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Energy Company Obligation (ECO2) Boiler Assessment Checklist

This Boiler Assessment Checklist ('the checklist') is designed to assess whether a boiler should be repaired or replaced as a qualifying boiler.

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 (ECO2) Guidance: Delivery*, available on our website.

Completing the checklist

The information provided in this checklist forms the basis of our determination of whether or not the boiler is a qualifying boiler and whether it should be repaired or replaced. This is established by assessing if the boiler is 'broken down', or 'not functioning efficiently', 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
- 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.

Operative competency

For boilers that are replaced which are referred to in PAS 2030:2014, the boiler must be assessed and replaced by operatives who meet the competency requirements listed in the boiler specific annex of PAS. 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 not functioning efficiently, 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.

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.

Energy Company Obligation (ECO2) Boiler Assessment Checklist

Sections that must be completed			
Sections in the checklist	**All boiler measures (repairs and replacements)**	**Boiler repairs only**	**Boiler replacements only**
A	✓		
B	✓		
C	✓		
D	✓		
E	✓ (if efficiency ≥ 86%)		
F	✓		
G	✓		
H			✓
I		✓	
J	✓		
K		✓	
L	✓		

A.	**Information Required: Complete for all boiler measures**	
1	Date of boiler assessment (dd/mm/yyyy)	_ _ / _ _ / _ _ _ _
2	Address: (Building number/name, Street name, Town, City, County)	
3	Postcode	
B.	**Existing boiler details: Complete for all boiler measures**	
1	Brand and model	
2	Model qualifier (if applicable)	
3	Fuel type	
4	Year of original commissioning (if available)	
5	Is it a combination boiler?	Yes ☐ No ☐
6	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)[1].	_____%

[1] 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.	Boiler Assessment Part 1: Complete for all boiler measures	
A boiler must meet certain criteria to be considered a qualifying boiler for repair or replacement. The first step in assessing whether a boiler is a qualifying boiler is to determine whether it is 'broken down' or 'not functioning efficiently'.		
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 C3 No ☐ go to C2
2	Is the boiler not functioning efficiently, ie the condition of the boiler is such that its performance in the delivery of water for central heating or the provision of domestic hot water is significantly worse than when the product was new?	Yes ☐ go to C3 No ☐ the boiler does not meet the criteria for a 'qualifying boiler'
3	List all the steps you took to identify the symptoms and to reach the conclusion that the boiler is broken down or not functioning efficiently. 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 D1.	

D.	Boiler Assessment Part 2: Evidencing why the qualifying boiler is broken down or not functioning efficiently	
Once you have identified whether the boiler is 'broken down' or 'not functioning efficiently', you must identify all the possible faults that have caused the boiler to be broken down or not functioning efficiently.		
	Boiler Fault List 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'.)	**In this column, write how you identified the failure and any associated symptoms** (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	
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	
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 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' or 'not functioning efficiently' you must then assess whether the boiler should be repaired or replaced.

Boilers which are 'broken down' or 'not functioning efficiently' and have an efficiency of less than 86% are not required to be repaired and therefore, can be **replaced**. In these cases, no assessment of whether the boiler can be economically repaired is required.

Boilers which are 'broken down' or 'not functioning efficiently' and have an efficiency of 86% or more must be assessed to determine whether or not they can be 'economically repaired'. Where a boiler can be economically repaired it must be **repaired**. Where a boiler cannot be economically repaired it can be **replaced**.

15	Is the boiler efficiency 86% or more when assessed against PCDB /SAP 2012?	Yes ☐ go to E1 No ☐ go to F1 and select 'Replace'
E.	**Boiler Assessment Part 3: Can the boiler be economically repaired?**	
1	Age of boiler in years (approximate, if commissioning year unavailable)	
2	State how you have established year of original commissioning/age (eg servicing sticker, records held by householder/landlord, original installation document etc.)	
3	Are all parts required for the repair available? (eg if parts are available at a reasonable cost and within a reasonable timeframe or the repair does not require any parts tick Yes)	Yes ☐ No ☐ go to F1 and select 'Replace'
4	Is the actual cost of repair more than the actual cost of a replacement boiler[2]?	Yes ☐ add relevant costs below then go to F1 and select 'Replace' Cost of repair: £ _____ Cost of replacement: £_____ No ☐
5	What is the condition of the existing boiler (when assessed against the expected condition of a boiler of that age)[3]?	Poor ☐ Standard ☐ Good ☐
6	What is the maximum cost of the boiler repair as identified in the 'Economic Repair Cost Comparison Tables'[4]?	£ _____ Fuel type not covered by tables ☐ (Identify whether the boiler can be economically repaired using questions E3 and E4 or contact Ofgem if additional tables are required.) Go to F1.
7	Is the actual cost of repair **less than** the maximum cost of repair as identified in the 'Economic Repair Cost Comparison Tables'?	Yes ☐ Go to F1 and select 'Repair' No ☐ Go to F1 and select 'Replace'
F.	**Conclusion: Complete for all boiler measures**	
1	Repair or replace boiler?	Repair ☐ Replace ☐

[2] See page 8 for costs to be included in actual boiler repair as well as replacement cost calculations.
[3] See page 9 for guidance on assessing boiler condition.
[4] See page 8-9 for Economic Repair Cost Comparison Tables.

G.	Operative details: Complete for all boiler measures	
	To be completed by the operative conducting the boiler assessment. Answer all questions in this section.	
1	Operative company name	
2	Company accreditation number	
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)	_ _ / _ _ / _ _ _ _
H.	**Details of new boiler: Complete for boiler replacements only**	
1	Brand and model	
2	Model qualifier (if applicable)	
3	Fuel type	
4	Boiler efficiency (%): Provide efficiency when assessed against PCDB/SAP 2012	_____%
I.	**Details of repair: Complete for boiler repairs only**	
1	Provide details for repair undertaken (parts, etc.). Continue on a separate sheet if necessary.	1. 2. 3. 4. 5.
2	How much of the actual cost of repair is attributable to the cost of the warranty that has been/will be provided?	£ _____
J.	**Details of warranty[5] offered to the occupier: Complete for all boiler measures**	
1	Start date of warranty (dd/mm/yyyy)	_ _ / _ _ / _ _ _ _
2	End date of warranty (dd/mm/yyyy)	_ _ / _ _ / _ _ _ _
3	For qualifying boiler repairs- is there a cap[6] 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	Yes, 1 year ☐ Yes, 2 years or more ☐

[5] Full details of the warranty requirements for boiler repairs and replacements are available in section 6 of Appendix 3 of the ECO Guidance: Delivery.

[6] See page 9 for details of the minimum cover which should be provided by the warranty.

	warranty from the date of repair/replacement (including an explanation of the nature of the warranty and the duration of the warranty)?	
K.	**For completion by the occupier: Complete only for boiler repairs (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: a) 1 year or b) 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)	_ _ / _ _ / _ _ _ _
L.	**Operative details: Complete for all boiler measures**	
To be completed by Operative who repaired/replaced the boiler.		
This section must be compeleted even if the same operative did both the assessment and repair or replacement of the boiler. Both Sections G and L must be completed.		
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.*
8	Operative signature	
9	Date (dd/mm/yyyy)	_ _ / _ _ / _ _ _ _

Actual costs of repair and replacement

The actual cost of repair for each boiler should account for, where applicable:

- parts and fittings
- water treatment inhibitor
- central heating controls
- sub-contract electrician
- quotation
- re-connecting and commissioning
- labour
- warranty, 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.

Economic Repair Cost Comparison Tables[7]

These tables provide guidance in determining when a mains gas or oil boiler with PCDB/SAP 2012 efficiency of 86% or above cannot be economically repaired. They also show the minimum cap that should be applied to boiler repair warranties. There is a guide to using these tables overleaf.

Table 1.1 Maximum repair cost for mains gas combination boiler

	Condition of boiler		
Age of boiler	Poor	Standard	Good
1	£1,940	£2,910	£2,910
2	£1,698	£2,668	£2,910
3	£1,455	£2,425	£2,910
4	£1,213	£2,183	£2,668
5	£970	£1,940	£2,425
6	£728	£1,698	£2,183
7	£485	£1,455	£1,940
8	£243	£1,213	£1,698
9	£-	£970	£1,455
10	£-	£728	£1,213
11	£-	£485	£970
12	£-	£243	£728
13	£-	£-	£485
14	£-	£-	£243
15	£-	£-	£-

Table 1.2 Maximum repair cost for mains gas regular boiler

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

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

Table 2.1 Maximum repair cost for oil combination boiler			
	Condition of boiler		
Age of boiler	Poor	Standard	Good
1	£2,948	£4,420	£4,420
2	£2,580	£4,052	£4,420
3	£2,212	£3,684	£4,420
4	£1,844	£3,316	£4,052
5	£1,476	£2,948	£3,684
6	£1,108	£2,580	£3,316
7	£740	£2,212	£2,948
8	£372	£1,844	£2,580
9	£-	£1,476	£2,212
10	£-	£1,108	£1,844
11	£-	£740	£1,476
12	£-	£372	£1,108
13	£-	£-	£740
14	£-	£-	£372
15	£-	£-	£-

Table 2.2 Maximum repair cost for oil regular boiler			
	Condition of boiler		
Age of boiler	Poor	Standard	Good
1	£1,280	£1,920	£1,920
2	£1,120	£1,760	£1,920
3	£960	£1,600	£1,920
4	£800	£1,440	£1,760
5	£640	£1,280	£1,600
6	£480	£1,120	£1,440
7	£320	£960	£1,280
8	£160	£800	£1,120
9	£-	£640	£960
10	£-	£480	£800
11	£-	£320	£640
12	£-	£160	£480
13	£-	£-	£320
14	£-	£-	£160
15	£-	£-	£-

Using these tables

Step 1: Determine the boiler condition, using the boiler fault details in the section of the completed checklist entitled 'Boiler Assessment Part 2'.

Poor: the apparent age of the boiler is a minimum of five years more than the actual age
Standard: the apparent age of the boiler corresponds with the actual age
Good: the apparent age of the boiler is a minimum of three years less than the actual age

It should be noted that unless the boiler condition is demonstrably better or worse than expected for its age, the standard condition should be used.

Step 2: Use the boiler condition and the boiler age to identify the maximum cost of repair.

Example:

Boiler type: Mains gas, Regular
Condition: Standard
Age: 4 years

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

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.