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Open consultation

Domestic smoke and carbon monoxide alarms: proposals to extend regulations

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Scope of the consultation

This consultation seeks views on:

a) Amending the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 to require social landlords to ensure at least one smoke alarm is installed on each storey of the premises on which there is a room used wholly or partly as living accommodation.

b) Amending the statutory guidance (Approved Document J) supporting Part J of the Building Regulations to require that carbon monoxide alarms are fitted alongside the installation of fixed combustion appliances of any fuel type (excluding gas cookers).

c) Amending the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 to require private and social landlords to install a carbon monoxide alarm in any room used as living accommodation where a fixed combustion appliance is used (excluding gas cookers).

Scope of this consultation: This consultation follows on from the government's social housing green paper (https://www.gov.uk/government/news/social-housing-green-paper-a-new-deal-for-social-housing) that was published in August 2018, the social housing white paper (https://www.gov.uk/government/publications/the-charter-for-social-housing-residents-social-housing-white-paper) that was published in November 2020 and the government review of carbon monoxide alarm requirements (https://www.gov.uk/government/publications/carbon-monoxide-alarm-requirements-review-terms-of-reference) that concluded in January 2019.

Geographical scope: These proposals relate to England only.

Impact assessment: Annex B sets out the expected impacts (costs and benefits) of proposals in this consultation. Where the proposals taken forward require legislative changes, further assessments will need to be made, and these will need to reflect the outcome of the consultation and responses.

Duration: This consultation will last for 8 weeks from 17 November 2020 to 11 January 2021.

Basic information

Enquiries: For any enquiries about the consultation please contact smokeandcarbonmonoxide@communities.gov.uk

How to respond: We encourage you to respond by completing the online survey (https://forms.office.com/Pages/ShareFormPage.aspx?id=EGg0v32c3kOociSi7zmVqCD6ElR-ZnROpGbfWGE7gwdUMUFUMUxGQVBZWDVJRDZJT1E1Uk1FTzA4Ti4u&sharetoken=ZtErtL8DM4XhqDCkVfJg).

Alternatively, you can email your responses to the question in this consultation to smokeandcarbonmonoxide@communities.gov.uk.

If you are responding in writing, please make it clear which questions you are responding to.

Written responses should be sent to:

Smoke and Carbon Monoxide Consultation
Ministry of Housing, Communities and Local Government
3rd Floor, Fry Building
2 Marsham Street
London
SW1P 4DF

When you reply, it would be very useful if you could confirm whether you are replying as an individual or submitting an official response on behalf of an organisation and include:

- your name
- your position (if applicable)
- the name of organisation (if applicable)
- an address (including post-code)
- an email address, and
- a contact telephone number

After the consultation

After the consultation, a summary of the responses will be published and placed on the government website at www.gov.uk/mhclg (http://www.gov.uk/mhclg).

Data Protection

For information on how your data will be held and used in accordance with data protection legislation, please see Annex C.

Introduction

The government is committed to ensuring residents are protected from the risks of fire and carbon monoxide in their homes. In 2019/20, fire and rescue services attended nearly 30,000 dwelling fires in England and sadly there were nearly 200 fire-related fatalities[footnote 1]. Around 20 people die from accidental carbon monoxide poisoning every year (excluding those relating to accidental exposure to smoke, fire and flames[footnote 2], with more than 4,000 presentations to hospitals estimated to be related to carbon monoxide (https://www.hse.gov.uk/GAS/domestic/cross-government-group-1011.pdf).

Alarms provide reassurance and can protect residents from the devastating harm caused to homes and lives by fire incidents and accidental carbon monoxide poisoning. Carbon monoxide alarms detect and warn of the presence of dangerous levels of the gas. Smoke alarms are shown to save lives: government statistics (https://www.gov.uk/government/statistics/detailed-analysis-of-fires-attended-by-fire-and-rescue-services-england-april-2018-to-march-2019) show you are around 8 times more likely to die in a fire if you do not have any working smoke alarms in your home.

Government expects residents to be safe, and feel safe, in their home, and expects landlords to provide residents with a safe place to live. Following the tragic events at Grenfell Tower in 2017, over 8000 people contributed their opinions and concerns to shape the social housing green paper (https://www.gov.uk/government/news/social-housing-green-paper-a-new-deal-for-social-housing). People commented that safety concerns were not always being listened to or addressed properly and this affected their faith in the legislative and regulatory framework. The Building Safety Programme was established to make sure that residents of high-rise residential buildings are safe, now and in the future.

The social housing green paper aimed to rebalance the relationship between landlords and residents. The paper recognised a disparity in protections between the private rented sector and social rented sector in respect of safety measures, including smoke and carbon monoxide alarm requirements, which are mandatory in private rented properties but not social rented. It asked whether such measures should apply to social rented properties. There was strong support for a renewed focus on safety and over 91% of respondents supported parity between the sectors.

Scope

This consultation is being published alongside the social housing white paper and forms part of a wider package of measures designed to ensure that people are safe, and feel safe, now and in the future. It seeks to bring greater parity between the rental sectors in respect of safety. Specifically, we are seeking comments on the following proposals:

Smoke alarms

a) We propose to amend the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 (https://www.legislation.gov.uk/uksi/2015/1693/contents/made) to require social landlords to ensure at least one smoke alarm is installed on each storey of the premises on which there is a room used wholly or partly as living accommodation. We also propose, through regulations, to require landlords to ensure that appropriate checks are made to ensure that each prescribed alarm is in proper working order on the first day of every new tenancy and to repair or replace alarms if they are reported as faulty during the tenancy.

Carbon monoxide alarms

b) We propose to amend the statutory guidance (Approved Document J (https://www.gov.uk/government/publications/combustion-appliances-and-fuel-storage-systems-approved-document-j)) supporting Part J of the Building Regulations to require that carbon monoxide alarms are fitted alongside the installation of fixed combustion appliances of any fuel type (excluding gas cookers). Building regulation requirements are tenure neutral and apply upon the installation of combustion appliances in all rented and owner-occupied homes.

c) We propose to amend the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 to require private and social landlords to install a carbon monoxide alarm in any room used as living accommodation where a fixed combustion appliance is used (excluding gas cookers). We also propose, through regulations, to require landlords to ensure that appropriate checks are made to ensure that each prescribed alarm is in proper working order on the first day of every new tenancy and to repair or replace alarms if they are reported as faulty during the tenancy.

The proposals apply to England only.

We invite views on whether you agree with these proposals and if so, whether there are issues for us to consider as we implement the changes. We particularly welcome views from residents and resident groups, housing associations and local authorities and their representative bodies, private landlords and private sector landlord associations, fire and rescue authorities, fire and carbon monoxide safety groups or charities, heating installers and smoke alarm and carbon monoxide alarm technical specialists and suppliers.

Part A: Smoke alarms

What we know

The Home Office's Fire and Rescue Incident Statistics (https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables#fatalities-and-casualties) (see FIRE 0202) show that in 2019 to 2020 there were 25,484 accidental dwelling fires, resulting in 167 deaths and 1,909 injuries which required hospital treatment (see FIRE 0506 (https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables#fatalities-and-casualties)). Fires also damage homes and property. The average area of damage caused by a dwelling fire is around 16 metres squared (See FIRE 0204 (https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables)).

Of all dwelling fires, around three-quarters (74%) were in houses, bungalows, converted flats and other properties, whilst around a quarter (26%) were in purpose-built flats. In the same year, fire and rescue services attended 775 fires in purpose-built high-rise flats (See FIRE 0205

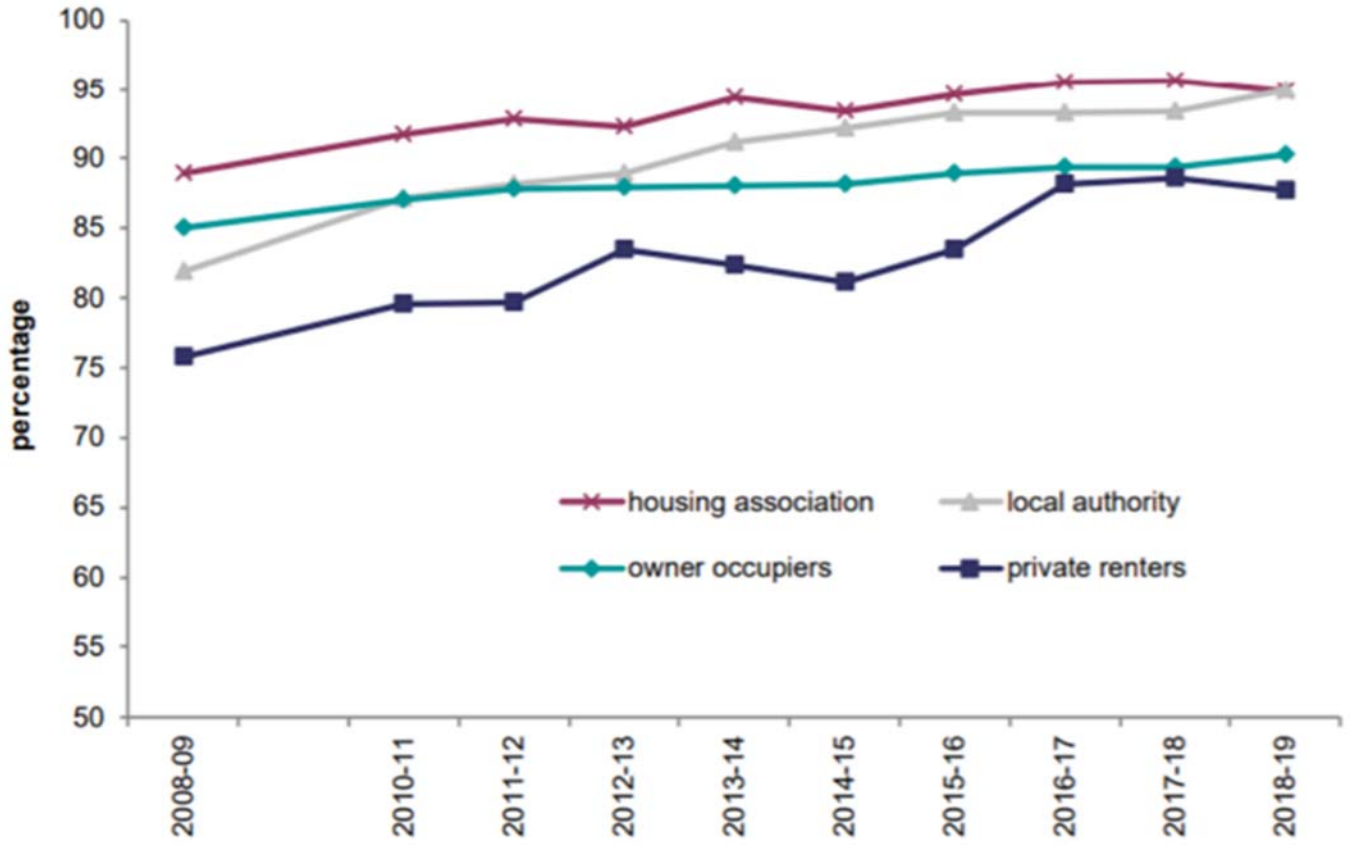
(https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables#fatalities-and-casualties)).

Smoke alarms are shown to save lives. Home Office data suggests that in 2019 to 2020 52 fatalities (26%) from dwelling fires occurred where a smoke alarm was not installed (See FIRE 0702 (https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables#fatalities-and-casualties)). A smoke alarm was present and raised the alarm (i.e. functioned as desired) in 45% of dwelling fires in 2019 to 2020 but in only 33% of fire-related fatalities, highlighting the importance of having both working smoke alarms and enough of them to cover all areas in a dwelling. See detailed analysis (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/923072/detailed-analysis-fires-attended-fire-rescue-england-1920-hosb2820.pdf).

In 2018 to 2019, a majority (91%) of English households (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/860076/2018-19_EHS_Headline_Report.pdf) had at least one working smoke alarm. Households renting from a housing association and those renting from a local authority were most likely to have at least one working smoke alarm (95%). Fewer (90%) owner-occupiers and private renters (88%) had smoke alarms.

Since the introduction of the Smoke and Carbon Monoxide Alarm (England) Regulations 2015, coverage of working smoke alarms in the private rented sector has increased from 83% to 88%. This follows a period between 2012 and 2014 when coverage in the sector had been decreasing (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/860076/2018-19_EHS_Headline_Report.pdf).

Chart 1: Households with at least one working smoke alarm by tenure 2008-09 to 2018-19



Legal context

Currently, to meet the guidance of Approved Document B (Fire Safety) (https://www.gov.uk/government/publications/fire-safety-approved-document-b) under the Building Regulations 2010, smoke alarms must be installed in all newly built dwellings. The guidance requires smoke alarms to be installed when new homes are created by a change of use or conversion and when extensions or loft conversions are added to existing homes, all regardless of tenure. The building control body are responsible for enforcing the Building Regulations.

Since 2015, private sector landlords have been required to install at least one smoke alarm where there is a room used wholly or partly as living accommodation. The Smoke and Carbon Monoxide Alarm (England) Regulations 2015 also require private landlords to ensure the alarms are in working order at the start of each tenancy. A question and answer booklet was published alongside the regulations to provide guidance on implementation. The local housing authority is responsible for enforcing the smoke alarm requirements set out in the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 and can levy a penalty charge of up to £5,000 for non-compliance.

Policy context

The 2015 regulations were introduced as part of a package of policy responses designed to tackle poor standards in the private sector. The private sector had the poorest record on alarms at the time: in 2015 private rented homes had fewer smoke (83%) and carbon monoxide (21%) alarms than any other sector. See EHS headline report page 43 (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/658478/2015-16_EHS_Headline_Report.pdf). The focus at that time was on bringing the poorest performing sector up to acceptable levels.

In 2018, we also reviewed how effective the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 had been to date. The review (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/727585/180615_Government_Response_to_Review_of_Smoke_and_Carbon_Monoxide_Alarm__England__Regulations_2015_Consultation_Final.pdf) found that there was good awareness of the regulations and they had had a positive impact on the number of alarms installed. The review concluded that the regulations should be retained in full and that consideration should be given to expand the regulations to cover both the private and social rented sector, subject to further consultation.

Policy consideration

Government welcomes the majority of social landlords who have already taken steps to keep their residents safe by installing smoke alarms, and notes that 95% of social rented homes had a working smoke alarm in 2018. However, 210,000 social rented homes do not have a working smoke alarm. This puts lives unnecessarily at risk. As part of the government’s response to the Grenfell tragedy and its commitment to ensure residents are safe and feel safe in their homes, we want to ensure all renters can benefit from these protections.

The Smoke and Carbon Monoxide Alarm (England) Regulations 2015 have resulted in an increase in the number of smoke alarms in the private rented sector. While there is already better coverage in the social rented sector, we would like to see this progress replicated with an expectation that all tenants benefit from the protection and reassurance enjoyed by having a working smoke alarm. We believe that all rented homes should have smoke alarms, regardless of whether you rent in the private or social sector.

Proposals: Smoke alarms in rented homes

We therefore propose amending the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 to bring requirements for smoke alarms in the social rented sector in line with the private rented sector. Our proposals will require social landlords to ensure at least one smoke alarm is installed on each

storey of the premises on which there is a room used wholly or partly as living accommodation. They will also be obliged to ensure that checks are made to make sure that each prescribed alarm is in proper working order on the first day of each new tenancy.

The intention of extending the regulations is to protect residents as part of our wider work to rebalance the relationship between residents and social landlords. We are proposing to extend the requirements to tenancy types where the social landlord has responsibilities for internal repairs and maintenance so excluding, for example, shared-ownership properties or other low-cost home ownership products. The types of properties covered under the definition are included in the glossary appended at Annex A under the definition, 'social rented sector'. We will continue to encourage owner-occupiers to keep themselves, their families, friends and neighbours safe through campaigns such as the government's Fire Kills campaign (https://firekills.campaign.gov.uk/). Fire and Rescue services carried out over 580,000 home fire safety visits in 2019 to 2020 (see FIRE 1201 (https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables#non-fire-incidents)), targeting vulnerable occupants to provide tailored fire safety advice and install alarms. See further guidance on how owner-occupiers can make their home safe from fire (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/564803/Fire-Safety-in-the-Home.pdf).

During the review of the Smoke and Carbon Monoxide Alarm (England) Regulations 2015, we heard that the positioning and placement of smoke alarms can affect their effectiveness. Of those who had a smoke alarm installed at the time of a fire, around half (49%) of households reported that the alarm did not go off at the time of the incident. Of these, just under a quarter (23%) report that the fire was too far away from the smoke alarm (see EHS report, page 11 (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/724327/Fire_and_Fire_Safety.pdf)). The question and answer booklet (https://www.gov.uk/government/publications/smoke-and-carbon-monoxide-alarms-explanatory-booklet-for-landlords/the-smoke-and-carbon-monoxide-alarm-england-regulations-2015-qa-booklet-for-the-private-rented-sector-landlords-and-tenants) published alongside the regulations provides some general guidance on placement of smoke alarms alongside weblinks to fire safety information at www.gov.uk/firekills (https://firekills.campaign.gov.uk/). Government seeks views on whether the information on placement of smoke alarms within this guidance document remains fit for purpose and whether it would need adapting or updating alongside an extension of the regulations to the social rented sector.

Some respondents to the review also told us that the regulations should prescribe the type of alarm to be installed. We are not proposing to prescribe the type of smoke alarm to be installed. This is because we think that landlords are best placed to decide on the most suitable device according to household needs and circumstances and the range of products available on the market. For example, there are alarms specifically designed for households with children or people with hearing loss. We propose to use the guidance published alongside the regulations to remind landlords to ensure their choice of alarm meets the relevant product standards. The guidance will also recommend the benefits of third-party accreditation of smoke alarms, such as that provided by the British Standard Institute (BSI) Kitemark (British Standard 5839-6), Loss Prevention Certification Board (LPCB) (https://www.bregroup.com/products/lpcb/) or other schemes.

We are not proposing that there should be a requirement on landlords to test alarms during the tenancy. Home Office guidance (https://www.gov.uk/government/publications/make-your-home-safe-from-fire) is that alarms should be tested at least on a monthly basis. Due to the frequency of testing required, we think it is reasonable to expect that a resident undertake this task as part of their normal responsibility to maintain their home. However, we would like to understand better the role landlords could play in supporting their residents to test their alarms regularly and safely, particularly residents who are vulnerable or have additional needs. Responses to this question will be considered alongside the learning arising from the government's Social Sector (Building Safety) Engagement Best Practice Group (https://www.gov.uk/government/groups/social-sector-building-safety-engagement-best-practice-group).

Their aim, in part, is to develop best practice in engagement and communication between landlords and residents on building safety issues. Findings could help shape guidance to accompany the regulations.

We are proposing that both private and social sector landlords be obliged to repair or replace a faulty alarm during the tenancy, where a fault is reported to them. Whilst we are not proposing proactive checking of alarms during the tenancy by the landlord, we do think it is right that landlords should replace faulty alarms, particularly in the social rented sector where tenancies run for an average of 12 years (EHS report page 19 (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/860076/2018-19_EHS_Headline_Report.pdf)) whilst a smoke alarm has an average life-span of 10 years (Fireservice.co.uk guidance (https://www.fireservice.co.uk/safety/smoke-alarms/) says to replace alarms after 10 years). As private rented tenancies run for an average of 4 years, We propose that the guidance published alongside the regulations says that if, on testing their alarm, tenants find that their alarm is not in working order, they should first consider testing or replacing the battery. If the alarm is mains-operated or is still not working after the battery is replaced, residents should contact the landlord to arrange for the repair or replacement of the alarm. We are interested in views on this proposal.

The body responsible for enforcing the installation of smoke alarms in social rented homes will be the local housing authority. Although local authorities cannot take statutory enforcement action against themselves in respect of their own homes, they will be expected to ensure their homes comply. In addition, all social landlords are expected to comply with the Regulator of Social Housing's consumer standards, that require providers to meet all applicable statutory requirements that provide for the health and safety of the occupants in their homes. The Housing Ombudsman can also play a role in resolving complaints about alarms between tenants and non-compliant local authority landlords.

We plan to commence requirements as soon as practicable following the laying of regulations. Delaying implementation could put lives at risk. However, a phased implementation could help landlords manage the additional costs by, for example, installing an alarm when they next visit the property, during a tenancy or gas safety check, rather than having to make an extra visit. As part of this consultation, we are seeking evidence of the necessity of a phased implementation approach.

Analysis of impact

As part of the development of these proposals, an analysis of the costs and benefits was carried out to examine the impacts of mandating smoke alarms on every storey of all social homes. It found that the cost to social landlords of installing smoke alarms in homes which currently do not have them on every storey would be £21 million over a ten-year period, with assessed benefits of £68 million over a 20-year period. The cost per dwelling is £102 over 10-year appraisal period. The benefits have been calculated by estimating the monetised health benefits through reduced fatalities and injuries caused by fires in social homes.

Because we are proposing a new obligation on landlords to replace alarms when they are reported broken during the tenancy, replacement costs for social landlords have been included in the analysis. However, as private rented tenancies only last an average of 4 years, and smoke alarms last an average of 10 years, no replacement costs for private landlords were considered.

We acknowledge that our proposals could have a slightly increased impact on smaller landlords as larger landlords are able to benefit from some economies of scale, such as buying alarms in bulk. However, we do not expect the cost per home to be significantly different for smaller landlords and so they should not be disproportionately impacted. We are therefore not proposing to exempt small landlords from our proposals as this would undermine their effectiveness. The full impact assessment is available at Annex B.

Questions: Smoke alarms in rented homes

Q1: Do you support the proposal to extend the smoke alarm requirements as set out in the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 to the social rented sector?

a. Yes
b. No

Q2: Please give your reasons.

Q3: Do you think that the guidance on where smoke alarms should be situated requires updating?

a. Yes
b. No

Q4: Please give your reasons.

Q5: Do you agree with the proposal that landlords should not be required to test smoke alarms during the life of the tenancy?

a. Yes
b. No

Q6: Please give your reasons.

Q7: Please provide examples of how social landlords could best support residents to test their smoke alarms regularly and safely.

Q8: Do you agree with our proposal that legislation be amended to create an obligation for social landlords to repair or replace smoke alarms, once informed that they are faulty?

a. Yes
b. No

Q9: Please give your reasons.

Q10: Do you agree with our proposal that legislation be amended to create an obligation for private landlords to replace alarms once informed that they are faulty?

a. Yes
b. No

Q11: Please give your reasons.

Q12: Do you agree with our proposal to update our guidance document to ensure the choice of alarm meets relevant product standards?

a. Yes
b. No

Q13: Please give your reasons.

Q14: Do you support the proposal to commence the regulations as soon as practicable following the laying of regulations?

a. Yes
b. No

Q15: Please give your reasons.

Q16 For local authorities only: What additional operational or financial burdens do you consider would be placed on you by enforcing our proposals on smoke alarms? Please provide any costings to support your answer.

Part B: Carbon monoxide alarms

What we know

Carbon monoxide is produced by incomplete combustion. It can be released into a room if a combustion appliance such as a boiler or fire is faulty, is poorly installed or maintained, or if a flue or chimney is blocked or leaky. It is colourless, odourless and tasteless. Mild poisoning can cause headaches and flu-like symptoms, whilst higher concentrations can lead to collapse, coma or death.

Sometimes referred to as the 'silent killer', statistics estimate that around 20 people die from accidental carbon monoxide poisoning every year. There are around 200 major injuries that require hospitalisation and around 4,000 minor injuries (https://www.hse.gov.uk/gas/domestic/cross-government-group-1819.pdf). The view of some medical experts is that some carbon monoxide poisonings are being wrongly diagnosed and therefore under-reported[footnote 3].

Carbon monoxide alarms give advance warning of carbon monoxide in a property and the Health and Safety Executive (HSE) recommend (http://www.hse.gov.uk/research/rrpdf/rr847.pdf) the use of audible carbon monoxide alarms as an important precaution. However, alarms should not be regarded as a replacement for proper installation and regular maintenance and safety checks of combustion appliances by a registered engineer (http://www.hse.gov.uk/gas/domestic/faqownerocc.htm).

In 2018, 42% of all dwellings had a carbon monoxide alarm, up from 33% in 2016 (EHS report, page 41 (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/860076/2018-19_EHS_Headline_Report.pdf)). Owner-occupied homes (43%) and social rented homes (43%) were more likely to have a carbon monoxide alarm than private rented sector dwellings (39%). Homes with a solid-fuel burning appliance, such as a coal fire or wood burning stove, were more likely (51%) to have a carbon monoxide alarm than homes without a solid-fuel appliance (41%).

Legal context

Currently, carbon monoxide alarms must be installed in all residential buildings when a fixed solid-fuel burning appliance, like a log burning stove, is installed. This requirement is set out in Building Regulations Approved Document J (https://www.gov.uk/government/publications/combustion-appliances-and-fuel-storage-systems-approved-document-j) and applies to installations regardless of tenure in private and social rented homes and in owner occupied homes. Building control bodies are responsible for interpreting the guidance and enforcing the requirements of the Building Regulations. In practice, most combustion appliance installations are carried out by engineers registered with approved competent persons schemes (https://www.gov.uk/building-regulations-competent-person-schemes) who self-certify that the installation is compliant with the requirements of the building regulations.

Since 2015, private sector landlords have been required to install a carbon monoxide alarm in any room which is used wholly or partly as living accommodation and contains a solid-fuel burning appliance. The regulations also require private landlords to ensure the alarms are in working order at the start of each tenancy. As with smoke alarms, the local housing authority is responsible for enforcing carbon monoxide alarm requirements.

Policy context

The current requirement in building regulations and in the private rented sector for alarms for solid-fuel heating was based on the cost-benefit analysis published at the time (http://www.legislation.gov.uk/ukia/2010/88/pdfs/ukia_20100088_en.pdf). That showed the benefits to installing alarms for solid-fuel appliances to be greater than for gas and oil appliances.

In 2017, the All-Party Parliamentary Carbon Monoxide Group (APPCOG) published a report Carbon Monoxide Alarms: Tenants Safe and Secure in Their Homes (https://www.policyconnect.org.uk/appcog/research/carbon-monoxide-alarms-tenants-safe-and-secure-their-homes) that critically assessed both the 2010 and 2015 requirements. It found that the original cost-benefit analysis which preceded the regulations was outdated, with carbon monoxide alarms being cheaper and more efficient than they had been previously. It also found that the regulations were unnecessarily complex and could be simplified by instead requiring alarms for all combustion appliances, including gas and oil, and extending requirements to social landlords.

During 2018, the Review of Carbon Monoxide Alarm Requirements (https://www.gov.uk/government/publications/carbon-monoxide-alarm-requirements-review-terms-of-reference/carbon-monoxide-alarm-requirements-review-terms-of-reference) considered whether regulations currently limited to solid-fuel appliances in the private rented sector and building regulations are fit for purpose or whether requirements should be extended to the installation of oil and gas boilers and to social rented housing. The review was supported by a working group of stakeholders and experts that included representation from Public Health England (PHE), the Health and Safety Executive (HSE), landlord associations, academics, the emergency services and gas installers. The review found evidence to support the case to extend carbon monoxide requirements.

Policy consideration

The government welcomes the valuable work of the All-Party Parliamentary Carbon Monoxide Group (APPCOG) and the experts and stakeholders who are engaged on this critically important issue. We agree that the cost of alarms has fallen since 2010. We want to see a greater number of residents benefit from the protection and reassurance that carbon monoxide alarms can provide. We accept APPCOG's finding that limiting requirements to solid-fuel burning appliances has made the regulations complicated.

Proposal: Carbon monoxide alarms upon installation of combustion appliances

We propose to amend the statutory guidance (Approved Document J) so that carbon monoxide alarms must be fitted alongside the installation of fixed combustion appliances of any fuel type, excluding gas cookers. These requirements apply to installations in new and existing homes regardless of tenure, i.e. private and social landlords and to owner-occupiers.

Approved Document J provides guidance on placement of carbon monoxide alarms. It says that an alarm should be fitted on the ceiling at least 300mm from any wall or on a wall, as high up as possible (above any doors and windows) but not within 150mm of the ceiling and between 1m and 3m horizontally from the appliance. Government would like to seek views on whether the information on placement of carbon monoxide alarms remains fit for purpose and whether they would need adapting or updating alongside an extension of the regulations and guidance.

Approved Document J also sets out that to meet the requirements of the building regulations, a carbon monoxide alarm should comply to British Standard Institute standards (British Standard BS EN 50291) and be powered by a battery designed to operate for the working life of the alarm. It should also have a warning device to alert users when the working life of the alarm is due to pass or a mains-powered alarm with fixed wiring (not plug-in) and a sensor failure warning device. Government would like to seek

views on whether the information on what type of carbon monoxide alarm should be installed remains fit for purpose and whether it would need adapting or updating alongside an extension of the regulations and guidance.

Analysis of impact

The impact assessment at Annex B sets out an analysis of costs and benefits of requiring a carbon monoxide alarm to be fitted upon the installation of any new or replacement fixed combustion appliance of any fuel type (excluding cookers). It found that the additional impact on private and social landlords would be negligible, while the cost to housebuilders and owner occupiers would be £208 million over 10 years, with assessed benefits of £183 million over a 20-year period. The benefits have been calculated by estimating the monetised health benefits through reduced fatalities and injuries.

We estimate the cost to owner-occupiers would be approximately £27 per additional alarm that is required, including parts and installation. We expect that this cost will only be incurred once by each affected household during our 10 year appraisal period, and that approximately two-thirds of owner-occupied households could be affected.

Although the analysis shows a total net cost to extend carbon monoxide alarm requirements in respect of Building Regulations, government believes it is vital for residents to be safe and feel safe in their homes. Additionally, we expect alarm costs to fall and average lifespans to improve. It is also the view of some medical experts that carbon monoxide poisonings are being under-reported[footnote 4].

As with smoke alarms, we are not proposing to exempt landlords from our proposals and acknowledge that that our proposals may have a small increased impact on smaller landlords. However, we do not expect the cost per home to be significantly different for smaller landlords and so they should not be disproportionately impacted.

Questions: Carbon monoxide alarms upon installation of combustion appliances

Q17: Do you support the proposal to amend the statutory guidance (Approved Document J) supporting Part J of the Building Regulations to require carbon monoxide alarms to be fitted alongside the installation of fixed combustion appliances of any fuel type (excluding gas cookers)?

a. Yes
b. No

Q18: Please give your reasons.

Q19: Do you think that the guidance in Approved Document J on where carbon monoxide alarms should be situated requires updating?

a. Yes
b. No

Q20: Please give your reasons.

Q21: Do you think that the guidance in Approved Document J on what type of carbon monoxide alarm should be installed requires updating?

a. Yes
b. No

Q22: Please give your reasons.

Proposals: Carbon monoxide alarms in rented homes

We propose amending the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 so that private and social landlords will be required to install a carbon monoxide alarm in any room used as living accommodation where there is a fixed combustion appliance of any fuel type, excluding gas cookers.

As with smoke alarms, the intention of extending the regulations is to protect residents in rented homes. As such, we are not proposing to extend requirements to owner occupiers. We are proposing to extend the requirements to tenancy types where the social landlord has responsibilities for internal repairs and maintenance. The Health and Safety Executive (HSE) recommends (https://www.hse.gov.uk/research/rrhtm/rr847.htm) that homeowners should install carbon monoxide alarms as a useful precaution.

Government published a question and answer booklet (https://www.gov.uk/government/publications/smoke-and-carbon-monoxide-alarms-explanatory-booklet-for-landlords/the-smoke-and-carbon-monoxide-alarm-england-regulations-2015-qa-booklet-for-the-private-rented-sector-landlords-and-tenants) alongside the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 which provides some general guidance for landlords on placement of carbon monoxide alarms. Government would like to seek views on whether the information on placement of carbon monoxide alarms within this guidance document remains fit for purpose and whether it would need adapting or updating alongside an extension of the regulations to the social rented sector.

Some respondents to the review of the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 also told us that these regulations should prescribe the type of alarm to be installed. As with smoke alarms, we are not proposing to prescribe the type of carbon monoxide alarm to be installed in rented properties. We do however propose to use the guidance published alongside the regulations to remind landlords to ensure their choice of alarm meets the relevant product standards and is Conformité Européenne (CE) marked. The guidance will also recommend the benefits of third-party accreditation of alarms, such as that provided by the British Standard Institute (British Standard BS EN 50291). We will also use the guidance document to remind landlords to ensure their choice of alarm should adhere to third party accreditation and give due regard to the needs of individual households.

Landlords would be required to ensure alarms are in working order on the first day of each new tenancy. We are not proposing that there should be a requirement on landlords to test alarms during the tenancy. This is because guidance from many manufacturers and the London Fire Brigade (https://www.london-fire.gov.uk/media/4833/carbon-monoxide-safety-booklet-23819-final.pdf) (page 8) is that carbon monoxide alarms should be tested at least on a monthly basis. As with smoke alarm proposals set out above, due to the frequency of testing required, we think it is reasonable to expect that a resident undertake this task as part of their normal responsibility to maintain their home.

We are proposing that landlords should be obliged to repair or replace a faulty alarm during the tenancy, where a fault is reported to them. As with smoke alarms, we are not requiring proactive checking during the tenancy by the landlord, however we do think it right that landlords also be obliged to replace faulty carbon monoxide alarms. As with smoke alarms, we propose the guidance published alongside the regulations sets out resident and landlord responsibilities. We are interested in exploring views on this proposal. As with smoke alarms, the body responsible for enforcing the installation of carbon monoxide alarms in the social rented sector homes will be the local housing authority.

As with smoke alarms, we are minded to commence requirements as soon as practicable following the laying of regulations. However, a phased implementation could allow landlords to install alarms when they next visit the property. We are seeking evidence of the necessity of a phased implementation approach.

Analysis of impact

The impact assessment at Annex B sets out costs and benefits of extending regulations to require CO alarms in all rooms with any type of fuel burning appliance (excluding gas cookers) in both the private rented and social rented sectors.

It found the net additional cost to social sector landlords would be £128 million over 10 years with assessed benefits of £106 million over a 20-year period. The net additional cost to private sector landlords would be £147 million over 10 years with assessed benefits of £118 million over a 20-year appraisal period.

We estimate the cost to landlords will be approximately £27 per additional alarm that is required, including parts and installation. The number of alarms required per property will vary with the number and location of appliances in scope, but we estimate that the average cost per rented property would be approximately £33 over 10 years. Costs and benefits have been calculated in the same way as for proposals to amend Building Regulations Approved Document J.

Questions: Carbon monoxide alarms in rented homes

Q23: Do you support the proposal to amend the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 to require private landlords and social landlords to install a carbon monoxide alarm in any room used as living accommodation where a fixed combustion appliance of any fuel type (excluding gas cookers) is used?

a. Yes
b. No

Q24: Please give your reasons.

Q25: Do you think that the guidance on where carbon monoxide alarms should be situated requires updating?

a. Yes
b. No

Q26: Please give your reasons.

Q27: Do you agree with the proposal that landlords should not be required to test carbon monoxide alarms during the life of the tenancy?

a. Yes
b. No

Q28: Please give your reasons.

Q29: Please provide examples of how landlords could best support residents to test their carbon monoxide alarms regularly and safely.

Q30: We are proposing that legislation be amended to create an obligation for landlords to repair or replace carbon monoxide alarms, once informed that they are faulty. Do you agree?

a. Yes
b. No

Q31: Please give your reasons.

Q32: Do you support the proposal to commence the requirements as soon as possible after laying amended carbon monoxide alarm regulations?

a. Yes
b. No

Q33: Please give your reasons.

Q34 For local housing authorities only: What additional operational and financial burdens do you consider would be placed on you by enforcing our proposals on carbon monoxide alarms? Please provide any costing to support your answer.

Annex A: Glossary

All-Party Parliamentary Carbon Monoxide Group (APPCOG)

Forum for Parliamentarians to discover, discuss and promote ways of tackling carbon monoxide poisoning in the UK.

Approved Document J

Approved Document J gives guidance for compliance with the Building Regulations requirements for Combustion appliances and Fuel Storage systems when building work is carried out in England.

Approved Document B

Approved Document B gives guidance for compliance with the Building Regulations for Fire Safety when building work is carried out in England.

Building control body

A local authority building control service or a private sector approved inspector building control service who is responsible for checking building regulations are complied with.

BSI Kitemark

British Standards Institute – national standards institute as appointed by the UK Government

Carbon monoxide

A colourless, tasteless and odourless compound produced by incomplete combustion of carbon-containing materials.

Carbon monoxide alarm

A device that detects the presence of carbon monoxide gas and sounds an alert to prevent carbon monoxide poisoning.

Conformité Européenne (CE) mark

An administrative marking that indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic Area (https://en.wikipedia.org/wiki/European_Economic_Area) (EEA).

Combustion appliance

A combustion appliance is an apparatus where fuel is burned to generate heat for space heating, water heating, cooking or other similar purpose. Typical combustion appliances are boilers, warm air heaters, water heaters, fires, stoves and cookers.

Cooker

An apparatus, usually of metal and heated by gas, electricity, oil, or solid fuel, for cooking food.

English Housing Survey (EHS)

A continuous national survey commissioned by the Ministry of Housing, Communities and Local Government (MHCLG). It collects information about people's housing circumstances and the condition and energy efficiency of housing in England.

Fire and Rescue Incident Statistics

National statistics on fires, casualties, false alarms and non-fire incidents attended by the fire and rescue services in England

Housing association

Non-profit organisation set up to provide affordable homes for those in need.

Housing Health and Safety Rating System (HHSRS)

A risk assessment framework for the evaluation of conditions in residential properties. For private rented sector properties, if an HHSRS assessment identifies a hazard at 'category 1' level, local authorities have a duty to take formal enforcement action. The HHSRS also forms part of the Decent Homes Standard, the minimum standard that social housing should meet.

Housing Ombudsman

The Housing Ombudsman Service is set up by law to look at complaints about registered housing organisations. All registered providers of social housing should be registered with the Housing Ombudsman.

Health and Safety Executive (HSE)

Health and Safety Executive - Britain's national regulator for workplace health and safety.

Living accommodation

Rooms used for everyday living activities including living rooms, bedrooms, kitchens, bathrooms and studies.

Local authority building control

Local authority building control have responsibilities under the Building Act to interpret guidance and enforce requirements of the Building Regulations.

Local housing authority

Local housing authorities have a duty to enforce the Smoke and Carbon Monoxide (England) Regulations 2015. In England and Wales, local housing authorities are the unitary authorities, district councils, the Council of the Isles of Scilly, the London Borough councils and the Common Council of the City of London.

Loss Prevention Control Board (LPCB)

Loss Prevention Certification Board – sets internationally recognised standards on fire and security products.

Private registered provider

A registered provider of social housing that is not a local authority. Most are housing associations.

Private rented sector (PRS)

The housing tenure consisting of properties owned by private landlords and rented to tenants.

Public Health England (PHE)

An executive agency of the Department of Health and Social Care, providing government and the public with scientific expertise and support.

Smoke alarm

A device that senses smoke, typically as an indicator of fire and issues a local audible or visual alarm.

Social housing green paper

The social housing green paper was published in August 2018. It aimed to rebalance the relationship between landlords and residents, tackle stigma and ensure social housing is safe and decent.

Social landlord

A local authority landlord or private registered provider of social housing (such as a housing association)

Social rented sector

Homes for rent that are owned and managed by local authorities and private registered providers. This includes general needs, affordable rent and self-contained supported housing. This does not include shared ownership homes, rent to buy, or similar schemes. It also does not include other types of housing which have their own safety standards such as Houses in Multiple Occupation (HMOs), care homes, student halls of residents, hostels, hospices and other accommodation relating to healthcare provision.

Solid-fuel

Solid-fuel refers to solid material that can be burnt to release energy through the process of combustion. Common examples of solid fuels include wood, charcoal and coal.

Stock-owning local authorities

Local authorities who own and manage their council housing.

Storey

Any level part of a building with a floor that could be used for living or storage

Tenant

Someone who rents their home from a social or private landlord, including those who own a percentage of the home and rent the remaining share from a social landlord (i.e. shared owners).

The Regulator of Social Housing

An independent regulator which regulates providers of social housing (including local authority and private registered providers). Its principal role is to promote a viable, efficient and well-governed social housing sector able to deliver homes that meet a range of needs.

Annex B: Analysis of impact

Domestic smoke and carbon monoxide alarms consultation

This document sets out details of the costs and benefits of the package of measures proposed to amend the Smoke and Carbon Monoxide Alarm Regulations 2015 and Building Regulations (Approved Document J) for new and replacement installations. The document is structured in the following way:

- summary of the costs and benefits of the proposed changes to smoke alarm requirements in the Smoke and Carbon Monoxide Alarm (England) Regulations 2015
- summary of the aggregate costs and benefits of the proposed changes to carbon monoxide alarm requirements in Building Regulations Approved Document J
- summary of the aggregate costs and benefits of the proposed changes to carbon monoxide alarm requirements in the Smoke and Carbon Monoxide Alarm (England) Regulations 2015
- description of the methodology and key assumptions underpinning the analysis

Part A: Smoke alarms

Proposal: To mandate smoke alarms in social rented homes

Aggregate costs and benefits

Currently 5.1% of all social rented homes do not have a working smoke alarm according to English Housing survey. This represents circa 207,000 dwellings which require at least one alarm to be installed. Assuming one smoke alarm is required on every floor, applying the average number of floors per dwelling across the stock (derived from the English Housing Survey) would suggest the need for 300,000 additional smoke alarms at a cost of £21 million over 10-year period.

The total aggregate costs (central estimate) for the proposed amendment to the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 mandating smoke alarms in social rented homes are set out in table 1. The total costs are estimated to be £2.4million per annum and £21 million over a 10-year appraisal period. The benefits are estimated to be around £8 million per annum and £68 million over a 20-year appraisal period. The total Net Present Value (NPV) of this policy is therefore £47 million with an annual net benefit of £5.5 million per annum.

Table 1 Smoke alarm proposals – costs and benefits

Option 1: Extend regulations to social rented housing (lithium battery alarm)

	NPV	Equivalent Annual Costs and Benefits
Estimated total costs	£21.0m	£2.4m
Estimated total benefits[footnote 5]	£67.9m	£7.3m
Net benefits (total benefits - total costs)	£46.9m	£4.8m

Shortlisted options

Counterfactual – Do nothing

The regulations currently require smoke alarms to be installed on every floor of dwellings in the private rented sector (and in parts of other buildings comprising private rented accommodation). The regulations do not apply to the social housing sector, nonetheless 95% of social homes have at least one working smoke alarm installed.

Option 1: Extend the regulations to require all dwellings in social rented homes to install a 10-year sealed lithium battery smoke alarm

Under this option, the regulations would be extended to require one smoke alarm on every floor in all social rented housing. For the purpose of estimating the impact, the analysis assumes the type of alarm installed to be a 10-year sealed lithium battery powered alarm. Other types of smoke alarm were considered for the analysis such as alkaline battery powered or mains-powered, but were discarded because of higher costs or shorter life span.

Summary of costs and benefits

The analysis suggests that the proposed changes of option 1 which is extending the regulations to require all social rented homes to install a smoke alarm will result in a net additional cost of £21 million (NPV at 3.5%) over the 10-year appraisal period, with the Equivalent Annual Net Cost to business being £2.4 million (central estimate).

The benefits of the policy have been calculated by estimating the value of health benefits (i.e. reduced fatalities and injuries caused by fires in social rented homes). The analysis suggests that these changes will result in net additional monetised health benefits of £68 million (NPV at 1.5%) over the 20-year appraisal period, with the Equivalent Annual Social Benefit of £8 million per annum (central estimate).

The net benefits of the proposed changes (gross benefits less costs) equal £47 million, with the Equivalent Annual Net Social Benefit of £5.5 million per annum (central estimate).

Tables 2 and 3 provide a breakdown of the components of these costs and benefits

Breakdown of costs

Table 2: Cost breakdown of proposals to amend smoke alarm requirements to social rented sector

Option 1: Extend regulations to social rented housing (10-year sealed lithium battery smoke alarms)	**Annual costs**	**Total costs over 10 years**
Inspection	£0.6m	£5.5m
Installation	£1.1m	£9.8m
Tenancy checking costs	£0.5m	£4.4m
Replacement costs	£0.1m	£1.3m
Total	£2.4m	£21.0m

Breakdown of benefits

Table 3: Breakdown of benefits of smoke alarm regulations

Option 1: Extend regulations to social rented housing (10-year sealed lithium battery smoke alarms)	**Annual benefits**	**Total benefits over 20 years**
Total benefits	£8m	£68m

Methodology and key assumptions

Costs

- The unit cost of this type of smoke alarm is estimated to be an average of £8, and the expected lifetime of this product is 10 years after which it would need to be replaced.
- The lifespan of the battery for this type of alarm is 10 years and therefore will not have to be replaced separately sooner.
- The costs comprise: inspection, cost of the unit, time cost of its installation, and annual checking costs and replacement costs.
- The analysis indicatively assumes that social sector landlords will spend time checking 25% of their stock to ascertain where smoke alarms are already installed and to check that they are operational, as evidence from projects in the sector suggests that existing records are well-maintained.
- The analysis assumes that rather than landlords undertaking annual checks to ensure alarms are operational, checks will only be made at the end of every tenancy, which means 10% of stock being checked each year during the appraisal period.
- The analysis then assumes that as a result of this process, 5% of alarms are identified as faulty and are replaced.
- The analysis assumes that the time required to install a new alarm is circa 10 minutes at a blended hourly rate of £22.

Benefits

The benefits are calculated by estimating the reduction of casualties and fatalities resulting from fires in social housing units. The sequence of calculations is as follows:

- First, the analysis estimates the number of fires in social dwellings without a smoke alarm. The analysis uses 2017/18 Home Office Fire statistics (https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables#dwelling-fires-attended) to calculate the number of fires in dwellings without a smoke alarm and 2017/18 English Housing Survey (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/724327/Fire_and_Fire_Safety.pdf) to estimate the proportion of dwellings without smoke alarms that are social housing. This analysis suggests that there are 675 fires per annum in social dwellings without smoke alarms.
- Second, the analysis estimates the number of casualties and fatalities resulting from these fires (2017/18 Home Office Fire statistics). This data indicates that there is 1 non-fatal injury per 6 fires and 1 fatality per 117 fires.

- Third, the analysis estimates the reduction in the number of casualties and fatalities as a result of installing smoke alarms. Previous research suggests that the presence of a working smoke alarm reduces the risk of casualties by 50%[footnote 6]. In addition, the 2017/18 Home Office Fire statistics indicate that 38% of battery-operated smoke alarms failed to operate in the event of a fire. We therefore estimate that additional alarms and checks could potentially prevent more than circa 560 non-fatal injuries and circa 30 fatalities over 10 years.
- Finally, the monetary value of the projected reduction in casualties and fatalities is calculated by applying DfT's Transport Appraisal Guidance Webtag 'average cost per fatal, serious and slight injuries' estimates (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/275364/webtag-tag-unit-a4-1-social-impact-appraisal.pdf). The value used per prevented fatality is £1.8 million, and the value per prevented serious injury is £0.2 million, and the value per prevented slight injury is £0.02 million.

Part B: Carbon monoxide alarms

Aggregate costs and benefits

The total aggregate cost (central estimate) for the entire package of proposed amendments to both Building Regulations (Approved Document J) and the Smoke and Carbon Monoxide Alarm Regulations (England) 2015 as they apply to carbon monoxide alarm requirements is £56 million per annum and £484 million over a 10-year appraisal period. Around 57% of costs are driven by installations of carbon monoxide alarms in rented homes which do not currently have a carbon monoxide alarm.

The monetised (health) benefits of these measures are estimated to be around £47 million per annum and £408 million in total across a 20-year appraisal period. The total net cost for the package is therefore £9 million per annum.[footnote 7] Table 4 sets out the estimated costs and benefits of these measures in more detail.

Table 4: Costs and benefits of extending regulations to all fuel appliances excluding gas cookers.

	Building Regulations Approved Document J	**Smoke and Carbon Monoxide Alarm (England) Regulations 2015**	**Total Net Present Value over 10 years**	**Total annual equivalent cost***
Estimated total costs	£208m	£276m	£484m	£56m
Estimated total benefits[footnote 8]	£183m	£225m	£408m	£47m
NPV (total benefits- total costs)[footnote 9]	(£25m)	(£51m)	(£76m)	(£9m)

*EANCB – Equivalent annual net direct costs to business

Exclusion of gas cookers

Consideration was also given to requiring carbon monoxide alarms in rooms with gas cookers under both sets of regulations. Analysis (presented in Table 2) shows that the additional cost over 10 years of including gas cookers within the scope of both sets of regulations would far outweigh the benefits. For this reason, we did not consider further requiring installation of carbon monoxide alarms in rooms with gas cookers as a realistic option.

Table 5: Additional costs and benefits of including gas cookers

	Building Regulations Approved Document J	**Smoke and Carbon Monoxide Alarm (England) Regulations 2015**
Estimated additional costs	£136m	£125m
Estimated additional benefits	£51m	£45m

Although the cost-benefit analysis for this consultation still shows a relatively small total net cost to extend carbon monoxide alarm requirements, there are considerable uncertainties that the true number of minor injuries i.e. those not leading to fatality or hospitalisation, could be larger than estimated. It is the view of some medical experts that carbon monoxide poisonings are being wrongly diagnosed and therefore under-reported[footnote 10]. We are more confident about the estimated costs of alarms but do expect costs to fall further and average alarm lifespans to improve. Our sensitivity analysis suggests that if we look at a low cost-high benefit scenario, there is an overall net benefit of the package of £118 million over 10 years, equivalent to around £14 million per annum in benefits. Aside from the monetised benefits, government believes it is vital for residents to be safe, and feel safe, in their homes.

Proposal: Carbon monoxide alarms upon installation of combustion appliances

Short listed options

Counterfactual – Do nothing

Currently, carbon monoxide alarms must be installed whenever a new or replacement solid-fuel burning appliance is installed, across all tenures.

Option 1 – Extend the requirement for carbon monoxide alarms upon installation of any fuel-burning appliances excluding gas cookers

Under this option, the regulations will be broadened to require a carbon monoxide alarm to be fitted upon the installation of any new or replaced fixed combustion appliance of any fuel type (excluding gas cookers). The occupiers of dwellings of all tenures will benefit from the reduced risk of carbon monoxide poisoning as a result.

This will have a cost impact for social landlords, private landlords, owner-occupiers and housebuilders. However, to avoid double counting, only cost impacts on owner-occupiers and house builders have been considered here.

The analysis suggests that these changes will result in a net additional cost of £25 million[footnote 11] (NPV at 3.5%) over the 10-year appraisal period, with the Equivalent Annual Net Direct Cost to Business (EANDCB) being £24 million per annum (central estimate). The main cost of the changes will be the price of the carbon monoxide alarm unit and the installation time cost.

Summary of costs and benefits

Summary of costs across 10-year appraisal period:

Table 6 Costs of amending Approved Document J to owner-occupiers only

Policy options	Transition Costs12	Installation costs13	Total costs over 10 years	Annual costs (EANCB)
Option 1- Extend requirement for carbon monoxide alarms upon installation of any fuel appliances excluding cookers	£2m	£417m	£419m	£49m
Option 1 additional costs (Policy costs minus counterfactual costs)	(£2m)	(£206m)	(£208m)	(£24m)

Summary of benefits across 20-year appraisal period:

Table 7: Summary of benefits from amending Approved Document J

	Total monetised health benefits	Equivalent Annual Average Social Benefits
Option 1 (benefits includes avoided fatalities, serious injuries and major injuries	£875m	£102m
Option 1 (net of counterfactual)	£183m	£21m

Methodology and key assumptions

The analysis presented here has been supported by the Adroit Economics Consortium, under contract to and with oversight by Ministry of Housing, Communities and Local Government.

Costs

- The analysis assumes that a carbon monoxide alarm costs £10.80 on average[footnote 14] and that it takes approximately 15 minutes to install, costed at an hourly rate of £55.
- To calculate the number of additional carbon monoxide alarm installations required under the proposals, the assessment needed an estimate of the new build rate over the 10-year appraisal period. The rates used in the assessment are between 1% to 5% of current stock per annum, with 3% as the central estimate. This is based on assumptions used in the Hackitt consultation that have been published recently. These projections are provided by the Adroit Economics consortium.

Benefits

- The benefits of the policy have been calculated by estimating the value of the health benefits (reduced injuries and fatalities) as a result of the reduced risk of carbon monoxide poisoning.

- The analysis assumes that carbon monoxide alarms are 75% effective in preventing fatalities and injuries through detecting and alerting occupants when there is a rise in CO levels.
- The benefits of installing carbon monoxide alarms will continue for as long as the device is working. The lifespan of new CO alarms is estimated to be between 7 to 10 years. This is derived from the Council of Gas Detection and Environmental Alarming (CoGDEM) and from an independent literature review.
- To estimate the rate of fatalities per combustion appliance, the analysis refers to CO Gas safe statistics (http://www.co-gassafety.co.uk/information/co-gas-safetys-statistics-of-deaths-and-injuries/) and the latest available ONS figures (https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/adhocs/009122numberofdeathsfromaccidentalpoisoningbycarbonmonoxideenglandandwalesdeathsregisteredin2017) on fatalities from accidental carbon monoxide poisoning. It is estimated that highest proportion (27%) of fatalities happen from CO poisoning from central heating boiler, followed by room heaters (17%), cookers (9%), etc.
- Finally, the Department for Transport Appraisal Guidance Webtag (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/275364/webtag-tag-unit-a4-1-social-impact-appraisal.pdf) 'average cost per fatal, serious and slight injuries' has been used to calculate the aggregate monetised health benefits. The average unit value of the all fatalities and injuries avoided is £61k in 2017 and increases to £82k in year 2037.

Proposal: To extend carbon monoxide alarm requirements in rented homes

Shortlisted options

Counterfactual – Do nothing

Currently, the regulations require private landlords to install carbon monoxide alarms in any room with a solid-fuel burning appliance. The impact would continue to fall on private landlords only. There is currently no requirement for carbon monoxide alarms in the social rented sector.

Option 1 – Extend the regulations to require carbon monoxide alarms in all rooms with any type of fuel-burning appliance (excluding gas cookers) in both the private rented and social rented sectors

Under this option, carbon monoxide alarms would be mandated in any room used as living accommodation where there is a combustion appliance of any fuel type (excluding gas cookers). This will impact private and social landlords only.

The proposals will also require landlords to check that a working carbon monoxide alarm is installed on the first day of every new tenancy (where there is a combustion appliance of any fuel type – excluding cookers).

Summary of costs and benefits

Summary of costs across a 10-year appraisal period

Table 8: Costs to private rented sector landlords

Policy options	Transition Costs	Initial inspection	Installation costs	Checking costs	Replace faulty carbon monoxide alarms	Total costs over 10 years	Total annual cost (EANCB)
Counterfactual	None	None	£68m	None	None	£68m	£8m
Option 1- Extend regulations to all rooms with any type of fuel appliances excluding cookers	£7.4m	£2.3m	£ 200m	£3.2m	£2.1m	£215m	£25m
Option 1 net additional costs (Policy costs minus counterfactual costs)	£7.4m	£2.3m	£132m	£3.2m	£2.1m	£147m	£17m

Table 9: Costs to the social rented sector landlords

Policy options	Transition Costs	Initial inspection	Installation costs	Checking costs	Replace faulty carbon monoxide alarms	Total costs over 10 years	Total annual cost (EANCB)
Counterfactual	None	None	£58m	None	None	£58m	£7m
Option 1- Extend regulations to all rooms with any type of fuel appliances excluding cookers	£0.007m	£1.9m	£183m	£1.2m	£0.824m	£187m	£22m
Option 1 net additional costs (Policy costs minus counterfactual costs)	£0.007m	£1.9m	£124m	£1.2m	£0.824m	£128m	£15m

Summary of benefits across a 20-year appraisal period

The benefits of the policy have been calculated by estimating the value of the health benefits (i.e. reduced injuries and fatalities) as a result of the reduced risk of carbon monoxide poisoning.

Table 10: Benefits estimated across 20 years appraisal period

	Private Rented	Social Rented	Total benefits
Option 1 (net total benefits)	£118m	£106m	£224m

The above analysis suggests that option 1 would result in a net additional social cost of £51 million[footnote 15] (NPV at 3.5%) over the 10-year appraisal period, with the Equivalent Annual Net Cost of the policy measures (EANC) being £6 million (central estimate). This includes the cost of installing the alarms less the monetised potential health benefits.

Impact on private and social landlords

The overall costs to private landlords are slightly higher than social landlords. Transition costs are assumed to be higher for the private rented sector because of the much larger numbers of different organisations that will need to familiarise themselves with the regulations. All other costs (capital costs, installation and replacement) are assumed to be the same per unit installed.

The cost per unit has been calculated using the total cost of installing new carbon monoxide alarms in the social rented and private rented sectors respectively by the number of alarms required. Around 8 million carbon monoxide alarms are required in the social rented sector and around 9 million are required in the private rented sector.[footnote 16] The calculation includes an installation cost, wages, transition costs, checking costs and replacement costs.

Methodology and key assumptions

General Assumptions underpinning the analysis:

- Total numbers of households in England by sectors are: 15,089,000 owner-occupied, 4,789,000 private rented, 4,072,000 social rented. (This data is derived from the English Housing Survey, 2017).
- The lifespan of a carbon monoxide alarm is estimated to be 7 to 10 years. This is derived from the Council of Gas Detection and Environmental Alarming (CoGDEM) and from an independent literature review.
- Using data from the English Housing Survey, it has been assumed that average tenancies last 4 years in the private rented sector and twelve years in the social rented sector.
- According to CoGDEM, the cost of a new carbon monoxide alarm is on average £10.80 per unit. [footnote 17]
- It has been assumed that carbon monoxide alarms are 75% effective in preventing fatalities, serious and minor injuries. The average unit value of the all fatalities avoided is £61k in year 2017 and increases to £82k in year 2037.
- The familiarisation cost for the private rented sector has been calculated assuming that there are 1,750,000 private landlords in England who will be required to familiarise themselves with the new regulation. The analysis considers that it will take around 15 minutes for landlords to familiarise

themselves with the changes at a cost of £17 per hour.

- The familiarisation costs for the social rented sector has been calculated assuming that there are 1,721 social landlords in England who will be required to familiarise themselves with the new regulation. The analysis considers that it will take around 15 minutes for landlords to familiarise themselves with the changes at a cost of £16 per hour.
- The assessment assumes policy is implemented in year 1 of the appraisal period.
- In accord with HM Treasury's Green Book guidance, a 3.5% discount rate has been used to calculate the present value of and a 1.5% discount rate has been used to calculate the present value of monetised health benefits.
- Costs are appraised over 10 years and benefits over 20 years, as the benefits of alarms installed in later years will continue to accrue over the lifetime of the products.
- To avoid potential double counting, all costs and benefits to landlords of installing carbon monoxide alarms have been incorporated in the Smoke and Carbon Monoxide Regulations impact analysis; whereas all costs and benefits to owner-occupiers and house builders have been incorporated in the impact analysis of building regulations.

Annex C: About this consultation

This consultation document and consultation process have been planned to adhere to the consultation principles issued by the Cabinet Office.

Representative groups are asked to give a summary of the people and organisations they represent, and where relevant who else they have consulted in reaching their conclusions when they respond.

Information provided in response to this consultation, including personal data, may be published or disclosed in accordance with the access to information regimes (these are primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 2018 (DPA), the General Data Protection Regulation 2016, and the Environmental Information Regulations 2004.

If you want the information that you provide to be treated as confidential, please be aware that, as a public authority, the Department is bound by the Freedom of Information Act and may therefore be obliged to disclose all or some of the information you provide. In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

The Ministry of Housing, Communities and Local Government will process your personal data in accordance with the law and in the majority of circumstances this will mean that your personal data will not be disclosed to third parties. A full privacy notice is included at Annex A.

Individual responses will not be acknowledged unless specifically requested.

Your opinions are valuable to us. Thank you for taking the time to read this document and respond.

Are you satisfied that this consultation has followed the Consultation Principles? If not or you have any other observations about how we can improve the process please contact us via the complaints procedure (https://www.gov.uk/government/organisations/department-for-communities-and-local-government/about/complaints-procedure).

Personal data

The following is to explain your rights and give you the information you are be entitled to under the data protection legislation.

Note that this section only refers to your personal data (your name address and anything that could be used to identify you personally) not the content of your response to the consultation.

1. The identity of the data controller and contact details of our Data Protection Officer

The Ministry of Housing, Communities and Local Government (MHCLG) is the data controller. The Data Protection Officer can be contacted at dataprotection@communities.gov.uk.

2. Why we are collecting your personal data

Your personal data is being collected as an essential part of the consultation process, so that we can contact you regarding your response and for statistical purposes. We may also use it to contact you about related matters.

3. Our legal basis for processing your personal data

The General Data Protection Regulation 2016 and Data Protection Act 2018 state that, as a government department, MHCLG may process personal data as necessary for the effective performance of a task carried out in the public interest. i.e. a consultation.

4. With whom we will be sharing your personal data

We will not share your personal data with any other organisation

5. For how long we will keep your personal data, or criteria used to determine the retention period.

Your personal data will be held for 2 years from the closure of the consultation

6. Your rights, e.g. access, rectification, erasure

The data we are collecting is your personal data, and you have considerable say over what happens to it. You have the right:

a. to see what data we have about you

b. to ask us to stop using your data, but keep it on record

c. to ask to have all or some of your data deleted or corrected

d. to lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your data fairly or in accordance with the law. You can contact the ICO at https://ico.org.uk/ (https://ico.org.uk/), or telephone 0303 123 1113.

7. Your personal data will remain in the EU.

8. Your personal data will not be used for any automated decision making.

9. Your personal data will be stored in a secure government IT system. We are using a third-party system, Microsoft Forms, to collect consultation responses. At the point the consultation closes, on 11 January 2021, the data will be moved from there to MHCLG internal systems.

Footnotes

1. https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables (https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables)
2. https://www.hse.gov.uk/gas/domestic/cross-government-group-1819.pdf (https://www.hse.gov.uk/gas/domestic/cross-government-group-1819.pdf) - FIRE0202
3. Screening for carbon monoxide exposure in selected patient groups attending rural and urban emergency departments in England, Clarke S, Keshishian C, Murray V, et al. https://bmjopen.bmj.com/content/2/6/e000877 (https://bmjopen.bmj.com/content/2/6/e000877)
4. Screening for carbon monoxide exposure in selected patient groups attending rural and urban emergency departments in England, Clarke S, Keshishian C, Murray V, et al. https://bmjopen.bmj.com/content/2/6/e000877 (https://bmjopen.bmj.com/content/2/6/e000877)
5. Benefits are monetised across 20 year appraisal period.
6. BRE Global ltd, “Cost-Benefit Analysis for Additional Residential Heat and Smoke Alarms in Scotland”. March 2010.
7. The estimated total costs of the CO regulations are in the range of £455 million to £521 million (£484 million is the central estimate) and the EANCB is £53 million to £60 million (£56 million central estimate).
8. Benefits are appraised over 20 year period.
9. Negative numbers are in brackets and represent costs outweighing the benefits.
10. Screening for carbon monoxide exposure in selected patient groups attending rural and urban emergency departments in England, Clarke S, Keshishian C, Murray V, et al. https://bmjopen.bmj.com/content/2/6/e000877 (https://bmjopen.bmj.com/content/2/6/e000877)
11. This includes the cost of installing the alarms and the monetised potential health benefits.
12. The transition costs are costs that will fall to Gas Safe Engineers, other registered installers and local authority housing inspectors to familiarise themselves with the new requirement.
13. Installation costs comprises of 1) cost of the carbon monoxide alarm and 2) the cost of an installers time.
14. Average supplier/manufacturer prices provided by Council of Gas Detection and Environmental Alarming (CoGDEM). Based upon entry level alarm to BS EN 50291 with sealed for life battery.
15. Calculation – Total Benefits across the sectors of £224m less total costs across both sectors of £276m (£147m+£128m) = -£51m.
16. English Housing Survey data has been used to calculate the number of the carbon monoxide alarms. These numbers include carbon monoxide alarms across all fuel types and boiler installation. Furthermore, it includes replacement alarms that are required at the end of the products’ lifecycle and also to fix faulty ones.
17. Average supplier/manufacturer prices provided by Council of Gas Detection and Environmental Alarming (CoGDEM). Based upon entry level alarm to BS EN 50291 with sealed for life battery.

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