

# DEAP 4.2.0

## Case Study 2

### DEAP 4.2.0 Inputs for Existing Dwelling Assessment



## How to use this Document

The information within this document is for use with DEAP 4.2.0 **Case Study 1**.

### Included within this Guide

#### 1. DEAP 4.2.0 Inputs

Section 1 contains all the inputs needed for completing the case study within DEAP 4.2.0 online tool. It follows the same structure as the tabs found in DEAP, which are as follows:

- > Building
- > Ventilation
- > Space Heating
- > Water Heating
- > Lighting
- > Renewables

Each section of this document will refer to the relevant tab in DEAP, which will indicate where you will be able to locate the corresponding inputs for the relevant section of the Case Study.

#### Note on Data Redaction in Supporting Evidence:

Certain information within the supporting evidence included within this Guide has been redacted to remove any personally identifiable information in relation to BER Assessors and in order to protect the identity of any service providers named within this documentation. Any reference made to dwellings such as the MPRN and dwelling address have been invented for training purposes.

SEAI has no affiliation with any of the brands named within this Guide and are used for training purposed only.

## START SURVEY



### Dwelling Details

<b>MPRN</b>	<b>0</b>	
<b>BER Number</b>	<b>n/a</b>	
<b>Address Line 1</b>	<b>2 The Park</b>	
<b>County/City</b>	<b>Co. Dublin</b>	
<b>Eircode</b>		
<b>Dwelling Type</b>	<b>Mid-terraced House</b>	
<b>Storeys</b>	<b>2</b>	<i>Applies the number of input fields for average storey height in the survey</i>
<b>Bedrooms</b>	<b>2</b>	<i>This is not a mandatory field and if unknown can be left blank</i>
<b>Year of Construction</b>	<b>1950</b>	
<b>Extended</b>	<b>no</b>	

### Survey Details

<b>Type of Rating</b>	<b>Existing Dwelling</b>	
<b>Purpose</b>	<b>Other</b>	
<b>Building Regulations</b>	<b>None</b>	
<b>Planning Reference</b>		
<b>Date of Plans</b>		
<b>Description</b>	<b>Case Study 2</b>	<i>Assessor can enter their own file name etc. This description will appear in the assessor's own agenda</i>
<b>Assessor Comments</b>		<i>Assessor can enter any their own notes. These notes will appear in the Dwelling Report &amp; Part L report</i>

Building				
Average Storey Height [m]	Storey 1	2.46	Storey 2	2.63
Living Area [m <sup>2</sup> ]	8.75			

Floors				
<b>Floor 1</b>				
Floor Location	Storey 1	Area [m <sup>2</sup> ]	30.44	
Floor Type	Ground Floor - Solid	Exposed Perimeter [m]	9.74	
Age Band	1950 - 1966	U-value [W/m <sup>2</sup> K]	0.61	Default applied
Description	Original Floor	Underfloor heating	no	Leave unticked
wall area (exposed to ground)		In Roof	no	Leave unticked. Applies room in roof auto-calculation
<b>Floor 2</b>				
Floor Location	Storey 2	Area [m <sup>2</sup> ]	30.44	
Floor Type	Non-Heat Loss Floor	Exposed Perimeter [m]		
Age Band	1950 - 1966	U-value [W/m <sup>2</sup> K]		
Description	First Floor	Underfloor heating		
wall area (exposed to ground)		In Roof	no	Leave unticked. Applies room in roof auto-calculation

**Results**

Total Floor Area [m <sup>2</sup> ]	60.88
Total Heat Loss Floor Area [m <sup>2</sup> ]	30.44

Roofs				
<b>Roof 1</b>				
Roof Type	Pitched Roof Insulated on Ceiling	Area [m <sup>2</sup> ]	24.50	
Description	Main Attic	U-value [W/m <sup>2</sup> K]	0.13	Default applied
Insulation Unknown	n/a			
Insulation Thickness	300 mm			
Age Band	1950 - 1966			
<b>Roof 1</b>				
Roof Type	Pitched Roof Insulated on Rafter	Area [m <sup>2</sup> ]	7.11	
Description	Sloping Ceiling	U-value [W/m <sup>2</sup> K]	0.22	Non-default
Insulation Unknown	no			
Insulation Thickness	50mm insulated p/b ( $\lambda=0.022$ ) + 100mm fibre between rafters			

<b>Age Band</b>	1950 - 1966
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**Results**

**Total Roof Area [m<sup>2</sup>]**                      **31.61**

### Walls

<b>Wall 1</b>				
<b>Wall Type</b>	Solid Mass Concrete	<b>Area [m<sup>2</sup>]</b>	<b>32.40</b>	
<b>Age Band</b>	1950 - 1966	wall is semi-exposed	n/a	Leave unticked
<b>Description</b>	Main Walls with 100mm EWI (λ=0.031)	<b>U-value [W/m<sup>2</sup>K]</b>	<b>0.27</b>	Non-default

**Results**

**Total Wall Area [m<sup>2</sup>]**                      **32.40**

### Building

<b>Rooms</b>				
<b>Room Type</b>	Living Room	<b>Storey</b>	<b>1</b>	
<b>Room Name</b>	Living Room			

### Doors

<b>Door 1</b>				
<b>[Product Details]</b>		<b>[Survey Details]</b>		
<b>Add from library</b>	Solid Exposed Door	<b>No. of items</b>	<b>1</b>	
<b>U-value [W/m<sup>2</sup>K]</b>	3	<b>Room</b>		
		<b>Area [m<sup>2</sup>]</b>	<b>1.85</b>	
		<b>Description</b>	<b>Front Door</b>	
		<b>Draught Stripped</b>	<b>yes</b>	

**Results**

**Total Door Area [m<sup>2</sup>]**                      **1.85**

### Windows

<b>Window 1</b>				
<b>[Product Details]</b>		<b>[Survey Details]</b>		
<b>U-value [W/m<sup>2</sup>K]</b>	1.4	<b>No. of items</b>	<b>1</b>	
<b>Glazing</b>	Double, argon	<b>Room</b>		
<b>Frame</b>	PVC	<b>Description</b>	<b>W02 &amp; W07</b>	
<b>Gap [mm]</b>	20	<b>Area [m<sup>2</sup>]</b>	<b>4.46</b>	
<b>Frame Factor</b>	0.7	<b>Orientation</b>	<b>Southeast</b>	
<b>Solar Transmittance</b>	0.75	<b>Overshading</b>	<b>Average</b>	
		<b>No. of openings</b>	<b>4</b>	
		<b>No. draught stripped</b>	<b>4</b>	
<b>Window 2</b>				
<b>[Product Details]</b>		<b>[Survey Details]</b>		

<b>U-value [W/m<sup>2</sup>K]</b>	<b>1.4</b>	<b>No. of items</b>	<b>1</b>
<b>Glazing</b>	<b>Double, argon</b>	<b>Room</b>	
<b>Frame</b>	<b>PVC</b>	<b>Description</b>	<b>W03, W04, W05 &amp; W06</b>
<b>Gap [mm]</b>	<b>20</b>	<b>Area [m<sup>2</sup>]</b>	<b>7.08</b>
<b>Frame Factor</b>	<b>0.7</b>	<b>Orientation</b>	<b>Northwest</b>
<b>Solar Transmittance</b>	<b>0.75</b>	<b>Overshading</b>	<b>Average</b>
		<b>No. of openings</b>	<b>6</b>
		<b>No. draught stripped</b>	<b>6</b>

**Results**

**Total Window Area [m<sup>2</sup>]      11.54**

Global Factors	
<b>Thermal Mass Category</b>	<b>Medium-High</b>
<b>Thermal Bridging Factor</b>	<b>Default</b>
	<i>Applies 0.15 W/m<sup>2</sup>K</i>

## Ventilation

### Infiltration due to Openings

Is there a draught lobby on main entrance	no	<i>Leave unticked</i>
Number of open flues	1	Room Living Room
Description	Stove Flue	

### Structural Air-Tightness

Is there an air-tightness test	Yes
Air-permeability test result [ACH]	0.204
Structure type	
Is there a suspended timber floor	
Number of sheltered sides	2

Attic Hatch Draught Stripped

Attic Hatch Not Draught Stripped

### Ventilation Method

Method	Whole House Extract
Specific Fan Power [W/l/s]	0.33
Heat Exchanger Efficiency	
Manufacturer	Aereco
Model	V4A Premium
No. of wet rooms	K+1
External uninsulated ducting	

#### Results – Heat Loss

Windows [W/K]	15.299
Plane Elements [W/K]	52.915
Fabric [W/K]	69.091
Total Heat Loss [W/K]	98.522
HLI [W/Km <sup>2</sup> ]	1.618

Space Heating			
Individual Heating	yes		
Heating System Properties			
Heating System Category	Central Heating System with radiators or underfloor heating		
Sub Category 1	Gas and oil boiler		
Sub Category 2	Oil Boiler		
Heating System	Condensing		
Heat Emitter Type	Radiators		
Heating System Controls	Time and Temperature Zone Control		
Boiler Interlock	yes	Temperature Adjustment	0
Delayed start thermostat present	no	Control Category	3
Passive flue gas heat recovery	no	Responsiveness Category	1
Load or weather compensation	no		
Integrated thermal store present	no		
Pumps and Fans			
	Number Present	Room Thermostat	Inside Dwelling
Central Heating Pump	1	yes	yes
Oil Boiler Pump	1	yes	no
Gas Boiler Flue Fan	0		
Warm air heating or fan coil radiators present		no	
Heat Sources			
Primary			
[Product Details]		[Survey Details]	
Type	Gas and oil boiler	Heat %	
Manufacturer	Grant Engineering	Fuel	Heating Oil
Model	Vortex-Module 50-90	Heats water	Yes
Seasonal Space Heating Efficiency	95.0	design flow temp	
Efficiency Adjustment Factor	1	daily operation	
	back up space heater fuel		
	back up space heater efficiency		
	back up water heater fuel		
	back up water heater efficiency		
Secondary			
[Product Details]		[Survey Details]	
Type	Closed Room Heater	Heat %	10
Manufacturer	Stanley	Fuel	Manufactured Smokeless Fuel



<b>Model</b>	<b>Oisín SF NB Stove</b>	<b>Heats water</b>	<b>n/a</b>
<b>Seasonal Space Heating Efficiency</b>	<b>77</b>	<b>design flow temp</b>	
<b>Efficiency Adjustment Factor</b>	<b>n/a</b>	<b>daily operation</b>	
		<b>back up space heater fuel</b>	
		<b>back up space heater efficiency</b>	
		<b>back up water heater fuel</b>	
		<b>back up water heater efficiency</b>	

## Water Heating

Showers & Baths		
<b>Bath</b>	yes	
<b>Shower 1</b>		
<b>Type</b>	Mixer	waste water heat recovery efficiency
<b>Mixer Type</b>	Vented Hot Water + Pump	waste water heat recovery utilisation factor
<b>Flow rate [l/m]</b>	12	<i>Default</i>
<b>Flow restrictor</b>	no	

Options			
<b>Distribution Losses</b>	yes	<b>Supplementary water heating</b>	no
<b>Storage Losses</b>	yes	<b>Combi boiler</b>	no

Storage			
<b>Hot water storage indoors</b>	yes		
<b>Cylinder type</b>	Cylinder, indirect		
<b>Storage volume [litres]</b>	95		
<b>Manufacturer's declared loss available</b>	no	<b>Insulation type</b>	Factory
<b>Make and Model</b>		<b>Insulation thickness [mm]</b>	30
<b>Declared Loss</b>			
<b>Primary circuit loss type</b>	Boiler with uninsulated pipework and with cylinder thermostat		

<b>Cylinder thermostat</b>	yes
<b>Cylinder heated by boiler with separate time control of DHW</b>	yes
<i>Is there a separate timer for heating the store</i>	
<i>Is store in an airing cupboard</i>	
<b>Low water usage (&lt;125 l/p/d)</b>	no

**Temperature Factor Unadjusted**      0.6  
**Temperature Factor Multiplier**      0.9

Solar
Not applicable

Heat Source
Grant Engineering - Vortex-Module 50-90 automatically filled from space heating

### Lighting

<b>Is lighting design known</b>	no	<i>Leave unticked</i>
<b>Halogen Lamp LV</b>	4	
<b>LED/CFL</b>	14	

### Renewables

Not applicable

### Results

#### Dwelling Dimensions

	Area [m <sup>2</sup> ]	Height [m]	Volume [m <sup>3</sup> ]
<b>Storey 1</b>	30.44	2.46	74.882
<b>Storey 2</b>	30.44	2.63	80.057
<b>Living Room [m<sup>2</sup>]</b>	8.75		

#### Building Fabric

	Area [m <sup>2</sup> ]		Heat Loss [W/K]
<b>Floors</b>	30.44	<b>Windows</b>	15.299
<b>Roofs</b>	31.61	<b>Plane Elements</b>	52.915
<b>Walls</b>	32.40	<b>Fabric</b>	69.091
<b>Doors</b>	1.85	<b>Total</b>	98.522
<b>Windows</b>	11.54		
<b>Total</b>	107.84	<b>HLI [W/Km<sup>2</sup>]</b>	1.618

#### Results Tab

<b>[Building]</b>	<b>Fabric Heat Loss</b>	69.09	W/K
<b>[Ventilation]</b>	<b>Ventilation Heat Loss</b>	29.43	W/K
<b>[Water]</b>	<b>Output from main water heater</b>	3060.36	kWh/y
<b>[Lighting]</b>	<b>Annual energy used for lighting</b>	170.41	kWh/y
<b>[Gains/Loses]</b>	<b>Annual space heating requirement</b>	2316.03	kWh/y

#### BER Results

	Delivered Energy	Primary Energy	CO2 Emissions
<b>Main Space Heating System, kWh/y</b>	2194	2414	597
<b>Secondary Space Heating System, kWh/y</b>	308	369	121
<b>Main Water Heating System, kWh/y</b>	3221	3544	876
<b>Supplementary Water Heating, kWh/y</b>	0	0	0
<b>Pumps, Fans, Electric Showers, kWh/y</b>	292	608	120
<b>Energy for Lighting, kWh/y</b>	170	354	70
<b>Total, kWh/y</b>	6186	7289	1783
<b>per m2</b>	101.61	119.73	29.29

## Case Study 2

**Notes:**