Guide to Completing the Technical Assessment Form

Support Scheme for Renewable Heat (Grant Scheme)

May 2018 Edition

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Support Scheme for Renewable Heat
(Grant Scheme)

1. INTRODUCTION

1.1 This document is a guide to completing the Technical Assessment Form for the grant component of the Support Scheme for Renewable Heat.

1.2 The Technical Assessment Form is available on the SSRH page on the SEAI website. The duly completed Technical Assessment Form must be submitted via e-mail with the required documentation to ssrh@seai.ie within 10 working days of the Application Form being submitted to SEAI.

1.3 The purpose of the guide is to assist prospective applicants to complete the Technical Assessment Form.

1.4 This guide relates **solely** to the application for the Grant Scheme component of the SSRH Scheme.

1.5 Capitalised terms in this guide shall have the meaning given to them in the Grant Scheme Operating Rules and Guidelines, unless the context otherwise admits. The Grant Scheme Operating Rules and Guidelines are available on the SSRH page on the SEAI website.

2. DOCUMENTATION REQUIRED TO SUBMITTED WITH THE TECHNICAL ASSESSMENT FORM

2.1 Each applicant will need to provide SEAI with the following documentation by e-mail to ssrh@seai.ie within 10 working days of submitting the Application Form to SEAI:

3. Document Description

No.	Document Name	Document Description
1	**Declaration of Solvency**	Each applicant will be required to complete and deliver a declaration of solvency in the form prescribed by SEAI to SEAI. The Declaration of Solvency should be signed by the applicant or CFO (chief financial officer) of the applicant.
2	**Declaration of Funding**	Each applicant complete and deliver a declaration of funding in the form prescribed by SEAI to SEAI. The Declaration of Funding should be signed by the applicant or the CFO (chief financial officer) of the applicant.
3	**Declaration of Establishment**	Each applicant complete and deliver a declaration to confirm that it has an establishment or branch in the State, in the form prescribed by SEAI to SEAI. This Declaration of Establishment should be signed by the applicant or CFO (chief financial officer) of the applicant.
4	**Eligible Building Declaration**	Each applicant must submit a declaration to SEAI to confirm that the Eligible Building and is not used for domestic purposes. This Declaration should be completed by the applicant or CFO (chief financial officer) of the applicant.
5	**Letter of Authorisation**	This letter is required if a nominated contact, rather than the applicant himself/herself/itself, is submitting the Technical Assessment. In this letter the applicant will need to authorise the nominated contact to submit the application
6	**Tax Reference Number and Documentary Evidence**	Each applicant must provide their tax reference number and documentary evidence confirming their tax reference number to SEAI;

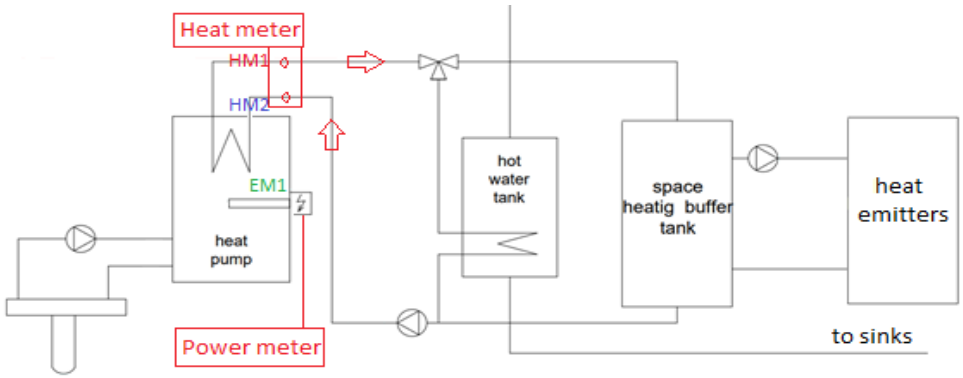
7	**Labelled Block Diagram with basic flow directions**	Each applicant must submit a labelled diagram of their Heating System or proposed Heating System. The diagram should identify (1) each heat source connected to the heating system, (2) the heat pump and Related Ancillary Equipment for which grant funding is sought, (3) each Eligible Building and Eligible Space (4) the metering equipment; and (5) any other information required to give a full understanding of the Heating system and heat use.
8	**BER Certificate and Advisory Report**	Each application must submit a BER Certificate and Advisory Report for each Eligible Building.
9	**Technical Assessment Form**	Each applicant must complete and deliver a duly completed version of the Technical Assessment Form to SEAI.
10	**Declaration of Incentive Effect**	This Declaration is only required from Large Enterprises. Each applicant must satisfy SEAI of the incentive effect of their Project.

4. GUIDE TO COMPLETING THE TECHNICAL ASSESSMENT FORM

To assist applicants to complete the application form for the Grant Scheme, contained in the **Annex 1** is a guide to answering the questions on the Technical Assessment Form. The question numbers in Annex 1 match the question numbers in the Technical Assessment Form.

5. QUERIES

Queries in relation to the Scheme can be e-mailed to ssrh@seai.ie. Alternatively, you can contact a member of the SSRH team on (01) 808 2100.

No.	Question	Response
A. General Information		
1	**Provide one of the following documents to confirm that the building is non-domestic: (1) planning permission issued by a local authority; or (2) rate receipts from the Local County or Town Council**	Please upload either of the documents requested: (1) planning permission from the appropriate local authority; or (2) rate receipts from local authority.
2	**Please provide schematic diagrams for the proposed heating system (including the proposed heat pump and any additional heat sources, heat emitters, circulating pumps, and metering equipment).**	Please insert a schematic diagram for the proposed Heating System. This should include (1) the heat pump (2) all other heat sources (3) Appropriate Metering Equipment (4) heat emitters and (5) circulating pumps. A sample Schematic Diagram is below: 
3	**What type of structure or structure(s) will benefit from the heat generated by the proposed installation?**	Please select the type of structure that will benefit from the heat pump, from the drop down menu. Only Eligible Spaces in Eligible Buildings will receive grant funding. If you are not sure if you meet the Eligible Space and/or Eligible Building eligibility criteria please contact the SSRH Team.

No.	Question	Response
4	**If you are installing a renewable heat generation technology in a new building, what is the cost of the fossil fuel equivalent?**	This question is only relevant to a new heat sources in buildings where a replacement or supplemental heat sources is not being requested. If you are installing a new heat source in a new building, please insert the cost of a fossil fuel equivalent heat source in the space provided in the Technical Assessment Form (inclusive of VAT). The fossil fuel equivalent should have an equivalent heat output to the heat pump for which you are seeking grant funding.
5	**What is the area of the structure in meters squared?**	Please insert the area of the Eligible Space that will benefit from the Eligible Heat in metres squared.
6	**Are you replacing an existing fossil fuel heat source with the proposed heat pump?**	Please select "yes" or "no" from the dropdown menu, to indicate whether or not the heat pump will replace an existing fossil fuel heat source.
7	**If YES please include the make, model, capacity and fuel types of the existing heating source.**	If you have selected "yes" to confirm that you are replacing an existing fossil fuel heat source, please provide (1) the make (2) the model (3) the heat output capacity and (4) the fuel type in the space provided in question 7 of the Technical Assessment Form.
8	**If you are not replacing an existing heat source, is this a new building?**	Please select "yes" or "no" to indicate whether or not the heat pump will be installed in an Eligible Building that has yet to be constructed or is a recently built Eligible Building that has not yet been fitted with a heating system.
9	**If you are not replacing an existing fossil fuel heat source and the building or space is not a new build, please explain why the heat pump is needed and what it will be used for**	Our intent with this question is to find out if: 1. If the equipment, that heated the structure previously was fuelled by a renewable heat source. 2. Is being converted from a use that didn't require any heating i.e. (dry storage warehouse) to a heated warehouse for furniture etc.

No.	Question	Response
10	**Select how the heat generated by your installation will be used from the dropdown menu. All three options can be applicable.**	Please select one or more of the Eligible Purpose that the heat generated by the heat pump will be used for. Please bear in mind, when completing this section of the Technical Assessment Form that the heat used for the Eligible Purpose must be Eligible Heat. If the heat being used for any of purposes outlined below is not Eligible Heat, the Eligible Purpose should not be selected. The options available are (1) Space Heating (2) Water Heating (3) Process Heating. For more information on Space Heating, Water Heating, Process Heating and Useful Heat, please consult the Grant Scheme Operating Rules and Guidelines.
11	**Are you planning to install any back up or parallel heat source in connection to the proposed heat pump?**	Please advise SEAI whether a backup or additional heat source will be operated, by selecting "yes" or "no" from the drop down menu. If a back-up or additional heat source will be connected to the Heating System that the heat pump is connected to, please provide the (1) make (2) model (3) heat output capacity and (4) fuel type for each such heat source in the space provided at A,B and C in section 11. If further heat sources are connected to Heating System and there is not enough space in Section 11 to allow you to insert the relevant information, please submit with an annex with this information together with the Technical Assessment Form.
12	**Do you intend to supply heat to more than one structure?**	Please advise whether or not you intend to supply Eligible Heat to more than one Eligible Building, by selecting you or no from the drop down menu.
13	**If NO, please provide a brief description of the structure, for example (Office building)**	If you select "no" in response to question 12 to indicate that Eligible Heat will be supplied to one Eligible Building only, please provide a brief description of the Eligible Building, which will receive the benefit of Eligible Heat. An example of a suitable response would be "Office Building". Please bear in mind that domestic heat use, other than in connection with a District Heating Scheme, will not be eligible to receive grant funding.
14	**If YES, Please provide a description of the structures in which the heat will be used.**	If you select "yes" in response to question 12 to indicate that Eligible Heat will be supplied to more than one Eligible Building, please provide a brief description of each Eligible Building's, that will receive Eligible Heat, use. An example of a suitable response is "Building One - Office Building (heat pump located in Building One)" " Building Two – Doctors' Surgery" . Please bear in mind that domestic heat use, other than in connection with a District Heating Scheme, will not be eligible to receive grant funding. If there is more than one Eligible Building or Eligible Space benefitting from Eligible Heat, please provide the location of each Eligible Building.
15	**Is the structure fully enclosed on all sides?**	Select "yes" to indicate that each Eligible Building(s) is/are wholly enclosed. Select "no" if each Eligible Building is not wholly enclosed.

No.	Question	Response
16	**If the structure or structures are not fully enclosed please describe the temporary or permanent openings in each structure.**	If the Eligible Building(s) are not fully enclosed, please describe each of the openings and advise whether each opening is temporarily or permanently open.
17	**Answer only if you selected NO for question 14 above, What are the purpose that each opening serves?**	Please indicate what purpose each opening identified in section 16 of this Technical Assessment Form serves.
18	**Please insert the appropriate u-values for your building in the table below. The U-Values for your building will be contained in your BER.**	Please insert the appropriate u-values (determined in accordance with Part L of the 2008 Building Regulations and displayed a BER Certificate and Advisory Report) in respect one of the buildings that you understand will be qualify as an Eligible Buildings. If Eligible Heat is being supplied to more than one building, please provide an annex detailing the u-values for each building in the format provided below, identifying the location of each building.
19	**Enter the nameplate efficiency in the case of a heat pump, enter the SCOP of your Heat Pump.**	Please insert the SCOP of your heat pump. The "% efficiency" relates to boilers and is not relevant to the Grant Scheme. We realise that heat pumps can have a different SCOP when heating water then the SCOP for heating space. We have provided two answer boxes for any applicants that will have either 100% water heating or 100% space or combined systems.
20	**Please insert details of eligible costs you are claiming below. Only costs which relate to the extra investment costs of installing a renewable heat source qualify as eligible costs for the purpose of the grant. Please explain why each item of equipment, external labour cost and project**	Please complete section 20 by providing an itemised list of costs that the applicant is seeking grant funding in respect of, under the appropriate heading. Each cost should be based on a quote and include the amount sought including and excluding VAT. Please ensure that the total amount sought does not exceed the amount claimed by the applicant in the Application Form. An understanding of what qualifies as an Eligible Cost is essential for the purpose of completing this section. Please re-read the section on Eligible Costs in the Grant Scheme Operating Rules and Guidelines in advance of completing section 20 of the Technical Assessment Form. Only extra investment costs required in connection with the installation of the heat pump will qualify as eligible costs, for the purpose of the Grant Scheme. Please ensure that you explain why itemised cost in Section 20 qualifies as an extra investment cost, under the appropriate headings.

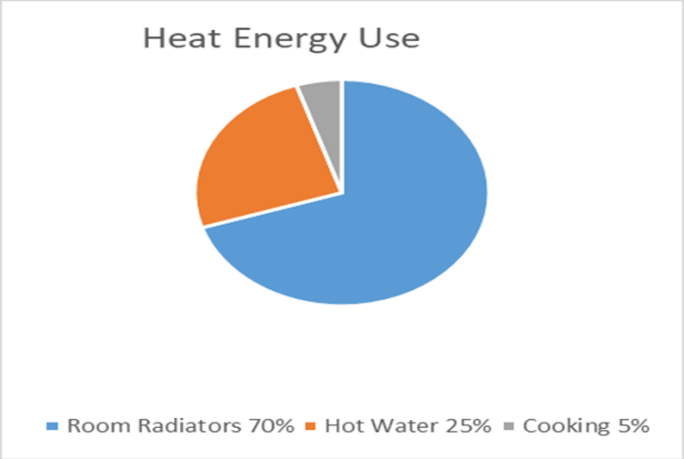
No.	Question	Response
	management costs claimed qualifies as an extra investment cost (i.e. a cost that has arisen by virtue of installing the heat pump rather than the fossil fuel powered heat source)	

21. Evaluation of Energy Efficiency – Baseline Heat Energy Performance

21A	**List your entire heating fuel consumption either through**	21A Describe the amount of heat fuel that you consume in your business over the period of one year. For systems without sub-metering installed, this would be most commonly achieved by compiling data from your fuel bills. The applicant must retain copies of the fuel bills used in

No.	Question	Response
	metering or compilation of fuel bills? Where metering is unavailable or historical data does not exist because the site is new or has recently received a major renovation, Estimate your potential fuel for heat consumption?	the event of a further inspection from SEAI for the duration of the scheme. Once you know how many litres of oil or gas you have purchased for your process or building you have to convert that figure into kWh by using the energy conversion rates available from SEAI. https://www.seai.ie/resources/seai-statistics/conversion-factors/ https://www.seai.ie/resources/publications/Commercial-Fuel-Cost-Comparison.pdf
21B	**State the efficiency of the current/proposed equipment?**	21B To calculate the baseline heat energy performance of your process or building you must multiply your energy purchased in the form of fuel, by the real-life efficiency of your boiler. Manufacturers recommend that their equipment operators carry out regular maintenance to ensure that the installed equipment is operating at the highest efficiency possible. If you operate an oil-fired heating system to supply heat to your process and the rated efficiency of the equipment is 85%, a slip in efficiency of 10% could cause you to purchase more fuel to supply the same heat for your process or building. This is an easy component of an energy baseline study to overlook. When you calculate your baseline heat energy performance state the results in MWh per year for continuity. For example, a hotel wants to work out their baseline heat energy performance. So, they look at the invoices in their files and see that they received 1,000 litres of liquefied petroleum gas (LPG) for running the boiler every week. This is easy to multiply out to 52,000 litres of LPG per year. Using the SEAI conversion data found in the link above the hotel manager can see that bulk LPG contains 7.09 kWh per litre.
21C	**State the results of baseline heat energy consumption in MWh per year?**	21C 52,000L of LPG per year at 7.09kWh per litre is 368,680kWh per year or 368.7MWh per year.
	22. Evaluation of Energy Efficiency – Energy Management	
22A	**Describe your energy management plan/statement**	22A All applicants are required to submit an energy management plan. An energy management plan is as individual as each site that it will be applied to. If you already have an energy management plan describe it to us. If you don't have an energy management plan yet, create one with the help of an outside expert if necessary.
22B	**What type of heat energy measurement tools do you use?**	22B Nearly all energy management plans consist of an element of energy use measurement that allows the operator to see the positive or negative effects that energy performance improvement actions will have on the process or buildings heat energy efficiency.

No.	Question	Response
22C	**State how your energy management plan/system allows you to see the positive or negative effects that system changes will have on overall efficiency?**	22C – D Continuing the same hotel example, the management could identify an individual to regularly collect heat use data and compile it for analysis. This will help identify variations in equipment performance especially when compared to other periods of similar occupation rates.
22D	**Demonstrate that you have access to the necessary expertise to design the energy management plan? (did you use an energy efficiency professional or in-house expertise?)**	
23. Evaluation of Energy Efficiency – Energy Efficiency Evaluation		
23A	**Combine the baseline heat energy performance and compare it to a list of all heat energy uses to create an energy balance study**	23A Energy balance study combines the baseline heat energy performance and compares it to a list of all heat energy uses. An energy efficiency evaluation should also include an annual energy consumption profile for the proposed project making assumptions of annual heat energy consumption costs. This is a good place to list potential/future energy efficiency actions and collate them into a project execution plan. Continuing the same hotel example, the management's designated individual could identify and rate the heat emitters in each room and any heat emitters in the common areas. An example would be if they have 50 radiators in the entire hotel and each emits and average of 1 kilowatt of heat per hour. With 50kWh per hour to keep things simple, imagine that all of the radiators are on half the time. 50kWhs X 12 hours X 365 days a year = 219,000kWhs or 70% of baseline heat energy performance 313,378kWhs. The hotel manager can compare the hotel's baseline heat energy performance to the following year and to other hotels of similar size using them as a benchmark. Once the baseline is prepared and the number of kWhs consumed per year has been calculated it is possible to compare output to any number of key performance indicators.
23B	**Include an annual energy consumption profile for the proposed project, if necessary making assumptions of annual heat energy consumption costs.**	31B We may have data from sub-metering or we may just have estimates, but we can work out that the other uses of gas on the system, for example hot water and cooking, come to 25% and 4% respectively.

No.	Question	Response
	This for all heat load connected to the heat pump/biomass boiler that you are looking for SSRH support for.	
		
23C	**Please provide a benchmark in respect of heat use in your sector. Provide the existing heat use per product (or per sqm) in your present installation and the estimated heat use per product (per sqm) for the proposed installation.**	Where available and appropriate, it is recommended that the proposed heat use compares favourably with benchmarks, best practice and/or key performance indicators appropriate to your application. A benchmark could be the amount of heat consumed, per unit output or unit area. Your businesses performance in this method of comparison should aim to rate as favourably as possible with similar industry participants, best practice and or key energy performance indicators. Applicants should ideally compare their own business where possible with identical businesses using identical equipment and producing identical amounts of product and seeing if they have used more or less energy to produce the same amount of product. In plain language if your business is squeezing oranges to make orange juice and your next-door neighbour has an identical factory using identical machines to make the same amount of orange juice per day, you can compare your key performance indicator which could be kWhs of energy consumed per litre of orange juice produced. In the absence of available published benchmarks that you feel are comparable to your business there are still options available. An applicant can find the closest relevant published benchmark and argue in their application why their business is different or at a disadvantage to the average competitor and make adjustments to your key performance indicator to more accurately compare it to a closely related benchmark. If

No.	Question	Response
		you squeeze lemons instead of oranges for example, they require the same amount of handling and effort but produce 33% less juice so it could be argued that the same kWhs for one litre of orange juice is comparable to 670ml of lemon juice.
24.	**Energy Efficiency Evaluation – Energy Performance Improvement Actions**	
24A	**List your energy performance improvement actions**	24A Energy performance improvement actions are clear and quantified improvement actions that will positively impact on the efficiency of the whole heating system. This could include improvements to the building fabric above the minimum required U-values. A low-cost energy performance improvement action could be achieved by simply getting a specialist to service your heat emitting equipment to improve its efficiency, or even by acting to lower your heat requirement by one degree. We want the applicant to list energy performance improvement actions and investigate the cost and effort required for each, compared to the benefit to heat energy efficiency they will bring.
24B	**Outline proposed energy savings as a result of your planned energy performance actions**	24B Calculate planned energy savings by finding out how much energy each action will save you. Estimating the amount of energy you will save by a planned action will be based on the action you plan and changes to your behaviour after the action has been applied. For example, there will be no energy saving if you install double glazing but don't reduce the amount of fuel you use. An upgrade to your building fabric will reduce the amount of fuel you will need to use to achieve the same level of comfort as before.
24C	**Carry out an economic analysis for each EPIA and prioritise those to be implemented. Investigate the cost and effort required for each action and compare it to the benefit to heat energy efficiency those actions will bring.**	24C Once you estimate the potential energy savings of an energy performance improvement action, you can work out the cost saving that action will give you. You should list each EPIA, the cost of implementing them and the associated financial savings. List these in order of payback period, investment cost or barriers to implementation.
24D	**Identify the most appropriate energy efficiency actions and create a plan that expresses your commitment to implementing them. (This**	24D Example plan: continuing the example, the same hotel wants to carry out some energy-efficiency improvement actions. The first step would be to identify all potential actions and assess them to identify 'the lowest hanging fruit', and implement these steps first. The easiest would be to put in place a culture of energy awareness by the hotel staff followed by turning down the thermostat by one or two degrees according to customer comfort levels. By keeping a closer eye on open windows or preventing the wasting of heat, there could be a reduction in the thermostat without a noticeable reduction in comfort levels. Additional insulation on piping or increasing the building fabric U-values by a

No.	Question	Response
	will take the form of a target schedule)	myriad of methods are also considered energy improvement actions. Once again, the hotel manager can compare the hotel's baseline heat energy performance to the following year and to other hotels of similar size using them as a benchmark, quantifying the benefits of these actions.