

Energy Company Obligation (ECO3) Boiler Assessment Checklist

This Boiler Assessment Checklist ('the checklist') is designed to assess whether a boiler should be repaired or replaced. Suppliers should complete this checklist for all boiler installations or repairs under the ECO scheme including renewable heating systems or a district heating system where applicable.

This checklist does not provide any detailed information on the requirements of ECO. Further information can be found in our guidance document, Energy Company Obligation (ECO3) Guidance: Delivery, available on our website.

Completing the checklist

The checklist must be completed by an assessor who has inspected the boiler on-site. Appendix 1 (repair and replacement cost tables) may be completed by a person who has not inspected the boiler, but the operative that has completed the assessment must sign this form to confirm that Appendix 1 has been completed accurately.

The information provided in this checklist forms the basis of our determination of whether or not the boiler should be repaired or replaced. This is established by assessing if the boiler is 'broken down¹', or 'non-condensing²', and whether or not it can be 'economically repaired'. In completing the checklist you should ensure that you (the relevant operative):

- are appropriately qualified to work on the boiler and its fuel type including any health & safety requirements
- complete all relevant sections
- sign and date the checklist
- record all the steps (tests, measurements etc) you have taken in determining the boiler condition
- record your conclusion as to whether the boiler should be repaired or replaced, and
- sign the document and provide details of your accreditation and, where applicable, your company's accreditation.

Suppliers must be able to provide a copy of a completed checklist to us on request.

¹ For boilers this is when connected to a fuel supply, it does not respond to any demand for heat as required by the central heating or domestic hot water system.

² Or a system with a manufactured energy efficiency that is no better than a non-condensing boiler.

Operative competency

For boilers that are replaced which are referred to in PAS 2030, the boiler must be assessed and replaced by operatives who meet the competency requirements listed in the boiler specific annex of the relevant PAS³. For boilers not referred to in PAS, and for all boiler repairs, the assessment and repair/replacement must be carried out by operatives who meet industry competency standards for that particular fuel type.

All operatives undertaking boiler repair or replacement work must meet regulatory requirements to work with the relevant fuel type. For example, in the case of gas-fuelled boilers, operatives must be Gas Safe registered in accordance with Regulation 3 of the Gas Safety (Installation and Use) Regulations 1998.

Accuracy of the checklist

It is important to note that your decision to repair or replace a boiler on the basis that you consider it to be broken down or non-condensing, and in the case of a boiler replacement cannot be economically repaired, does not necessarily mean that we will reach the same conclusion, particularly if we consider that an assessment has been incorrectly carried out. For this reason, suppliers should ensure that the checklist is completed accurately by the relevant operative(s). We will include inspections of boilers within our monitoring and auditing activities. If the information on this checklist is found to be false Ofgem will investigate the case and may take action if required.

When filling in the BAACL assessment details should not be copied from other BAACLs, ie photocopying or copying and pasting should not be used to complete any part of this form.

Format of the checklist

Suppliers may adapt the format of the checklist to match their own systems, as long as the content is not changed. Suppliers should submit adapted checklists to us before use for confirmation that the content is acceptable.

³ All ECO measures must be installed by a PAS certified installer in accordance with the latest version of Publicly Available Specification 2030.

Energy Company Obligation (ECO3) Boiler Assessment Checklist

Sections in the checklist	Broken boiler replacements	Broken boiler repairs	Boiler upgrades	First time central heating
A	✓	✓	✓	✓
B	✓	✓	✓	✓
C	✓	✓	✓	
D	✓	✓		
E	✓	✓		
F	✓	✓	✓	✓
G	✓	✓	✓	✓
H		✓		
I	✓	✓	✓	✓
J		✓		
K	✓	✓	✓	✓
L	✓	✓	✓	✓

A. All boilers: Details of assessment (including FTCH measure)	
1	Date of assessment (dd/mm/yyyy) _ _ / _ _ / _ _ _ _
2	Address: (Building number/name, Street name, Town, City, County)
3	Postcode

B. All boilers: Existing boiler details (For FTCH measures, please record details of the existing pre-main heating source in B11)	
1	Brand and model
2	Model qualifier (if applicable)
3	Fuel type
4	Year of original commissioning (if available)

B.	All boilers: Existing boiler details (For FTCH measures, please record details of the existing pre-main heating source in B11)	
5	State how you have established year of original commissioning/age (ie servicing sticker, records held by householder/landlord, original installation document etc.)	
6	Is it a combination boiler?	Yes <input type="checkbox"/> No <input type="checkbox"/>
7	Boiler Location (Pre-Installation)	
8	Serial number	
9	Boiler efficiency (%): Provide efficiency when assessed against PCDB/SAP 2012 (Provide annual efficiency of the boiler from PCDB, the efficiency from table 4a or winter efficiency from table 4b of SAP 2012) ⁴ .	_____ %
10	Are there any other boilers in the property? (Please provide details including location) (Please record make, model & serial numbers etc)	
11	Please record the existing pre-main heating source (FTCH measures only)	

⁴ See <http://www.ncm-pcdb.org.uk/sap/> and search using information from questions B1 –B3. If an annual efficiency rating is unavailable in the PCDB, refer to SAP 2012 Table 4a or 4b at: http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012_9-92.pdf. Provide the winter efficiency of the boiler if using table 4b.

C. All boilers: Initial boiler assessment	
A boiler must meet certain criteria to determine whether they are broken down and can be replaced, repaired or upgraded alongside primary insulation. The first step is to assess whether a boiler is 'broken down' or 'non-condensing'. Please complete below.	
1	<p>Is the boiler broken down, ie when connected to electric and fuel supplies, it does not respond appropriately to any demand for heat as required by the central heating or domestic hot water system?</p> <p>Yes <input type="checkbox"/> Go to C1a.</p> <p>No <input type="checkbox"/> Go to C3a</p>
1a.	List all the steps you took to reach the conclusion that the boiler is broken down. This may include any tests or checks carried out on the boiler to identify the symptoms. Continue on a separate sheet if necessary, then go to C2.
2	<p>Broken boilers: Is the boiler economically repairable? (Complete section E to determine)</p> <p>Yes <input type="checkbox"/> Can be a repair of a broken heating system, Go to D1. If not repairing broken boiler, Go to C3.</p> <p>No <input type="checkbox"/> Can be replaced as a broken heating system measure. Go to D1.</p>
3	<p>Broken boilers: Is the boiler non-condensing⁵?</p> <p>Yes <input type="checkbox"/> Can be replaced as an upgrade of a heating system alongside a primary insulation measure. Go to C3b</p> <p>No <input type="checkbox"/> Can only be replaced by DHS or renewable heating measures. Go to D1</p>
3a	<p>Working boilers (boilers which are not broken down): Is the boiler non-condensing⁴?</p> <p>Yes <input type="checkbox"/> Can be replaced as an upgrade of a heating system alongside a primary insulation measure. Go to C3b.</p> <p>No <input type="checkbox"/> Can only be replaced by DHS or renewable heating measures. Go to F1</p>

⁵ Or a system with a manufactured energy efficiency that is no better than a non-condensing boiler.

C. All boilers: Initial boiler assessment	
3b	List all the steps to reach conclusion it is non-condensing or a system with a manufactured energy efficiency that is no better than a non-condensing boiler. If broken boiler go to D1, if working go to F1.

D. Broken boilers only: Evidencing why the boiler is broken									
Once you have identified whether the boiler is 'broken down', you must identify all the possible faults that have caused the boiler to be broken down.									
	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 30%;">Boiler Fault List</th> <th>In this column, write how you identified the failure and any associated symptoms</th> </tr> </thead> <tbody> <tr> <td>Select the appropriate fault(s) that resulted in the boiler being broken down or not functioning efficiently. (Note: this list is not exhaustive. Record any other faults not included in this list under 14. 'Other'.)</td> <td>(This information will be used during audit to determine whether the boiler was correctly assessed. Therefore, provide as much information as possible.)</td> </tr> <tr> <td>1</td> <td>Corrosion or fouling of the boiler heat exchanger</td> </tr> <tr> <td>2</td> <td>No boiler ignition</td> </tr> </tbody> </table>	Boiler Fault List	In this column, write how you identified the failure and any associated symptoms	Select the appropriate fault(s) that resulted in the boiler being broken down or not functioning efficiently. (Note: this list is not exhaustive. Record any other faults not included in this list under 14. 'Other'.)	(This information will be used during audit to determine whether the boiler was correctly assessed. Therefore, provide as much information as possible.)	1	Corrosion or fouling of the boiler heat exchanger	2	No boiler ignition
Boiler Fault List	In this column, write how you identified the failure and any associated symptoms								
Select the appropriate fault(s) that resulted in the boiler being broken down or not functioning efficiently. (Note: this list is not exhaustive. Record any other faults not included in this list under 14. 'Other'.)	(This information will be used during audit to determine whether the boiler was correctly assessed. Therefore, provide as much information as possible.)								
1	Corrosion or fouling of the boiler heat exchanger								
2	No boiler ignition								

D.	Broken boilers only: Evidencing why the boiler is broken	
3	Unstable firing	
4	Any other mechanical or electrical fault (include details of the type of fault)	
5	Results of the flue gas analyser combustion outside boiler manufacturer tolerance	
6	Results of the burner pressure checks outside boiler manufacturer tolerance	
7	Boiler and system sludge (Sludge alone within the system may not be sufficient grounds to be considered broken in the ECO3 scheme)	
8	Poor flue condition	
9	Primary flow rate unsatisfactory or outside boiler manufacturer tolerance	

D.	Broken boilers only: Evidencing why the boiler is broken	
10	Primary flow temperature unsatisfactory or outside boiler manufacturer tolerance	
11	For combination boilers only: Unsatisfactory hot water flow rate or temperature which are outside the manufacturer's specification/tolerance	
12	Boiler external corrosion	
13	Boiler installation is Immediately Dangerous (ID) or At Risk (AR) (Gas Safe definition)	
14	Other (provide a detailed description)	

Once you have determined the reasons for the boiler being 'broken down' you must then assess whether the boiler should be repaired or replaced.

A broken down boiler can only be replaced as a 'broken boiler' measure if it is not economically repairable. If it is economically repairable and efficient, it can be repaired or replaced as a boiler upgrade measure by a renewable system or a district heating system. If it is economically repairable and inefficient, it can be either repaired or replaced as a boiler upgrade measure. In this case upgrades can be a renewable system, a district heating system, or a conventional boiler if accompanied by a primary insulation measure.

E. Broken Boilers only: Can the boiler be economically repaired?		
1	Age of boiler in years (approximate, if commissioning year unavailable)	
2	Are all parts required for the repair available? (eg if parts are available at a reasonable cost and within a reasonable timeframe ⁶ or if the repair does not require any parts tick 'Yes')	<p>If boiler is 13+ years old, provide evidence and go to F1. Yes <input type="checkbox"/> No <input type="checkbox"/> if 'yes' go to E4, if 'no' please enter reasons below, the boiler should be replaced and go to F1.</p> <p>If No, please enter reasons; _____ _____</p>
3	Is the actual cost of repair more than the actual cost of a replacement boiler ⁷ ?	<p>Yes <input type="checkbox"/> add relevant costs and fill in cost table in Appendix 1. No <input type="checkbox"/> add relevant costs below and fill in cost table in Appendix 1.</p> <p>Cost of repair: £ _____ Cost of replacement: £ _____</p> <p>If Yes, boiler can be replaced and go to F1. If No, go to E5.</p>
4	What is the maximum cost of the boiler repair as identified in the 'Economic Repair Cost Comparison Tables' ⁸ ?	<p>£ _____</p> <p>Fuel type not covered by tables <input type="checkbox"/> (Identify whether the boiler can be economically repaired using questions E3 and E4 or contact Ofgem if additional tables are required.)</p>
5	Is the actual cost of repair less than the maximum cost of repair as identified in the 'Economic Repair Cost Comparison Tables'?	<p>Yes <input type="checkbox"/> The boiler should be repaired</p> <p>No <input type="checkbox"/> The boiler should be replaced</p>

⁶ A screenshot should be retained to confirm parts were not available within a reasonable timeframe.

⁷ See page 14 for costs to be included in actual boiler repair as well as replacement cost calculations.

⁸ See page 14-15 for Economic Repair Cost Comparison Tables.

F. All boilers: Operative/assessor details	
To be completed by the operative conducting the assessment. Answer all questions in this section.	
1	Operative company name
2	Company accreditation number (PAS, competent persons scheme etc)
3	Operative name (as on the accreditation record)
4	Operative competency: Accreditation/accrediting body
5	Operative accreditation number
6	Operative signature
7	Date (dd/mm/yyyy) _ _ / _ _ / _ _ _ _

G. All boilers: Details of new boiler (including FTCH measures⁹)	
1	Brand and model
2	Model qualifier (if applicable)
3	Boiler Location (Post Install)
4	Serial number
5	Fuel type
6	Boiler efficiency (%): Provide efficiency when assessed against PCDB/SAP 2012 _____ %
7	If the new heating system is a heat pump, please answer section G 1-7 with the assumption that the questions refer to heat pumps. Additional details can be recorded in this question if required.

⁹ If new DHS connection, please record all possible details of the existing boiler.

8	Is the boiler compliant with Boiler Plus regulations? ¹⁰	Yes <input type="checkbox"/> Please select which energy saving measure was installed below.	
		N/A <input type="checkbox"/>	
		Smart controls <input type="checkbox"/>	Flue Gas Heat Recovery <input type="checkbox"/>
		Weather Compensation <input type="checkbox"/>	Load Compensation <input type="checkbox"/>

H. Boiler repairs only: Details of repair

1	Provide details for repair undertaken (parts, etc.). Continue on a separate sheet if necessary.	Please complete appendix 1
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I. All boilers: Details of warranty¹¹ offered to the occupier (including FTCH measures)

1	Start date of warranty (dd/mm/yyyy)	-- / -- / -----
2	End date of warranty (dd/mm/yyyy)	-- / -- / -----
3	For boiler repairs- is there a cap ¹² on the value of repairs under the warranty?	Yes <input type="checkbox"/> No <input type="checkbox"/>
4	If yes, what is the cap?	£ _____
5	Has the occupier been informed by you, the operative, that the boiler is under warranty from the date of repair/replacement (including an explanation of the nature of the warranty and the duration of the warranty)?	Yes, 2 years or more <input type="checkbox"/>

¹⁰ <http://boilerplus.org/>

¹¹ Full details of the warranty requirements for boiler repairs and replacements are available in the ECO3 Guidance: Delivery. Single Ground Source Heat Pumps must be MCS compliant and thus require a two year warranty. DHS connections adhere to different consumer protection standards (which can be found in paragraph 4.126 of the ECO3 Guidance: Delivery), as such this section can be left blank for DHS connection measures.

¹² See page 14 for details of the minimum cover which should be provided by the warranty.

J. Boiler repairs only: For completion by the occupier: (for boiler replacements the occupier declaration must be on a copy of the warranty)		
1	Occupier's declaration	<i>I, the occupier, have been informed by you, the operative, that the boiler is under warranty for 2 years or more from the date of repair. I have been/will be provided with a copy of the warranty. I confirm that the nature of the warranty has been explained to me.</i>
2	Occupier's signature	
3	Date (dd/mm/yyyy)	_ _ / _ _ / _ _ _ _

K. All boilers: Operative details (including FTCH measures)		
To be completed by Operative who repaired/replaced the boiler or installed the new first time central heating.		
This section must be completed even if the same operative did both the assessment and repair or replacement of the boiler.		
1	Date of repair or replacement (dd/mm/yyyy)	_ _ / _ _ / _ _ _ _
2	Operative company name	
3	Company's accreditation number	
4	Operative name (as on the accreditation record)	
5	Operative competency: Accreditation/Accrediting Body	
6	Operative's accreditation number	
7	Operative's declaration	<p><i>I confirm that the boiler I repaired/replaced is connected to a functioning domestic central heating (and where applicable, hot water) system.</i></p> <p><i>I confirm that the information contained in this form is true and accurate. I acknowledge and understand that it is a criminal offence to knowingly make a false declaration and that the offence is punishable by a fine, imprisonment or both.</i></p>

K. All boilers: Operative details (including FTCH measures)	
8	Operative signature
9	Date (dd/mm/yyyy) _ _ / _ _ / _ _ _ _

L. All boilers: Where full heating controls are not necessary for measure¹³ only (including FTCH measures)	
To be completed by Operative who has determined that heating controls (TRVs) do not need to be fitted to the following radiators.	
This section must be completed even if the same operative did both the assessment and repair or replacement of the boiler.	
1	Which room radiators have not been fitted with TRVs including the bypass radiator if present?
2	Why have the full set of heating controls (TRVs) not been installed? ¹⁴

¹³ In some cases it may not be necessary for a TRV to be fitted to a heated towel rail in a bathroom. A suitably qualified operative should determine this on a case by case basis and, if applicable, fill out Section L of the BACL.

¹⁴ Customer refusal or reasons relating to installation costs are not sufficient reasons on their own for not installing 100% of a measure.

Actual costs of repair and replacement¹⁵

The actual cost of repair for each boiler must include itemised costs for the following, where applicable:

- parts and fittings
- water treatment inhibitor
- central heating controls
- sub-contract electrician
- quotation
- re-connecting and commissioning
- labour
- cost of providing the warranty (for repairs, this should only include the part(s) that has been replaced), and
- any works deemed necessary at time of repair to protect the boiler for the life of the warranty.

The warranty should at a minimum provide cover for total repair works, during the life of the warranty, valued up to:

- the financial level indicated in the 'Economic Repair Cost Comparison Tables' for a boiler of that type, age and condition; or
- £500 (exc. VAT)

whichever is higher.

The actual cost of a replacement boiler should account for all applicable items listed above plus the cost of the boiler and accessories, as appropriate.

¹⁵ Note that all costs shown are exclusive of VAT.

Economic Repair Cost Comparison Tables¹⁶

These tables provide guidance in determining when a mains gas or oil boiler cannot be economically repaired. They also show the minimum cap that should be applied to boiler repair warranties. There is an example of how to use these tables overleaf. For broken DHS and LPG boilers, operatives should use the relevant mains gas table.

Table 1.1 Maximum repair cost for mains gas combination boiler

Age of boiler	Cost
1	£2,910
2	£2,668
3	£2,425
4	£2,183
5	£1,940
6	£1,698
7	£1,455
8	£1,213
9	£970
10	£728
11	£485
12	£243
13+	£ nil

Table 1.2 Maximum repair cost for mains gas regular boiler

Age of boiler	Cost
1	£1,660
2	£1,522
3	£1,383
4	£1,245
5	£1,107
6	£968
7	£830
8	£692
9	£553
10	£415
11	£277
12	£138
13+	£ nil

Table 2.1 Maximum repair cost for oil combination boiler

Age of boiler	Cost
1	£4,420
2	£4,052
3	£3,684
4	£3,316
5	£2,948
6	£2,580
7	£2,212
8	£1,844
9	£1,476
10	£1,108
11	£740
12	£372
13+	£ nil

Table 2.2 Maximum repair cost for oil regular boiler

Age of boiler	Cost
1	£1,920
2	£1,760
3	£1,600
4	£1,440
5	£1,280
6	£1,120
7	£960
8	£800
9	£640
10	£480
11	£320
12	£160
13+	£ nil

Example of how to use these tables:

Example:

Boiler type: Mains gas,
Regular
Age: 4 years

Age of boiler	
1	£1,660
2	£1,522
3	£1,383
4	£1,245
5	£1,107
6	£968
7	£830
8	£692
9	£553
10	£415
11	£277
12	£138
13	£ nil
14	£ nil
15	£ nil

Result: If boiler repair work costs over £1,245, this boiler can be replaced. If the boiler repair work costs less than £1,245, boiler repair should be carried out. In this case, the boiler warranty should cover the boiler for work up to at

Appendix 1: Repair and Replacement Cost Table

The costs of each element listed on page 14 above must be itemised for both the total repair or replacement cost of the boiler. Each part or procedure required must be itemised separately.

The table below should be used. Alternatively, if agreed with the supplier, the quote may be provided in a different format. Please attached all relevant documentation to this form. This must be itemised such that the cost and description of each item listed on page 14 is clearly visible.

Repair Quote	
Item	Cost
Warranty cost	
Labour estimated for _____ hours at £_____ per hour	
Total excluding VAT	
VAT 20%	
Total	

Replacement Quote	
Item	Cost
Warranty cost	
Labour estimated for _____ hours at £_____ per hour	
Total excluding VAT	
VAT 20%	
Total	