heating	Air-to-water heat pump with low-temperature radiators	
	No secondary heating	
Lighting	100% low-energy	

3.3.2 Outputs Summary

3.3.2.1 Example 1

House	Energy Rating	CPC	EPC	Renewables %
TYPE A 3BED Semi-D	A2 38.09 kWh/m ² /yr	0.238	0.250	52%

- Meets Part L/NZEB U-value standards
- Meets Part L/NZEB MPCPC and MPEPC standards
- Meets Part L/NZEB renewables standards

3.3.2.2 Example 2

House	Energy Rating	CPC	EPC	Renewables %
TYPE C 3 STOREY Semi-D	A2 39.12 kWh/m ² /yr	0.249	0.261	50%

- Meets Part L/NZEB U-value standards
- Meets Part L/NZEB MPCPC and MPEPC standards
- Meets Part L/NZEB renewables standards

3.3.2.3 Example 3

House	Energy Rating	CPC	EPC	Renewables %
TYPE D 3BED Mid Terrace	A2 36.74 kWh/m ² /yr	0.238	0.252	47%

- Meets anticipated revised Part L/NZEB U-value standards
- Meets anticipated revised Part L/NZEB MPCPC and MPEPC standards
- Meets anticipated revised Part L/NZEB renewables standards

3.3.2.4 Example 4

House	Energy Rating	CPC	EPC	Renewables %
TYPE F 3 STOREY SEMI D	A2 36.74 kWh/m ² /yr	0.238	0.252	47%

- Meets Part L/NZEB U-value standards
- Meets Part L/NZEB MPCPC and MPEPC standards
- Meets Part L/NZEB renewables standards

3.3.2.5 Example 5

House	Energy Rating	CPC	EPC	Renewables %
BUILDING 06 GF APT	A3 50.84 kWh/m ² /yr	0.242	0.252	50%

- Meets Part L/NZEB U-value standards
- Meets Part L/NZEB MPCPC and MPEPC standards
- Meets Part L/NZEB renewables standards

3.3.2.6 Example 6

House	Energy Rating	CPC	EPC	Renewables %
BUILDING 09 GF APT	A3 51.42 kWh/m ² /yr	0.235	0.245	51%

- Meets Part L/NZEB U-value standards
- Meets Part L/NZEB MPCPC and MPEPC standards
- Meets Part L/NZEB renewables standards

3.3.2.7 Example 7

House	Energy Rating	CPC	EPC	Renewables %
BUILDING 17 DUPLEX (2 nd , 3 rd)	A2 37.97 kWh/m ² /yr	0.232	0.243	50%

- Meets Part L/NZEB U-value standards
- Meets Part L/NZEB MPCPC and MPEPC standards
- Meets Part L/NZEB renewables standards

3.3.2.8 Example 8

House	Energy Rating	CPC	EPC	Renewables %
BUILDING 20 FF APT	A2 48.06 kWh/m ² /yr	0.256	0.262	57%

- Meets Part L/NZEB U-value standards
- Meets Part L/NZEB MPCPC and MPEPC standards
- Meets Part L/NZEB renewables standards

3.3.2.9 Example 9

House	Energy Rating	CPC	EPC	Renewables %
BUILDING 21 DUPLEX	A2 30.42 kWh/m ² /yr	0.231	0.240	53%

- Meets Part L/NZEB U-value standards
- Meets Part L/NZEB MPCPC and MPEPC standards
- Meets Part L/NZEB renewables standards

4. Conclusions

The proposed dwellings will comply with the existing requirements of Part L 2019/ NZEB with sufficient leeway to accommodate changes not detailed at this time, and with opportunities for individual owners to add further energy-saving or renewable- energy measures, e.g. heat-recovery systems and additional photovoltaic or solar thermal panels.

5. Appendix – Case Study Reports

- 5.1 Type A 3 Bed Semi Detached
- 5.2 Type C 3 Storey Semi Detached
- 5.3 Type D 3 Bed Mid Terrace
- 5.4 Type F 3 Storey Semi Detached
- 5.5 Building 06 GF Apartment
- 5.6 Building 09 GF Apartment
- 5.7 Building 17 Duplex (2nd, 3rd Floor)
- 5.8 Building 20 FF Apartment
- 5.9 Building 21 Duplex (1st, 2nd Floor)

Part L Specification

Property Details

Dwelling Type	Semi-detached house	Type of BER rating	New Dwelling - Provisional
Address line 1	TYPE A 3BED SEMI D	Year of Construction	2020
Address line 2	CARLEY'S BRIDGE,	Date of Assessment	23/03/2020
Address line 3	ENNISCORTHY	Date of Plans	
County	Co. Wexford	Planning Reference	
Eircode		Building Regulations	2019 TGD L
BER Number		MPRN No.	0
Purpose of rating	New dwelling for owner occupation	Is MPRN shared with another dwelling?	N/A
Comment		BER number assigned to shared dwelling	N/A

Dimension Details

	Area [m ²]	Height [m]	Volume [m ³]
Ground Floor	58.67	2.70	158.41
First Floor	61.96	2.88	178.44
Second Floors	0.00	0.00	0.00
Third and other floors	0.00	0.00	0.00
Room in roof	0.00	0.00	0.00
Total Floor Area	120.63		336.85
Living Area [m²]	15.75		Living area percentage [%] 13.06
No of Storeys	2		

Ventilation Details

	Number		
Chimneys	0	Has permeability test been carried out?	Yes
Open Flues	0	Structure type	N/A
Fans & Vents	4	Is there a suspended wooden ground floor?	No
Number of flueless combustion room heaters	0	Percentage windows/doors draught stripped [%]	N/A
Is there a draught lobby on main entrance?	No	Number of sides sheltered	2
Ventilation method	Natural ventilation	Mechanical Ventilation Manufacturer	N/A
Specific fan power [W/(L/s)]	N/A	Mechanical Ventilation Model Name	N/A
Heat exchanger efficiency [%]	N/A	How many wetrooms (incl. kitchen)?	N/A

Building Elements - Floor Details

Type	Description	Underfloor heating	U-Value [W/m ² K]	Area [m ²]
Ground Floor - Solid		No	0.12	58.67
Non-Heat Loss Floor		N/A	0	58.67
Exposed / Semi Exposed		No	0.17	3.29

Building Elements - Roof Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
Pitched Roof - Insulated on Ceiling	400MM WOOL	0.12	61.96

Building Elements - Wall Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
300mm Cavity		0.15	110.27

Building Elements - Door Details

Description	Number of Doors	U-Value [W/m ² K]	Area [m ²]
	1	0.9	2.000

Building Elements - Window Details

Glazing type	User defined u-value	U-Value [W/m ² K]	Area [m ²]
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	9.330
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	9.980
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	1.960

Other Details

Thermal bridging factor [W/m ² k]	0.0800	Thermal mass category of dwelling	Medium-low
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Heating System - Solar Water Heating

Solar Water Heating Present?	No	Aperture area of solar collector [m ²]	N/A
Type, manufacturer, model	N/A		
Zero loss collector efficiency, η_0	N/A	Collector heat loss coefficient, a_1 [W/m ² >K]	N/A
Annual Solar Radiation [kWh/m ²] (Refer to Appendix H in DEAP)	N/A	Overshading factor	N/A
Dedicated storage volume [Litres]	N/A	Combined Cylinder	N/A
Solar fraction [%]	0.000		

Heating System - Hot Water System

Distribution Losses	387.58	Combi boiler present?	No
Supplementary electric water heating	N/A	Water Storage Volume [L]	180
Hot water storage manufacturer and model name	DAIKIN	Declared loss factor [kWh/d]	1.15
Temperature factor unadjusted	0.89	Temperature Factor Multiplier	0.89
Primary Circuit loss type	Boiler and thermal store within a single casing (cylinder thermostat present)		
Is hot water storage indoors or in group heating system?	Yes		

Heating System - Dist. system losses and gains

Temperature adjustment [°C]	0	Control Category	3	Responsiveness category	1
Central heating pumps	1	Oil Boiler Pump	0	Oil boiler pump inside dwelling	No
Gas boiler flue fan	0	Warm air heating or fan coil radiators present	No		

Heating System - Energy Requirements (Individual)

Main space heating system efficiency [%]	488.31	Space heating efficiency adjustment factor	1.0000	Main space heating fuel	Electricity
Main water heating system efficiency [%]	251.53	Water heating efficiency adjustment factor	1.0000	Main water heating fuel	Electricity
Secondary heating system efficiency [%]	N/A	Fraction of heating from secondary heating system	N/A	Secondary space heating system fuel	None
Fraction of main space and water heat from CHP	N/A	Electrical efficiency of CHP	N/A	Heat efficiency of CHP	N/A
CHP Fuel type	N/A				

Summary for Part L Conformance (Applies to TGD L 2008/2011/2019 for new dwellings only)

BER Number		Building Regulations	2019 TGD L
BER Result	A2	Energy Value kWh/m ² /yr	38.09
CO ₂ emissions [kg/m ² /yr]	7.49		
EPC	0.250	EPC Pass/Fail	Pass
CPC	0.238	CPC Pass/Fail	Pass

Part L Conformance - Fabric

Conformity with Maximum avg U-value requirements	U-value [W/m ² K]	Pass/Fail	Conformity with Maximum U-value requirements	U-Value [W/m ² K]	Pass/Fail
Pitched roof insulated on ceiling	0.12	Pass	Roofs	0.12	Pass
Pitched roof insulated on slope	0	Pass	Walls	0.15	Pass
Flat Roof	0	Pass	Floors	0.17	Pass
Floors with no underfloor heat	0.12	Pass	External doors / windows / rooflights	0.90	Pass
Floors with underfloor heat	0.00	Pass			
Walls	0.15	Pass			
Percentage of opening areas [%]	19.29				
Average U value of openings	0.90	Pass			
Permeability test carried out and meets guidelines in TGD L				0.25 Pass	

Part L Conformance - Renewables (applies to TGD L 2019)

	Source	Renewables Primary Energy	Total Primary Energy	RER
+ Delivered energy	PV/Wind	0.00	0.00	
+ Delivered energy	Other	0.00	0.00	
+ Delivered energy	Solar	0.00	0.00	
+ Delivered energy	Biomass	0.00	0.00	
+ Delivered energy	Biodiesel	0.00	0.00	
+ Delivered energy	Bioethanol	0.00	0.00	
+ Environmental energy	HP	4932.93	4932.93	
+ Saved energy	CHP	0.00	0.00	
+ District heating	District Heating	0.00	0.00	
+ Delivered energy	Grid	0.00	4594.44	
+ Delivered energy	Thermal	0.00	0.00	
SUBTOTAL		4932.93	9527.37	0.52 - Pass
Energy not used in Regulated Loads	PV/Wind/CHP	0.00	0.00	
TOTAL		4932.93	9527.37	0.52

Part L Specification

Property Details

Dwelling Type	Semi-detached house	Type of BER rating	New Dwelling - Provisional
Address line 1	TYPE C 3 STOREY SEMI D	Year of Construction	2020
Address line 2	CARLEY'S BRIDGE,	Date of Assessment	23/03/2020
Address line 3	ENNISCORTHY	Date of Plans	
County	Co. Wexford	Planning Reference	
Eircode		Building Regulations	2019 TGD L
BER Number		MPRN No.	0
Purpose of rating	New dwelling for owner occupation	Is MPRN shared with another dwelling?	N/A
Comment		BER number assigned to shared dwelling	N/A

Dimension Details

	Area [m ²]	Height [m]	Volume [m ³]
Ground Floor	51.09	2.65	135.39
First Floor	51.09	2.95	150.72
Second Floors	26.03	2.75	71.58
Third and other floors	0.00	0.00	0.00
Room in roof	0.00	0.00	0.00
Total Floor Area	128.21		357.69
Living Area [m²]	14.70		Living area percentage [%] 11.47
No of Storeys	3		

Ventilation Details

	Number		
Chimneys	0	Has permeability test been carried out?	Yes
Open Flues	0	Structure type	N/A
Fans & Vents	4	Is there a suspended wooden ground floor?	No
Number of flueless combustion room heaters	0	Percentage windows/doors draught stripped [%]	N/A
Is there a draught lobby on main entrance?	No	Number of sides sheltered	2
Ventilation method	Natural ventilation	Mechanical Ventilation Manufacturer	N/A
Specific fan power [W/(L/s)]	N/A	Mechanical Ventilation Model Name	N/A
Heat exchanger efficiency [%]	N/A	How many wetrooms (incl. kitchen)?	N/A

Building Elements - Floor Details

Type	Description	Underfloor heating	U-Value [W/m ² K]	Area [m ²]
Ground Floor - Solid		No	0.12	51.09
Non-Heat Loss Floor		N/A	0	51.09
Non-Heat Loss Floor		N/A	0	26.03

Building Elements - Roof Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
Pitched Roof - Insulated on Ceiling	400MM WOOL	0.12	39.67
Pitched Roof - Insulated on Rafter		0.15	12.5

Building Elements - Wall Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
300mm Cavity		0.15	143.37

Building Elements - Door Details

Description	Number of Doors	U-Value [W/m ² K]	Area [m ²]
	1	0.9	2.120

Building Elements - Window Details

Glazing type	User defined u-value	U-Value [W/m ² K]	Area [m ²]
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	9.030
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	8.650
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	1.050
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	1.300	1.000

Other Details

Thermal bridging factor [W/m ² k]	0.0800	Thermal mass category of dwelling	Medium-low
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Heating System - Solar Water Heating

Solar Water Heating Present?	No	Aperture area of solar collector [m ²]	N/A
Type, manufacturer, model	N/A		
Zero loss collector efficiency, η_0	N/A	Collector heat loss coefficient, a_1 [W/m ² >K]	N/A
Annual Solar Radiation [kWh/m ²] (Refer to Appendix H in DEAP)	N/A	Overshading factor	N/A
Dedicated storage volume [Litres]	N/A	Combined Cylinder	N/A
Solar fraction [%]	0.000		

Heating System - Hot Water System

Distribution Losses	389.78	Combi boiler present?	No
Supplementary electric water heating	N/A	Water Storage Volume [L]	180
Hot water storage manufacturer and model name	DAIKIN	Declared loss factor [kWh/d]	1.15
Temperature factor unadjusted	0.89	Temperature Factor Multiplier	0.89
Primary Circuit loss type	Boiler and thermal store within a single casing (cylinder thermostat present)		
Is hot water storage indoors or in group heating system?	Yes		

Heating System - Dist. system losses and gains

Temperature adjustment [°C]	0	Control Category	3	Responsiveness category	1
Central heating pumps	2	Oil Boiler Pump	0	Oil boiler pump inside dwelling	No
Gas boiler flue fan	0	Warm air heating or fan coil radiators present	No		

Heating System - Energy Requirements (Individual)

Main space heating system efficiency [%]	488.31	Space heating efficiency adjustment factor	1.0000	Main space heating fuel	Electricity
Main water heating system efficiency [%]	251.53	Water heating efficiency adjustment factor	1.0000	Main water heating fuel	Electricity
Secondary heating system efficiency [%]	N/A	Fraction of heating from secondary heating system	N/A	Secondary space heating system fuel	None
Fraction of main space and water heat from CHP	N/A	Electrical efficiency of CHP	N/A	Heat efficiency of CHP	N/A
CHP Fuel type	N/A				

Summary for Part L Conformance (Applies to TGD L 2008/2011/2019 for new dwellings only)

BER Number		Building Regulations	2019 TGD L
BER Result	A2	Energy Value kWh/m ² /yr	39.12
CO ₂ emissions [kg/m ² /yr]	7.69		
EPC	0.261	EPC Pass/Fail	Pass
CPC	0.249	CPC Pass/Fail	Pass

Part L Conformance - Fabric

Conformity with Maximum avg U-value requirements	U-value [W/m ² K]	Pass/Fail	Conformity with Maximum U-value requirements	U-Value [W/m ² K]	Pass/Fail
Pitched roof insulated on ceiling	0.12	Pass	Roofs	0.15	Pass
Pitched roof insulated on slope	0.15	Pass	Walls	0.15	Pass
Flat Roof	0	Pass	Floors	0.12	Pass
Floors with no underfloor heat	0.12	Pass	External doors / windows / rooflights	1.30	Pass
Floors with underfloor heat	0.00	Pass			
Walls	0.15	Pass			
Percentage of opening areas [%]	17.04				
Average U value of openings	0.93	Pass			
Permeability test carried out and meets guidelines in TGD L				0.25 Pass	

Part L Conformance - Renewables (applies to TGD L 2019)

	Source	Renewables Primary Energy	Total Primary Energy	RER
+ Delivered energy	PV/Wind	0.00	0.00	
+ Delivered energy	Other	0.00	0.00	
+ Delivered energy	Solar	0.00	0.00	
+ Delivered energy	Biomass	0.00	0.00	
+ Delivered energy	Biodiesel	0.00	0.00	
+ Delivered energy	Bioethanol	0.00	0.00	
+ Environmental energy	HP	4932.93	4932.93	
+ Saved energy	CHP	0.00	0.00	
+ District heating	District Heating	0.00	0.00	
+ Delivered energy	Grid	0.00	5015.08	
+ Delivered energy	Thermal	0.00	0.00	
SUBTOTAL		4932.93	9948.01	0.50 - Pass
Energy not used in Regulated Loads	PV/Wind/CHP	0.00	0.00	
TOTAL		4932.93	9948.01	0.50

Part L Specification

Property Details

Dwelling Type	Mid-terrace house	Type of BER rating	New Dwelling - Provisional
Address line 1	TYPE D 3BED MID TERRACE	Year of Construction	2020
Address line 2	CARLEY'S BRIDGE,	Date of Assessment	23/03/2020
Address line 3	ENNISCORTHY	Date of Plans	
County	Co. Wexford	Planning Reference	
Eircode		Building Regulations	2019 TGD L
BER Number		MPRN No.	0
Purpose of rating	New dwelling for owner occupation	Is MPRN shared with another dwelling?	N/A
Comment		BER number assigned to shared dwelling	N/A

Dimension Details

	Area [m ²]	Height [m]	Volume [m ³]
Ground Floor	56.64	2.70	152.93
First Floor	60.16	2.88	173.26
Second Floors	0.00	0.00	0.00
Third and other floors	0.00	0.00	0.00
Room in roof	0.00	0.00	0.00
Total Floor Area	116.80		326.19
Living Area [m²]	13.75		Living area percentage [%] 11.77
No of Storeys	2		

Ventilation Details

	Number		
Chimneys	0	Has permeability test been carried out?	Yes
Open Flues	0	Structure type	N/A
Fans & Vents	4	Is there a suspended wooden ground floor?	No
Number of flueless combustion room heaters	0	Percentage windows/doors draught stripped [%]	N/A
Is there a draught lobby on main entrance?	No	Number of sides sheltered	2
Ventilation method	Natural ventilation	Mechanical Ventilation Manufacturer	N/A
Specific fan power [W/(L/s)]	N/A	Mechanical Ventilation Model Name	N/A
Heat exchanger efficiency [%]	N/A	How many wetrooms (incl. kitchen)?	N/A

Building Elements - Floor Details

Type	Description	Underfloor heating	U-Value [W/m ² K]	Area [m ²]
Ground Floor - Solid		No	0.12	56.64
Non-Heat Loss Floor		N/A	0	56.54
Exposed / Semi Exposed		No	0.17	3.62

Building Elements - Roof Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
Pitched Roof - Insulated on Ceiling	400MM WOOL	0.12	60.16

Building Elements - Wall Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
300mm Cavity		0.15	49.34

Building Elements - Door Details

Description	Number of Doors	U-Value [W/m ² K]	Area [m ²]
	1	0.9	2.020

Building Elements - Window Details

Glazing type	User defined u-value	U-Value [W/m ² K]	Area [m ²]
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	9.360
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	10.020

Other Details

Thermal bridging factor [W/m ² k]	0.0800	Thermal mass category of dwelling	Medium-low
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Heating System - Solar Water Heating

Solar Water Heating Present?	No	Aperture area of solar collector [m ²]	N/A
Type, manufacturer, model	N/A		
Zero loss collector efficiency, η_0	N/A	Collector heat loss coefficient, a_1 [W/m ² >K]	N/A
Annual Solar Radiation [kWh/m ²] (Refer to Appendix H in DEAP)	N/A	Overshading factor	N/A
Dedicated storage volume [Litres]	N/A	Combined Cylinder	N/A
Solar fraction [%]	0.000		

Heating System - Hot Water System

Distribution Losses	386.17	Combi boiler present?	No
Supplementary electric water heating	N/A	Water Storage Volume [L]	180
Hot water storage manufacturer and model name	DAIKIN	Declared loss factor [kWh/d]	1.15
Temperature factor unadjusted	0.89	Temperature Factor Multiplier	0.89
Primary Circuit loss type	Boiler and thermal store within a single casing (cylinder thermostat present)		
Is hot water storage indoors or in group heating system?	Yes		

Heating System - Dist. system losses and gains

Temperature adjustment [°C]	0	Control Category	3	Responsiveness category	1
Central heating pumps	1	Oil Boiler Pump	0	Oil boiler pump inside dwelling	No
Gas boiler flue fan	0	Warm air heating or fan coil radiators present	No		

Heating System - Energy Requirements (Individual)

Main space heating system efficiency [%]	488.31	Space heating efficiency adjustment factor	1.0000	Main space heating fuel	Electricity
Main water heating system efficiency [%]	251.53	Water heating efficiency adjustment factor	1.0000	Main water heating fuel	Electricity
Secondary heating system efficiency [%]	N/A	Fraction of heating from secondary heating system	N/A	Secondary space heating system fuel	None
Fraction of main space and water heat from CHP	N/A	Electrical efficiency of CHP	N/A	Heat efficiency of CHP	N/A
CHP Fuel type	N/A				

Summary for Part L Conformance (Applies to TGD L 2008/2011/2019 for new dwellings only)

BER Number		Building Regulations	2019 TGD L
BER Result	A2	Energy Value kWh/m ² /yr	36.64
CO ₂ emissions [kg/m ² /yr]	7.2		
EPC	0.263	EPC Pass/Fail	Pass
CPC	0.253	CPC Pass/Fail	Pass

Part L Conformance - Fabric

Conformity with Maximum avg U-value requirements	U-value [W/m ² K]	Pass/Fail	Conformity with Maximum U-value requirements	U-Value [W/m ² K]	Pass/Fail
Pitched roof insulated on ceiling	0.12	Pass	Roofs	0.12	Pass
Pitched roof insulated on slope	0	Pass	Walls	0.15	Pass
Flat Roof	0	Pass	Floors	0.17	Pass
Floors with no underfloor heat	0.12	Pass	External doors / windows / rooflights	0.90	Pass
Floors with underfloor heat	0.00	Pass			
Walls	0.15	Pass			
Percentage of opening areas [%]	18.32				
Average U value of openings	0.90	Pass			
Permeability test carried out and meets guidelines in TGD L				0.25	Pass

Part L Conformance - Renewables (applies to TGD L 2019)

	Source	Renewables Primary Energy	Total Primary Energy	RER
+ Delivered energy	PV/Wind	0.00	0.00	
+ Delivered energy	Other	0.00	0.00	
+ Delivered energy	Solar	0.00	0.00	
+ Delivered energy	Biomass	0.00	0.00	
+ Delivered energy	Biodiesel	0.00	0.00	
+ Delivered energy	Bioethanol	0.00	0.00	
+ Environmental energy	HP	4932.93	4932.93	
+ Saved energy	CHP	0.00	0.00	
+ District heating	District Heating	0.00	0.00	
+ Delivered energy	Grid	0.00	4279.12	
+ Delivered energy	Thermal	0.00	0.00	
SUBTOTAL		4932.93	9212.05	0.54 - Pass
Energy not used in Regulated Loads	PV/Wind/CHP	0.00	0.00	
TOTAL		4932.93	9212.05	0.54

Part L Specification

Property Details

Dwelling Type	Semi-detached house	Type of BER rating	New Dwelling - Provisional
Address line 1	TYPE F 3 STOREY SEMI D	Year of Construction	2020
Address line 2	CARLEY'S BRIDGE,	Date of Assessment	23/03/2020
Address line 3	ENNISCORTHY	Date of Plans	
County	Co. Wexford	Planning Reference	
Eircode		Building Regulations	2019 TGD L
BER Number		MPRN No.	0
Purpose of rating	New dwelling for owner occupation	Is MPRN shared with another dwelling?	N/A
Comment		BER number assigned to shared dwelling	N/A

Dimension Details

	Area [m ²]	Height [m]	Volume [m ³]
Ground Floor	63.13	2.65	167.29
First Floor	55.60	2.95	164.02
Second Floors	30.26	2.75	83.22
Third and other floors	0.00	0.00	0.00
Room in roof	0.00	0.00	0.00
Total Floor Area	148.99		414.53
Living Area [m²]	16.90		Living area percentage [%] 11.34
No of Storeys	3		

Ventilation Details

	Number		
Chimneys	0	Has permeability test been carried out?	Yes
Open Flues	0	Structure type	N/A
Fans & Vents	5	Is there a suspended wooden ground floor?	No
Number of flueless combustion room heaters	0	Percentage windows/doors draught stripped [%]	N/A
Is there a draught lobby on main entrance?	No	Number of sides sheltered	2
Ventilation method	Natural ventilation	Mechanical Ventilation Manufacturer	N/A
Specific fan power [W/(L/s)]	N/A	Mechanical Ventilation Model Name	N/A
Heat exchanger efficiency [%]	N/A	How many wetrooms (incl. kitchen)?	N/A

Building Elements - Floor Details

Type	Description	Underfloor heating	U-Value [W/m ² K]	Area [m ²]
Ground Floor - Solid		No	0.12	63.13
Non-Heat Loss Floor		N/A	0	55.6
Non-Heat Loss Floor		N/A	0	30.26

Building Elements - Roof Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
Pitched Roof - Insulated on Ceiling	400MM WOOL	0.12	53.78
Pitched Roof - Insulated on Rafter		0.15	9.97

Building Elements - Wall Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
300mm Cavity		0.15	166.54

Building Elements - Door Details

Description	Number of Doors	U-Value [W/m ² K]	Area [m ²]
	1	0.9	3.700

Building Elements - Window Details

Glazing type	User defined u-value	U-Value [W/m ² K]	Area [m ²]
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	9.780
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	11.320
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	1.050
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	1.300	1.040

Other Details

Thermal bridging factor [W/m ² k]	0.0800	Thermal mass category of dwelling	Medium-low
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Heating System - Solar Water Heating

Solar Water Heating Present?	No	Aperture area of solar collector [m ²]	N/A
Type, manufacturer, model	N/A		
Zero loss collector efficiency, η_0	N/A	Collector heat loss coefficient, a_1 [W/m ² >K]	N/A
Annual Solar Radiation [kWh/m ²] (Refer to Appendix H in DEAP)	N/A	Overshading factor	N/A
Dedicated storage volume [Litres]	N/A	Combined Cylinder	N/A
Solar fraction [%]	0.000		

Heating System - Hot Water System

Distribution Losses	393.6	Combi boiler present?	No
Supplementary electric water heating	N/A	Water Storage Volume [L]	180
Hot water storage manufacturer and model name	DAIKIN	Declared loss factor [kWh/d]	1.15
Temperature factor unadjusted	0.89	Temperature Factor Multiplier	0.89
Primary Circuit loss type	Boiler and thermal store within a single casing (cylinder thermostat present)		
Is hot water storage indoors or in group heating system?	Yes		

Heating System - Dist. system losses and gains

Temperature adjustment [°C]	0	Control Category	3	Responsiveness category	1
Central heating pumps	2	Oil Boiler Pump	0	Oil boiler pump inside dwelling	No
Gas boiler flue fan	0	Warm air heating or fan coil radiators present	No		

Heating System - Energy Requirements (Individual)

Main space heating system efficiency [%]	488.31	Space heating efficiency adjustment factor	1.0000	Main space heating fuel	Electricity
Main water heating system efficiency [%]	251.53	Water heating efficiency adjustment factor	1.0000	Main water heating fuel	Electricity
Secondary heating system efficiency [%]	N/A	Fraction of heating from secondary heating system	N/A	Secondary space heating system fuel	None
Fraction of main space and water heat from CHP	N/A	Electrical efficiency of CHP	N/A	Heat efficiency of CHP	N/A
CHP Fuel type	N/A				

Summary for Part L Conformance (Applies to TGD L 2008/2011/2019 for new dwellings only)

BER Number		Building Regulations	2019 TGD L
BER Result	A2	Energy Value kWh/m ² /yr	36.74
CO ₂ emissions [kg/m ² /yr]	7.22		
EPC	0.252	EPC Pass/Fail	Pass
CPC	0.238	CPC Pass/Fail	Pass

Part L Conformance - Fabric

Conformity with Maximum avg U-value requirements	U-value [W/m ² K]	Pass/Fail	Conformity with Maximum U-value requirements	U-Value [W/m ² K]	Pass/Fail
Pitched roof insulated on ceiling	0.12	Pass	Roofs	0.15	Pass
Pitched roof insulated on slope	0.15	Pass	Walls	0.15	Pass
Flat Roof	0	Pass	Floors	0.12	Pass
Floors with no underfloor heat	0.12	Pass	External doors / windows / rooflights	1.30	Pass
Floors with underfloor heat	0.00	Pass			
Walls	0.15	Pass			
Percentage of opening areas [%]	18.05				
Average U value of openings	0.92	Pass			
Permeability test carried out and meets guidelines in TGD L				0.25	Pass

Part L Conformance - Renewables (applies to TGD L 2019)

	Source	Renewables Primary Energy	Total Primary Energy	RER
+ Delivered energy	PV/Wind	0.00	0.00	
+ Delivered energy	Other	0.00	0.00	
+ Delivered energy	Solar	0.00	0.00	
+ Delivered energy	Biomass	0.00	0.00	
+ Delivered energy	Biodiesel	0.00	0.00	
+ Delivered energy	Bioethanol	0.00	0.00	
+ Environmental energy	HP	4932.93	4932.93	
+ Saved energy	CHP	0.00	0.00	
+ District heating	District Heating	0.00	0.00	
+ Delivered energy	Grid	0.00	5473.47	
+ Delivered energy	Thermal	0.00	0.00	
SUBTOTAL		4932.93	10406.40	0.47 - Pass
Energy not used in Regulated Loads	PV/Wind/CHP	0.00	0.00	
TOTAL		4932.93	10406.40	0.47

Part L Specification

Property Details

Dwelling Type	Ground-floor apartment	Type of BER rating	New Dwelling - Provisional
Address line 1	BUILDING 06 GF APT	Year of Construction	2020
Address line 2	CARLEY'S BRIDGE	Date of Assessment	23/03/2020
Address line 3	ENNISCORTHY	Date of Plans	
County	Co. Wexford	Planning Reference	
Eircode		Building Regulations	2019 TGD L
BER Number		MPRN No.	0
Purpose of rating	New dwelling for owner occupation	Is MPRN shared with another dwelling?	N/A
Comment		BER number assigned to shared dwelling	N/A

Dimension Details

	Area [m ²]	Height [m]	Volume [m ³]
Ground Floor	68.87	3.10	213.50
First Floor	0.00	0.00	0.00
Second Floors	0.00	0.00	0.00
Third and other floors	0.00	0.00	0.00
Room in roof	0.00	0.00	0.00
Total Floor Area	68.87		213.50
Living Area [m²]	28.00		Living area percentage [%] 40.66
No of Storeys	1		

Ventilation Details

	Number		
Chimneys	0	Has permeability test been carried out?	Yes
Open Flues	0	Structure type	N/A
Fans & Vents	2	Is there a suspended wooden ground floor?	No
Number of flueless combustion room heaters	0	Percentage windows/doors draught stripped [%]	N/A
Is there a draught lobby on main entrance?	No	Number of sides sheltered	2
Ventilation method	Natural ventilation	Mechanical Ventilation Manufacturer	N/A
Specific fan power [W/(L/s)]	N/A	Mechanical Ventilation Model Name	N/A
Heat exchanger efficiency [%]	N/A	How many wetrooms (incl. kitchen)?	N/A

Building Elements - Floor Details

Type	Description	Underfloor heating	U-Value [W/m ² K]	Area [m ²]
Ground Floor - Solid		No	0.12	68.87

Building Elements - Roof Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
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Building Elements - Wall Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
300mm Cavity		0.15	51.65
225mm Solid Brick	HALLWAY SIDE	0.15	22.14

Building Elements - Door Details

Description	Number of Doors	U-Value [W/m ² K]	Area [m ²]
	1	0.9	1.890

Building Elements - Window Details

Glazing type	User defined u-value	U-Value [W/m ² K]	Area [m ²]
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	10.850
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	11.500

Other Details

Thermal bridging factor [W/m ² k]	0.1500	Thermal mass category of dwelling	Medium
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Heating System - Solar Water Heating

Solar Water Heating Present?	No	Aperture area of solar collector [m ²]	N/A
Type, manufacturer, model	N/A		
Zero loss collector efficiency, η_0	N/A	Collector heat loss coefficient, a_1 [W/m ² >K]	N/A
Annual Solar Radiation [kWh/m ²] (Refer to Appendix H in DEAP)	N/A	Overshading factor	N/A
Dedicated storage volume [Litres]	N/A	Combined Cylinder	N/A
Solar fraction [%]	0.000		

Heating System - Hot Water System

Distribution Losses	262.41	Combi boiler present?	No
Supplementary electric water heating	N/A	Water Storage Volume [L]	180
Hot water storage manufacturer and model name	DAIKIN	Declared loss factor [kWh/d]	1.15
Temperature factor unadjusted	0.89	Temperature Factor Multiplier	0.89
Primary Circuit loss type	Boiler and thermal store within a single casing (cylinder thermostat present)		
Is hot water storage indoors or in group heating system?	Yes		

Heating System - Dist. system losses and gains

Temperature adjustment [°C]	0	Control Category	2	Responsiveness category	1
Central heating pumps	1	Oil Boiler Pump	0	Oil boiler pump inside dwelling	No
Gas boiler flue fan	0	Warm air heating or fan coil radiators present	No		

Heating System - Energy Requirements (Individual)

Main space heating system efficiency [%]	497.82	Space heating efficiency adjustment factor	1.0000	Main space heating fuel	Electricity
Main water heating system efficiency [%]	252.14	Water heating efficiency adjustment factor	1.0000	Main water heating fuel	Electricity
Secondary heating system efficiency [%]	N/A	Fraction of heating from secondary heating system	N/A	Secondary space heating system fuel	None
Fraction of main space and water heat from CHP	N/A	Electrical efficiency of CHP	N/A	Heat efficiency of CHP	N/A
CHP Fuel type	N/A				

Summary for Part L Conformance (Applies to TGD L 2008/2011/2019 for new dwellings only)

BER Number		Building Regulations	2019 TGD L
BER Result	A3	Energy Value kWh/m ² /yr	50.84
CO ₂ emissions [kg/m ² /yr]	10		
EPC	0.252	EPC Pass/Fail	Pass
CPC	0.242	CPC Pass/Fail	Pass

Part L Conformance - Fabric

Conformity with Maximum avg U-value requirements	U-value [W/m ² K]	Pass/Fail	Conformity with Maximum U-value requirements	U-Value [W/m ² K]	Pass/Fail
Pitched roof insulated on ceiling	0.00	Pass	Roofs	0	Pass
Pitched roof insulated on slope	0	Pass	Walls	0.15	Pass
Flat Roof	0	Pass	Floors	0.12	Pass
Floors with no underfloor heat	0.12	Pass	External doors / windows / rooflights	0.90	Pass
Floors with underfloor heat	0.00	Pass			
Walls	0.15	Pass			
Percentage of opening areas [%]	35.20				
Average U value of openings	0.90	Pass			
Permeability test carried out and meets guidelines in TGD L				0.25	Pass

Part L Conformance - Renewables (applies to TGD L 2019)

	Source	Renewables Primary Energy	Total Primary Energy	RER
+ Delivered energy	PV/Wind	0.00	0.00	
+ Delivered energy	Other	0.00	0.00	
+ Delivered energy	Solar	0.00	0.00	
+ Delivered energy	Biomass	0.00	0.00	
+ Delivered energy	Biodiesel	0.00	0.00	
+ Delivered energy	Bioethanol	0.00	0.00	
+ Environmental energy	HP	3450.65	3450.65	
+ Saved energy	CHP	0.00	0.00	
+ District heating	District Heating	0.00	0.00	
+ Delivered energy	Grid	0.00	3501.48	
+ Delivered energy	Thermal	0.00	0.00	
SUBTOTAL		3450.65	6952.14	0.50 - Pass
Energy not used in Regulated Loads	PV/Wind/CHP	0.00	0.00	
TOTAL		3450.65	6952.14	0.50

Part L Specification

Property Details

Dwelling Type	Ground-floor apartment	Type of BER rating	New Dwelling - Provisional
Address line 1	BUILDING 09 GF APT	Year of Construction	2020
Address line 2	CARLEY'S BRIDGE	Date of Assessment	24/03/2020
Address line 3	ENNISCORTHY	Date of Plans	
County	Co. Wexford	Planning Reference	
Eircode		Building Regulations	2019 TGD L
BER Number		MPRN No.	0
Purpose of rating	New dwelling for owner occupation	Is MPRN shared with another dwelling?	N/A
Comment		BER number assigned to shared dwelling	N/A

Dimension Details

	Area [m ²]	Height [m]	Volume [m ³]
Ground Floor	64.13	3.20	205.22
First Floor	0.00	0.00	0.00
Second Floors	0.00	0.00	0.00
Third and other floors	0.00	0.00	0.00
Room in roof	0.00	0.00	0.00
Total Floor Area	64.13		205.22
Living Area [m²]	32.19		Living area percentage [%] 50.19
No of Storeys	1		

Ventilation Details

	Number		
Chimneys	0	Has permeability test been carried out?	Yes
Open Flues	0	Structure type	N/A
Fans & Vents	2	Is there a suspended wooden ground floor?	No
Number of flueless combustion room heaters	0	Percentage windows/doors draught stripped [%]	N/A
Is there a draught lobby on main entrance?	No	Number of sides sheltered	2
Ventilation method	Natural ventilation	Mechanical Ventilation Manufacturer	N/A
Specific fan power [W/(L/s)]	N/A	Mechanical Ventilation Model Name	N/A
Heat exchanger efficiency [%]	N/A	How many wetrooms (incl. kitchen)?	N/A

Building Elements - Floor Details

Type	Description	Underfloor heating	U-Value [W/m ² K]	Area [m ²]
Ground Floor - Solid		No	0.12	64.13

Building Elements - Roof Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
Flat Roof	150MM XTRATHERM	0.12	10.95

Building Elements - Wall Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
300mm Cavity		0.15	39.66
225mm Solid Brick	HALLWAY, STRAGE SIDE	0.15	22.44

Building Elements - Door Details

Description	Number of Doors	U-Value [W/m ² K]	Area [m ²]
	1	0.9	2.370

Building Elements - Window Details

Glazing type	User defined u-value	U-Value [W/m ² K]	Area [m ²]
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	4.050
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	7.170
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	6.450

Other Details

Thermal bridging factor [W/m ² k]	0.0800	Thermal mass category of dwelling	Medium-low
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Heating System - Solar Water Heating

Solar Water Heating Present?	No	Aperture area of solar collector [m ²]	N/A
Type, manufacturer, model	N/A		
Zero loss collector efficiency, η_0	N/A	Collector heat loss coefficient, U_L [W/m ² >K]	N/A
Annual Solar Radiation [kWh/m ²] (Refer to Appendix H in DEAP)	N/A	Overshading factor	N/A
Dedicated storage volume [Litres]	N/A	Combined Cylinder	N/A
Solar fraction [%]	0.000		

Heating System - Hot Water System

Distribution Losses	253.62	Combi boiler present?	No
Supplementary electric water heating	N/A	Water Storage Volume [L]	180
Hot water storage manufacturer and model name	DAIKIN	Declared loss factor [kWh/d]	1.15
Temperature factor unadjusted	0.89	Temperature Factor Multiplier	0.89
Primary Circuit loss type	Boiler and thermal store within a single casing (cylinder thermostat present)		
Is hot water storage indoors or in group heating system?	Yes		

Heating System - Dist. system losses and gains

Temperature adjustment [°C]	0	Control Category	2	Responsiveness category	1
Central heating pumps	1	Oil Boiler Pump	0	Oil boiler pump inside dwelling	No
Gas boiler flue fan	0	Warm air heating or fan coil radiators present	No		

Heating System - Energy Requirements (Individual)

Main space heating system efficiency [%]	497.82	Space heating efficiency adjustment factor	1.0000	Main space heating fuel	Electricity
Main water heating system efficiency [%]	252.14	Water heating efficiency adjustment factor	1.0000	Main water heating fuel	Electricity
Secondary heating system efficiency [%]	N/A	Fraction of heating from secondary heating system	N/A	Secondary space heating system fuel	None
Fraction of main space and water heat from CHP	N/A	Electrical efficiency of CHP	N/A	Heat efficiency of CHP	N/A
CHP Fuel type	N/A				

Summary for Part L Conformance (Applies to TGD L 2008/2011/2019 for new dwellings only)

BER Number		Building Regulations	2019 TGD L
BER Result	A3	Energy Value kWh/m ² /yr	51.42
CO ₂ emissions [kg/m ² /yr]	10.11		
EPC	0.245	EPC Pass/Fail	Pass
CPC	0.235	CPC Pass/Fail	Pass

Part L Conformance - Fabric

Conformity with Maximum avg U-value requirements	U-value [W/m ² K]	Pass/Fail	Conformity with Maximum U-value requirements	U-Value [W/m ² K]	Pass/Fail
Pitched roof insulated on ceiling	0.00	Pass	Roofs	0.12	Pass
Pitched roof insulated on slope	0	Pass	Walls	0.15	Pass
Flat Roof	0.12	Pass	Floors	0.12	Pass
Floors with no underfloor heat	0.12	Pass	External doors / windows / rooflights	0.90	Pass
Floors with underfloor heat	0.00	Pass			
Walls	0.15	Pass			
Percentage of opening areas [%]	31.25				
Average U value of openings	0.90	Pass			
Permeability test carried out and meets guidelines in TGD L				0.25 Pass	

Part L Conformance - Renewables (applies to TGD L 2019)

	Source	Renewables Primary Energy	Total Primary Energy	RER
+ Delivered energy	PV/Wind	0.00	0.00	
+ Delivered energy	Other	0.00	0.00	
+ Delivered energy	Solar	0.00	0.00	
+ Delivered energy	Biomass	0.00	0.00	
+ Delivered energy	Biodiesel	0.00	0.00	
+ Delivered energy	Bioethanol	0.00	0.00	
+ Environmental energy	HP	3450.65	3450.65	
+ Saved energy	CHP	0.00	0.00	
+ District heating	District Heating	0.00	0.00	
+ Delivered energy	Grid	0.00	3297.79	
+ Delivered energy	Thermal	0.00	0.00	
SUBTOTAL		3450.65	6748.45	0.51 - Pass
Energy not used in Regulated Loads	PV/Wind/CHP	0.00	0.00	
TOTAL		3450.65	6748.45	0.51

Part L Specification

BER IS NOT PUBLISHED

Property Details

Dwelling Type	Mid-floor apartment	Type of BER rating	New Dwelling - Provisional
Address line 1	BUILDING 17 DUPLEX (2ND,3RD FL)	Year of Construction	2020
Address line 2	CARLEY'S BRIDGE	Date of Assessment	24/03/2020
Address line 3	ENNISCORTHY	Date of Plans	
County	Co. Wexford	Planning Reference	
Eircode		Building Regulations	2019 TGD L
BER Number		MPRN No.	0
Purpose of Rating	New dwelling for owner occupation	Is MPRN shared with another dwelling?	N/A
Assessor Name	Jeff O'Toole	Assessor Number	105820
Comment		BER number assigned to shared dwelling	N/A

Dimension Details

	Area [m ²]	Height [m]	Volume [m ³]
Ground Floor	54.60	2.93	159.98
First Floor	54.60	2.91	158.89
Second Floor	0.00	0.00	0.00
Third and other floors	0.00	0.00	0.00
Room in roof	0.00	0.00	0.00
Total Floor Area	109.20		318.86
Living Area [m ²]	41.50		
No of Storeys	2		
			Living area percentage [%] 38.00

Ventilation Details

	Number		
Chimneys	0	Has permeability test been carried out?	Yes
Open Flues	0	Structure type	N/A
Fans & Vents	3	Is there a suspended wooden ground floor?	No
Number of flueless combustion room heaters	0	Percentage windows/doors draught stripped [%]	N/A
Is there a draught lobby on main entrance?	No	Number of sides sheltered	2
Ventilation method	Natural ventilation	Mechanical Ventilation Manufacturer	N/A
Specific fan power [W/(L/s)]	N/A	Mechanical Ventilation Model Name	N/A
Heat exchanger efficiency [%]	N/A	How many wetrooms (incl. kitchen)?	N/A

Building Elements - Floor Details

Type	Description	Underfloor heating	U-Value [W/m ² K]	Area [m ²]
Non-Heat Loss Floor		N/A	0	54.6
Non-Heat Loss Floor		N/A	0	54.6

Building Elements - Roof Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
Pitched Roof - Insulated on Ceiling	400MM WOOL	0.12	54.6

Building Elements - Wall Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
300mm Cavity		0.15	88.85
225mm Solid Brick	HALLWAY	0.15	16.1

Building Elements - Door Details

Description	Number of Doors	U-Value [W/m ² K]	Area [m ²]
ENTRANCE	1	0.9	1.890

Building Elements - Window Details

Glazing type	User defined u-value	U-Value [W/m ² K]	Area [m ²]
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	19.540
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	11.300

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Other Details

Thermal bridging factor [W/m ² k]	0.0800	Thermal mass category of dwelling	Medium-low
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Heating System - Solar Water Heating

Solar Water Heating Present?	No	Aperture area of solar collector [m ²]	N/A
Type, manufacturer, model	N/A		
Zero loss collector efficiency, η_0	N/A	Collector heat loss coefficient, U_L [W/m ² >K]	N/A
Annual Solar Radiation [kWh/m ²] (Refer to Appendix H in DEAP)	N/A	Overshading factor	N/A
Dedicated storage volume [Litres]	N/A	Combined Cylinder	N/A
Solar fraction [%]	0.000		

Heating System - Hot Water System

Distribution Losses	304.81	Combi boiler present?	No
Supplementary electric water heating	N/A	Water Storage Volume [L]	180
Hot water storage manufacturer and model name	DAIKIN	Declared loss factor [kWh/d]	1.15
Temperature factor unadjusted	0.89	Temperature Factor Multiplier	0.89
Primary Circuit loss type	Boiler and thermal store within a single casing (cylinder thermostat present)		
Is hot water storage indoors or in group heating system?	Yes	Insulation type	None
Insulation thickness [mm]	0		

Heating System - Dist. system losses and gains

Temperature adjustment [°C]	0	Control Category	3	Responsiveness category	1
Central heating pumps	1	Oil Boiler Pump	0	Oil boiler pump inside dwelling	No
Gas boiler flue fan	0	Warm air heating or fan coil radiators present	No		

Heating System - Energy Requirements (Individual)

Main space heating system efficiency [%]	488.37	Space heating efficiency adjustment factor	1.0000	Main space heating fuel	Electricity
Main water heating system efficiency [%]	251.53	Water heating efficiency adjustment factor	1.0000	Main water heating fuel	Electricity
Secondary heating system efficiency [%]	N/A	Fraction of heating from secondary heating system	N/A	Secondary space heating system fuel	None
Fraction of main space and water heat from CHP	N/A	Electrical efficiency of CHP	N/A	Heat efficiency of CHP	N/A
CHP Fuel type	N/A				

Summary for Part L Conformance (Applies to TGD L 2008/2011/2019 for new dwellings only)

BER Number		Building Regulations	2019 TGD L
BER Result	A2	Energy Value kWh/m ² /yr	37.97
CO ₂ emissions [kg/m ² /yr]	7.47		
EPC	0.245	EPC Pass/Fail	Pass
CPC	0.234	CPC Pass/Fail	Pass

Part L Conformance - Fabric

Conformity with Maximum avg U-value requirements	U-value [W/m ² K]	Pass/Fail	Conformity with Maximum U-value requirements	U-Value [W/m ² K]	Pass/Fail
Pitched roof insulated on ceiling	0.12	Pass	Roofs	0.12	Pass
Pitched roof insulated on slope	0	Pass	Walls	0.15	Pass
Flat Roof	0	Pass	Floors	0	Pass
Floors with no underfloor heat	0.00	Pass	External doors / windows / rooflights	0.90	Pass
Floors with underfloor heat	0.00	Pass			
Walls	0.15	Pass			
Percentage of opening areas [%]	29.97				
Average U value of openings	0.90	Pass			
Permeability test carried out and meets guidelines in TGD L					0.25 Pass

Part L Conformance - Renewables (applies to TGD L 2019)

	Source	Renewables Primary Energy	Total Primary Energy	RER
+ Delivered energy	PV/Wind	0.00	0.00	
+ Delivered energy	Other	0.00	0.00	
+ Delivered energy	Solar	0.00	0.00	
+ Delivered energy	Biomass	0.00	0.00	
+ Delivered energy	Biodiesel	0.00	0.00	
+ Delivered energy	Bioethanol	0.00	0.00	
+ Environmental energy	HP	4059.84	4059.84	
+ Saved energy	CHP	0.00	0.00	
+ District heating	District Heating	0.00	0.00	
+ Delivered energy	Grid	0.00	4145.98	
+ Delivered energy	Thermal	0.00	0.00	
SUBTOTAL		4059.84	8205.82	0.49 - Pass
Energy not used in Regulated Loads	PV/Wind/CHP	0.00	0.00	
TOTAL		4059.84	8205.82	0.49

Part L Specification

BER IS NOT PUBLISHED

Property Details

Dwelling Type	Mid-floor apartment	Type of BER rating	New Dwelling - Provisional
Address line 1	BUILDING 20 FF APT	Year of Construction	2020
Address line 2	CARLEY'S BRIDGE	Date of Assessment	24/03/2020
Address line 3	ENNISCORTHY	Date of Plans	
County	Co. Wexford	Planning Reference	
Eircode		Building Regulations	2019 TGD L
BER Number		MPRN No.	0
Purpose of Rating	New dwelling for owner occupation	Is MPRN shared with another dwelling?	N/A
Assessor Name	Jeff O'Toole	Assessor Number	105820
Comment		BER number assigned to shared dwelling	N/A

Dimension Details

	Area [m ²]	Height [m]	Volume [m ³]
Ground Floor	54.72	2.93	160.33
First Floor	0.00	0.00	0.00
Second Floor	0.00	0.00	0.00
Third and other floors	0.00	0.00	0.00
Room in roof	0.00	0.00	0.00
Total Floor Area	54.72		160.33
Living Area [m ²]	24.50		
No of Storeys	1		
			Living area percentage [%] 44.77

Ventilation Details

	Number		
Chimneys	0	Has permeability test been carried out?	Yes
Open Flues	0	Structure type	N/A
Fans & Vents	2	Is there a suspended wooden ground floor?	No
Number of flueless combustion room heaters	0	Percentage windows/doors draught stripped [%]	N/A
Is there a draught lobby on main entrance?	No	Number of sides sheltered	2
Ventilation method	Natural ventilation	Mechanical Ventilation Manufacturer	N/A
Specific fan power [W/(L/s)]	N/A	Mechanical Ventilation Model Name	N/A
Heat exchanger efficiency [%]	N/A	How many wetrooms (incl. kitchen)?	N/A

Building Elements - Floor Details

Type	Description	Underfloor heating	U-Value [W/m ² K]	Area [m ²]
Non-Heat Loss Floor		N/A	0	54.72

Building Elements - Roof Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
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Building Elements - Wall Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
300mm Cavity		0.15	48.79
225mm Solid Brick	HALLWAY	0.15	11.1

Building Elements - Door Details

Description	Number of Doors	U-Value [W/m ² K]	Area [m ²]
	1	0.9	1.890

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Building Elements - Window Details

Glazing type	User defined u-value	U-Value [W/m ² K]	Area [m ²]
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	6.230
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	6.840

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Other Details

Thermal bridging factor [W/m ² k]	0.0800	Thermal mass category of dwelling	Medium-low
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Heating System - Solar Water Heating

Solar Water Heating Present?	No	Aperture area of solar collector [m ²]	N/A
Type, manufacturer, model	N/A		
Zero loss collector efficiency, η_0	N/A	Collector heat loss coefficient, U_L [W/m ² >K]	N/A
Annual Solar Radiation [kWh/m ²] (Refer to Appendix H in DEAP)	N/A	Overshading factor	N/A
Dedicated storage volume [Litres]	N/A	Combined Cylinder	N/A
Solar fraction [%]	0.000		

Heating System - Hot Water System

Distribution Losses	234.52	Combi boiler present?	No
Supplementary electric water heating	N/A	Water Storage Volume [L]	180
Hot water storage manufacturer and model name	DAIKIN	Declared loss factor [kWh/d]	1.15
Temperature factor unadjusted	0.89	Temperature Factor Multiplier	0.89
Primary Circuit loss type	Boiler and thermal store within a single casing (cylinder thermostat present)		
Is hot water storage indoors or in group heating system?	Yes	Insulation type	None
Insulation thickness [mm]	0		

Heating System - Dist. system losses and gains

Temperature adjustment [°C]	0	Control Category	2	Responsiveness category	1
Central heating pumps	1	Oil Boiler Pump	0	Oil boiler pump inside dwelling	No
Gas boiler flue fan	0	Warm air heating or fan coil radiators present	No		

Heating System - Energy Requirements (Individual)

Main space heating system efficiency [%]	563.29	Space heating efficiency adjustment factor	1.0000	Main space heating fuel	Electricity
Main water heating system efficiency [%]	252.14	Water heating efficiency adjustment factor	1.0000	Main water heating fuel	Electricity
Secondary heating system efficiency [%]	N/A	Fraction of heating from secondary heating system	N/A	Secondary space heating system fuel	None
Fraction of main space and water heat from CHP	N/A	Electrical efficiency of CHP	N/A	Heat efficiency of CHP	N/A
CHP Fuel type	N/A				

Summary for Part L Conformance (Applies to TGD L 2008/2011/2019 for new dwellings only)

BER Number		Building Regulations	2019 TGD L
BER Result	A2	Energy Value kWh/m ² /yr	47.01
CO ₂ emissions [kg/m ² /yr]	9.24		
EPC	0.259	EPC Pass/Fail	Pass
CPC	0.253	CPC Pass/Fail	Pass

Part L Conformance - Fabric

Conformity with Maximum avg U-value requirements	U-value [W/m ² K]	Pass/Fail	Conformity with Maximum U-value requirements	U-Value [W/m ² K]	Pass/Fail
Pitched roof insulated on ceiling	0.00	Pass	Roofs	0	Pass
Pitched roof insulated on slope	0	Pass	Walls	0.15	Pass
Flat Roof	0	Pass	Floors	0	Pass
Floors with no underfloor heat	0.00	Pass	External doors / windows / rooflights	0.90	Pass
Floors with underfloor heat	0.00	Pass			
Walls	0.15	Pass			
Percentage of opening areas [%]	27.34				
Average U value of openings	0.90	Pass			
Permeability test carried out and meets guidelines in TGD L				0.25 Pass	

Part L Conformance - Renewables (applies to TGD L 2019)

	Source	Renewables Primary Energy	Total Primary Energy	RER
+ Delivered energy	PV/Wind	0.00	0.00	
+ Delivered energy	Other	0.00	0.00	
+ Delivered energy	Solar	0.00	0.00	
+ Delivered energy	Biomass	0.00	0.00	
+ Delivered energy	Biodiesel	0.00	0.00	
+ Delivered energy	Bioethanol	0.00	0.00	
+ Environmental energy	HP	2119.30	2119.30	
+ Saved energy	CHP	0.00	0.00	
+ District heating	District Heating	0.00	0.00	
+ Delivered energy	Grid	0.00	2572.38	
+ Delivered energy	Thermal	0.00	0.00	
SUBTOTAL		2119.30	4691.69	0.45 - Pass
Energy not used in Regulated Loads	PV/Wind/CHP	0.00	0.00	
TOTAL		2119.30	4691.69	0.45

Part L Specification

BER IS NOT PUBLISHED

Property Details

Dwelling Type	Mid-floor apartment	Type of BER rating	New Dwelling - Provisional
Address line 1	BUILDING 21 DUPLEX (1ST,2ND FL)	Year of Construction	2020
Address line 2	CARLEY'S BRIDGE	Date of Assessment	24/03/2020
Address line 3	ENNISCORTHY	Date of Plans	
County	Co. Wexford	Planning Reference	
Eircode		Building Regulations	2019 TGD L
BER Number		MPRN No.	0
Purpose of Rating	New dwelling for owner occupation	Is MPRN shared with another dwelling?	N/A
Assessor Name	Jeff O'Toole	Assessor Number	105820
Comment		BER number assigned to shared dwelling	N/A

Dimension Details

	Area [m ²]	Height [m]	Volume [m ³]
Ground Floor	59.57	2.98	177.52
First Floor	65.30	2.70	176.31
Second Floor	0.00	0.00	0.00
Third and other floors	0.00	0.00	0.00
Room in roof	0.00	0.00	0.00
Total Floor Area	124.87		353.83
Living Area [m ²]	21.74		
No of Storeys	2		
			Living area percentage [%] 17.41

Ventilation Details

	Number		
Chimneys	0	Has permeability test been carried out?	Yes
Open Flues	0	Structure type	N/A
Fans & Vents	3	Is there a suspended wooden ground floor?	No
Number of flueless combustion room heaters	0	Percentage windows/doors draught stripped [%]	N/A
Is there a draught lobby on main entrance?	No	Number of sides sheltered	2
Ventilation method	Natural ventilation	Mechanical Ventilation Manufacturer	N/A
Specific fan power [W/(L/s)]	N/A	Mechanical Ventilation Model Name	N/A
Heat exchanger efficiency [%]	N/A	How many wetrooms (incl. kitchen)?	N/A

Building Elements - Floor Details

Type	Description	Underfloor heating	U-Value [W/m ² K]	Area [m ²]
Non-Heat Loss Floor		N/A	0	59.57
Non-Heat Loss Floor		N/A	0	65.3

Building Elements - Roof Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
Pitched Roof - Insulated on Ceiling	400MM WOOL	0.12	65.3

Building Elements - Wall Details

Type	Description	U-Value [W/m ² K]	Area [m ²]
300mm Cavity		0.15	42.66
225mm Solid Brick	HALLWAY	0.15	15.57

Building Elements - Door Details

Description	Number of Doors	U-Value [W/m ² K]	Area [m ²]
ENTRANCE	1	0.9	1.890

Building Elements - Window Details

Glazing type	User defined u-value	U-Value [W/m ² K]	Area [m ²]
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	11.870
Double-glazed, air filled (low-E, en = 0.15, hard coat)	Yes	0.900	10.310

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Other Details

Thermal bridging factor [W/m ² k]	0.0800	Thermal mass category of dwelling	Medium-low
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Heating System - Solar Water Heating

Solar Water Heating Present?	No	Aperture area of solar collector [m ²]	N/A
Type, manufacturer, model	N/A		
Zero loss collector efficiency, η_0	N/A	Collector heat loss coefficient, U_L [W/m ² >K]	N/A
Annual Solar Radiation [kWh/m ²] (Refer to Appendix H in DEAP)	N/A	Overshading factor	N/A
Dedicated storage volume [Litres]	N/A	Combined Cylinder	N/A
Solar fraction [%]	0.000		

Heating System - Hot Water System

Distribution Losses	309.85	Combi boiler present?	No
Supplementary electric water heating	N/A	Water Storage Volume [L]	180
Hot water storage manufacturer and model name	DAIKIN	Declared loss factor [kWh/d]	1.15
Temperature factor unadjusted	0.89	Temperature Factor Multiplier	0.89
Primary Circuit loss type	Boiler and thermal store within a single casing (cylinder thermostat present)		
Is hot water storage indoors or in group heating system?	Yes	Insulation type	None
Insulation thickness [mm]	0		

Heating System - Dist. system losses and gains

Temperature adjustment [°C]	0	Control Category	3	Responsiveness category	1
Central heating pumps	1	Oil Boiler Pump	0	Oil boiler pump inside dwelling	No
Gas boiler flue fan	0	Warm air heating or fan coil radiators present	No		

Heating System - Energy Requirements (Individual)

Main space heating system efficiency [%]	508.95	Space heating efficiency adjustment factor	1.0000	Main space heating fuel	Electricity
Main water heating system efficiency [%]	251.53	Water heating efficiency adjustment factor	1.0000	Main water heating fuel	Electricity
Secondary heating system efficiency [%]	N/A	Fraction of heating from secondary heating system	N/A	Secondary space heating system fuel	None
Fraction of main space and water heat from CHP	N/A	Electrical efficiency of CHP	N/A	Heat efficiency of CHP	N/A
CHP Fuel type	N/A				

Summary for Part L Conformance (Applies to TGD L 2008/2011/2019 for new dwellings only)

BER Number		Building Regulations	2019 TGD L
BER Result	A2	Energy Value kWh/m ² /yr	30.10
CO ₂ emissions [kg/m ² /yr]	5.92		
EPC	0.239	EPC Pass/Fail	Pass
CPC	0.230	CPC Pass/Fail	Pass

Part L Conformance - Fabric

Conformity with Maximum avg U-value requirements	U-value [W/m ² K]	Pass/Fail	Conformity with Maximum U-value requirements	U-Value [W/m ² K]	Pass/Fail
Pitched roof insulated on ceiling	0.12	Pass	Roofs	0.12	Pass
Pitched roof insulated on slope	0	Pass	Walls	0.15	Pass
Flat Roof	0	Pass	Floors	0	Pass
Floors with no underfloor heat	0.00	Pass	External doors / windows / rooflights	0.90	Pass
Floors with underfloor heat	0.00	Pass			
Walls	0.15	Pass			
Percentage of opening areas [%]	19.28				
Average U value of openings	0.90	Pass			
Permeability test carried out and meets guidelines in TGD L				0.25	Pass

Part L Conformance - Renewables (applies to TGD L 2019)

	Source	Renewables Primary Energy	Total Primary Energy	RER
+ Delivered energy	PV/Wind	0.00	0.00	
+ Delivered energy	Other	0.00	0.00	
+ Delivered energy	Solar	0.00	0.00	
+ Delivered energy	Biomass	0.00	0.00	
+ Delivered energy	Biodiesel	0.00	0.00	
+ Delivered energy	Bioethanol	0.00	0.00	
+ Environmental energy	HP	3300.23	3300.23	
+ Saved energy	CHP	0.00	0.00	
+ District heating	District Heating	0.00	0.00	
+ Delivered energy	Grid	0.00	3758.59	
+ Delivered energy	Thermal	0.00	0.00	
SUBTOTAL		3300.23	7058.82	0.47 - Pass
Energy not used in Regulated Loads	PV/Wind/CHP	0.00	0.00	
TOTAL		3300.23	7058.82	0.47