

Budget 2018: Government announced changes to the technologies supported by the Enhanced Capital Allowance (ECA) Scheme for Energy Saving Technologies

On 29th October 2018, the Government announced in Budget 2018, that the Enhanced Capital Allowances and First Year Tax Credits Scheme for energy saving technologies will end from April 2020.

The Government also announced a number of changes to the ETL Criteria that are expected to come into effect in 2019. Details of those changes are set out below.

One sub-technology is proposed for removal

- **Flow Controllers (a sub-technology of Compressed Air Equipment)** – Suppliers and purchasers have moved away from this technology.

The qualifying criteria for the following 18 sub-technologies will be revised:

Refrigeration

1. Air Cooled Condensing Units
2. Packaged Chillers
3. Refrigerated Display Cabinets
4. Professional Refrigerated Storage Cabinets
5. Refrigeration Compressors
6. Refrigeration System Controls
7. Automated Permanent Refrigeration Leak Detection Systems

HVAC

8. Active Chilled Beams

Heat Pumps

9. Air Source: Packaged Heat Pumps
10. Air Source: Air to Water Heat Pumps
11. Heat Pumps for Domestic Hot Water
12. Water Source: Split and Multi-Split (inc. Variable Refrigerant Flow) Heat Pumps
13. Air Source: Split and Multi-Split (inc. Variable Refrigerant Flow) Heat Pumps
14. Ground Source and Surface Water Source Heat Pumps
15. Heat Pump Driven Air Curtains

Radiant and Warm-Air Heating

16. Radiant Heating Equipment
17. Warm-air Heating Equipment

Compressed Air Equipment

18. Master Controllers

A summary of the planned changes to the ETL criteria is given below:

| Sub-technology | ETL Criteria Changes |
|---------------------------------------|---|
| 1. Air Cooled Condensing Units | <ul style="list-style-type: none"> • Make marginal improvements to the Coefficient of Performance (CoP) and Seasonal Energy Performance Ratio (SEPR) performance thresholds. • Review the sub-categorisation for Air Cooled Condensing Units. • Align with Ecodesign and test to the standard rating point for CoP. • Update to the latest version of BS EN 13215 (2016 from 2000). • Update to the latest version of BS EN 13771-2 (2017 from 2007). • Review the representative testing requirements. |

| Sub-technology | ETL Criteria Changes |
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| 2. Packaged Chillers | <ul style="list-style-type: none"> • Change the energy efficiency performance metric for cooling to Seasonal Space Cooling Energy Efficiency (SSCEE) for comfort chillers and Seasonal Energy Performance Ratio (SEPR) for process chillers. For heating to change to Seasonal Space Heating Energy Efficiency (SSHEE). This now aligns with the Ecodesign regulation for this sub-technology. • Update to the latest version of BS EN 14825 (2016 from 2013) • Update to the latest version of BS EN 14511 (2018 from 2013) • Make marginal improvements to the performance thresholds. • Amend the representative testing requirements to allow testing of a single representative model. • Consider expanding scope into simultaneous heating/cooling packaged chillers |
| 3. Refrigerated Display Cabinets | <ul style="list-style-type: none"> • Uplift the Energy Efficiency Index (EEI) performance thresholds. • Update to the latest version of BS EN ISO 23953-2 (2015 from 2005+A1 2012). • Introduce test standard BS EN 16902:2016 for the specific testing of commercial beverage coolers (and alignment with Ecodesign and Energy Labelling). • Amend the representative testing requirements to enable extrapolation of test reports to smaller and larger models. • Consider expansion into water loop refrigeration and the potential creation of a new sub-category within Refrigerated Display Cabinets. • Consider expansion into chilled air cabinets and the potential creation of a new sub-category within Refrigerated Display Cabinets. |
| 4. Professional Refrigerated Storage Cabinets | <ul style="list-style-type: none"> • Uplift the Energy Efficiency Index (EEI) performance thresholds. |
| 5. Refrigeration Compressors | <ul style="list-style-type: none"> • Make marginal improvements to the Coefficient of Performance (CoP) performance thresholds for compressors. • Require confirmation on application of the refrigerant used in the CoP measurement and declaration. • Update to the latest version of BS EN 13771-1 (2016 from 2003). |
| 6. Refrigeration System Controls | <ul style="list-style-type: none"> • Include variable speed controls (modulating) for condensers and compressors • Include trim heater controls for refrigerated display cabinets • Include remote reporting and monitoring functionality for data collection. • Consider including controls for electronic expansion valves. • Consider including compliance with the Radio Equipment Directive 2014/53/EU for devices with wireless functionality. |

| Sub-technology | ETL Criteria Changes |
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| 7. Automated Permanent Refrigeration Leak Detection Systems | <ul style="list-style-type: none"> • Remove current ambiguities and distinguish between detection sensitivity (i.e. change in refrigerant concentration) and minimum detection level (lowest level of refrigerant detection). The criteria will focus on the former. • Create refrigerant specific detection sensitivity requirements. • Create refrigerant specific measurement accuracy requirements. • Update refrigerant specific threshold alarm requirements. • Review expansion of scope into (high spec) ammonia leak detection equipment. |
| 8. Active Chilled Beams | <ul style="list-style-type: none"> • Introduce representative testing for this sub-technology. • Review the specified testing conditions to facilitate greater alignment with existing independent testing. • Remove reference to BS EN ISO 7730 from the criteria. This standard provides guidance on comfort settings at installation and not product performance. |
| 9. Air Source: Packaged Heat Pumps | <ul style="list-style-type: none"> • Change the ETL name for this sub-technology in order to better characterise the sub-technology and create alignment across the ETL heat pump technology group. New name: Packaged Air to Air Heat Pumps (rooftop). • Change the energy efficiency performance metric to Seasonal Space Heating Energy Efficiency (SSHEE) and Seasonal Space Cooling Energy Efficiency (SSCEE) and align with the Ecodesign regulation for this sub-technology. • In line with the change in performance metric, to change the required test standard from BS EN 14511 to BS EN 14825: 2016. • Uplift the performance threshold for SSHEE and SSCEE for eligibility on the ETL. • Introduce representative testing for this sub-technology. |
| 10. Air Source: Air to Water Heat Pumps | <ul style="list-style-type: none"> • Change the ETL name for this sub-technology in order to better characterise the sub-technology and create alignment across the ETL heat pump technology group. New name: Air to Water Heat Pumps. • Change the energy efficiency cooling performance metric to Seasonal Energy Efficiency Ratio (SEER) to align with the Ecodesign regulation for this sub-technology. • Update to the latest version of BS EN 14825 (2016 from 2013) • Uplift the performance threshold for SSHEE and SEER for eligibility on the ETL • Introduce a new sub-category for large irreversible heat pumps (>45kW output). Limit reversible heat pump rated output to ≤45kW. Reversible heat pumps >45kW will be considered under the Packaged Chillers sub-technology (as reversible chillers). |
| 11. Heat Pumps for Domestic Hot Water | <ul style="list-style-type: none"> • Change the ETL name for this sub-technology in order to better characterise the sub-technology and create alignment across the ETL heat pump technology group. New name: Air to Domestic Hot Water Heat Pumps. • Uplift the performance threshold (Water Heating Energy Efficiency) for eligibility on the ETL. • Introduce representative testing for this sub-technology. • Amend the sub-categorisation and remove ground source CO₂ and surface water source CO₂ heat pumps from the ETL specification. |

| Sub-technology | ETL Criteria Changes |
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| <p>12. Water Source: Split and Multi-Split (inc. Variable Refrigerant Flow) Heat Pumps</p> | <ul style="list-style-type: none"> • Change the ETL name for this sub-technology in order to better characterise the sub-technology and create alignment across the ETL heat pump technology group. New name: Water to Air Heat Pumps, Split, Multi-Split and VRF. • Change the energy efficiency performance metric to Seasonal Space Heating Energy Efficiency (SSHEE) and Seasonal Space Cooling Energy Efficiency (SSCEE) and align with the Ecodesign regulation for this sub-technology. • In line with the change in performance metric, to change the required test standard from BS EN 14511 to BS EN 14825: 2016. • Uplift the performance threshold for SSHEE and SSCEE for eligibility on the ETL. • Introduce representative testing for this sub-technology. |
| <p>13. Air Source: Split and Multi-Split (inc. Variable Refrigerant Flow) Heat Pumps</p> | <ul style="list-style-type: none"> • Change the ETL name for this sub-technology in order to better characterise the sub-technology and create alignment across the ETL heat pump technology group. New name: Air to Air Heat Pumps, Split, Multi-Split and VRF. • Change the energy efficiency performance metric to Seasonal Space Heating Energy Efficiency (SSHEE) for heating and Seasonal Space Cooling Energy Efficiency (SSCEE) for models >12kW to align with the Ecodesign regulation for this sub-technology. • In line with the change in performance metric, change the required test standard from BS EN 14511 to BS EN 14825: 2016. • Uplift the performance thresholds for eligibility on the ETL for models >12kW (SSHEE and SSCEE) and for models ≤12kW (SCOP and SEER). • Introduce performance thresholds for VRF heat pumps ≤12kW. • Remove the sub-category of dual-split heat pumps. • Consider expansion into water based indoor units (hybrid) VRF heat pumps and the potential creation of a new sub-category within Air to Air Heat Pumps, Split, Multi-Split and VRF. |
| <p>14. Ground Source and Surface Water Source Heat Pumps</p> | <ul style="list-style-type: none"> • Change the ETL name for this sub-technology in order to better characterise the sub-technology and create alignment across the ETL heat pump technology group. New name: Water or Brine to Water Heat Pumps. • Change the energy efficiency cooling performance metric to Seasonal Energy Efficiency Ratio (SEER) to align with BS EN 14825. • In line with the change in performance metric, change the required test standard from BS EN 14511 to BS EN 14825: 2016 and update existing references to BS EN 14825 from 2013 to 2016. • Introduce representative testing for this sub-technology. |
| <p>15. Heat Pump Driven Air Curtains</p> | <ul style="list-style-type: none"> • Uplift the performance threshold for COP and EER for eligibility on the ETL. • Update to the latest version of BS EN 14511 (2018 from 2013). |

| Sub-technology | ETL Criteria Changes |
|---------------------------------------|--|
| 16. Radiant Heating Equipment | <ul style="list-style-type: none"> • Change the energy efficiency performance metric for radiant heating equipment to Seasonal Space Heating Energy Efficiency (SSHEE) and align with the Ecodesign regulation for this sub-technology. • Uplift the performance thresholds (SSHEE) for eligibility on the ETL. • Add test standard prEN 17175: 2017 for the measurement of radiant performance for continuous radiant heating systems. |
| 17. Warm-air Heating Equipment | <ul style="list-style-type: none"> • Change the energy efficiency performance metric for warm-air heating equipment to Seasonal Space Heating Energy Efficiency (SSHEE) and align with the Ecodesign regulation for this sub-technology. |
| 18. Master Controllers | <ul style="list-style-type: none"> • Require microprocessors within master controllers to detect and determine the efficiency to load level curve for variable speed compressors. • Require ETL master controllers to be capable of controlling any air compressor, regardless of compressor manufacturer. |

Minor housekeeping changes

In line with usual practice, there will also be minor (i.e. housekeeping) changes made to some ETL categories, including converter-fed motors. Any ETL listed suppliers affected by these changes will be informed directly.

Timescales

For the above mentioned categories which require a change to the ETL criteria, final feedback on the proposed changes will be sought from stakeholders during November and December 2018. All of the stakeholders already involved in the research programme are in the process of being contacted regarding these changes. If there are any technology areas in which you were not involved, but would like to comment, please contact ICF at etl@icf.com.

For any general enquiries about the ETL scheme, the Annual Update process and products on the ETL, please contact ECAQuestions@carbontrust.com.