

Guidelines for Service Providers

Guidelines for working with
the Quality & Audit Manual



ASSESSMENT FORM GUIDELINES

Introduction

This document has been written to:

- provide guidance for the person carrying out on-site assessments using an assessment form for measures as part of the Warm-up New Zealand: Heat Smart programme;
- provide supplementary information specific to the assessment process and requirements.

Note:

- these guidelines and the assessment form are part of the Q&A Manual and therefore must be read in conjunction with it;
- not applicable - N/A - is used in situations where it may mean, for example, not required, not feasible, or unable to determine answer;
- UTD (Unable to Determine) – is used in situations where the auditor is unable to determine whether the action has occurred.
- completing the assessment process is a requirement of the service provider's Warm Up New Zealand: Heat Smart funding agreement with EECA;
- the assessment involves a full inspection of a house in accordance with the requirements of the programme.

Funding under the programme is only available if all mandatory measures will be complete at the end of the installation (see Q&A Manual for exceptions).

All recommended optional measures must be offered to the owner/occupant.

Funding is also available for remedial work. This is work that generally does not require new product, with the exception of the addition of a small amount of foil insulation.

- Mandatory measures:
 - ceiling insulation;
 - underfloor insulation;
 - pipe lagging - ceiling space in climate zone 3.
- Optional measures:
 - pipe lagging - ceiling space in climate zones 1 & 2 (prone to freezing);
 - pipe lagging - first metre of pipe (from hot water cylinder);
 - on-ground vapour barrier;
 - draught proofing;
 - hot water cylinder wrap;
 - one heating device.

During the assessment it is the service provider's responsibility, among other things, to:

- assess for each of the measures offered under the programme according to NZS 4246 and the Q&A Manual, offer the measure if required or recommended and to install it if agreed by the owner/occupant. We highly recommend that service providers record the owner/occupant's decision to install, or not install, optional measures on the assessment form;
- assess the thickness of existing ceiling insulation in several places to ascertain the depth;
- measure areas to determine the actual areas or lengths that are accessible and that require insulation or other measures;
- check the house for other safety matters. For example: timber in close proximity to recessed lights (causing scorching of timber), roofing, hot water cylinder or plumbing leaks, unducted range hood fan, unsecured wall-mounted heat pump, insufficient clearance around an existing heat pump, unsafe wiring or gas work;
- check the house for any obvious subfloor dampness issues, e.g. caused by insufficient or blocked drainage or plumbing leaks;
- inform owner/occupant immediately that they become aware of any safety matters or potential risks, along with any possible mitigation options - both verbally and in writing and note advice on the assessment form;
- check the house for existing installation defects, including serious installation matters, such as lack of clearance from existing insulation to recessed lights, fan/light/heat units, unducted extractor fans, chimneys and flues. These must be remedied or fixed at the time of Assessment or notified to owner/occupant immediately;
- identify any recessed/surface mounted light fittings and combination fan/light/heat units and match these to the manufacturer's specifications and clearances; or use the defaults in NZS 4246;
- follow service provider's health and safety policy for all areas and situations;
- seek permission from the owner if you believe that good existing insulation must be cut or removed and repair when finished, e.g. if foil must be cut to check reflectivity.

It is recommended that as part of the assessment, the person carrying out the assessment:

- sketches roof and/or floor plans of the property assessed, noting, for example:
 - the type, location and area of the required measure;
 - the type and location of any serious installation matter;
 - the type and location of any required remedial work;
 - access details;
 - potential health and safety issues as per the service provider's Health and Safety agreement.

- takes photographs to support findings or to record specific situations evident. Prior to photographs being taken, permission should be obtained from the owner/occupant;
- provide detailed comments to support findings or to note specific items identified, during the assessment. Comments should be provided in the relevant comments section or using additional paper if required.

The following question tables have three columns:

- the options column is for the various answers to the question;
- the description column describes the various question options and when they are to be used by the assessor;
- the outcome column provides additional information for the service provider assessor on the specific, and in some instances, the broader outcome aspects associated with determining an answer to the question.

Owner/occupant details

House owner name		
Options	Description	Outcome
None	The name of the owner.	Determine name and record on form.

Tenure – CSC holder		
Options	Description	Outcome
Tenant	The house is rented to a tenant with a Community Services Card (CSC).	Determine answer to question and record on form.
Owner-Occupant	The owner resides at this address and has a valid CSC.	
N/A	The house does not have an owner-occupant or tenant with a valid CSC.	

House occupant/tenant name		
Options	Description	Outcome
Occupant	The name of the occupant/tenant, this is only relevant if the Occupant holds a valid CSC.	Determine name and record on form - if applicable.
N/A	The House does not have an owner-occupant or tenant with a valid CSC.	Determine answer to question and record on form.

CSC Declaration signed and returned		
Options	Description	Outcome
Yes	The CSC Declaration has been signed by all parties and returned to the assessor.	Determine answer to question and record on form.
No	The CSC Declaration has not been signed by all parties and returned to the assessor.	
N/A	The house does not have an owner-occupant or tenant with a valid CSC.	

House address		
Options	Description	Outcome
None	The address of the house being assessed.	Determine answer to question and record on form.

Postcode		
Options	Description	Outcome
None	The postcode of the house being assessed. The postcode is important to accurately locate the property.	Determine answer to question and record on form.

Phone		
Options	Description	Outcome
Phone	The owner or property manager's phone numbers.	Determine answer to question and record on form.
Occupant	The occupant's (tenant's) phone numbers, if the property is rented.	Determine answer to question and record on form.

Eligible house?		
Options	Description	Outcome
Yes	The house qualifies for funding under the programme. The house was built prior to 1 January 2000; this is the year in which the original house was built regardless of when the house was last altered or renovated. The house meets the other eligibility criteria set out in the Q&A Manual. If necessary, question the owner and use your best judgement to determine the age of the house.	Determine answer to question and record on form.
No	The House does not qualify for Funding under the programme. The House was not built prior to 1 January 2000 or does not meet the other eligibility criteria set out in the Q&A Manual.	

How many storeys in the house?		
Options	Description	Outcome
1	One-storey house.	Determine answer to question and record on form.
1.5	Split-level one-storey house.	
2	Two-storey house.	
2.5	Split-level two-storey house.	
3	Three-storey house.	

Climate Zone		
Options	Description	Outcome
1	Climate zone 1. For all climate zones see the Q&A Manual, Appendix A .	Determine answer to question and record on form.
2	Climate zone 2.	
3	Climate zone 3.	

Is the house in an area that regularly experiences freezing?		
Options	Description	Outcome
Yes	The house is located in an area that regularly experiences freezing temperatures during winter and/or is located in climate zone 3.	Determine answer to question and record on form. Recommend that the owner have all ceiling space pipes above the

		insulation lagged. In climate zone 3 – this lagging is mandatory. In climate zones 1 and 2 this is recommended, but optional and funded.
No	The house is not located in an area that regularly experiences freezing temperatures during winter and is not in climate zone 3.	Determine answer to question and record on form. The house does not qualify for funding for the lagging of hot and cold water pipes exposed in the ceiling space. This measure is not available, unless paid for in full by the owner.

Ceiling insulation (mandatory)

Is ceiling space accessible?		
Options	Description	Outcome
Yes	The ceiling space can be accessed for the assessment and if applicable, for the installation of ceiling insulation. Owner/occupant must clear ceiling space of stored objects to allow service providers sufficient access to install insulation.	Determine answer to question and record on form. If ceiling insulation is required to meet programme standards, it must be installed in order to receive <u>any</u> funding under the programme (along with other mandatory measures).
No	The ceiling space cannot be accessed or there is insufficient access for the installation of insulation. For example, where there is insufficient height in the ceiling space as determined by the service provider's health and safety policy. Areas inaccessible due to owner/occupant's stored objects do not qualify as lack of access and unless the owner/occupants prepared to clear the space, the house does not qualify for any funding under the programme.	Determine answer to question and record on form. The installation of insulation is not required in cases where there is no or insufficient access to the ceiling space. Therefore, ceiling insulation does not have to be installed in order to qualify for funding for other measures. The owner may opt to have, for example, an access hatch built, but there is no funding available under the programme for any access work. Make a note under ceiling in the recommendation and comments section, of the areas and the reasons they cannot be insulated.

Type of roof structure		
Options	Description	Outcome
Truss	The roof structure is of truss construction.	Determine answer to question and record on form.
Rafter	The roof structure consists of rafters.	

Note: Both construction types can exist. If construction type varies, make appropriate notes of the various types and locations.

Determine what ceiling insulation solution is required?		
Options	Description	Outcome
Total fill solution	Assess the ceiling space to determine whether a total-fill solution is required. See Flowchart 1.	Determine answer to question and record on form. A total fill solution will need to be installed.
Top-up solution	Assess the ceiling space to determine whether a top-up solution is required. See Flowchart 1.	Determine answer to question and record on form. Also, any full depth gaps in existing insulation of more than 50mm wide must be filled and a top-up solution will need to be installed. Unless it is uneconomical to fill all 50mm gaps, in which case a total-fill solution should be installed.
Remedial work	The existing insulation is more than 120mm and requires remedial work to bring it up to the standards of NZS 4246, the Q&A Manual and/or manufacturer's specifications. And it is more reasonable and economical to remedy existing insulation than it is to replace it.	Determine answer to question and record on form.
<p>Note: It is possible to require a total-fill solution or a top-up solution and also need a lower or higher R-value product in some instances; for example in a low roof pitch where a lower R-value product is required to extend the insulation out to the top plate without touching roofing materials. In this case, tick the appropriate box and make a comment in the ceiling comments section.</p> <p>Note 2: Ceiling spaces with foil must only be insulated if foil is permanently laminated to the ceiling lining. Any existing foil that is not an integral part of the ceiling lining should be removed before insulation is installed over it.</p>		

Does the existing insulation require any work associated with the installation of the new product?		
Options	Description	Outcome
Yes	Existing insulation requires work prior to or during the installation of new insulation to bring it up to the programme requirements. This is not remedial work.	Determine answer to question and record on form. Answer the following question.
No	The existing insulation is of a suitable standard to install the new product over the top of it.	Determine answer to question and record on form.
N/A	There is no existing insulation.	Determine answer to question and record on form.

If 'Yes', please provide details

Options	Description	Outcome
Yes	Existing insulation requires work prior to or during the installation of new insulation to bring it up to the programme requirements. This is not remedial work.	<p>Determine answer to question and record on form. Record the work required in the recommendations and comments section. Existing ceiling insulation with a thickness of less than 120mm may require work prior to or during the installation of new product.</p> <p>This includes:</p> <p>Fixing defects such as serious installation matters (maintaining insulation clearances to any lights, unducted extractors, chimneys and flues) and other installation matters (insulation touching roofing material, levelling the existing insulation and ensuring it is blanked/blocked off at the ends to prevent air movement under the new product).</p> <p>Where a top-up solution is being installed, full-depth gaps in existing insulation larger than 50mm wide must be filled.</p>

Ceiling area to be insulated		
Options	Description	Outcome
m ²	<p>Measure the ceiling area to determine the actual areas that are accessible and that require insulating.</p> <p>Include the area of any internal ceiling space walls that are required to be insulated to complete the thermal envelope.</p> <p>Service providers are not required to make deductions in area calculations for framing, recessed lights, flues, ceiling extractor fans, ventilation system vents or pipe work.</p> <p>Do not include any areas where existing insulation already meets the programme requirements.</p>	<p>Determine answer to question and record on form. Note the area of product required.</p> <p>Provide detailed comments to support findings, noting inaccessible locations, recessed spaces, etc.</p>

If surface mounted light(s) are present, specify type and quantity with and without

required clearance		
Options	Description	Outcome
Type Yes	The lamp type (e.g. incandescent, halogen) lights, and/or auxiliary devices can be determined and are present.	Determine answer to question and record on form.
Type N/A	The specific lamp type is not present in the roof space.	Determine answer to question and record on form.
Yes, and quantity with required clearance	Discuss with owner/occupant and check the ceiling from within the ceiling space to ensure that the right quantity is determined	Determine answer to question and record on form.
No, and quantity with required clearance	Only mark this question as 'no' if the existing insulation is too close, or will be too close after a measure is installed i.e. insufficient access to ensure clearances to surface mounted lights.	Determine answer to question and record on form. Note the quantity, location and type of surface mounted light(s). Bring the hazard to the attention of the owner/occupant, where necessary.

If recessed light(s) are present, specify type and quantity with and without required clearance		
Options	Description	Outcome
Type Yes	The lamp type (e.g. incandescent, halogen) of recessed lights, and/or auxiliary devices and/or fan/light/heat units can be determined and are present.	Determine answer to question and record on form.
Type N/A	The specific lamp type is not present in the roof space.	Determine answer to question and record on form.
Yes, Quantity and required clearance	Carefully assess the ceiling for recessed lights and check for any manufacturer's required clearances printed on the fittings.	Determine answer to question and record on form.
No, Quantity and required clearance	Only mark this question as 'no' if the existing insulation is too close, or will be too close after a measure is installed i.e. insufficient access to ensure clearances to recessed lights.	Determine answer to question and record on form. Note the quantity, location and type of ceiling recessed light(s). Bring the hazard to the attention of the owner/occupant, where necessary.

Are chimney(s)/flue(s) present?		
Options	Description	Outcome
Yes	The house has a concrete or brick chimney and/or a metal flue. Check from both within the dwelling and in the ceiling space.	Determine answer to question and record on form. Note whether clearances from existing insulation to chimneys and flues are as required in NZS 4246. Refer to NZS 4246 for ventilation and ducting clearance requirements.

No	There is no chimney or flue present.	Determine answer to question and record on form.
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If 'yes', is the chimney decommissioned?		
Options	Description	Outcome
Yes	The house has a concrete or brick chimney and/or a metal flue that has been completely decommissioned i.e. it is permanently unusable. If there is any uncertainty over a unit being decommissioned, treat it as still active. For example, a solid fuel burner that the owner/occupant never uses is not classified as decommissioned.	Determine answer to question and record on form. If decommissioned fireplaces or metal ventilation duct systems are present we suggest these are noted along with their locations – to prevent confusion during the installation. Insulation can be installed up to decommissioned chimneys and flues. Note, if more than one chimney is present, ticking both options (yes and no) may be appropriate, but an explanation is also required.
No	The chimney or flue is connected in a manner that is capable of being operated.	Determine answer to question and record on form. Note whether clearances from existing insulation to chimneys and flues are as required in NZS 4246.

Are unducted extractor fans present?		
Options	Description	Outcome
Yes	There is an unducted extractor fan in the ceiling space. Check from both within the dwelling and in the ceiling space, this reduces the chance of unducted extractor fans being missed during the assessment. This includes wired fans that are not working. Unducted passive vents are not classified as unducted extractor fans. See NZS 4246 for instructions regarding passive vents.	Determine answer to question and record on form.
N/A	There are no unducted extractor fans present.	Determine answer to question and record on form.
Yes, Quantity and required clearance	Determine the number of unducted fans that have maintained the required clearance.	Determine answer to question and record on form.
No, Quantity and required clearance	Determine the number of unducted fans that do not maintain the required clearance. Do not mark this question as 'no' if the unducted fan is N/A.	Determine answer to question and record on form.

Are recessed spaces present in the ceiling space?		
Options	Description	Outcome
Yes	There are recessed spaces or internal walls in the ceiling space.	Determine answer to question and record on form. Note the location and size of the recessed spaces and the area of insulation required (if any). Make notes for any special considerations e.g. strapping required.
No	There are no recessed spaces or internal walls in the ceiling space.	Determine answer to question and record on form.

Roof or plumbing leaks that need to be fixed before insulation can be installed?		
Options	Description	Outcome
Yes	There are visible signs of roof or plumbing leaks. Check for signs such as dripping or pooled water, damp or rotting timber or damp insulation.	Determine answer to question and record on form. Bring the leaks to the attention of the owner/occupant and make a comment in the ceiling comments section e.g. regarding the location. Decide if it is appropriate to install new insulation or not.
No	There are no visible signs of roof or plumbing leaks.	Determine answer to question and record on form.

Underfloor Insulation (Mandatory)

Is the subfloor space accessible?		
Options	Description	Outcome
Yes	The subfloor space can be accessed for the assessment and if applicable, for the installation of underfloor insulation. Owners/Occupants must clear the underfloor of stored objects to allow service provider sufficient access to install insulation.	If underfloor insulation is required to meet programme standards, it must be installed in order to receive any funding under the programme (along with other mandatory measures).
No	The underfloor space cannot be accessed or there is insufficient access for the installation of insulation. Insufficient access may be a result of the service provider's health and safety policy, such as excessive groundwater or insufficient clearance. Other reasonable grounds for	The installation of insulation is not required in cases where there is no or insufficient access to the subfloor space. Make a note in the recommendation and ceiling comments section of the areas and the reasons they cannot be insulated. The owner can opt to have access installed or enlarged but funding is not

	<p>insufficient access might include underfloor ducting or other subfloor services preventing a full install, concrete perimeter walls preventing access to extensions or split level houses partially on a concrete pad foundation.</p> <p>Areas inaccessible due to owner's/occupant's stored objects do not qualify as lack of access and unless the Owner/occupant is prepared to clear the space, the house does not qualify for any funding under the programme.</p>	available for this work.
Partial	<p>Part of the subfloor space can be accessed for the assessment and if applicable, for the installation of underfloor insulation.</p> <p>Owners/occupants must clear the underfloor of stored objects to allow the service provider sufficient access to install insulation.</p>	<p>If underfloor insulation is required to meet programme standards, it must be installed in order to receive any funding under the programme (along with other mandatory measures).</p> <p>Make a note of any areas and reasons that some areas cannot be insulated on the Assessment form in the underfloor comments section and enter the accessible area to be insulated.</p>

Is there any underfloor existing insulation present?		
Options	Description	Outcome
Yes	There is some existing insulation already installed to the underfloor.	Provide details in the following question.
No	There is no existing insulation present.	Determine answer to question and record on form.

If 'Yes', what is the type of insulation fitted?		
Options	Description	Outcome
Text	Determine the type of insulation installed and record the details	If necessary, e.g. if some areas are insulated or require more insulation than others, take note of the various types and location of existing insulation.

Does the existing insulation require any Remedial Work?		
Options	Description	Outcome
Yes	Existing insulation needs remedial work to meet the requirements set out by NZS 4246, the Q&A Manual and manufacturer's specifications (if known).	Determine answer to question and record on form. You'll also need to answer the following question with details on why remedial work is required.

	<p>If it is more economical to replace segments of damaged product with new bulk product rather than remedying it, this replacement with new eligible insulation is not covered by remedial work but is claimed as a measure.</p> <p>Foil underfloor insulation is deemed sufficient provided it is effective. To be effective the foil needs to be:</p> <ul style="list-style-type: none"> - either draped over the floor joists with a sag of about 100mm; or stapled to the underside of the floor joists; - in good condition, i.e. not tarnished, dirty, torn, delaminated or otherwise deteriorated and with the upper surface still being reflective; - well-supported by staples; which, if the foil is attached to the underside of the floor joists, should be punched flush to the foil surface; - overlapped, and sealed with adhesive foil tape at all overlaps and joins between foil runs; - installed to reduce air movement; this includes blocking off at any exposed edges, pipe penetrations and perimeter ends of foil runs etc; - installed so that the airspace between the floor and the foil is properly sealed off from the brick-veneer cavity of houses with brick-veneer cladding; - covering at least all parts of the suspended floor which are accessible. 	
No	Existing insulation does not need any remedial work. Existing insulation may need to be replaced, this is not remedial work.	Determine answer to question and record on form.
N/A	There is no existing insulation.	Determine answer to question and record on form.
Note: There are safety issues in dealing with the inspection, remedial work or removal of		

foil underfloor insulation, in particular the risk of electrocution. Please see NZS 4246 Appendix B Health and Safety for guidance on how to manage safety risks.

If 'Yes', please provide details		
Options	Description	Outcome
Text	Description of remedial work required to bring existing insulation up to NZS4246 standards	<p>Determine answer to question and record on form. Provide details of the location and type of remedial work required.</p> <p>Valid remedial work might entail:</p> <ul style="list-style-type: none"> - fixing cuts in existing foil insulation with tape or replacing smaller sections of damaged foil with new foil. - fixing small gaps or adding strapping, brackets or staples as required to existing bulk product. <p>If existing insulation, including foil, is damaged to an extent where remedial work is not economical, it must be removed prior to installing a bulk underfloor product.</p> <p>Seek permission from the owner if you believe that existing insulation must be cut or removed e.g. if foil must be cut to check reflectivity.</p>

Underfloor area to be insulated		
Options	Description	Outcome
m ²	<p>Measure the underfloor area to determine the actual areas that are accessible and that require insulating. For example, a porch or glass roofed conservatory are outside of the thermal envelope of the House and the underfloor in these areas should not be insulated.</p> <p>Service providers are not required to make area allowances for framing, ventilation system vents, plumbing work or other services. Do not include any areas where existing insulation already, or can be remedied to, meet the requirements set out by the programme.</p>	<p>Determine answer to question and record on form. Note the area of product required.</p> <p>If more than one product is required, e.g. replacing some existing product and installing another product, note the area and location of each.</p>

	<p>Funding under the programme is not available for the insulation of subfloor walls. For example multi-storey or split-level houses on sloping sections that have walls exposed to the subfloor space.</p> <p>Service providers are not required to install insulation to the underside of stairs; however funding is available to do this if it completes the thermal envelope and can be done in an appropriate manner.</p> <p>Polystyrene insulation must not be used, if it will be left exposed, in the 'underfloor' above an area which is used as a service space, such as a garage, external laundry or workshop. This is a recognised hazard.</p>	
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Are any light(s) present?		
Options	Description	Outcome
Yes	There are lights in the subfloor space.	Determine answer to question and record on form. Complete the following question with details.
No	There are no lights present.	No action required.
Quantity	The number of lights in the subfloor space.	The number of lights in the subfloor space.

Required clearance from surface mounted or recessed lights?		
Options	Description	Outcome
Yes	There is existing insulation and or new insulation; and, recessed light(s) and/or surface mounted lights in the underfloor, and either default* or manufacturer's clearances are maintained or will be maintained from existing insulation or new insulation.	Determine answer to question and record on form.
N/A	There are no light fittings installed in the underfloor area. Or there is insufficient access to install insulation.	Determine answer to question and record on form.
No and Quantity#	There is existing insulation and/or new insulation; and, recessed light(s) and/or surface mounted lights in the underfloor, and	Determine answer to question and record on form. Bring the hazard to the attention of the owner/occupant. Note the type of light and the location of the clearance issues.

	either default* or manufacturer's clearances are or can not be maintained from existing insulation or new insulation.	
UTD	Unable to Audit	Determine answer to question and record on form.
*Note: Default is the clearance distance when manufacturer's specifications are not known or cannot be determined.		

On-Ground Vapour Barrier

Are there any signs of leaking water or sewerage pipes?		
Options	Description	Outcome
Yes	There are signs of leaking water or leaking sewerage pipes.	Determine answer to question and record on form. Make a note of the type and location of the leaks and inform the owner/occupant. It may not be appropriate to install an on-ground vapour barrier and some underfloor insulation products if these issues are not fixed. Decide if it is appropriate to install an on-ground vapour barrier or not.
No	There are no leaks.	Determine answer to question and record on form.

Are there any signs of storm water draining into the subfloor space or is house in flood prone area?		
Options	Description	Outcome
Yes	There are signs of storm water draining into the subfloor space such as excessive ground water.	Determine answer to question and record on form. Make a note of the type and location of the drainage issues and inform the owner/occupant. It may not be appropriate to install an on-ground vapour barrier unless these issues are fixed. For example, where possible ponding could occur on top of the on-ground vapour barrier from surface water run off from outside the perimeter of the house.
No	There is no evidence of excessive groundwater issues.	Determine answer to question and record on form.

Is there an existing on-ground vapour barrier?		
Options	Description	Outcome
Yes	There is an existing on-ground vapour barrier.	Determine answer to question and record on form. Answer the following questions

No	There is no existing on-ground vapour barrier.	Determine answer to question and record on form.
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If 'Yes' is it installed to NZS 4246?		
Options	Description	Outcome
Yes	The on-ground vapour barrier is installed in accordance with NZS 4246.	Determine answer to question and record on form.
No	The on-ground vapour barrier is not installed in accordance with NZS 4246.	Determine answer to question and record on form. Answer the following question.

If 'No', can it be remedied or should it be replaced?		
Options	Description	Outcome
Remedy	There are a few minor issues such as small rips or a lack of pinning and/or taping and this remedial work is feasible see section 2.2.3 . Leave this question blank if 'Yes' above.	Determine answer to question and record on form. Provided that the Q&A Manual recommends the installation of an on-ground vapour barrier (if the subfloor has an enclosed perimeter foundation as described in the following question), offer the remedial work to the owner/occupant. The measure is optional and funding is available.
Replaced	The on-ground vapour barrier is too damaged for remedial work to be considered.	Determine answer to question and record on form.

Does the Q&A Manual recommend installation of an on-ground vapour barrier?		
Options	Description	Outcome
Yes	The property meets the requirements of the Q&A manual, i.e. the house has a suspended timber floor with a continuous closed perimeter – this could be masonry or boarding, or timber, but must be closed in.	Determine answer to question and record on form. Offer the measure to the owner and record their decision below. The measure is optional and funding is available.
No	The property has an open type, e.g. slatted, or no perimeter wall foundation.	Determine answer to question and record on form. The measure can still be offered to the owner/occupant but it does NOT qualify for funding under the programme.

If 'Yes', did you offer the owner/occupant the opportunity to have an on-ground vapour barrier installed?		
Options	Description	Outcome
Yes	The owner/occupant has been offered the opportunity to have an on-ground vapour barrier installed.	Determine answer to question and record on form. Note the owner/occupant's decision.
No	The owner/occupant has not been offered the opportunity to have an	Determine answer to question and record on form. Offer the measure to

	on-ground vapour barrier installed.	the owner/occupant as an optional measure which qualifies for funding. Or list reasons why it wasn't offered.
UTD	Unable to determine.	For what ever reason you were unable to determine answer to question, record this on form.
If 'No', did the owner/occupant elect to have the on-ground vapour barrier installed at their expense?		
Options	Description	Outcome
Yes	The owner/occupant has chosen to have the on-ground vapour barrier installed at their expense.	Determine answer to question and record on form. Make a clear note in the appropriate place that the on-ground vapour barrier should not be reported to EECA for funding. Determine answer to question and record on form. Do not report the on-ground vapour barrier to EECA for funding.
No	The owner/occupant has chosen not to have the on-ground vapour barrier installed.	Determine answer to question and record on form.

Ground area to be covered, if applicable.		
Options	Description	Outcome
m ²	Carefully measure the underfloor area to determine the actual areas that require covering and that are accessible.	Determine answer to question and record on form. Note the area(s) of product required. Make appropriate drawings so the installer knows of any areas that cannot be installed e.g. due to access and/or health and safety policy.

Draught Proofing

Number of external doors with gaps of 2mm or more that requires draught proofing (max. two doors)		
Options	Description	Outcome
None	No external doors have gaps of 2mm or more that require draught proofing.	Determine answer to question and record on form.
One	One external door has gaps of 2mm or more that requires draught proofing.	Determine answer to question and record on form. Offer draught proofing to the owner. The measure is optional and funding is available.
Two	Two external doors have gaps of 2mm or more that require draught proofing.	Determine answer to question and record on form. Offer draught proofing to the owner. The measure is optional and funding is available.

Draught proofing required: Brush excluders		
Options	Description	Outcome
None	Brush excluders are not required.	Determine answer to question and record on form.
One	One external door requires a brush excluder on the interior side.	Determine answer to question and record on form. Note the location of the door on the assessment form.
Two	Two external doors require brush excluders on the interior side.	Determine answer to question and record on form. Note the location of the doors on the assessment form.

Draught proofing required: Weather excluders		
Options	Description	Outcome
None	Weather excluders are not required.	Determine answer to question and record on form.
One	One external door requires a weather excluder on the exterior side.	Determine answer to question and record on form. Note the location of the door on the assessment form.
Two	Two external doors require weather excluders on the exterior side.	Determine answer to question and record on form. Note the location of the doors on the assessment form.

Draught proofing required: Weather strip quantity (max. 12m)		
Options	Description	Outcome
m	A V-seal weather strip is an optional measure under the programme for up to two external doors with gaps of 2mm or more around the sides and/or the top. It typically takes on average 5-6m to weather strip the sides and top of one external door.	Determine answer to question and record on form. Note the location of the door(s) and where the weather strip is required on the assessment form. Note that only two doors can have draught proofing installed, though a draught excluder and weather strip can be applied to the same door.

Pipe Lagging (mandatory to exposed ceiling space water pipes in zone 3)

There are two different types of pipe lagging:

1. Pipe lagging - to exposed ceiling space water pipes

If freezing occurs regularly, service providers should note this on the assessment form and recommend that owners have all exposed ceiling space water pipes above the insulation lagged:

- in climate zones 1 and 2 – for houses that regularly experience freezing, this is recommended, but optional and funded
- in climate zones 1 and 2 – for houses that do not regularly experience freezing, this is not available, unless paid for in full by the owner/occupant.

2. Pipe lagging – to the first metre of pipe lagging exiting the hot water cylinder

This is a recommended, but optional and funded measure.

When lagging pipes particular attention must be paid to the lagging of the joints and bends.

Hot water pipe lagging already installed on the first metre of the hot water supply pipe off the cylinder?		
Options	Description	Outcome
Yes	There is already adequate pipe lagging on the first metre of the hot water cylinder (HWC) supply pipe.	Determine answer to question and record on form.
No	There is no pipe lagging on the first metre of the HWC cylinder supply pipe.	Determine answer to question and record on form. Offer the Measure to the owner. The lagging of the first metre of hot water pipe exiting the hot water cylinder is an optional measure under the programme. If the house also requires a hot water cylinder wrap note that the pipe lagging must be installed prior to the HWC wrap.

If 'No', length of pipe that can be insulated		
Options	Description	Outcome
m	The amount of pipe lagging that can be installed.	Determine answer to question and record on form. The amount of pipe lagging that can be installed. Offer the measure to the owner. The lagging of the first metre of hot water pipe exiting the hot water cylinder is an optional measure under the programme. If the house also requires a hot water cylinder wrap note that the pipe lagging must be installed prior to the HWC wrap.

Are pipes exposed in the ceiling space of a climate zone 3 house, or a zone 1 or 2 house where regular freezing occurs?		
Options	Description	Outcome
Yes	Hot and/or cold water pipes are exposed in the ceiling space. These water pipes will be located above the insulation. Pipework below or under the insulation does not require lagging and is not funded.	Determine answer to question and record on form. This is a mandatory measure in houses within climate zone 3. It is an optional measure in the ceiling space of houses within climate zone 1 & 2 where freezing temperatures occur in winter. In both scenarios funding covers both hot and cold water pipes exposed in the ceiling space.
No	Hot and/or cold water pipes are not	Determine answer to question and

	exposed in the ceiling space, or the pipe lagging already meets the requirements of the programme. Or the house is in zone 1 & 2 where freezing does not occur.	record on form.
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If 'Yes', length required		
Options	Description	Outcome
m	The amount of pipe lagging that can be installed in the ceiling space. If required, record the amount of lagging to be installed that will be exposed and the amount that is not funded.	Determine answer to question and record on form. This is a mandatory measure in houses within climate zone 3. It is an optional measure in the ceiling space of houses within climate zone 1 & 2 where freezing temperatures occur in winter. In both scenarios funding covers both hot and cold water pipes exposed in the ceiling space

Hot Water Cylinder Wrap (electric resistive hot water cylinders only)

Is a cylinder wrap installed?		
Options	Description	Outcome
Yes	There is an existing electric hot water cylinder (HWC) and it already has a wrap installed.	Determine answer to question and record on form. See next question. Note a hot water cylinder wrap must not be installed on a gas hot water cylinder.
No	There is an existing HWC but it does not have a wrap installed. Or, there is no hot water cylinder or does not require one.	Determine answer to question and record on form. Offer the measure to the owner, and note their decision. Or, no action is required.

If 'Yes', is it installed to NZS 4246?		
Options	Description	Outcome
Yes	The wrap is installed in accordance with NZS 4246.	Determine answer to question and record on form.
No	The wrap is not installed in accordance with NZS 4246.	Determine answer to question and record on form. Answer the next question.

If 'No', can it be remedied or should it be replaced?		
Options	Description	Outcome
Remedy	It is more economical to carry out remedial work to the existing cylinder wrap to meet the	Determine answer to question and record on form. Offer the remedial work to the owner/occupant. This

	requirements of NZS 4246 than to replace it.	qualifies for funding under the programme.
Replace	The cylinder wrap is too badly damaged for remedial work to be economically feasible or, does not provide adequate insulation.	Determine answer to question and record on form. Offer the measure to the owner/occupant and note their decision.
Cylinder meets the requirement for EECA assistance (i.e. not A-grade or MEPS compliant)?		
Options	Description	Outcome
Yes	The cylinder meets the requirements set out by the Q&A Manual.	Determine answer to question and record on form. Offer the measure to the owner/occupant, if required, and note their decision.
No	The cylinder is already insulated, A-Grade or meets Minimum Energy Performance Standards (MEPS).	Determine answer to question and record on form. The cylinder does not qualify for funding or, should not have a cylinder wrap installed.

Volume of the cylinder in litres		
Options	Description	Outcome
litres	Check the label to determine the volume of the cylinder. If there is no label, the volume can be determined by measuring the cylinder, otherwise select unknown.	Determine answer to question and record on form. Record the volume of the cylinder in litres here.
Unknown	Cylinder is not labelled and cannot be easily measured or ascertained.	Determine answer to question and record on form.

Adequate clearance to install the cylinder wrap?		
Options	Description	Outcome
Yes	There is adequate clearance to install a HWC wrap.	Determine answer to question and record on form. If required, offer the measure to the owner/occupant, note their decision.
No	The clearance provided is not adequate to install a HWC wrap.	Determine answer to question and record on form. If a wrap cannot be fully installed, under the programme, a partial wrap of the cylinder does not qualify for funding.

Lower/Higher specification products

Owner has requested higher specification product(s).		
Options	Description	Outcome
Yes	A higher-specification product is requested by the owner/occupant. The owner/occupant may request and have installed a higher	Determine answer to question and record on form. If a higher R-value product is requested, provide the name, R-value and location of the higher R-value product to be used.

	<p>specification eligible product; provided that the owner/occupant pays in full the difference between the cost for a standard product for the climate zone and the higher R-value product.</p> <p>For example:</p> <ul style="list-style-type: none"> - the owner/occupant may choose to upgrade from a top up solution to a total fill solution. - the owner/occupant may choose to upgrade from a total fill solution in and for climate zone 1 and 2 to a total fill solution for climate zone 3. 	<p>Ensure that appropriate notes are written on the assessment form regarding the higher specification product.</p> <p>In addition to installing only ceiling insulation products specified in their funding agreement.</p>
N/A	A higher specification product is not requested by the owner/occupant.	Determine answer to question and record on form.

Lower specification product(s) needed		
Options	Description	Outcome
Yes	<p>A lower specification product is required for this house in order to comply with the programme requirements. For example, in a confined ceiling space that cannot be insulated using the required programme R-value product.</p> <p>For example:</p> <ul style="list-style-type: none"> - a low-sloping roof where the specified ceiling insulation product cannot be fully installed to get out to the top plate without touching the roofing - a skillion roof where a total fill solution ceiling insulation product cannot be fully installed in the space. 	<p>Determine answer to question and record on form. If a lower specification product is required, provide the name, R-value and location of the lower specification product to be used and a written reason about why a lower specification product is required.</p> <p>If the ceiling insulation can no longer be accessed following the installation, the service provider must keep a detailed photographic record of the installation, in particular of safety relevant areas such as around recessed lights and flues.</p>
N/A	A lower specification product is not required.	Determine answer to question and record on form.

Owner/occupant stored materials

Owner/occupant to remove stored objects – provide details		
Options	Description	Outcome
Yes	In order to complete the mandatory measures the owner/occupant must move or remove stored materials.	Determine answer to question and record on form. Provide details of the location of materials to be removed and any other relevant details.
N/A	Stored materials are either not	Determine answer to question and

	present of do not need to be removed to complete an installation.	record on form.
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Owner/occupant to fix plumbing/roof leaks - provide details		
Options	Description	Outcome
Yes	In order to complete the mandatory measures the owner/occupant must have leaks or other works fixed.	Determine answer to question and record on form. Provide details of the location and type of repair required to be carried out at the owner/occupant's expense and any other relevant details.
N/A	Plumbing/roof leaks do not need to be fixed to compete an installation or there are no plumbing/roof leaks present.	Determine answer to question and record on form.

Heating device

Mandatory measures necessary to be completed prior to accessing funding for a heating device		
Options	Description	Outcome
Complete	A heating device qualifies for funding under the programme only if the ceiling and underfloor insulation and exposed ceiling space pipe lagging already meets the programme requirements.	Determine answer to question and record on form. The heating device may be installed.
Install or Remedy	The existing ceiling and underfloor insulation and exposed ceiling space pipe lagging does not meet the programme requirements and must be remedied or new product installed to meet the programme requirements.	Determine answer to question and record on form. New product or remedial work must be completed prior to making a claim for funding for a heating device. If a service provider chooses to install a heating device prior to the completion of other mandatory measures it is at their own financial risk.
N/A	For example when there is insufficient access to install the products.	Determine answer to question and record on form. The heating device may be installed.

Is there an existing heater in the primary living space?		
Options	Description	Outcome
Yes	There is an existing heater in the primary living space. See the Q&A Manual for the programme requirements.	Determine answer to question and record on form. See next question.
No	There is no existing heater in the	Determine answer to question and

	primary living space.	record on form. Service providers can offer and install a heating device which must be sized to cater for the whole area, i.e. ignoring any existing heating. The measure is optional and funding is available. The installation must meet manufacturer's specifications and the Q&A manual.
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If 'Yes', is the existing heater an eligible heating device, including being suitably sized for the primary living space?		
Options	Description	Outcome
Yes	The existing heating is already an eligible heating device under the programme.	Determine answer to question and record on form. The house does not qualify for Funding for a heating device. The owner/occupant can install the measure, but at their expense.
No	The existing heating is not an eligible heating device under the programme i.e. it is either not on the List of Accepted Heating Products; and/or is not suitably sized for the primary living space in which it is located.	Determine answer to question and record on form. Service providers can offer and install a heating device which must be sized to cater for the whole area, i.e. ignoring any existing heating device. The measure is optional and funding is available.

If 'No' provide details		
Options	Description	Outcome
Text	Provide details of the primary living space to be heated, and details of the current heating used (if applicable)	Determine answer to question and record on form. The details of the primary living area to be heated including the size and what the current heating device is if applicable.

Provide details of site specific safety issues that are required to be provided to the Owner/Occupant		
Options	Description	Outcome
Text	Provide details of the site specific safety issues that are required to be provided to the owner/occupant.	Determine answer to question and record on form.

Recommendations and comments

Recommendations and comments		
Options	Description	Outcome
Yes and various	Decide the recommendations for each measure according to the house assessment.	Tick the boxes according to the measures to be installed. Make appropriate notes, e.g. name and R-value of product to be installed, and a

		full description of any remedial work required. Prepare a quote for the owner.
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Declaration

Declaration of person and company conducting this assessment		
Options	Description	Outcome
I declare and undertake that the information in this assessment form is accurate and complete to the best of my knowledge.	By signing this declaration the person conducting this assessment (for the service provider) is confirming that the information on this assessment form is accurate and complete to the best of their knowledge.	Determine answers to question and record on form.
Signature	Signature of the person who undertook the Assessment.	
Name (please print)	The clearly printed name of the person who undertook this assessment.	
Company name	The name of the employer or business that the person carrying out this assessment works for.	
Date	Date of this assessment	

1 POST-INSTALLATION AUDIT FORM GUIDELINES

Introduction

This document has been written to:

- provide guidance for the person carrying out on-site post installation audits for installations as part of the Warm Up New Zealand: Heat Smart Programme;
- provide consistency amongst those conducting service provider's post installation audits.

We highly recommend that service providers record the owner's decision to install, or not install, optional measures, either on the assessment form or on the post installation audit form.

If there is a situation that where, for example, insulation cannot be installed because of access limitations (such as no access hatch or health and safety restrictions), give full details explaining why the work could not be completed so that a record exists of why the work was not done. Write these comments both in the comments section of the post-installation audit form and the weekly report on the database.

All installations must be carried out to the requirements of the Warm Up New Zealand: Heat Smart Quality and Audit Manual, NZS 4246, manufacturers' instructions and best practice.

Note:

- these guidelines and the post installation audit form are part of the Q&A Manual and therefore must be read in conjunction with it;
- do not submit to EECA a post installation audit form until the installation is complete.
- not applicable (N/A), is used in situations where it may mean, for example, not required, not feasible, unable to determine answer;
- where the provision of additional information is required, we expect you will need to use the comments section provided under each heading.

The following question tables have three columns:

- the options column is for the various answers to the question;
- the description column describes the various question options and when they are to be used by the person carrying out on site post installation audits
- the outcome column provides additional information for the service provider's assessor/auditor on the broader outcome aspects associated with determining an answer to the question.

Installation, audit and owner details

Name of service provider company		
Option	Description	Outcome
None	The name of the service provider (company) who is making the claim to EECA for the measures installed under the programme.	Determine answer to question and record on form.

Date of installation		
Option	Description	Outcome
None	The date(s) the installation(s) occurred; this may be more than one date if measures were installed at different times.	Determine answer to question and record on form.

Date of audit		
Option	Description	Outcome
None	The date this post installation audit was completed.	Determine answer to question and record on form.

Have you reviewed the assessment form for this property		
Options	Description	Outcome
Yes	The person conducting this post installation audit has reviewed the assessment form undertaken to provide the quote. This document may assist you to evaluate the property and complete the post installation audit form.	Determine answer to question and record on form.
No	The assessment form has not been viewed by the person conducting this post installation audit.	Determine answer to question and record on form.

Have you reviewed, or participated in, a health and safety site assessment prior to completing the post installation audit?		
Options	Description	Outcome
Yes	The person conducting this post installation audit has been informed and checked for any health and safety issues identified on site.	Determine answer to question and record on form.
No	The person conducting this post installation audit has not been informed or checked for any health and safety issues identified on site.	Determine answer to question and record on form.

Owner/occupant details		
Options	Description	Outcome
Name	The name of the owner or the name of the occupant (tenant) if	Determine answer to question and record on form.

	applicable.	
House address	The address and postcode of the house being assessed. The postcode is important to accurately locate the property.	Determine answer to question and record on form.
Phone	The owner or property manager's, or if applicable the occupant's, phone number.	Determine answer to question and record on form

Lower/higherspec products

Owner has requested higher specification product(s)		
Options	Description	Outcome
Yes	<p>A higher specification product is requested by the owner/occupant.</p> <p>The owner/occupant may request and have installed a higher specification eligible product; provided that the owner/occupant pays in full the difference between the cost for a standard product for the climate zone and the higher R-value product.</p> <p>For example:</p> <ul style="list-style-type: none"> - the owner/occupant may choose to upgrade from a top up solution to a total fill solution. - the owner/occupant may choose to upgrade from a total fill solution in and for climate zone 1 and 2 to a total fill solution for climate zone 3. 	<p>Determine answer to question and record on form. If a higher R-value product is requested, provide the name, R-value and location of the higher R-value product to be used.</p> <p>Ensure that appropriate notes are written on the post installation audit form regarding the higher specification product.</p> <p>In addition to installing only ceiling insulation products specified in their funding agreement.</p>
N/A	A higher specification product is not requested by the owner/occupant.	Determine answer to question and record on form.
Quantity	A higher specification product was requested, please determine quantity installed.	Determine answer to question and record on form. Measure area and record m ² .

Lower specification product(s) needed		
Options	Description	Outcome
Yes	A lower specification product was required and this product is in the funding agreement.	<p>Determine answer to question and record on form. If a lower R-value product is required, provide the name, R-value and location of the lower R-value product to be used.</p> <p>Ensure that appropriate notes are written on the post installation audit</p>

		form regarding the lower specification product. In addition to installing only ceiling insulation products specified in their funding agreement.
N/A	A lower specification product was not required.	Determine answer to question and record on form.
Quantity	A lower specification product was required, please determine quantity installed.	Determine answer to question and record on form. Measure area and record m ² .

Ceiling insulation

Ceiling spaces with foil must only be insulated if foil is permanently laminated to the ceiling lining. Any existing foil that is not an integral part of the ceiling lining should be removed, before insulation is installed over it.

Was ceiling insulation installed?		
Options	Description	Outcome
Yes	Insulation has been installed under the programme.	Determine answer to question and record on form
No	Insulation has not been installed and it is required.	Determine answer to question and record on form. In order to qualify for any funding under the programme for any measure, insulation must be installed in the ceiling (if it is required).
N/A	Insulation was not required e.g. it was already adequately installed or it was not possible to install insulation into the ceiling space e.g. in a skillion roof.	Determine answer to question and record on form. Make a note of the reason that insulation was not able to be installed; OR why it was not required.

Are any light(s) present?		
Options	Description	Outcome
Yes, and quantity	Yes, there are lights including fan/light/heat units and/or auxiliary devices in the ceiling space, determine quantity present.	Determine answer to question and record on form.
No	There are no lights present.	No action required.

Product installed (manufacturer, type, R-value)?		
Option	Description	Outcome
None	The brand name, type and R-value of the insulation product installed.	Determine answer to question and record on form. Person completing post installation audit form reports brand name, type and R-value of product installed.

And is product installed the right product for the situation according to the programme requirements?		
Options	Description	Outcome
Yes	The insulation product installed is an eligible product and is the right product for: - the existing insulation depth – measure the joist/truss size to check it; - the R-value required for the product type and the climate zone the property is in. Note: This is a contractual question i.e. it is about the product being right for the situation (not about how the product is installed).	Determine answer to question and record on form.
No	The insulation product installed is not an eligible product and/or not right for: - the existing insulation depth – measure the joist/truss size to check it; - the R-value required for the product type and the climate zone the property is in.	Determine answer to question and record on form. Describe, in ceiling comments section provided, how the product is not right for the programme requirements, i.e. state the climate zone, the R-value required for the type of product etc; and any reason the right product has not been installed. The product installed may need to be replaced by a product that meets the programme requirements for this situation.

Manufacturer's label present and permanently fixed on site where it can be easily found?		
Options	Description	Outcome
Yes	The label is permanently fixed on site where it can be easily found.	Determine answer to question and record on form.
No	Either the label is not the right label, is missing, not secure or not visible.	Determine answer to question and record on form. Permanently attach the manufacturer's ceiling insulation label on site where it can be easily found for future inspection.

Was there any existing insulation?		
Options	Description	Outcome
Yes	There is existing insulation, of any type, present.	Determine answer to question and record on form.
No	There is no existing insulation.	Determine answer to question and record on form.

Separate piece of insulation over the access hatch?		
Options	Description	Outcome

Yes	A separate piece of insulation has been permanently fixed to the top of the hatch (stapled or glued) without undue compression of the insulation.	Determine answer to question and record on form.
No	The access hatch has not been covered with insulation or has been insufficiently covered, or Insulation is not permanently fixed to the access hatch.	Determine answer to question and record on form. Permanently fix a separate piece of insulation over the access hatch as described in NZS 4246.
N/A	The hatch is not part of the thermal envelope so does not need insulation over it e.g. the access is through the garage ceiling space, or it is not possible to insulate the access hatch.	Determine answer to question and record on form. If it is not possible to insulate the access hatch, please explain in detail why and record on post installation audit form.

Required clearance from surface mounted lights or recessed lights?		
Options	Description	Outcome
Yes	There is existing insulation and or new insulation; and recessed light(s) and/or fan/light/heat and/or auxiliary devices and/or surface mounted lights in the ceiling, and either default* or manufacturer's clearances are maintained from existing insulation or new insulation.	Determine answer to question and record on form.
No and Quantity#	There is existing insulation and or new insulation; and, recessed light(s) and/or surface mounted lights in the ceiling, and either default* or manufacturer's clearances are or can not be maintained from existing insulation or new insulation.	Determine answer to question and record on form. Bring the hazard to the attention of the owner/occupant. Note the type of light and the location of the clearance issues.
N/A	There are no light fittings installed in the ceiling area, or there is insufficient access to install insulation.	Determine answer to question and record on form.
*Note: Default is the clearance distance when manufacturers' specifications are not known or cannot be determined.		
Any light(s) and/or auxiliary device(s) covered by any insulation?		
Options	Description	Outcome
Yes	There is existing insulation and/or new insulation; and recessed light(s) and/or surface mounted lights in the ceiling, and either default* or manufacturer's clearances are maintained from	Determine answer to question and record on form.

	existing insulation or new insulation.	
No and Quantity#	There is existing insulation and or new insulation; and, recessed light(s) and/or surface mounted lights in the ceiling, and either default* or manufacturer's clearances are or can not be maintained from existing insulation or new insulation.	Determine answer to question and record on form. Bring the hazard to the attention of the owner/occupant. Note the type of light and the location of the clearance issues.
N/A	There are no light fittings installed in the ceiling area. Or there is insufficient access to install insulation.	Determine answer to question and record on form.
*Note: Default is the clearance distance when manufacturer's specifications are not known or cannot be determined.		

Insulation (new and existing) 50mm from all outer faces of concrete or brick chimney(s) or metal flue(s)?		
Options	Description	Outcome
Yes	There is a clearance of 50mm from ALL faces of all concrete, brick chimneys and/or metal flues to both new and existing insulation.	Determine answer to question and record on form. Record quantities and clearances on the post installation audit form. You may wish to take photos to support this.
No and Quantity#	There is less than 50mm clearance around all concrete or brick chimneys and/or metal flues, i.e. flues from heating, not from ventilation systems such as range hoods, to either new and/or existing insulation.	Determine answer to question and record on form. This is a potential hazard and needs to be fixed immediately . Remove insulation within 50mm around all outer faces of concrete, brick and metal heating flue(s), and ensure appropriate clearances are maintained. See NZS 4246 for further details.
N/A	There are no chimneys or heating flues OR the chimney or heating flues have been decommissioned.	Determine answer to question and record on form.

Required clearance to unducted extractor fans?		
Options	Description	Outcome
Yes	Determine the number of unducted extractor fans that have maintained the required clearance.	Determine answer to question and record on form.
No and Quantity #	Determine the number of unducted fans that do not maintain the required clearance. Do not mark this question as 'no' if the unducted fan is N/A. There is an unducted extractor fan in the ceiling space. Check from both within the dwelling and in the	Determine answer to question and record on form. This is a potential hazard and needs to be fixed immediately . Remove insulation from around all outer faces of unducted extractor fans, and ensure required clearances are maintained. See NZS 4246 for further details.

	ceiling space, this reduces the chance of unducted extractor fans being missed during the PIA. This includes wired fans that are not working. Unducted passive vents are not classified as unducted extractor fans. See NZS 4246 for instructions regarding passive vents.	Determine answer to question and record on form. Owners/occupants must be notified that the fan unit is unducted and that it vents directly into the ceiling space, and that the insulation must be kept clear of the fan unit as required in NZS 4246. This includes units not currently used by owner/occupant. You may wish to take photos to support this.
N/A	There are no unducted extractor fans present.	Determine answer to question and record on form.

Recessed space(s) insulated down walls and across ceiling space(s)?		
Options	Description	Outcome
Yes	<p>Ceiling insulation has been installed, as appropriate, to ceilings and walls that are part of the thermal envelope;</p> <ul style="list-style-type: none"> - across recessed ceiling spaces; - down recessed ceiling space walls. <p>If internal ceiling space walls are part of the thermal envelope, strap ceiling insulation down walls if required or staple blanket to dwangs/nogs as described in NZS 4246.</p> <p>Examples of recessed spaces that require insulation might be over bathrooms and wardrobes, but would not be soffit, porch or conservatory areas that are outside the thermal envelope of the house.</p>	<p>Determine answer to question and record on form.</p> <p>If there are unusual circumstances make a note in the ceiling comments regarding the recessed space and decisions made.</p> <p>You may wish to take photos to support this.</p>
No	The recessed space has not been insulated or has not been insulated appropriately e.g. insulation is poorly installed, with full depth gaps, or not strapped where required.	Determine answer to question and record on form. Insulation to recessed space needs to be fixed. If health and safety policy allows, install insulation into recessed areas.
N/A	There are no recessed ceiling spaces or no accessible recessed ceiling spaces.	Determine answer to question and record on form. Make a note in the ceiling comments e.g. if a recessed space was not accessible e.g. a chimney shaft.

Good friction fits - both sides and end fits?		
Options	Description	Outcome
Yes	Insulation has been well-installed so that when alongside another piece	Determine answer to question and record on form.

	of insulation, the edges and ends of the insulation abut and there are no full depth gaps.	
No	Where sections of insulation join they do not butt up against one another and/or are not level. There may be full depth gaps where the upper ceiling lining or existing insulation can be seen or where pieces of insulation are completely missing.	Determine answer to question and record on form. Needs to be fixed. Blanket roll length joins must be at the same height and square to one another, made between joists and a supporting bridge (insulation off-cuts) can be used to achieve this. Ensure segment and blanket insulation is butted together and level (where practicable) with no gaps. See NZS 4246.

If blanket was installed is it installed so no air movement occurs between insulation and ceiling?		
Options	Description	Outcome
Yes	Insulation has been installed well, with no edge gaps allowing air to pass from the roof space to the ceiling lining under the insulation (including existing insulation), meeting NZS 4246.	Determine answer to question and record on form. See NZS 4246 for installation.
No	There are gaps at exposed edges that have not been closed off, e.g. around downlights, flues or ducts and at perimeter edges, allowing air to pass from the roof space to the ceiling lining under the insulation (including existing insulation), this allows air movement to continue to occur under the insulation.	Determine answer to question and record on form. Needs to be fixed. Ensure that all new and existing insulation is blocked off at any exposed edges to prevent any air movement under the insulation; this includes at roof edges, clearances around recessed lights, other penetrations in the insulation and where insulation is not installed under a header tank. See NZS 4246.
N/A	Blanket insulation has not been installed.	Determine answer to question and record on form.

Tightly fitted between ceiling joists, ceiling runners/strong backs?		
Options	Description	Outcome
Yes	Insulation has been well installed, fitting neatly up to the ceiling joists (usually segment) or runners (usually blanket), and meets NZS 4246.	Determine answer to question and record on form.
No	There are areas where insulation does not butt up neatly to the ceiling joists or runners resulting in gaps where you can see the upper ceiling lining or existing insulation. This includes pieces of insulation	Determine answer to question and record on form.

	that are completely missing.	
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Any insulation touching roofing materials (25mm clearance between roofing and insulation material maintained)?		
Options	Description	Outcome
No (this is the Pass answer)	Insulation has been installed with a clearance of 25mm or more between the insulation and the roofing material (cladding or underlay, not rafters, purlins or timber sarking).	Determine answer to question and record on form.
Yes (this is the fail answer)	There are areas where insulation touches or is less than 25mm to the roofing (cladding or underlay, not rafters, purlins or timber sarking). NZS 4246 provides guidance on maintaining the clearance to the top plate. This allows moisture to wick through the insulation to the ceiling lining causing dampness and mould.	Determine answer to question and record on form. Needs to be fixed, a minimum of 25mm clearance must be maintained between the insulation and roofing material. See NZS 4246 for further details.

Top plate covered if possible (while maintaining 25mm clearance to roofing material)?		
Options	Description	Outcome
Yes	Insulation has been installed so it covers the top plate and there is a clearance of 25mm or more between the insulation and the roofing material - cladding or underlay.	Determine answer to question and record on form.
No	The top plate has not been covered where possible, or insulation is not installed as close as it can be to the top plate and there is sufficient depth for insulation to be installed out further without touching the roofing material.	Determine answer to question and record on form. Needs to be fixed. Continue the insulation out to the top plate while maintaining the 25mm clearance; this may require a lower product R-value or ripping down of the insulation. See NZS 4246 for details.
N/A	Top plate cannot be covered e.g. due to insufficient space to install any insulation without touching the roofing.	Determine answer to question and record on form.

Insulation installed under header tank?		
Options	Description	Outcome
Yes	Insulation has been installed, or there is existing insulation, under the header tank, with no gaps, tucks or folds in the insulation.	Determine answer to question and record on form.
No	Insulation has not been installed, or has been installed poorly with large	Determine answer to question and record on form. Needs to be fixed.

	gaps, under the header tank OR the Q&A Manual recommended it be installed in this situation.	Ensure that ceiling insulation is installed under the header tank.
N/A	There is no header tank, OR, it is not possible or it is not recommended to install insulation under the header tank e.g. the house is in a frost prone area where insulation is not recommended under concrete header tanks.	Determine answer to question and record on form.

Installation debris removed?		
Options	Description	Outcome
Yes	The ceiling space has been left free of any loose insulation off cuts or installation debris.	Determine answer to question and record on form.
No	Insulation off cuts or installation debris has been left in the ceiling e.g. packaging.	Determine answer to question and record on form. Remove the debris on finishing the post-installation audit.

Does ceiling installation meet the intent of NZS 4246?		
Options	Description	Outcome
Yes	Considering the overall resulting quality of the ceiling installation, the insulation has been installed well and the ceiling installation meets the intent of NZS 4246.	Determine answer to question and record on form.
No	The overall ceiling installation does not meet the intent of NZS 4246.	Determine answer to question and record on form. Make notes and ensure that all work is brought up to meet the requirements of the programme and that the overall ceiling installation meets the intent of NZS 4246.

Quantity quoted?		
Option	Description	Outcome
m ²	The amount of insulation quoted to the Owner.	This is the amount on the quote.

Quantity installed?		
Option	Description	Outcome
m ²	Measure the ceiling area to determine the actual area that has been insulated. Service providers are not required to make allowances in area calculations for framing, recessed lights, flues, ceiling extractor fans,	Note the area of insulation product installed and if more than one product has been used note the area and location of each in the ceiling comments below.

	ventilation system vents or pipe work but should include recessed spaces/walls. Do not include any areas of existing insulation that already met the programme requirements before the installation.	
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Ceiling comments

Provide clarifying comments to support the findings reported. For example:
- if the ceiling installation has not been installed, explain why not, for example due to no or insufficient access to the ceiling space;
- if recessed lights have been partially covered, describe extent of cover;
- if the header tank question has N/A check box ticked, explain why, for example there is no header tank, or in this instance 'it was impossible to insulate underneath the header tank because ...';
- add any other issues.

Underfloor insulation

Any existing insulation?

Options	Description	Outcome
Yes	There is existing insulation of any type present.	Provide details in the following question.
No	There is no existing insulation.	No action required.

Provide details of type of existing insulation installed

Option	Description	Outcome
None	The type of existing insulation already present at the time of the assessment.	Note the type of insulation e.g. non-rigid, rigid or foil; the location of insulation and the depth – this may vary over different parts of the underfloor.

Are any light(s) present?

Options	Description	Outcome
Yes, and quantity	Yes, there are lights including surface mounted lights and auxiliary devices in the subfloor space, determine quantity present.	Determine answer to question and record on form. Complete the following question with details.
No	There are no lights present.	No action required.

Was underfloor insulation installed?

Options	Description	Outcome
Yes	Insulation has been installed as one of the measures available under the programme.	Determine answer to question and record on form.
No	Insulation has not been installed and it is required.	In order to qualify for any funding under the programme for any measure insulation must be installed

		to the underfloor (if it is required).
N/A	Insulation was not able, or required, to be installed, e.g. the house has a concrete slab, or has no access to the underfloor or the existing insulation already complies, or could be remedied to comply, with the programme requirements.	Note the reasons, in the underfloor comments section, that underfloor insulation has not been able to be installed.

Product installed (manufacturer, type, R-value)?		
Option	Description	Outcome
None	Brand name, type and R-value of insulation product installed.	Person completing post installation audit Form reports brand name, type and R-value of product installed.

And is product installed an eligible product?		
Options	Description	Outcome
Yes	The product installed is on the service provider's funding agreement.	Determine answer to question and record on form.
No	The product installed is not on the List of Accepted Insulation Products, or is not an eligible product on the service provider's funding agreement	Provide an explanation describing how the product is appropriate for the programme requirements. The product installed may need to be replaced by a product that meets the programme requirements for this situation.

All accessible areas done?		
Options	Description	Outcome
Yes	All areas where it is possible to install have been insulated, while adhering to appropriate health and safety requirements. Service providers are not required to install insulation to the underside of stairs; however funding is available to do this if it completes the thermal envelope and can be done in an appropriate manner.	Where some areas are inaccessible clearly describe, in the underfloor comments, the situation and the specific reason for not being able to install insulation to the entire underfloor, drawing a floor plan may be useful.
No	Areas that could be accessed have not been insulated or completed.	Install underfloor insulation in all accessible areas in accordance with the programme requirements.

Manufacturer's label present and permanently fixed on site where it can be easily found?		
Options	Description	Outcome
Yes	The manufacturer's label is	Determine answer to question and

	permanently fixed on site where it can be easily found.	record on form.
No	Either the label is not the right label, is missing, not secure or not visible.	Permanently attach the manufacturer's underfloor insulation label on site where it can be easily found for future inspection.

Required clearance from surface mounted or recessed lights?		
Options	Description	Outcome
Yes	Yes, there are lights including surface mounted lights and auxiliary devices in the subfloor space, determine quantity present.	Determine answer to question and record on form.
No and Quantity#	There is existing insulation and or new insulation; and, recessed light(s) and/or surface mounted lights in the underfloor, and either default* or manufacturer's clearances are or can not be maintained from existing insulation or new insulation.	Determine answer to question and record on form. Bring the hazard to the attention of the owner/occupant. Note the type of light and the location of the clearance issues.
N/A	There are no light fittings installed in the underfloor area, or there is insufficient access to install insulation.	Determine answer to question and record on form.
*Note: Default is the clearance distance when manufacturer's specifications are not known or cannot be determined.		

Product installed to bottom plate of exterior walls?		
Options	Description	Outcome
Yes	The insulation product has been installed to cover the underside of the bottom plate (where possible), while not blocking any exterior wall cavity.	Determine answer to question and record on form.
No	The insulation is either: - not installed to the cover the underside of the bottom plate, where it is possible to do so; - or is blocking an exterior wall cavity.	Needs to be fixed. Ensure that underfloor insulation is out to and covering the underside of the bottom plate - while not blocking any exterior wall cavity.

Good friction fits?		
Options	Description	Outcome
Yes	The insulation is installed so there are no gaps where blanket length or segments butt together and meets Programme requirements.	Determine answer to question and record on form.
No	There are gaps where insulation should neatly join together.	Needs to be fixed. Ensure that underfloor insulation has good friction

		fits.
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Any significant gaps?		
Options	Description	Outcome
No	Insulation has been installed with no gaps and meets programme requirements.	Determine answer to question and record on form.
Yes	Sections are missing or there are large gaps between sections of insulation; including insulation that is greater than 200mm away from plumbing pipe work.	Needs to be fixed. Ensure insulation installed is tightly abutted while also maintaining appropriate clearances around light fittings and plumbing pipes, including both waste and water pipes.

Are clearances of approximately 100mm maintained around plumbing pipe work and fittings?		
Options	Description	Outcome
Yes	Insulation has been installed so there are clearances of approximately 100mm around plumbing pipe work protrusions.	Determine answer to question and record on form.
No	Insulation is closer than 40mm to plumbing pipe work.	Needs to be fixed. Ensure there are approximately 100mm clearances around plumbing pipes including both waste and water pipes.

Any sagging?		
Options	Description	Outcome
No (this is the pass answer)	The insulation is installed with no air gaps between the underside of the flooring and the insulation. Meets programme requirements.	Determine answer to question and record on form.
Yes (this is the fail answer)	The insulation, or some of the insulation, sags.	Needs to be fixed. Ensure all insulation is installed hard against flooring and installed in accordance with manufacturer's instructions and NZS 4246.

Any folds too big with insulation hanging below floor joist level?		
Options	Description	Outcome
No (this is the pass answer)	There are no large folds of insulation side edges with product hanging below floor joists. Meets NZS 4246.	Determine answer to question and record on form.
Yes (this is the fail answer)	There are large folds of insulation which hang below floor joist level (making it easier for it to be dislodged and fall down).	Needs to be fixed. Ensure that there is no product hanging below the floor joists and that all insulation is installed in accordance with manufacturer's instructions and NZS 4246.

Has strapping been installed properly - if required?		
Options	Description	Outcome
Yes	Strapping (or clipping) has been installed according to manufacturer's specifications for this product.	Determine answer to question and record on form.
No	The insulation has not been installed with sufficient strapping (or clips), or not in accordance with manufacturer's specifications.	Needs to be fixed. Ensure that strapping (or clipping) is installed in accordance with manufacturer's instructions.
N/A	Strapping (or clipping) is not required to install the product.	Determine answer to question and record on form.

Has stapling been installed properly – if required?		
Options	Description	Outcome
Yes	Stapling has been carried out according to manufacturer's specifications for this product.	Determine answer to question and record on form.
No	The insulation product has not been installed with sufficient stapling, or not in accordance with manufacturer's instructions.	Needs to be fixed. Ensure that stapling is installed in accordance with manufacturer's instructions.
N/A	Stapling is not required to install the product.	Determine answer to question and record on form.

Insulation installed according to programme requirements?		
Options	Description	Outcome
Yes	Manufacturer's specifications and all other programme requirements have been followed for the product installed.	Determine answer to question and record on form.
No	The insulation product has not been installed in accordance with the manufacturer's specifications and all other programme requirements.	Needs to be fixed.

Does underfloor installation meet the intent of NZS 4246?		
Options	Description	Outcome
Yes	Considering the overall resulting quality of the underfloor installation the underfloor insulation has been installed well and the ceiling installation meets the intent of NZS 4246.	Determine answer to question and record on form.
No	The overall underfloor insulation does not meet the intent of NZS 4246?	Make notes and ensure that all work is brought up to meet the requirements of the programme and that the overall underfloor installation meets at least the intent of NZS 4246.

Installation debris removed?		
Options	Description	Outcome
Yes	The underfloor space has been left free of any loose insulation off cuts or installation debris.	Determine answer to question and record on form.
No	Insulation off cuts or installation debris e.g. packaging has been left in the underfloor area.	Needs to be fixed. Remove excess underfloor installation material debris.

Quantity quoted?		
Option	Description	Outcome
m ²	The amount of insulation quoted to the Owner.	Determine answer to question and record on form.

Quantity installed?		
Option	Description	Outcome
m ²	The amount of insulation installed. This may differ from the amount quoted, providing the amount reported and claimed matches the amount installed.	Make sure that the amount installed is the amount reported and claimed for. Make notes to clarify why installed differs to quoted.

Underfloor comments		
Provide clarifying comments to support the findings reported. For example:		
<ul style="list-style-type: none"> - insufficient strapping of insulation product; - if the underfloor installation has not been installed at all, explain why not, e.g. due to no or insufficient access to the underfloor space; - strapping spaced xx mm apart; - joist spacing between x-x resulting in xx metres of extra product being used; - any other issues. 		

On-ground vapour barrier

Was on-ground vapour barrier installed?		
Options	Description	Outcome
Yes	On-ground vapour barrier has been installed as one of the measures available under the programme, and the on-ground vapour barrier is required, and requested by the owner/occupant.	No action required. An on-ground vapour barrier should only be claimed when the Q&A Manual recommends that one be installed, and when the owner/occupant decides to have one installed.
No	The on-ground vapour barrier has not been installed, the Q&A manual recommends it and the owner/occupant has requested an on-ground vapour barrier under the programme.	Install the on-ground vapour barrier; or, if the owner/occupant has changed their mind, make a note in the comments and do not make a claim for one.
N/A	An on-ground vapour barrier was not required, or was unable to be	Determine answer to question and record on form.

	installed, e.g. There is no access; or it was not requested by the owner/occupant.	
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Does Q&A manual recommend installation of on-ground vapour barrier?		
Options	Description	Outcome
Yes	The Q&A manual recommends that an on-ground vapour barrier is installed i.e. there is a suspended timber floor with a continuous enclosed perimeter – this could be masonry or a solid skirt of timber or cement board.	No action required. An on-ground vapour barrier should only be claimed when the Q&A Manual recommends that one be installed, and when the owner/occupant decides to have one installed.
No	The Q&A manual does not recommend that an on-ground vapour barrier is installed in this situation i.e. there is a not a continuous enclosed perimeter.	The owner/occupant may request and pay for an on-ground vapour barrier in this situation, however it is not funded under the programme.

Installation debris removed?		
Options	Description	Outcome
Yes	The underfloor space has been left free of any on-ground vapour barrier installation debris.	Determine answer to question and record on form.
No	On-ground vapour barrier installation debris has been left in the underfloor space e.g. used tape rolls and staple packets.	Remove the debris upon completion of this post installation audit.

Installed in accordance with NZS 4246 requirements?		
Options	Description	Outcome
Yes	The on-ground vapour barrier is the right heavy duty 250microns/0.25mm product. It has been pinned/weighted down with 150mm overlaps and taped around all piles and joins and installed on a smooth surface - with 50mm minimum turn up at edges on sloping sites, in accordance with NZS 4246.	Determine answer to question and record on form.
No	The on-ground vapour barrier is not the right heavy duty, 250microns/0.25mm, product, or, there are areas which need to be fixed - taped, overlapped and secured.	Needs to be fixed; ensure on-ground vapour barrier meets NZS 4246 requirements before claiming for an on-ground vapour barrier.

Quantity quoted?		
Option	Description	Outcome
m ²	The amount of on-ground vapour	Determine answer to question and

	barrier quoted to the owner. This is the amount on the quote.	record on form.
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Quantity installed?		
Option	Description	Outcome
m ²	The amount of on-ground vapour barrier installed. Measure the subfloor area to determine the actual area of on-ground vapour barrier that has been installed.	Note the amount of on-ground vapour barrier installed and only report and claim for this amount.

On-ground vapour barrier comments
Provide clarifying comments to support the findings reported. For example: <ul style="list-style-type: none"> - the on-ground vapour barrier is not recommended by the Q&A manual as it is a dry and unenclosed subfloor space; - add any other issues.

Draught proofing

Was draught proofing installed?		
Options	Description	Outcome
Yes	Draught proofing has been installed and the owner/occupant requested it under the programme.	Determine answer to question and record on form.
No	Draught proofing has not been installed and the owner/occupant requested it under the programme.	Install the draught proofing, or do not make a claim for it.

How many doors? (max 2 doors)		
Option	Description	Outcome
Number	The number of doors, maximum two, with gaps of 2mm or more, that require draught proofing, and that the owner/occupant has requested draught proofing for.	Determine answer to question and record on form.

Brush excluders installed properly on inside of door?		
Options	Description	Outcome
Yes	Brush excluder(s) have been properly installed, generally on the inside of doors, to manufacturer's instructions and the ends of brush excluders have been properly and safely filed.	Determine answer to question and record on form.
No	Brush excluder(s) have not been properly installed.	Needs to be fixed.
N/A	Brush excluders are not required or has not been requested by the owner/occupant.	Determine answer to question and record on form.

Weather excluders installed properly on outside of doors?		
Options	Description	Outcome
Yes	Weather excluder(s) have been properly installed, generally on the outside of doors, to manufacturer's instructions and the ends of weather excluders have been properly and safely filed.	Determine answer to question and record on form.
No	Weather excluder(s) have not been properly installed.	Needs to be fixed.
N/A	Weather excluder(s) are not required or have not been requested by the owner/occupant.	Determine answer to question and record on form.

Weather strip installed properly around doors?		
Options	Description	Outcome
Yes	Weather stripping has been properly installed around door frame(s) in accordance with manufacturer's instructions.	Determine answer to question and record on form.
No	Weather stripping has not been properly installed and in accordance with manufacture's instructions.	Needs to be fixed.
N/A	Weather stripping is not required or has not been requested by the owner/occupant.	Determine answer to question and record on form.

How many metres? (typically 5-6m/door)		
Option	Description	Outcome
m	Measure the length of weather strip installed – it typically takes 5-6m to complete the sides and top of one door.	Note the amount of weather strip installed.
Draught Proofing Comments		
Provide clarifying comments to support the findings reported. For example: - the brush excluder is mounted too high and needs to be lowered by 20mm; - ranch slider, unable to draught proof; - add any other issues.		

Pipe lagging

There are two different types of pipe lagging – these questions apply to both types:

1. Pipe lagging – to exposed ceiling space pipes

If freezing occurs regularly, service providers should have noted this on the assessment form and recommended that owners have all ceiling space pipes above the insulation lagged.

- In climate zone 3 – this is mandatory.
- In climate zones 1 and 2 – for houses that regularly experience freezing, this is recommended, but optional and funded.
- In climate zones 1 and 2 – for houses that do not regularly experience freezing, this is not available, unless paid for in full by the owner/occupant.

2. Pipe lagging – to the first metre of pipe lagging exiting the hot water cylinder

This is a recommended, but optional and funded measure.

When lagging pipes particular attention must be paid to the lagging of the joints and bends.

Was pipe lagging installed?		
Options	Description	Outcome
Yes	Pipe lagging has been installed to: <ul style="list-style-type: none"> - the first metre (or less if not accessible) of pipe leaving the hot water cylinder, and/or - exposed ceiling space pipes. 	Determine answer to question and record on form.
No	Pipe lagging was not installed to: <ul style="list-style-type: none"> - the first metre (or less if not accessible) of pipe leaving the hot water cylinder, and/or - exposed ceiling space pipes and was required or recommended and requested by the Owner/Occupant, or pipe lagging was 'not applicable', i.e. not required to be installed or recommended but not requested by the owner/occupant.	Ensure that pipe lagging is installed if required or recommend and requested, or do not make a claim for pipe lagging. In order to qualify for any funding under the programme for any measure, pipe lagging must be installed to ceiling space pipes when the property is in climate zone 3.

Installed to first metre prior to cylinder wrap?		
Options	Description	Outcome
Yes	The first metre of pipe lagging leaving the cylinder has been installed to the cylinder pipes prior to the installation of the cylinder wrap, even though both measures were installed during the same installation.	No action required. Only answer 'yes' when both lagging and wrap have been installed at the same time.
No	The first metre of pipe lagging leaving the cylinder has not been installed to the cylinder pipes prior to the installation of the cylinder wrap, even though both measures were installed during the same installation.	Needs to be fixed. Gather the top of the wrap tightly around the pipe over the pipe insulation ensuring there are no air gaps and tie tightly with the tie provided. See NZS 4246 for further details and any relevant manufacturer's instructions.
N/A	There was already an existing	No action required.

	cylinder wrap, or cylinder wrap was not required, or pipe lagging has not been installed during the same installation as the cylinder wrap.	
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Fixed/taped properly?		
Options	Description	Outcome
Yes	Pipe lagging has been fixed or taped according to NZS 4246 for hessian backed wool or pre-formed pipe insulation with fixings, with tape or cables at 120mm or 200mm intervals respectively. There are no gaps, tucks or folds in the foam insulation product.	Determine answer to question and record on form.
No	The pipe insulation has not been fixed properly or has not been adequately cut around bends to prevent folds etc.	Needs to be fixed. Ensure lagging is taped properly using tape or a cable tie around the hot water supply pipe and ensure the slit is fully closed, taped lengthwise; while taking care not to compress the insulation. If required - add additional tape around the foam insulation at 120mm intervals ensuring there are no gaps, tucking in, or folds in the foam insulation. See NZS 4246 and any relevant manufacturer's instructions.

Lagged in accordance with climate zone requirements - where practicable?		
Options	Description	Outcome
Yes	All exposed hot and cold pipes in the ceiling space in houses in climate zone 3 are lagged. All exposed hot and cold pipes in the ceiling space in houses in climate zone 1 & 2 where freezing occurs are lagged, where requested by the owner/occupant.	No action required. Note, there is no Funding available to lag exposed ceiling space pipes where freezing does not occur.
No	Not all exposed pipes in the ceiling space in climate zone 3 have been lagged, or, not all exposed pipes in the ceiling space in areas where freezing occurs have been lagged, and the owner/occupant requested this measure or, exposed ceiling pipes have been lagged and claimed in an area which doesn't experience freezing.	Needs to be fixed. Ensure that all accessible and required ceiling space water pipes are lagged in climate zone 3, or if requested by the owner/occupant in other areas where freezing occurs. Do not report and claim for any ceiling space pipe lagging where freezing does not occur (unless it's to the first metre of pipe exiting the hot water

		cylinder).
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Length quoted?		
Option	Description	Outcome
m	The amount of lagging quoted to the owner.	This is the amount on the quote. No action required.

Length installed?		
Option	Description	Outcome
m	<p>Measure the length of lagging to determine the actual lagging that has been installed.</p> <p>Do not include any existing lagging that already met the programme requirements before the installation.</p>	Note the amount of lagging installed and only report and claim for this amount.

Pipe lagging comments		
<p>Provide clarifying comments to support the findings reported. For example:</p> <ul style="list-style-type: none"> - if the pipe lagging has not been installed at all, explain why not, e.g. due to no or insufficient access to the ceiling or hot water cylinder space; - pipe lagging has not been taped properly; - self adhesive strip has been used and it is coming apart at the ends and joins; - the installation requires additional taping; - only 500mm was accessible; - add any other issues. 		

Hot water cylinder wrap (electric hot water cylinders only)

Cylinder wrap installed?		
Options	Description	Outcome
Yes	The hot water cylinder wrap has been installed as one of the Measures available under the programme and a hot water cylinder wrap was required and has been requested by the owner/occupant.	Determine answer to question and record on form.
No	The hot water cylinder wrap has not been installed and it has been requested by the owner/occupant and is required.	Install the hot water cylinder wrap before reporting the measure to EECA, (or do not make a claim for one).
N/A	Not required/applicable.	The auditor should provide comment explaining the use of N/A.

Product installed (manufacturer, type, R-value)?		
Option	Description	Outcome
	The brand name of the installed product, its R-value and/or the	Determine answer to question and record on form.

	description of the type of product.	
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Label in close proximity to the cylinder?		
Options	Description	Outcome
Yes	A label or product certificate is in the vicinity of the hot water cylinder and is visible.	Determine answer to question and record on form.
No	There is no label or product certificate or it is not visible.	Permanently fix the hot water cylinder wrap label or product certificate in close proximity to the cylinder so that it is visible for future inspections.

Wrap fully sealed?		
Options	Description	Outcome
Yes	The join down the wrap is fully sealed using fastening products and ensuring a snug fit. The cylinder is fully enclosed with no air gaps around the top and sides, meeting NZS 4246 requirements. Note: We do not fund installing a hot water cylinder wrap which cannot be fully sealed e.g. due to access. The wrap should entirely cover the cylinder and any access/equipment panels etc.	Determine answer to question and record on form.
No	The wrap is not fully sealed and enclosed.	Needs to be fixed. Pull the join together, partially tape or tag the join checking that it is near where the thermostat and element control box are, so that these can be accessed for servicing. Seal the join down the wrap using the fastening products provided ensuring a snug fit. See NZS 4246 for details.

Fitted properly?		
Options	Description	Outcome
Yes	Installation of the hot water cylinder wrap complies with NZS 4246 requirements.	Determine answer to question and record on form.
No	The hot water cylinder wrap is not fitted in accordance with NZS 4246 requirements and/or manufacturer's instructions.	Needs to be fixed; in accordance with manufacturer's instructions and NZS 4246.

Pipe fully enclosed at hot water cylinder?		
Options	Description	Outcome
Yes	The hot water pipe leaving the cylinder is fully enclosed and sealed	Determine answer to question and record on form.

	with the wrap tightly tied at the top over the pipe lagging with no air gaps, meeting NZS 4246 requirements.	
No	The hot water pipe leaving the cylinder is not fully enclosed or tied with no air gaps.	Needs to be fixed. Gather the top of the wrap tightly around the pipe over the pipe insulation ensuring there are no air gaps and tie tightly with the tie provided. See NZS 4246 to determine how a hot water cylinder wrap should be installed.

Quantity quoted?		
Option	Description	Outcome
None	Number of wraps quoted, usually one.	This is the amount on the quote. No action required.

Quantity installed?		
Option	Description	Outcome
None	Wraps actually installed.	Note the number of wraps installed and only report and claim for this amount.

Hot water cylinder wrap comments		
Provide additional clarifying comments to support the findings reported. For example:		
<ul style="list-style-type: none"> - inadequate space in hot water cylinder cupboard to install wrap properly; - add any other issues. 		

Heating

What type of heating device was installed?		
Options	Description	Outcome
Wood Burner	A wood burner that is on the List of Accepted Programme Heating Products.	Determine answer to question and record on form.
Pellet Fire	A pellet fire that is on the List of Accepted Programme Heating Products.	Determine answer to question and record on form.
Heat Pump	A heat pump that is on the List of Accepted Programme Heating Products.	Determine answer to question and record on form.
Gas Heater	A gas heater that is on the List of Accepted Programme Heating Products.	Determine answer to question and record on form.

Identify make and model of Heating Device installed		
Option	Description	Outcome
	Enter the brand name and model of the installed heating device.	Determine answer to question and record on form.

Does insulation meet the programme requirements prior to the installation of a heating device?		
Options	Description	Outcome
Yes	If accessible, the ceiling and underfloor insulation and pipe lagging in the ceiling space meet all the requirements of the programme.	Determine answer to question and record on form.
No	Either ceiling and/or underfloor insulation and/or the pipe lagging in the ceiling space are not up to the programme requirements.	Ensure that ceiling, underfloor and pipe lagging in ceiling space meet the requirements of the programme before the heating device is reported to EECA or do not claim for a heating device. If no, provide details.

Higher specification product installed?		
Options	Description	Outcome
Yes	The owner/occupant requested and has had a higher specification product installed than the programme specification product.	Provide the name, R-value and location of the higher product R-value used, and make appropriate notes regarding this upgrade. Also upload this information into the comments section of the weekly report on the database.
N/A	The Programme specified product has been installed.	Determine answer to question and record on form.

Lower specification product installed?		
Options	Description	Outcome
Yes	Due to restricted space a lower-specification product has been installed.	Provide the name, R-value and location of the lower specification product used and a written description of why the lower specification product is required in this situation; also upload this information into the comments section of the weekly report on the database. Photos may be taken of any areas that will become inaccessible after installation.
N/A	The programme required specification product has been installed.	Determine answer to question and record on form.

Heating compliance

Was the wood or pellet fire installation carried out by a NZHHA Solid Fuel Appliance installation technician?		
Options	Description	Outcome
Yes	The wood or pellet fire installation	Determine answer to question and

	was carried out by a NZHHA Solid Fuel Appliance installation technician.	record on form.
No	The wood or pellet fire installation was not carried out by a NZHHA Solid Fuel Appliance installation technician.	The installation needs to be signed off by a NZHHA Solid Fuel Appliance installation technician before the heating device is reported to EECA.
N/A	A wood or pellet fire was not installed	No action required.

Building consent has been obtained for the work?		
Options	Description	Outcome
Yes	Building consent was required for the heating device installed, and building consent has been obtained.	Determine answer to question and record on form.
No	Building consent is required for the heating device installed, and building consent has not been obtained.	Ensure building consent from the building consent authority (BCA) for the Heating Device installed has been sought and issued. Check with the territorial authority if unsure if a building consent is required.
N/A	A building consent is not required for the installed heating device.	Determine answer to question and record on form.

Code compliance certificate issued?		
Options	Description	Outcome
Yes	Building consent was required for the heating device installed, and the code compliance certificate (CCC) issued, OR the final inspection with no faults (or the remedial final inspection) has been issued by the building consent authority (BCA) for the building consent.	No action required. Write the number (#) of the CCC on the PIA form, or view the CCC, or the final inspection.
No	Building consent is required for the heating device installation and the CCC or final inspection report with no faults has not been viewed, or number known.	Ensure CCC from the BCA for the heating device installed is issued – write the number and/or view the document, or confirm the final inspection report has been issued, or do not claim for a heating device.
N/A	A building consent is not required for the installed heating device.	No action required.

Gas heater installation carried out by a registered gasfitter?		
Options	Description	Outcome
Yes	The gas heater installation was carried out by a registered gasfitter.	Determine answer to question and record on form.

No	The gas heater installation was required to be and was not carried out by a registered gasfitter.	Have a registered gasfitter complete or certify the installation.
N/A	A registered gasfitter was not required for this installation or a gas heater was not installed.	Determine answer to question and record on form.

Gas fitting certificate of compliance (COC) issued and left on site or with the owner/occupant?		
Options	Description	Outcome
Yes	A gas fitting certificate of compliance was required for the heating device installed, has been issued by a registered gas fitter and left with the owner/occupant.	Note the gas fitting COC number (#) on the PIA form. No action required.
No	A gas fitting COC was required for the heating device installed but has not been issued or left on site or with the owner/occupant.	Ensure a registered gas fitter provides a gas fitting COC. Leave a copy on site or with the owner/occupant.
N/A	A gas fitting COC was not required for this installation or a gas heater was not installed.	Determine answer to question and record on form.

Heating Device installation requires Prescribed Electrical Work?		
Options	Description	Outcome
Yes	The heating device installation requires prescribed electrical work as defined in the Electrical Safety Regulations.	Answer the following question.
No	The heating device does not require prescribed electrical work.	Determine answer to question and record on form.

Has the electrical certificate of compliance (COC) (mandatory for heat pumps) been issued and left on site for the owner/occupant?		
Options	Description	Outcome
Yes	Prescribed electrical work was required and the electrical certificate of compliance has been issued and left on site or with the owner/occupant. Usually an electrical COC is only required for heat pumps, but electrical work may also have been undertaken for other heating devices.	Note the electrical COC number (#) on the PIA form. No action required.
No	Prescribed electrical work was required and the electrical certificate of compliance was not issued and/or left on site or with the owner/occupant.	Ensure a registered electrician provides the electrical COC. Leave a copy of this on site or with the owner/occupant and note the electrical COC number on the PIA form before making a claim.
N/A	Prescribed electrical work was not	Determine answer to question and

	required for the installation of the heating device and no electrical COC was required to be issued e.g. the heating device was plugged into an existing □otpoint.	record on form.
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Heat Pumps

Installation carried out in accordance with manufacturer's specifications and/or EECA Good Practice Guide – Heat pump installation?		
Options	Description	Outcome
Yes	The installation was installed in accordance with manufacturer's specifications and/or Good Practice Guide – Heat pump installation.	Determine answer to question and record on form.
No	The installation was not installed in accordance with manufacturer's specifications and/or Good Practice Guide – Heat pump installation.	The installation will need to be fixed to comply with manufacturer's specifications and/or Good Practice Guide – Heat pump installation.

Outdoor unit secure with no likelihood of falling?		
Options	Description	Outcome
Yes	The heat pump is securely fixed in accordance with manufacturer's specifications and/or Good Practice Guide - Heat pump installation.	Determine answer to question and record on form.
No	The heat pump is not secured in accordance with the manufacturer's specifications and/or Good Practice Guide - Heat pump installation.	Needs to be fixed; secure the unit in accordance with manufacturer's instructions and/or Good Practice Guide - Heat pump installation pg 38 and 39.

Any excessive vibration?		
Options	Description	Outcome
No	There is no excessive vibration or disturbance to the owner/occupant and/or the adjacent properties from the outdoor unit.	Determine answer to question and record on form.
Yes	The external heat pump unit causes vibration and/or disturbance which are potentially disturbing to the owner/occupant and/or adjacent properties.	Needs to be fixed; check unit for excessive vibration/noise. May need to be re-secured or replaced.

Area around unit clear with no likelihood the air supply routes will become blocked and other appropriate clearance distances maintained?		
Options	Description	Outcome

Yes	The appropriate distances have been maintained around the unit, including underneath the unit, as specified in the manufacturer's specifications and/or Good Practice Guide - Heat pump installation.	Determine answer to question and record on form.
No	The manufacturer's specified and/or Good Practice Guide - Heat pump installation clearances have not been maintained and/or the unit could become blocked.	Needs to be fixed; ensure clearances are maintained in accordance with manufacturer's specifications and/or Good Practice Guide - Heat pump installation pg 23, 38 & 39.

Unit installed to provide future servicing access?		
Options	Description	Outcome
Yes	The unit has been installed with access for future servicing as specified in the manufacturer's specifications and/or Good Practice Guide – Heat pump installation.	Determine answer to question and record on form.
No	Future servicing access is not adequate as specified in the manufacturer's specifications and/or Good Practice Guide – Heat pump installation.	Needs to be fixed; ensure clearances are maintained, in accordance with manufacturer's specifications and/or Good Practice Guide – Heat pump installation – e.g. diagrams pg 23 & 24.

Interior and exterior installation neat and tidy?		
Options	Description	Outcome
Yes	Both the interior and exterior installations are neat and tidy. Units are level and plastic trunking (pipe covers) are installed neatly. Installation is in accordance with manufacturer's specifications and/or Good Practice Guide - Heat pump installation.	Determine answer to question and record on form.
No	The interior and/or exterior installations are not neat and tidy in accordance with manufacturer's specifications and/or Good Practice Guide - Heat pump installation.	Needs to be fixed; ensure installation is neat and tidy and in accordance with manufacturer's instructions and/or Good Practice Guide - Heat pump installation.

All service covers present and installed properly?		
Options	Description	Outcome
Yes	All service covers are securely in place.	Determine answer to question and record on form.
No	Service covers are not securely in place and/or in accordance with manufacturer's specifications and/or Good Practice Guide - Heat pump installation.	Needs to be fixed; ensure all covers are in place and secure and in accordance with manufacturer's specifications and/or Good Practice Guide - Heat pump installation pg 37

		& 48.
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Indoor unit secure and does not vibrate?		
Options	Description	Outcome
Yes	The indoor unit is secure and does not vibrate.	Determine answer to question and record on form.
No	The indoor unit is not secure, vibrates and/or units are not installed in accordance with manufacturer's specifications and/or Good practice guide - Heat pump installation.	Needs to be fixed; ensure indoor unit is secure and installed in accordance with manufacturer's specifications and/or Good practice guide - Heat pump installation.

Instructions to the owner/occupant

The operation of the system was explained to the Owner/Occupant?		
Options	Description	Outcome
Yes	The owner/occupant has confirmed that the service provider has explained how to operate the heat pump.	Determine answer to question and record on form.
No	The service provider has not explained to the owner/occupant how the unit works.	Needs to be fixed; ensure the operation of the system has been explained to the owner/occupant.

The owner/occupant has the operating manual?		
Options	Description	Outcome
Yes	The owner/occupant has confirmed that they have the operating manual for the heat pump.	Determine answer to question and record on form.
No	The service provider has not left the operating manual for the heat pump.	Needs to be fixed; ensure the owner/occupant has been provided with a copy of the operating manual for the unit installed.

The owner/occupant was advised of maintenance and servicing requirements?		
Options	Description	Outcome
Yes	The owner/occupant has confirmed that they have been advised on the maintenance and servicing requirements for the heat pump.	Determine answer to question and record on form.
No	The service provider has not advised the owner/occupant on the maintenance and servicing requirements of the unit.	Needs to be fixed; advise the owner/occupant of maintenance and servicing requirements.

The Owner/Occupant was given copy of the warranty?		
Options	Description	Outcome
Yes	The owner/occupant has been	Determine answer to question and

	given a copy of the warranty.	record on form.
No	The owner/occupant has not been given a copy of the warranty.	Needs to be fixed; provide the owner/occupant with a copy of the warranty.
Heating comments		
Provide additional clarifying comments to support the findings reported. For example:		
<ul style="list-style-type: none"> - unit not secured to feet; - advised owner/occupant to regularly trim nearby plants. 		

Overall Comments		
Provide additional clarifying comments to support the findings reported. For example, clearly itemise:		
<ul style="list-style-type: none"> - all remedial work that has been carried out and claimed under the programme; - the reasons for higher/lower R-value ceiling products being installed; - any work that is still required to be fixed/completed; - any other issues. 		

Declaration of person conducting post installation audit		
Options	Description	Outcome
I declare and undertake that the information in this post installation audit form is accurate and complete to the best of my knowledge.	By signing this declaration the person conducting this post installation audit (for the service provider) is confirming that the information on this post installation audit form is accurate and complete to the best of their knowledge.	
Signature	Signature of person who undertook this post installation audit.	
Name (please print)	The clearly printed name of the person who undertook this post installation audit.	
Company name	The name of the employer/business that the person conducting this post installation audit works for. This may be different to the service provider company name at the top of this post installation audit form.	