Making a positive difference for energy consumers

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 upgrades, replacements, or repairs under the ECO scheme including renewable heating systems or a district heating system where applicable. This checklist should also be used when assessing a non-boiler central heating system.[1] The first time central heating (FTCH) checklist should be used when carrying out a FTCH measure, or when replacing broken ESH with a boiler.[2]

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.[3]

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 down[4]', or 'non-condensing[5]', 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.

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[1] For example, warm air systems and air-to-air heat pumps. Where a non-boiler central heating system is replaced as a broken boiler measure, the broken central heating uplifts cannot be claimed and the measure will count towards the broken heating system cap.

[2] https://www.ofgem.gov.uk/publications-and-updates/first-time-central-heating-ftch-checklist-0

[3] https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2018-22-eco3-guidance-delivery

[4] 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.

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

This checklist should also be completed when replacing an existing non-boiler central heating system and/or installing a new one (such as air to air heat pumps). In the case that an assessment is being carried out on an existing non-boiler central heating system, the details of the system should be entered in sections A-F as if it is a boiler. If installing a new non-boiler central heating system, the details should be entered in sections G-K as if it is a boiler.

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

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 PAS.[6] 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. All operatives carrying out repair or replacement work on renewable heat systems such as Air Source Heat Pumps (ASHP) or Ground Source Heat Pumps (GSHP) must meet regulatory compliance for MCS and use MCS-certified products or appropriate standards.[7]

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 BACL assessment details should not be copied from other BACLs, 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.

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

[7] Paragraphs 2.77 and 4.128 of the ECO3 Guidance: Delivery.

Energy Company Obligation (ECO3) Boiler Assessment Checklist

Sections in the checklist	Broken boiler replacements	Broken boiler repair	Boiler upgrade	Broken boiler replacements (Room Heaters)
A	✓	✓	✓	✓
B	✓	✓	✓	✓
C	✓	✓	✓	
D	✓	✓		
E	✓	✓		
F	✓	✓	✓	✓
G	✓	✓	✓	✓
H	✓	✓	✓	✓
I		✓		
J	✓	✓	✓	✓
K	✓	✓	✓	✓

A.	All boilers[8]: Details of assessment	
1	Date of assessment (dd/mm/yyyy)	_ _ / _ _ / _ _ _ _
2	Address: (Building number/name, Street name, Town, City, County)	
3	Postcode	

B.	All boilers: Existing heating source details	
1	Brand and model	
2	Model qualifier (if applicable)	
3	Fuel type	

[8] If the pre-main heating source is a non-boiler central heating system, please answer sections A – F with the assumption that the questions refer to non-boiler central heating systems. Additional details can be recorded if required.

B.	All boilers: Existing heating source details	
4	What is the current pre-main heat source?[9]	Boiler central heating system ☐ Non-boiler central heating system ☐ Room heaters/no heating ☐ (Go to section F).
5	Age of boiler / Year of original commissioning (if available).[10] 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 ☐ No ☐
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).[11]	_____%
10	Are there any other boilers in the property? (Please provide details including location) (Please record make, model & serial numbers etc)	

[9] Where the pre-main heat source is ESH the FTCH checklist should be used.

[10] When assessing the boiler age, the estimate age should be rounded down eg a boiler that is 4.7 years old should be assessed as a 4-year-old boiler. The boiler age can be determined by assessing the following information: the boiler name plate, the installation certificates and warranty documentation.

[11] 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. If the pre-main heat source is an electric heating system enter the responsiveness as determined by SAP 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 it is 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	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?	Yes ☐ Go to C2. No ☐ Go to C3a.
2	Broken boilers: Is the boiler economically repairable? (Complete section E to determine)	Yes ☐ Can be a repair of a broken heating system, Go to D1. If not repairing broken boiler, Go to C3. No ☐ Can be replaced as a broken heating system measure. Go to D1.
3	Broken repairable boilers: Is the boiler non-condensing?[12]	Yes ☐ Can be replaced as an upgrade of a heating system alongside a primary insulation measure. Go to C3b No ☐ Can only be replaced by DHS or renewable heating measures. Go to D1
3a	Working boilers (boilers which are not broken down): Is the boiler non-condensing? [11]	Yes ☐ Can be replaced as an upgrade of a heating system alongside a primary insulation measure. Go to C3b. No ☐ Can only be replaced by DHS or renewable heating measures. Go to F1

[12] 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.		
Boiler Fault List Select the appropriate fault(s) that resulted in the boiler being broken down or not functioning efficiently and **complete section D15**. (Note: this list is not exhaustive. Record any other faults not included in this list under 14. 'Other').		
1	Corrosion or fouling of the boiler heat exchanger	☐
2	No boiler ignition	☐
3	Unstable firing	☐
4	Any other mechanical or electrical fault (include details of the type of fault in D14)	☐
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 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	☐
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 of the manufacturer's specification/tolerance	☐

D.	Broken boilers only: Evidencing why the boiler is broken	
12	Boiler external corrosion	☐
13	Boiler installation is Immediately Dangerous (ID) or At Risk (AR) (Gas Safe definition)	☐
14	**Other: (Provide a detailed description)**	
15	**Please write how you identified the failure and any associated symptoms. This may include any tests or checks carried out on the boiler to identify the symptoms. (This information will be used during audit to determine whether the boiler was correctly assessed. Therefore, provide as much information as possible.)**	

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.

Please note that boiler replacement measures for non-boiler central heating systems or room heaters are only eligible under the broken heating cap, not as secondary measures, and the broken central heating uplifts cannot be applied to the score. Inefficient non-boiler central heating systems are eligible for upgrade measures.

E.	Broken Boilers only: Can the boiler be economically repaired?	
1	Are all parts required for the repair available? (eg if parts are available at a reasonable cost and within a reasonable timeframe[13] or if the repair does not require any parts tick 'Yes')	If boiler is 13+ years old, provide evidence and go to F1. Yes ☐ No ☐ if 'yes' go to E3, if 'no' please enter reasons below, the boiler should be replaced and go to F1. If No, please enter reasons; _____ _____
2	Is the actual cost of repair more than the actual cost of a replacement boiler?[14]	Yes ☐ add relevant costs and fill in cost table in Appendix 1. No ☐ add relevant costs below and fill in cost table in Appendix 1. Cost of repair: £ _____ Cost of replacement: £_____ If Yes, boiler can be replaced and go to F1. If No, go to E4.
3	What is the maximum cost of the boiler repair as identified in the 'Economic Repair Cost Comparison Tables'?[15]	£ _____ Fuel type not covered by tables ☐ (Identify whether the boiler can be economically repaired using questions E2 or contact Ofgem if additional tables are required.)
4	Is the actual cost of repair **less than** the maximum cost of repair as identified in the 'Economic Repair Cost Comparison Tables'?	Yes ☐ The boiler should be repaired. Please use Appendix 1 to provide details of repair undertaken. No ☐ The boiler should be replaced

[13] A screenshot should be retained to confirm parts were not available within a reasonable timeframe.
[14] See page 13 for costs to be included in actual boiler repair as well as replacement cost calculations.
[15] See page 14 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[16]	
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	_____%

[16] If the new heating system is a heat pump, please answer section G 1-6 with the assumption that the questions refer to heat pumps. Additional details can be recorded in this section if required.

G.	All boilers: Details of new boiler[16]		
7	Is the boiler compliant with Boiler Plus regulations?[17]	Yes ☐ If installing a combi boiler in England please select which energy saving measure was used to meet Boiler Plus requirement. N/A ☐ [18]	
		Smart controls ☐	Flue Gas Heat Recovery ☐
		Weather Compensation ☐	Load Compensation ☐

H.	All boilers: Details of warranty[19] offered to the occupier	
1	Start date of warranty (dd/mm/yyyy)	_ _ / _ _ / _ _ _ _
2	End date of warranty (dd/mm/yyyy)	_ _ / _ _ / _ _ _ _
3	For boiler repairs- is there a cap[20] on the value of repairs under the warranty?	Yes ☐ No ☐
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 ☐

[17] https://www.gov.uk/government/publications/conservation-of-fuel-and-power-approved-document-l
FAQs on Boiler Plus can be found here:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/718569/Boiler_Plus_Factsheet_v3.pdf

[18] For non-combi boilers and boilers installed in Scotland and Wales please tick N/A.

[19] 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 4.139 of the ECO3 Guidance: Delivery), as such this section can be left blank for DHS connection measures.

[20] See page 13 for details of the minimum cover which should be provided by the warranty.

I.	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, 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.*
2	Occupier's signature	
3	Date (dd/mm/yyyy)	_ _ / _ _ / _ _ _ _

J.	All boilers: Operative details	
To be completed by Operative who repaired/replaced the boiler.		
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	*I confirm that the boiler I repaired/replaced is connected to a functioning domestic central heating (and where applicable, hot water) system.* *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.*
8	Operative signature	
9	Date (dd/mm/yyyy)	_ _ / _ _ / _ _ _ _

K.	All boilers: Where full set of TRVs are not necessary for measure[21] only	
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?[22]	

[21] All radiators outside the room with the thermostat should have a TRV. 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 K of the BACL.

[22] 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 replacement

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. The value of the coverage provided by the warranty throughout its life should be the higher of:

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

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.

Economic Repair Cost Comparison Tables[23]

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

[23] Note that all costs shown are exclusive of VAT.

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 least the financial level of £1,245.

Appendix 1: Repair and Replacement Cost Table

The costs of each element listed on page 13 above must be itemised for both the total repair and 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 13 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	