

Energy Communities Guide to the 2018 Technical Workbook

<u>April 2018</u>

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1.Technical Workbook

The technical workbook assists applicants submitting applications for the Energy Communities grants.

The workbook can be downloaded from the Project Dashboard section of the Project Evaluation

Platform (PEP): https://pep.seai.ie/

It consists of a number of tabs that must be completed.

1) The **Application Tab**, which contains information that must be copied into the main application form.

2) The **Project Summary Tab**, which contains the administration, details of the project and summarises the savings and cost information of all the project components.

3) The **Domestic Energy Credits Tab**, which contains the details of the domestic projects.

4) The **Non-Domestic Tab (s)** which contains more detailed information about each individual non-domestic project component.

Keynote:

- White Cells are completed by the applicant.
- Yellow Cells are automatically completed by the workbook
- Green Cells are guidance notes for importing/exporting data to application form

The workbook is password protected and only White Cells can be accessed by the user.

A Non-Domestic Tab is completed for each non-domestic project in the application. These are summarized in the Project Summary Tab.

2. Application Tab

The Application tab is automatically completed by the workbook. It provides details to be copied into the main application form.

The Application Tab is divided into 3 sections.

The first section (Figure 1) provides details to be copied into Table C1 of the application form. It contains the current primary energy use and proposed primary energy savings, CO2 savings, % savings and Investment Cost per Primary kWh saved for the Domestic, Non-Domestic and Total

Savings.

	Data to be tra	ansferred to correspond	ing table in SECTION C of P	EP application form		
Energy Form	Aggregate Currer	nt Annual Energy	Projected Aggre	gate Annual Energy Savings Dire	ctly Attributable to the	Project
		Euro		Euro	kg CO ₂	% Savings
	kWh	(excl. VAT)	kWh	(excl. VAT)		
Electricity	-	€0.00	-	-		
Thermal	-	€0.00		-	-	0.0%
Fleet (vehicles) + Renewables	-	€0.00	-	-		
Residential - Non Energy Poor	-	-		-		0.0%
Residential - Energy Poor	-	-	-	-		0.0%
Total	-	€0.00	-		-	0.0%

Figure 1

The second section (Figure 2) details the costs associated with each project type. This is copied to section A.3 to A.3.2 of the application form. Where the applicant is eligible for VAT, the VAT figure is also copied to Section A.3.2 of the application form.

							Overvie	¥ - Costs
	Project Costs (Exclusive of ¥AT)					Project Costs	0.00
Project Name	Project Costs	Project	Domestic BER	Non Domestic	Non Domestic		Project Managment	10.00
		Managment	costs	Design Fees	M&¥ Fees			
	Euro (I) ez ¥AT	Euro (I) ez VAT	Euro (I) ez VAT	Euro (I) ez VAT	Euro (I) ez ¥AT		Domestic BER costs	0.00
Energy Rear Homes (Least Authority	10.00	10.00	10.00				Non Domostia Docian	10.00
Energy Foor Homes : Eocal Additions	10.00	10.00	10.00				Fees	10.00
Energy Poor Homes : Housing Association	10.00	10.00	10.00				Non Domestic M&V	10.00
Energy Poor Homes : Private	0.00	10.00	0.00				Eligible VAT Expenditure	
Non-Energy Poor Homes : Local Authority	[0.00	10.00	10.00				Total Eligible Costs	10.00
Non-Energy Poor Homes : Housing	10.00	10.00	0.00				Overview	- Funding
Non-Energy Poor Homes : Private	0.00	10.00	10.00				Grant	-
Other Community buildings & services	10.00	10.00		10.00	10.00		%	#DIV/0!
Educational / Library / Cultural	10.00	10.00		10.00	0.00		KWh	
Public Sector Buildings & Services	10.00	10.00		10.00	10.00		3% Bonus PM	
Sports & Leisure Centres	10.00	10.00		[0.00	10.00		Grant incl bonus	•
Private Sector Buildings	10.00	10.00		10.00	10.00		Funding Bro PM.BER.	eakdown (incl Other,VAT)
							Non Domestic	
TOTAL	10.00	10.00	10.00	10.00	10.00		Residential - Non Fuel	
							Residential - Fuel Poor	
							Residential Deep Retrofit	
							Upgrades - Non Fuel	
							Upgrades - Fuel Poor	

Figure 2

The third section (Figure 3) details the beneficiaries of the grant. This is copied to section D4 of the application form.

TABLE D4:	Please ensure all bene	eficiaries listed below a	re also listed on the Applic	cation form section D.4				
Gran	it Beneficiary							
Beneficiary	Grant	% of Total Grant	Total Eligible Costs	% grant	Beneficiary	Beneficiary Name	Domestic	Non Domestic
	Euro (I)						Cost	Cost
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	1	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	2	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	3	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	4	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	5	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	6	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	7	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	8	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	9	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	10	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	11	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	12	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	13	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	14	Enter Name of Beneficiary	-	-
Enter Name of Beneficiary	10.00	#DIV/0!		#DIV/0!	15	Enter Name of Beneficiary	-	-
TOTAL	€0.00		€0.00	#DIV/0!				

Figure 3

3. Project Summary Tab

The Project Summary tab gives administration details for the project and summarizes all the energy savings from the various components of the project.

The **Project Summary tab** is divided into two sections. The administration area shown in Figure 4 contains information relating to the applicant. The detailed table shown in Figures 5, 6, 7 and 8 summarizes data from the various projects.

The administration details (Figure 4) is divided into three sections as follows:

Better Energy Communities Pro	ogramme 2017	SEAI Refere	nce	1
Project Name				
Grant Beneficiaries	Erine Name of Beneficiary Erine Name of Beneficiary	6 Enter Name of Beneficiary 7 Enter Name of Beneficiary 8 Enter Name of Beneficiary 9 Enter Name of Beneficiary 10 Enter Name of Beneficiary	11 Enter Name of Beneficiary 12 Enter Name of Beneficiary 13 Enter Name of Beneficiary 14 Enter Name of Beneficiary 15 Enter Name of Beneficiary 15 Enter Name of Beneficiary	16 Inter Name of Bearficiary 13 Inter Name of Bearficiary 14 Inter Name of Bearficiary 15 Inter Name of Bearficiary 26 Inter Name of Bearficiary 27 Inter Name of Bearficiary
	Where there is mos	re that 20 Beneficiaries please contact SEAF		No of Beneficiaries limited to: 10
Select No of Non Domestic Projects (1 to 50)	Where there is more that 30 Non 0 control SEA	Amestic projects please		

Figure 4

1) The Unique SEAI Reference is completed for each SEC grant application.

2) The second section must be completed detailing each of the beneficiaries of the grant. This is limited to 10 beneficiaries. Where an applicant has more than 10 beneficiaries, please contact SEAI to seek approval and arrange for additional cells to be unlocked.

3) In the third section, the applicant selects the number of Non-Domestic projects proposed in the application. A non-domestic tab must be completed for each Non-domestic building/ project where an upgrade is proposed. For example, by selecting four Non-Domestic projects, four Non-Domestic tabs will appear that must then be completed. Where an applicant has more than 30 Non-Domestic projects, please contact SEAI to seek approval and arrange for additional cells/ tabs to be unlocked.

The summary data is divided into three sections as follows:

	Non Domestic Project Location		Current P	Primary Annual En	ergy Use	Current Cost of Energy Use				
	Values automatically brought in from "N	on Domestic 1 - 20" sheets	Current	Current	Current Fleet	€ Current	€ Current	€ Current		
	Facility Name	Project Category	kWh	kWh	Use kWh	Electrical Use	Thermal	Fleet Use		
1	GAA Club A	Other Community buildings & serv	75,000	600,000	-	6,000.00	60,000.00	-		
2	Library B	Educational / Library / Cultural	750,000	-	-	60,000.00	-	-		
3	Leisure Centre C	Sports & Leisure Centres	100,000	100,000	-	8,000.00	10,000.00	-		
4	Retail Outlet D	Private Sector Buildings	250,000	100,000	-	20,000.00	10,000.00	-		
	TOTALS		1,175,000	800,000	-	94,000.00	80,000.00	-		
	Domestic Project Location		Current Primary Annual Energy Use	Current Cost of Energy Use						
	Values automatically brought in from "I	Domestic Energy Credits"	Current Energy	€ Current						
	Туре		Use kWh	Energy Use						
1	Fuel Poor Dwelli	ngs	1,818,750	130,040.63						
2	Non Fuel Poor Dwe	llings	727,500	52,016.25						
Total			2,546,250	182.056.88						

Figure 5

Figure 5 imports the current primary energy use and energy costs from the Domestic Energy Credit Tab and each of the Non-Domestic Tabs completed. The applicant has no inputs in this section.

· · · · · · · · · · · · · · · · · · ·	etter Energy Communities Programma Transfer south for table A2 in app	- Non Dornastie Co Faction Jame				headdara		Project Cost	Fraction of Haldo ANT	Scient Wessammer	Galery article we	Ocaies Four	Fraction of Blacks WT	MMC Trees	Fraction of Bibble Will	Total Robert Cart	reactor.	3Dt Kalica
	Koleccastovaticalis integrati initiani	Non-Dowortic Takes		Nada			Internet		edynapilit (Knamer exemplier inter scienting	Technics of Singlet- 25 Reprint 2000	orie distanti front ne warepete were to better	Notineenaa Veluce-	Card adjusting Resonant menungkan dalam menungkan dalam		any angle (terraral mension him sanalari			
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1. C.	Energy Poor Hones : Local Authority	na	35%	23%			BATER BORD I		0.10		8.2		0.16					
2	Not Cregy Poor Hares : Prives	66	35%	271			Part Materia	-	0.125		9.2		0.15		1			
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	Energy Poor Homes : Local Authority	10	178	25			ACCUMULTANCES		0.175		1.0		0.14		(
3	Energy Floor Hanes . History Asso	(Yo)	6375	21		1 1	Erter Name a		9.157		9.2	5	0.35					
	Energy Poor Hansa: Housing Asso	s nu	d0%	2%			Date Barrow	-	0.125		2.3	a	0,15		1		2	
2	East Brange Providences - Princip	Te-	605	25			Term Balance		0.685	 	42	4 -	645		4		4 7	
	hor-thegy hoor Harriss (Housing -	No.	80%	21			Later Baser of		9.375		92		0.23					
	Hos-Energy Poor Homes : Local Act	hna	45%	25			a artic hances		9.112		2.4		0.22					
	Erreg Par Harry Finning Jone	- No	60%	34			E Provi Gamera	-	0.125		8.5	•	0.35		-			
-9	Energy Poor Homes : Housing Asso	5 Ma	60%	36		1	falls frames	-	0.15	 	42	4	0.53					
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10	Energy Poor Human : Housing Asso	1 m	SON	36			Erier Kamers	1 1	0.170		8.2	• ·	0.33					
3	Energy Poor Homes : Enusing Asia	- 140	50%	25			Ermr Spence	1	0.125		9.2	8	0.12	_	1			_
Data learn Donnes for Learning Condition	Inda Fare Ecompositions							-										

Figure 6

The next section (Figure 6) contains data relating to the costs of proposed upgrades.

1) For the Non-Domestic Costs, the project cost is imported from each of the Non-Domestic Tabs. The applicant can then add VAT, Project Management, Design Fees and M&V fees as applicable. The applicant also outlines the % Grant being requested and the beneficiary of the grant for each of the Non-Domestic projects. **Note:** For Measurement and Verification costs, the costs of the equipment are placed as projects costs in the Non-Domestic Tab. However, the cost of producing the Measurement and Verification report should be entered as a cost under Project Management Cost.

2) For the Domestic Costs, the applicant must select the Residential Category, which subsequently details the maximum % funding possible, the applicant then completes the % funding requested. Where the % funding requested is greater than the maximum % funding available the grant amount is defaulted to zero.

	Better I 7	Energy Communities Programme ransfer costs to table A3 in appli	- Domestic Costs ication form			No of Hom	es		Beneficiary		
	Address	Project Category	Deep Retrofit House	Maximum % funding possible	% funding requested	No of Units - Energy Poor	No of Units - Total	Project Management Included		Name of Beneficiary	
1		Non-Energy Poor Homes : Local Authorit	No	35%	ær:			Yes	1	Enter Name of Beneficiary	
2		Non-Energy Poor Homes : Private	No	35%	æ.			No	2	Enter Name of Beneficiary	
3		Energy Poor Homes : Local Authority	No	35%	0%	-		No	1	Enter Name of Beneficiary	
4		Energy Poor Homes : Local Authority	No	35%	0%			No	1	Enter Name of Beneficial	
5		Energy Poor Homes : Housing Association	No	50%	as			No	1	Enter Name of Beneficial	
6		Energy Poor Homes : Housing Association	No	50%	as			No	1	Enter Name of Beneficial	
7		Non-Energy Poor Homes : Private	No	3507	0%			No	1	Enter Name of Beneficial	
8		Non-Energy Poor Homes : Housing Asso	No	50%	0%			No	1	Enter Name of Beneficial	
9		Non-Energy Poor Homes : Local Authorit	No	35%	0%			No	1	Enter Name of Beneficial	
10		Energy Poor Homes : Housing Association	No	50%	as			No	1	Enter Name of Beneficiar	
11		Energy Poor Homes : Housing Association	No	50%	<i>0%</i>			No	1	Enter Name of Beneficiar	
12		Energy Poor Homes : Housing Association	No	50%	0%			No	1	Enter Name of Beneficiar	
13		Energy Poor Homes : Housing Association	No	50%	<i>0%</i>			No	1	Enter Name of Beneficial	
14		Energy Poor Homes : Housing Association	No	50%	ltr:			No	1	Enter Name of Beneficial	
	Data from Domestic Energy Credi	ts Tab for Comparison							1		

Figure 7

The applicant must then enter the Project Cost and the beneficiary of the grant under each residential category. The applicant can then add VAT, Project Management and Domestic BER costs as applicable.

	Values automatically brought in from "Non D sheets	Iomestic 1 - 20" and "Domestic"	Electrical	Sectrical Thermal Savings Savings	Fleet Series	Renewable s Sanisor	Carbon	Payback	Electrical	Thermal	Fleet Savings	Renewable	Energy Fredity	Costper
	Facility Name	Project Category	£₩h	kWh kWh		kWh	KgCo ₂	Investment	savings I	Swrings I		Savings I	chergy creats	Primary kWh
1	644 <i>0</i> 46 <i>4</i>	Other Community buildings & a	-	100,000		-	20,500.00	12.09	-	10,000.00	-		100,000	1.01
- 2	Library B	Educational/Library/Outural	10,000			-	520000		2.000.00				25.000	0.00
- 3	Latrane Cantra C	Sports & Lucinova Claminas		10,000			2,050.00		-	1,000,00		-	10,000	0.00
- 4	Anat Golo 2	Akura Secur Bilahge	10,000	10,000			7,330.00		2,000.00	1,000,00		-	35,000	0.00
	Floridantial	Non Energy Poor						TE.93		5,345.53			88,750	142
	Australia	Energy Ross						14.14		25,382.50			355,000	1.01
	TOTALS		20,000,00	120,000,00			35,8000	28.24	4,000,00	18,345.83	100 A		813,750	0.96

Figure 8

The Final section (Figure 8) contains a summary of all the data relating to the energy savings for each of the domestic and Non-Domestic projects, including delivered energy savings, CO2 savings, running cost savings, payback, energy credits and Cost/ kWh.



Figure 9

There is also a comparison table (Figure 9) between the number of houses split between Energy Poor and Non-Energy Poor for the Domestic Energy Credit Tab and Project cost inputs. This must be corrected where an error appears.

4. Domestic Energy Credit Tab

The Domestic Energy Credit tab is where the applicants provide details of each of the domestic projects proposed in the application.

	_		Letter Corig	e Commanities Program	rae - Energy Crecity Calculat	¥.										
								Usges fo information								
										ne of unru Upgrede	Hand Proop Prior Harriso Upped a		tatal cristia Desig Poor			
Project Entry: Supplier	True Tage	No efficients		Sic Address Une 1		Henes	Use Utility's	Vessar	000000	Inglemented	implemented	AT COMPT	Howes	Cert	ALF 1998	UP costs
				rp. Norrview Cotoer				http://woldfieeouries				_				
1 Please Select	ADMITTHE		D Housing Association	Cardelertin Cr			3	C Combined Patric Upgrade	640		9 4	1 1	•	41.0	43.00	60.00
								Care Mound Faile to Mr. Heating Systems & (OB)/Das								
								heller)	1990		9 0	1 1	9 1	0.1	40.00	60.00
								constance retiries the watering system adjects young/			1					
								Bernel	18750		0 4	1	9 1	42.0	40.00	02.03
								Combined for this with Heating Sectors (NEO): Sec								
								to with Soler Trenter	1425		9 9	1 1	• •	411	40.00	60.00
								constaned rating with reading system index at Pumpy								
								Bernassi + Botar The Init	1790		D				23.03	20.00
								Sist, Applicable		•			• •	,	40.00	60.00
								Nut.Apphable					• ۱	2	82.00	00.00
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								S at Application					•)	40.00	60.00
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								Sitter walls the accredit	In the Cranits							
								Later diterrate messure data b						2	40.00	60.00
								Table Providers of Condition)	43.00	60.00

Figure 10

The **Domestic Energy Credit Tab** is divided into 8 sections that allows 8 different project types to be entered. Figure 10 shows details that must be completed for each project.

1) The applicant must select the "Energy Supplier" from a drop-down menu to which the

energy credits will be assigned (see Figure 11):





. .

2)The dwelling type is selected from a drop-down menu as shown in Figure 12:



Figure 12

3) The number of dwellings that are to be upgraded are entered.

4) The ownership of the dwelling is entered (see Figure 13):

	Ownership	Site Address Line 1	Site County
		eg. Riverview Estate	
D	Housing Association	 stlekerrin Ct 	
	Local Authority		
	Housing Association		
	Private		

Figure 13

5) The address and county of the project are provided by the applicant.

6) The number of energy poor dwellings that are to be upgraded are entered.

7) The existing primary energy use is automatically completed based on the number and type of dwellings.

8) The applicant then selects the upgrade work proposed from a drop-down menu, this automatically calculates the "Credits per Measure", as shown in Figure 14.

Measure	Cr	edit of easure	No of Units Upgrade Implemented	No of Energy Poor Homes Upgrade Implemented	Total Credits All Homes	Total Credits - - Energy Poor Homes	Cost	NEP cost	EP costs
Published Measures									
Combined Fabric Upgrade	Ŧ	9400		; 5	4700	D 47000	€10,000.00	€0.00	€50,000.00
Combined Fabric Upgrade	~								
Combined Fabric with Heating System A (Oil/Gas Boiler)		13100	ç	; 5	6550	65500	€13,000.00	€0.00	€65,000.00
Combined Fabric with Heating System 6 (Heat Pump/ Biomass) Combined Fabric with Heating System A (Dil/Gas Boiler) + Solar Them	n								
Combined Fabric with Heating System B (Heat Pump/ Biomass) + Sola	r	16750	5	; 5	8375	0 83750	€18,000.00	€0.00	€90,000.00
Roof Insulation									
Internal Diriching Wall Insulation	¥	14150	5	; (7075	o o	€15,000.00	€75,000.00	€0.00
Combined Fabric with Heating System B (Heat Pump/									
Biomass) + Solar Thermal		17800	9	; (8900	0 0	€20,000.00	€100,000.00	€0.00
Not Applicable		0				0 0		€0.00	€0.00
Not Applicable		0				D 0		€0.00	€0.00
Not Applicable		0				0 0		€0.00	€0.00
Not Applicable		0				0 0		€0.00	€0.00
Not Applicable		0				0 0		€0.00	€0.00
Not Applicable		0				0 0		€0.00	€0.00
Alternate Measures	En	ter Credit							
Enter alternate measure details						D 0		€0.00	€0.00
Total Number of Credits					35600	0 196250		€175,000.00	€205,000.00

Figure 14

9) The applicant then enters the number of units and energy poor homes within the project that will be upgraded with the selected measure. The tool automatically calculates the total credits for the number of units and energy poor homes.

10) The applicant also enters the average cost for the measure (average across all the dwellings within the project). For example, if wall insulation is the proposed upgrade and the cost is $\leq 20,000$ for 10 houses, then $\leq 2,000$ per house is entered.

11) Applicants can also enter an "Alternate Measure", this is a measure that is not included in SEAI's published Domestic Credits, for example Photovoltaics. The applicant enters details of the measure and the associated credits and these must be verified during the evaluation process.

The total energy credits and costs are automatically completed based on the measure and number of dwellings.

Result of the table is calculation credits	n of residential	
Non Energy Poor Ho	me	
Existing Energy Use	181875	kWh
Existing Energy Costs	13004	€
Total Number of Credits	159750	kWh
Energy Savings	11422	€
Cost of Measures	175000	€
Energy Poor Hom	•	
Evisting Energy Lise	kWh	
Existing Energy Costs	19506	€
Total Number of Credits	196250	kWh
Energy Savings	14032	€
Cost of Measures	205000	€
No of Homes	25	

Figure 15

The closing section (Figure 15) contains a summary of the data entered for the non-energy poor and energy poor homes, including existing primary energy use, existing energy costs, energy credits and energy cost savings. The applicant has no inputs in this section.

5.Non-Domestic Tab

The Non-Domestic tab is where the applicants provide details of each of the Non-Domestic projects proposed in the application.

The Non-Domestic tab is divided into 3 sections.

- The project summary section (Figure 16) details the existing building and current energy use.
- The energy savings section (Figures 18 & 19) details the proposed upgrades.
- The occupancy section (Figure 20) details the current occupancy use in the building.

Project Category	Public Sector Buildings & Services			
Fadlity Name	County Hall			
Address	1 Main Street, Mullingar, Wes	t Meath		
Organisation	West Meath County Cou			
	County Hall building which contain offices and public			
Brief description of the facility	Basement carpark below the	building.		
Year of Construction	1970			
Floor Area of building	10500			
Occupancy Hours (hrs)	3,120.00			
Current Annual Electrical Use kWh/yr	1150000	2875000	Primary Annual Ele	ctrical Use kWh/yr
Current Annual Thermal Use kWh/yr	2250000	2250000	Primary Annual The	rmal Use kWh/yr
Current Annual Fleet Use kWh/yr	0	0	Primary Annual Fle	et Use kWh/yr

Figure 16

1) The Project Category is selected from a drop-down menu:

Project Category	Public Sector Buildings & Services	₹		
	Other Community buildings & services			
	Educational / Libraru / Cultural			
Facility Name	Public Sector Buildings & Services			
Addroce	Sports & Leisure Centres			
Address	Private Sector Buildings			

Figure 17

2) The Facility Name, Address, Organization and description of facility are provided by the Applicant for each Non-Domestic project.

3) The Year of Construction of the facility is an estimate of the building age.

4) The Floor Area of building is the total floor area of the facility and not just the area of the upgrade.

5) The "Occupancy hours" field is automatically completed (see Figure 19 for more details)

6) Current Annual Electrical, Thermal and Fleet Use should be taken directly from utility bills (or existing meter/monitoring systems) for the previous year. Fleet use is only required where proposed energy savings relate to fleet.

7) Primary Annual Electrical, Thermal and Fleet Use are automatically completed based on current energy use multiplied by the Primary Energy Factor.

Proposed Energy Upgrades							Electrical Savings kWh	Thermal Savings kWh
Catagory of Energy upgrade og. Lighting augerade, Attic Inscitation som Roof Ierulation, External Ionulation, Heat Pursy, Heating Controls etc	Description of Minimum Data Required for Existing Specification	Existing Specification	Description of Minimum Data Required for Proposed Specification	Proposed Specification	Additional Information	Triple E register Ref ID - where proposed		
Insulation Upgrade	Element to be upgraded (wals, floor etc.) Existing U Value of each element (W/m2K) Area of each element (m2)	Wall 20mm insul with conductivity of 0.025 1000m2	Proposed U Value of each element (W/m2K) Anex of each element to be Upgraded (m2)	Wall 100mm insul with conductivity of 0.025 1000m2			٥	25000
-	• •		• •				0	0
	•		•					
Fotal	-						0	25000

Figure 18

The energy savings section (Figures 18 & 19) is divided into four sections as follows:

1) The applicant must provide details of the proposed energy upgrades. The category of each upgrade should be identified, for example insulation upgrade, lighting upgrade etc.

The existing specification and proposed specification of the upgrade is also completed by the applicant, including the reference ID for the Triple E register where proposed. The tool gives the minimum data that must be provided for each proposed measure:

Measure:	Existing Specification	Proposed Specification-
Aeration Upgrade	Provide technical data of existing system	Provide technical data of proposed system
AHU	Flow Rate of Unit (m3/s) Motor Size (kW) Variable Speed Drive Yes/ No Heat Recovery Present Yes/ No Efficiency of Heat Recovery if present (%)	Flow Rate of Unit (m3/s) Motor Size (kW) Variable Speed Drive Yes/ No Heat Recovery Present Yes/ No Efficiency of Heat Recovery if present (%) Note: 1) Where the flow rate does not meet the existing specification design details need to be provided demonstrating reduced flow rate is applicable to the space. 2) Where a VSD is introduced, design details to be provided demonstrating conditions in space served by AHU can be maintained.
Biomass Boiler	Type of Heating System Efficiency of Existing System (%) Capacity of Existing System (kW)	Efficiency of Proposed Boiler (%) Capacity of Proposed Boiler (kW) % of heating/hw energy served by proposed boiler Note: 1) Where the capacity of existing system is unknown, the applicant must provide detail design showing that new system can meet demand of building. 2) Where capacity of new system is less than existing system, the applicant must provide detail design showing that new system can meet demand of building.
Heating Controls	Details of Time and Temperature controls	Proposed Time and Temperature Controls Schematic of heating arrangement showing proposed controls

Cooling Upgrade	Type of cooling system COP of existing cooling system Capacity of existing cooling system (kW)	Type of proposed cooling system COP of proposed cooling system Capacity of proposed cooling system (kW) Note: 1) Where the capacity of existing system is unknown, the applicant must provide detail design showing that new system can meet demand of building. 2) Where capacity of new system is less than existing system, the applicant must provide detail design showing that new system can meet demand of building.
Cooling Controls	Details of Time and Temperature controls	Proposed Time and Temperature Controls Schematic of heating arrangement showing proposed controls
СНР	Existing Heating System Capacity of Existing System Efficiency of Existing System	Heating Capacity (kW) Electric Capacity (kW) Heating efficiency Electric Efficiency Expected run hours of CHP

2) The applicant provides the proposed energy savings for each of the upgrades.



Figure 19

3) The applicant enters the kgCO2 per kWh for each element, for example for the thermal the applicant should adjust the figure based on which fuel is used oil, gas etc. Similarly, where renewable energy is introduced the applicant edits the CO2 figure based on what the renewable technology is replacing. For Solar Thermal, it would be based on heating fuel, for a wind turbine/PV it would be based on electricity. The tool will then calculate the CO2 savings for each of the energy upgrades. The applicant also enters the Cost per kWh for each fuel type. This should be based on the utility bills for the Non-Domestic project (i.e. the cost of the utility bill divided by the kWh for the bill). **NOTE:** The values currently entered are conservative based on High Energy Users, the applicant can use alternative costs from SEAI published fuel costs:

http://www.seai.ie/Publications/Statistics_Publications/Fuel_Cost_Comparison/

The running cost savings are automatically completed by the tool.

4) In section 4 the applicant enters the cost of the measure excluding VAT. Based on the data completed by the applicant the tool calculates the payback, energy credits and Investment Cost/ Primary kWh saved.

For the occupancy section (Figure 20) the applicant provides details of the typical hours of occupancy for each day during the heating and non-heating season.

occupancy rates of subject building (hours)										
		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	sub-total	total
heating season (oct - march)	No of Hrs	12	12.00	12.00	12	12.00	0	-	60.00	1,560.00
non-heating season (april - sept)	No of Hrs	12	12.00	12.00	12	12.00	0	-	60.00	1,560.00

Figure 20