



Elmhurst Energy's final/draft response to:

Energy Performance of Buildings: A consultation on changes to The Energy Performance of Buildings Regulations 2012, No. 3118

Prepared for: MHCLG



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1. Introduction

Elmhurst Energy are pleased that MHCLG are seeking a consultation on 'Energy Performance of Buildings: A consultation on changes to The Energy Performance of Buildings Regulations 2012, No. 3118" which looks to include combined heating and ventilation systems within the scope of air-conditioning TM44 assessments and increase of the effective rated output threshold from 12kW to 70kW. We are delighted to respond to each question in turn.

The Consultation asked three questions and we have answered them all below. We hope you find the responses considered and useful for taking energy efficiency in air-conditioning inspections forward in a progressive manner.

2. Executive Summary

Elmhurst are the largest energy assessment Accreditation Scheme in the UK with over 7,000 energy assessor members who lodged over a million EPCs last year. We have operated in energy efficiency of dwellings for over 25 years and helped develop and deliver energy assessments in homes throughout the UK.

Our key messages surround;

- 1) The staggering impact this change will have on energy saving and carbon reduction potential within the non-domestic building stock. We estimate that this is the equivalent missed reduction in carbon emissions of up to 155,686,000 kgCO₂e
- 2) In light of the ongoing pandemic it seems wrong to dilute the need to inspect air-conditioning systems with the resultant adverse effect on health and safety.
- 3) Viewing the air-conditioning inspection as a MOT for air-conditioning systems not allowing business owners the opportunity to engage with industry experts and obtain independent advice.
- 4) Cost to business has been assessed incorrectly. We estimate that the inspection would likely save businesses £60,078,000

3. Questions and Answers

1. Do you agree that the threshold of the current air-conditioning inspection regime should be increased to include only air-conditioning systems and combined systems with an effective rated output of over 70 kW?

Elmhurst agrees with the change to include combined heating and ventilation systems within the scope however does not agree with the increase of the effective rated output threshold from 12kW to 70kW.

The inspection and assessment of the building aims to provide valuable information to businesses to assist in making decisions on reducing energy use and carbon emissions and cost savings. If the threshold is raised to 70kW there will be a large number of businesses that will miss out on the possibility of reducing energy consumption and ultimately reducing their costs.

The systems between 12kW and 70kW tend to be the more poorly maintained as they are usually the responsibility of the tenant or occupier. The larger systems tend to have third party maintenance contracts or regularly reviewed by third parties for ISO regulations. Around 40% of inspected buildings with ≤ 70 kW of cooling installed had systems which were not set to run in accordance with the operating times of the building.

The air conditioning inspection should be seen as being similar to an MOT. The MOT does not save lives. It is the identification of issues that are raised to the user that are then taken forward and resolved that save lives. And yes, the air conditioning inspection could equally lead to lives being saved. In the current unprecedented times of COVID-19 and poor air quality in our cities, ensuring the air conditioning systems are inspected regularly is vital for improving the environment and looking after the health of members of the public and employees within commercial buildings.

A report by the European Centre for Disease Prevention and Control states that "Building administrators should maintain heating, ventilation, and air-conditioning systems" "particularly in relation to the cleaning and changing of filters". Many businesses will have little understanding of cleaning and changing filters and the expertise provided on site by an air conditioning inspection can also assist as part of this guidance role.



Elmhurst suggests that to assist with compliance, the air conditioning inspection could be linked with Health and Safety at Work requiring all businesses to ensure the air conditioning systems are regularly inspected.

Elmhurst recommends that the UK takes the lead in ensuring opportunities for businesses to improve their energy efficiency is available where ever possible and however small. These opportunities in turn will assist in the UK achieving the 2050 net zero targets.

Not assessing building with effective rated output threshold of 12kW to 70kW will result in these systems becoming poorly maintained and ineffective for both comfort, health, energy efficiency and carbon consumption. Not assessing these systems should simply not be an option.

2. The analysis of impact makes a number of assumptions on the number and level of rated outputs of heating systems and air-conditioning systems and combined systems and the cost of inspections, etc.

Do you think the assumptions in the analysis of impact are fair and reasonable?

Elmhurst believes that the analysis of the impact within this consultation is greatly under estimated in relation to the environmental impact. Following investigation and consultation with industry organisations, we estimate that the total air conditioning systems currently stands at around 520,000 systems. With approximately 62% of them between 12kW and 70kW.

An industry expert has undertaken analysis which, from our anecdotal evidence, appears realistic. From a sample of 6358 systems, it was identified that there was an average saving of 482 kgCO₂e per system or 13% of the systems annual kgCO₂e if the recommendations from the inspection were implemented. When applied to the estimated number of systems between 12kW and 70kW of 323,000 (62% of 520,000), this is the equivalent missed reduction in carbon emissions of 155,686,000 kgCO₂e.

The cost to business has been detailed a £200 per system every 5 years. A cost to each business of £40 per year. If there were no or little savings available to business this cost would still be insignificant and would be outweighed by the benefits that apply such as maintained air quality, energy efficiency and carbon emissions.

Over the same sample, it was identified that there was an average saving of £226 per system per year if the recommendations from the inspection were implemented



which means that the cost of an inspection would be covered by the savings and most likely result in a net financial saving to businesses of £186 per year. When this is applied to the number of systems, the net financial saving to businesses per year you be £60,078,000.

If the existing scheme was to be maintained and properly enforced then government would know the number of systems, their size and the opportunities to reduce improve their efficiency.

3. Do you have any information on the number of combined air-conditioning and ventilation systems or combined heating and ventilation systems, in buildings in England and Wales?

An industry expert has undertaken analysis which, from our anecdotal evidence, appears realistic. Overall there are;

Approximately 520,000 systems rated >12KW of which;

- 62% between 12kW and 70kW (323,000)
- 38% over 70kW (197,000)

Again, if the existing scheme was to be maintained and properly enforced then government would know the number of systems, their size and the opportunities to reduce improve their efficiency

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