Heat and Energy Efficiency Regulations
Non-domestic Buildings (existing)

Working Group
1st Meeting: 10th August 2021

Heat in Buildings Regulation Unit
[redacted]@gov.scot)
[redacted]@gov.scot)

AGENDA

Item	Time
Introduction	15
Background Information	10
Working Group	5
Non-domestic Data	5
Options for Regulation	15
Discussion	25
Conclusion	5

Original context

- EU Energy Performance in Buildings Directive (2010)
- Climate Change (Scotland) Act (2009)
- Assessment of Energy Performance of Non-domestic Buildings Regulations (2016)

New context

- Climate Change (Emission Reduction Targets) (Scotland) Act (2019)
  - Climate Change Plan Update (Dec 2020)
- Draft Heat in Building Strategy (Feb 2021)
- UKG – consult on operational ratings and minimum EPC standard for PRS in England (Feb 2021)
- Just Transition Commission (March 2021)
- New Scottish Government (May 2021)
- Committee on Climate Change UK progress report (June 2021)
- Climate Assembly recommendations (June 2021)
- UK Green Building Council (July 2021)
- Climate Emergency Response Group (due shortly)
- COP26 (Nov 2021)

Non-Domestic Working Group

- Previously met Dec 2019 & March 2020 - focus on improving 2016 Regulations
- Reconvened August 2021 with new objective:

  "advise Scottish Ministers on the regulatory framework for existing non-domestic buildings in order to meet these [HBS net zero] targets"
- Refreshed membership
- Terms of Reference:
  - Para 2.4 sets out 3 regulatory options
  - Para 2.5 sets out the objectives by which to evaluate the options
- Output – initial report on options (winter 21/22) and final report on recommended option for Ministers (autumn 22)

- Timetable – indicative schedule of 5 meetings
  1. 10th August 2021 - Introductory Meeting
  2. October 2021 – Discussion of options
  3. Winter 2021/22 – Discussion and agreement of Interim Report
  4. Autumn 2022 – Discussion of consultation feedback
  5. October 2022 – Discussion and agreement of Final Report

Non-domestic Building Stock

- Non-Domestic Building Energy Database (ND-BED)
- Approx. 226,000 existing non-domestic properties
  - 14% of buildings have a confirmed EPC
- These buildings account for 7% of Scotland's Greenhouse Gas Emissions
- Over half of these non-domestic buildings currently using low-carbon heating
- However the largest buildings tend to still use fossil fuel
- Heat in Building Strategy commits the Scottish Government to convert a further 50,000 buildings to zero emissions heating systems by 2030
- Zero emissions heating is being defined as no direct emissions at the point of use within the curtilage of the building (scope 1)
- SG will legislate for both zero emissions heating (where it is within our competence) and energy efficiency by 2025
- The backstop will require all non-domestic buildings to have zero emissions heating by 2045

Description of the 3 Options for Regulation

A. Measures-based	B. Minimum Standards	C. Actual Performance
• Regulations stipulate improvement measures to be implemented • Assumes government can define appropriate measures across all buildings • Legislative competence to require installation of zero emissions heating is not clear • **Eg: Current Energy Action Plans from 2016 Regulations**	• Regulations set a common standard using existing infrastructure (e.g. EPC) • Modelled performance • Comprehensive set of standards required • Currently being established across domestic buildings in Scotland • **Eg: England & Wales - all private rented buildings to achieve EPC 'B' by 2030**	• Regulation based on metered energy consumption • Public disclosure of rating generated from consumption reflects building operation • Building users determine what measures to take to improve rating • **Eg: England & Wales - proposal for offices over 1000m^2**

Regulations that stipulate the energy efficiency or zero-emissions heat measures to be implemented

- Existing examples:
  1. SBEM generated energy-reduction recommendations currently provided in EPC
  2. The Assessment of Energy Performance of Non-domestic Buildings Regulations (2016)
     - applies to buildings >1000m^2 at point of sale/rental
     - considers 7 specified Improvement measures and generates associated reduction target
     - generate an Energy Action Plan with implementation date
     - alternative compliance route to annually lodge a Display Energy Certificate
- Limited effectiveness of either approach to date

- Development of the 2016 Regulations could include:
  - Increasing the scope
  - Adapting the specific Improvement measures
  - Removing or reducing the cost-effective check

Regulations requiring buildings to meet a minimum standard, typically in the form of an EPC rating (estimated energy use)

- Existing examples:
  - Existing non-domestic buildings are currently required to carry out an energy assessment to obtain an EPC on sale or rental
  - England & Wales will require the non-domestic private-rented sector to reach EPC 'B' by 2030
- Weak link between estimated and actual energy use or emissions
- The devolved nations currently use different EPC formats for non-domestic properties
- Diversity of the non-domestic building stock means it is challenging to develop a comprehensive set of standards

- Development of this option could include:
  - Revision of Scottish non-domestic EPC metrics
  - adopting a similar approach to England & Wales – e.g. setting an EPC standard by sector

Regulations based on the actual energy consumption and associated emissions

- Existing examples:
  - Emissions Trading Scheme for Energy Intensive Industry
  - Streamlined Energy and Carbon Reporting
  - Energy Saving Opportunities Scheme
  - Public Sector Climate Change Reporting Duty
  - Display Energy Certificates
  - PEERS scheme proposed in England & Wales
- Relies on reputational drivers and the market to deliver improvements
- International examples such as Nabers & Energy Star

- Development of this option could include:
  - Annual reporting of absolute energy consumption and emissions
  - Performance relative to sector-specific benchmarks
  - Information on current heating systems and readiness for zero emissions heat
  - An authoritative, investment-grade rating

1. Which option do you think will ensure effective regulations to deliver Net Zero?
2. Do you have a clear preference for any of the 3 options?
3. Is a combination of options needed?
4. Do you have any major concerns with any of the 3 options?
5. Are there any other options to consider?
6. What are the key considerations as we develop regulations?
7. What information do you require to consider these options and reach a recommendation on a preferred option?

Next steps

- Working Group Meeting 2 – provisionally in October 2021
- Selected options will be presented with proposals for:
  - Criteria
  - Phasing
  - Reporting
  - Compliance
- Papers for discussion will be sent prior to the meeting

Date	Action
10 August 2021	Working Group meeting 1 – introductory meeting
Autumn 2021	Working Group meeting 2 – discussion on options
Winter 2021/22	*Scottish Government - public call for evidence on options*
Winter 2021/22	Working Group meeting 3 – interim report
Summer 2022	*Scottish Government - public consultation on options for regulatory framework*
Autumn 2022	Working Group meeting 4 – final recommendation

Heat and Energy Efficiency Regulations
Non-domestic Buildings (existing)

Working Group
2nd Meeting: 21st October 2021

Heat in Buildings Regulation Unit
[redacted]@gov.scot)
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- Existing Data
- Current gaps identified
- Further Information

Scenario Modelling

- Establishing a clear picture of the current situation
- Identifying the impact of regulatory options
- Placing individual sectors in context

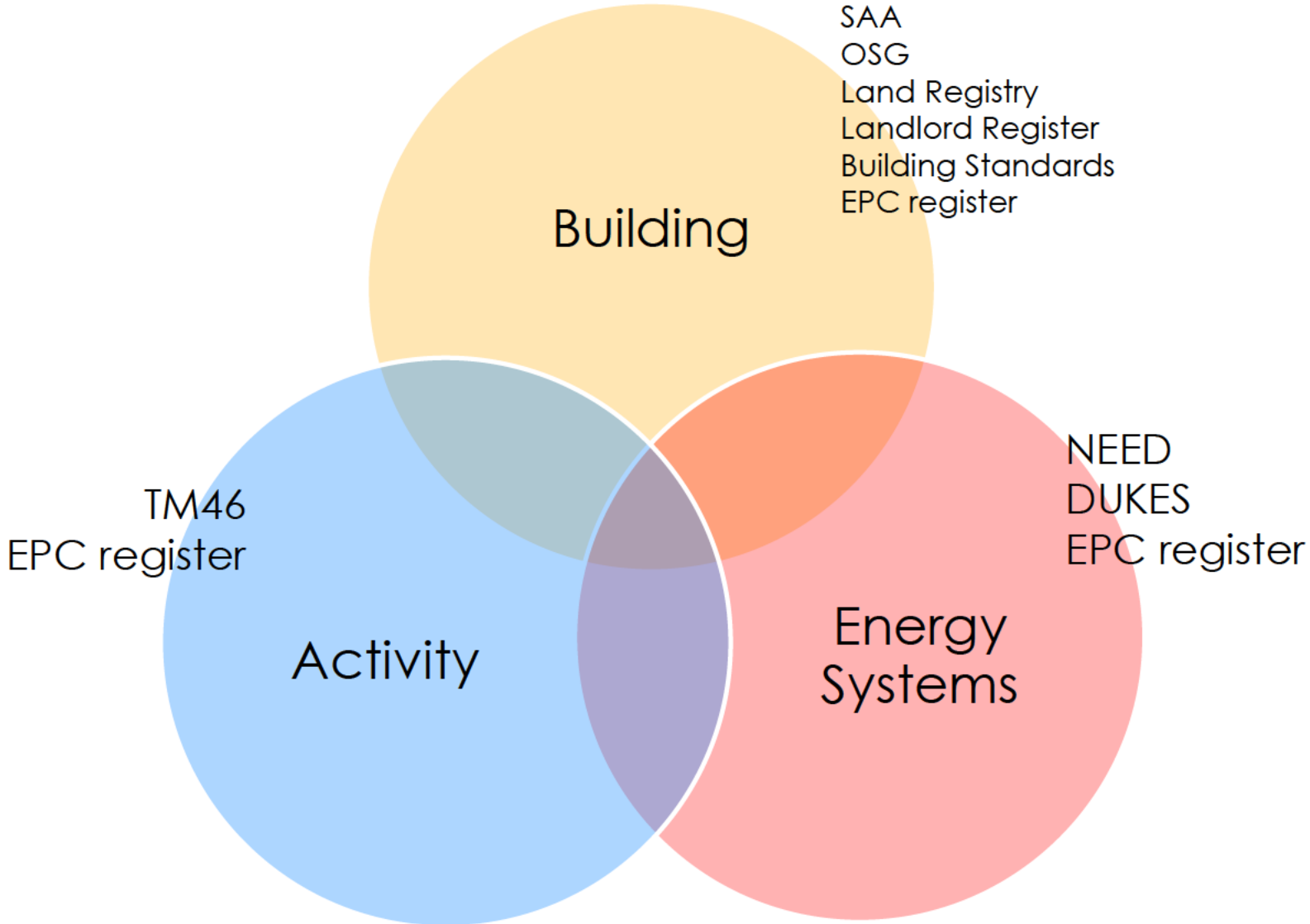
Regulations in action

- Local Authorities
- Monitoring
- Compliance

Building Users & Owners

- Targets
- Actions

Links


SAA
OSG
Land Registry
Landlord Register
Building Standards
EPC register
Building
TM46
EPC register
Activity
NEED
DUKES
EPC register
Energy
Systems

Gaps Identified

- Principal source of information on energy systems and activity is the EPC register
  - new sales and leases limits the number of EPCs issued
  - link between calculated and actual emissions
  - Link between EPC and building data
- Limited access to comprehensive census of non-domestic building stock
  - data sharing agreement with SAA
  - property database unique to UK
- Activity information is out of date
  - Benchmarking exercises
- Meterpoint data
  - Accuracy and detail is improving every year
  - Matching of meter/building remains a problem for non-domestic buildings

Discussion

1. Have we missed any data sources?
2. Have we missed any data links?
3. What data is needed to make recommendations?

Proposed Membership for the 2021 Working Group on Non-domestic buildings (existing): Energy Efficiency and Heat Regulation
First – online - meeting set for 10am 10th August 2021

Organisation	Contact	Latest action	Latest response	email
BRE (Scotland)		Availability request 4/7/22	Accepted	@bregroup.com
CIBSE		Availability request 4/7/22	Accepted	@cibse.org
CIBSE practitioners		Availability request 4/7/22		@arup.com
Construction Scotland Innovation Centre		Availability request 4/7/22	accepted	@cs-ic.org
Elmhurst Energy		Availability request 4/7/22	accepted	@elmhurstenergy.co.uk
Energy Saving Trust		Availability request 4/7/22		@est.org.uk
Energy Technology Partnership		Availability request 4/7/22	accepted	@hw.ac.uk
Federation of Small Businesses		Availability request 4/7/22	Passed from	@fsb.org.uk
Historic Environment Scotland		Availability request 4/7/22	Accepted	@hes.scot @hes.scot
Industrial & Commercial Heating Equipment Association		Availability request 4/7/22	Accepted	@icom.org.uk
Law Society of Scotland		Availability request 4/7/22		@pinsentmasons.com
NHS Highland Estates		Availability request 4/7/22	Tentative	@nhs.scot
RICS		Availability request 4/7/22		@rics.org
Scotch Whisky Association		Availability request 4/7/22	apologies	@swa.org.uk
Scottish Energy Officers Network		Availability request 4/7/22	Accepted	@westlothian.gov.uk
Scottish Futures Trust		Availability request 4/7/22		@scottishfuturestrust.org.uk
Scottish Property Federation		Availability request 4/7/22	accepted	@atelierten.com .
SG		Internal invite 31/3/22		@gov.scot
SG		Internal meeting request		@gov.scot
SG - DECC		Internal invite 31/3/22		@gov.scot
SG – DECC		Internal meeting request		@gov.scot
SG – DECC		Internal invite 31/3/22		@gov.scot
SG – DECC		Internal invite 31/3/22		@gov.scot
SG – DECC (Heat Planning)		Internal invite 31/3/22		@gov.scot

SG – DECC (heat regs)	[redacted]	Internal invite 31/3/22	Accepted	[redacted]@gov.scot
SG – DECC (heat strategy)	[redacted]	Internal invite 31/3/22		[redacted]@gov.scot
SG – DECC (HN policy)	[redacted]	Internal invite 31/3/22		[redacted]@gov.scot
SG – DECC (ND heat)	[redacted]	Attended 21/10		[redacted]@gov.scot
SG – DECC (ND heat)	[redacted]	Attended 21/10		[redacted]@gov.scot
SG – DLGC (BS Tech)	[redacted]	Internal invite 31/3/22		[redacted]@gov.scot
SG - OCEA	[redacted]	Internal invite 31/3/22		[redacted]@gov.scot
SG – OCEA	[redacted]	Internal invite 31/3/22		[redacted]@gov.scot
SG – OCEA	[redacted]			[redacted]@gov.scot
SG – DECC	[redacted]	Internal invite 31/3/22	Tentative	[redacted]@gov.scot
SG – DECC	[redacted]	Internal invite 31/3/22		[redacted]@gov.scot
SG – DECC	[redacted]			[redacted]@gov.scot
SG - DECC	[redacted]			[redacted]@gov.scot
UK Hospitality	[redacted]	Availability request 4/7/22	Accepted	[redacted]@ukhospitality.org.uk
Zero Waste Scotland	[redacted]	Email bounce back		[redacted]@zerowastescotland.org.uk

Heat and Energy Efficiency Regulations
Non-domestic Buildings (existing)

Working Group
2nd Meeting: 21st October 2021

Heat in Buildings Regulation Unit
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AGENDA

1. **Welcome** to any new members 5 mins
2. **Introduction** 10 mins
   - confirmation of co-chair
   - minutes of the last meeting
   - strategy publications
3. **Data summary** 20 mins
   (presentation and discussion)

---------- 10 minutes break ----------

4. **Call for Evidence** 20 mins
   (presentation and discussion)
5. **Topics** and date for next meeting 10 mins

Scottish Government
Riaghaltas na h-Alba
gov.scot

- Co-chair [redacted]
- Minutes from August meeting

Update on recent publications and agreements

- Scottish Government's Heat in Building Strategy published 7th October
- UK Government's Heat and Building Strategy and Net Zero Strategy published 19th October
- Agreement between SNP and the Scottish Green Party confirms Patrick Harvie as Minister for Zero Carbon Buildings, Active Travel and Tenants' Rights

- Existing Data
- Current gaps identified
- Further Information

Scenario Modelling

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Regulations in action

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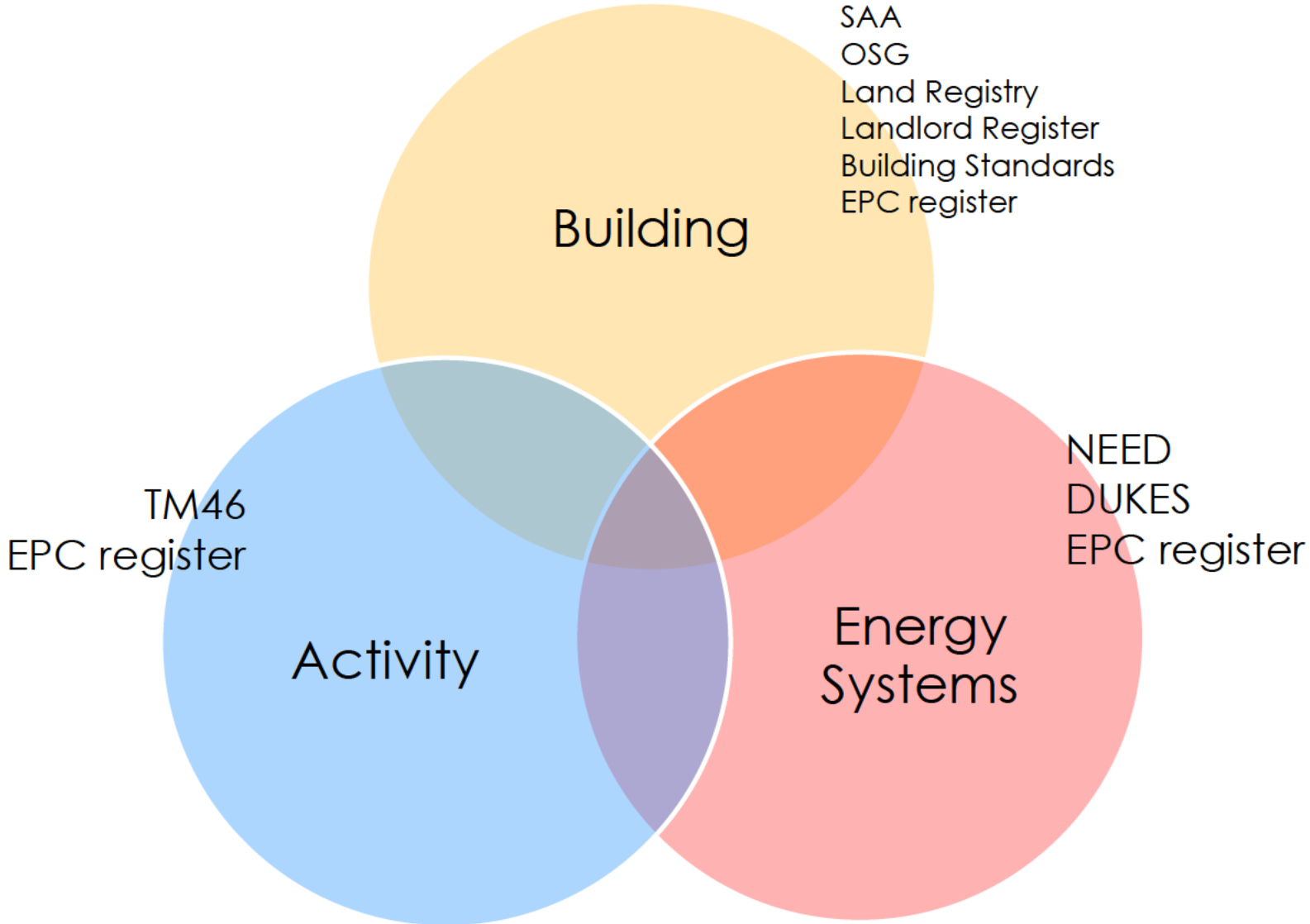
SAA
OSG
Land Registry
Landlord Register
Building Standards
EPC register
Building
TM46
EPC register
Activity
NEED
DUKES
EPC register
Energy
Systems

Gaps Identified

- Principal source of information on energy systems and activity is the EPC register – limitations:
  - small number of EPCs as only required for new build, sales or leases
  - does not make a link between calculated and actual emissions
  - no link between EPC and building data
- Limited access to comprehensive census of non-domestic building stock
  - no data sharing agreement with SAA
  - property database unique to UK
- Activity information is out of date
  - benchmarking exercises
- Meterpoint data
  - Accuracy and detail is improving every year
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Discussion

1. Have we missed any data sources?
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4. Call for Evidence

Purpose of Call for Evidence

Call for Evidence (CfE) is used for initial engagement in policy development

- Provides a public signal of Ministers' commitment to regulate
- Can provide evidence on the 3 options
- May not provide objective, impartial, representative evidence

We are seeking the Working Group's clearance of a draft **Call for Evidence** after which it will be put up for Ministerial clearance

We aim to publish in late November 2021, for response by end January 2022

The evidence gathered will inform development of proposals for a formal consultation in summer 2022

Seeking evidence on the operation of regulatory approaches with particular regard to:

- A focus on heat demand reduction or decarbonisation
- Cost effectiveness for both administrators and building operators
- Methods used to ensure compliance
- The perception of both stakeholders and the wider public
- Additional benefits or costs such as impacts on working conditions
- The degree of market involvement
- Consideration for the diverse nature of non-domestic building stocks
- Lessons to be learnt

Bearing in mind the remit of this working group, as set out in the excerpt from the Terms of Reference, we are seeking your views on this Call for Evidence.

"The Working Group will examine the options described … with specific reference to the following criteria:

i. Effectiveness in **reducing the heat demand** of existing non-domestic buildings

ii. Effectiveness in **driving installation of zero-emission heat sources** in existing non-domestic buildings

iii. Impact on **future operating costs** for existing non-domestic buildings

iv. Impact on **investment and maintenance cycles** for existing non-domestic buildings

v. Resources required to deliver regulations and ensure compliance"

Discussion of the Call for Evidence

- What information does the Working Group need to provide a recommendation to the Minister?
- Are we asking the right questions in the Call for Evidence?
- Does the Working Group agree to the Call for Evidence?
- What other information do you need in order to consider the options?

5. Next Meeting

- Next meeting proposed in February 2022 to discuss:
  - Initial results from Call for Evidence
  - Modelling selected options
  - Routes to zero emissions
  - Details for phasing, reporting, compliance and support
  - Recommendations for public consultation

Summary of responses to the Call for Evidence on the regulation of energy efficiency in existing non-domestic buildings.

1. Introduction

The 2018 Energy Efficient Scotland: Route Map set out a programme for the review of regulations on the energy performance of existing non-domestic buildings. In October 2021 the Scottish Government published the Heat in Buildings Strategy[i] confirming the intention to develop a new regulatory framework for zero emissions heating and energy efficiency in non-domestic buildings by 2025.

The framework will build on the Scottish Government's existing commitments to extend regulation to improve energy efficiency and, where possible within our legal competence, to require the adoption of zero emissions heating systems. The aim is to ensure that all non-domestic buildings are energy efficient and use zero emissions heating and cooling systems by 2045. The Scottish Government will consult on the new regulatory framework during 2022, with a view to introducing regulations by 2025.

1.1 Consultations

In December 2021 a Call for Evidence[ii] was issued as the first public engagement stage in the development of this new regulatory framework. It sought evidence of existing approaches (regulatory or non-regulatory schemes and programmes) to improve the energy efficiency and drive the conversion of non-domestic buildings to zero emissions heating sources. We sought examples which could operate at the level of individual buildings, building groups or regions.

1.2 Responses to the Call for Evidence

We received 14 responses to this Call for Evidence from the following organisations:

- The Association for Decentralised Energy (ADE)
- Built Environment Forum Scotland (BEFS)
- Climate Emergency Response Group (CERG)
- BRE
- Danish Energy Agency
- Elmhurst Energy
- Energy Savings Trust (EST)
- KJ Tait Engineers
- Mineral Wool Insulation Manufacturers Association (MIMA)
- The National Trust for Scotland

- Royal Institution of Chartered Surveyors (RICS)
- Scottish Power
- Scottish Property Federation
- South Lanarkshire Council

There were six responses to the question "How satisfied were you with this consultation?" and of these, three responses were "very satisfied" and three responses were "neither satisfied nor dissatisfied".

2. Questions

The ten questions within this Call for Evidence requested information on examples of existing approaches to decarbonising non-domestic buildings (i.e. already in operation). However some of the responses included proposals or recommendations for future regulations. We have not included these recommendations within this analysis, but they are available within the published responses.

2.1 Options for Regulation

The CO_{2e} emissions associated with the performance of existing non-domestic buildings during operation can be linked to both the form and fabric of each building and the building's occupancy. We sought evidence for approaches that could address both of these. We sought evidence concerning three possible approaches to regulation for energy efficiency and the use of zero emissions heating in existing non-domestic buildings:

a) Measures-based approach – specifying a list of improvement measures that must be considered to reduce the energy demand associated with a non-domestic building.

b) Minimum standards approach – setting a standard for the building's operation under standardised conditions, most typically based on achieving a certain EPC rating for modelled energy use or emissions.

c) Operational ratings approach – using the actual energy consumption and CO_{2e} emissions from use of non-domestic buildings, as the basis for a regulatory approach.

Q1: Can you provide examples of existing regulatory frameworks which use any or a combination of these approaches?

There were 12 responses to this question.

Respondents provided the following examples of regulatory schemes, policies, tools and support mechanisms in Scotland, England & Wales, Belgium, Denmark, France and Washington DC:

- BREEAM
- Building Energy Scotland Loan Scheme
- Display Energy Certificates (DEC)
- Energy Action Plans (EAP)
- Energy Performance Certificates (EPC)
- Energy Efficiency Business Support Scheme
- Energy Efficiency Standard for Social Housing
- Energy Savings Opportunity Scheme (ESOS)
- Energy Star
- European Energy Network
- The UK Government's proposed Future Building Standard from 2025
- Minimum Energy Efficiency Standards (MEES)
- NABERS
- PAS 2038
- Performance Energy Efficiency Ratings Scheme (PEERS)
- PropTech
- Public Sector Decarbonisation Fund
- Real Estate Environmental Benchmark (REEB)
- Regulatory Assistance Programme (RAP)
- Simplified Building Energy Model (SBEM)
- Streamlined Energy and Carbon Reporting (SECR)
- UK Green Building Council Net Zero Carbon Buildings Framework
- X-tendo

The following reports were cited as evidence by respondents:

- Filling the policy gap: Minimum energy performance standards for European buildings - Regulatory Assistance Project (raponline.org)[iii]
- Case studies: Minimum energy performance standards for European buildings - Regulatory Assistance Project (raponline.org)[iv]
- Next steps for MEPS: Designing minimum energy performance standards for European buildings - Regulatory Assistance Project (raponline.org)[v]
- Regulating for Zero Emissions Homes – research report and policy briefing | The Existing Homes Alliance | Scotland (existinghomesalliancescotland.co.uk)[vi]
- New Energy Efficiency Obligations for Real Estate Located in the Flemish Region (linklaters.com)[vii]

- Energy regulations in France: news and implications (Longevity Partners USA (longevity-partners.com))[viii]
- Guide to the 2021 Building Energy Performance Standards | ddoe (dc.gov)[ix]
- DC BEPS is Coming! Building Energy Performance Standards in DC (ghtltd.com)[x]

The question did not ask for preference on which option would be most suited for the regulation of non-domestic buildings, however 8 respondents expressed a preference:

- Option A – no respondents
- Option B - Scottish Power and Elmhurst Energy
- Option C - KJ Tait Engineers, Scottish Property Federation and the Mineral Wool Insulation Manufacturers Association
- Mix of Options - the Association for Decentralised Energy, the Royal Institution of Chartered Surveyors and BRE

2.2 Effectiveness

We sought evidence and examples of regulations that have had a concrete and measurable effect on any combination of the following:

- Non-domestic buildings' energy efficiency
- Energy consumption for heating purposes
- Greenhouse gas (CO_{2e}) emissions from heating

We also sought evidence of how regulations have led to changes in any of the following:

- installation of zero emissions heating systems
- building fabric
- building users' behaviours
- business operating costs
- capital investment
- business productivity

Q2: Can you provide quantitative evidence of the costs and effects driven by regulatory frameworks in the areas specified above?

Q3: Can you provide examples of regulatory frameworks which you consider successful/unsuccessful in their operation, and the factors responsible for this?

There were six responses to Q2 and eight responses to Q3.

Respondents described elements of the regulatory frameworks in place in Upper Austria, Baden-Württemberg, Netherlands and Finland. The following examples were cited:

- Display Energy Certificates (DEC)
- Energy Performance Certificates (EPC)
- Tax deduction subsidy for heat pumps in Finland
- Minimum Energy Efficiency Standards (MEES)
- NABERS
- PAS 2038

One of the responses to Q2 noted that "there is … limited quantitative evidence of the costs and effects driven by regulatory frameworks". One response to Q2 provided cumulative totals of energy and emission reductions driven by Australia's NABERS programme.

Further reports were provided as evidence:

- Performance and energy efficiency of traditional buildings: Gap Analysis, Update 2020 | Historic England[xi]
- Evaluating the renewable heating and efficiency obligation for existing buildings – insights into the mechanisms of mandatory building requirements (eceee.org)[xii]
- Skills Investment Plan for Scotland's Historic Environment Sector[xiii]

Although Q3 asked for examples of successful or unsuccessful regulatory frameworks, some of the responses did not specify whether the framework(s) described were considered successful or not.

The following schemes were cites as examples of regulatory regimes:

- Energy Performance Certificates (EPC)
- Minimum Energy Efficiency Standards (MEES)
- NABERS
- London Energy Plan
- BREEAM
- Norway's Carbon Tax
- Denmark's voluntary requirements
- Traditional Buildings Health Check
- Belgium Monumentenwacht
- Energy Saving Opportunities Scheme (ESOS)
- Streamlined Energy and Carbon Reporting (SECR)

The following papers were cited for Q3:

- Best practice in heat decarbonisation policy | UKERC | The UK Energy Research Centre[xiv]
- A Review of Heat Decarbonisation Policies in Europe (climatexchange.org.uk)[xv]

- Success Story - Decarbonising heating in buildings (agora-energiewende.de)[xvi]
- The decarbonisation of the EU heating sector through electrification: A parametric analysis - ScienceDirect[xvii]

2.3 Identification

We sought evidence of routes to define and identify individual properties, premises and buildings using identifiers such as:

- Premises or units within buildings
- Individual buildings
- Groups of buildings that form one campus or site
- Companies

Q4: Can you provide evidence of regulatory frameworks which use these, or any other units, to identify or define buildings?

There were three substantive responses to this question. One respondent listed planning guidance documents which relate to historic buildings. The remaining two responses listed the following frameworks used to identify buildings:

- Energy Performance Certificates (EPC)
- Display Energy Certificates (DEC)
- Unique Property Reference Numbers (UPRN)

2.4 Triggers

We sought evidence of the events or activities which could be used to set the point at which buildings or organisations become subject to regulations. Examples of these events are:

- Building sale or rental
- Refurbishment
- The point of financial, corporate or local tax returns
- Inspections of building or equipment

Q5: Can you provide evidence of frameworks which have used these, or any other events, to trigger regulatory actions?

There were eight responses to this question which suggested the following triggers:

- Listed Building Consent
- Scheduled Monument Consent
- Conservation Area Consent
- EPC on construction, sale or rental
- MEES on rental

- EAP on sale or rental
- Social Housing requiring EPC C on rental
- All social housing required to be as energy efficient as practically possible by 2032
- Norway's 2017 ban on fossil-fuel heating in new buildings and major renovations
- Flanders' 5-year limit from rental date for compliance
- Flanders' use of renovation as a trigger point
- Finland's integration of energy efficiency improvements into design and maintenance decisions
- The 25% change to the building envelope as a trigger point for any new requirements as currently used in Building Regulations?

2.5 Categories

We sought examples of regulations that are applied according to different categories such as:

- Building size
- Building location
- Tenure
- Industry sector
- Energy use
- Emissions

Q6: Can you provide evidence of frameworks which use these, or any other categories, to vary the form of regulations?

Q7: Can you provide evidence of how and to what extent regulations are varied by category?

There were five substantive responses to Q6. There were four responses to Q7, all of which referred to answers provided in Q6. The following uses of categories were listed in the responses:

- The Energy Efficiency Standard for Social Housing (EESSH) applies to social landlords only
- The requirement for Display Energy Certificates (DEC) is applied to public sector buildings over 250m^2
- Fire safety and cladding requirements vary according to the size of individual buildings
- Minimum Energy Performance Standards vary with building size in France, Flanders, Washington DC and Reno, Nevada
- Minimum Energy Efficiency Standards (MEES) regulations are currently applied to rented-sector buildings in England and Wales
- The European Energy Efficiency Directive requires energy audits for larger companies

- Portugal requires companies with an energy annual consumption of over 500toe to carry out energy audits every eight years
- Proposal for the Energy Saving Opportunities Scheme (ESOS) to extend to SMEs where the business has high energy consumption or is in a high energy consuming sector
- Performance Energy Efficiency Rating Scheme (PEERS) proposed for commercial and industrial offices above 1,000m²

2.6 Enforcement

We sought evidence of successful and unsuccessful enforcement methods used in regulatory frameworks. We were particularly interested in the use of exemptions within regulatory frameworks and evidence that these are operating as planned.

Q8: Can you provide evidence of the use of exemptions within regulatory frameworks?

Q9: Can you provide evidence of enforcement methods used to drive compliance within a regulatory framework?

There were ten responses to Q8. The following examples of exemptions were provided in the responses:

- Ecclesiastical Exemption to Business Rates in Scotland
- Listed Building Consent
- Scheduled Monument Consent
- Conservation Area Consent
- Energy Performance of Buildings Directive (EPBD) allows exemptions for "buildings officially protected as part of a designated environment or because of their special architectural or historical merit, in so far as compliance with certain minimum energy standards would unacceptably alter their character or appearance". This exemption has been used in Denmark, Ireland and England
- Proposals for the Scottish Government's Short Term Lets licensing regime include exemptions and qualifying criteria
- Flanders' requirements do not apply to buildings which will be demolished within five years
- In France exemptions are made for buildings used for defence or security operations and places of worship
- Proposals for staged standards in France allow exemptions related to the cost of renovation works and their payback period
- The requirement for office buildings to reach EPC C in the Netherlands include a cost threshold of payback within 10 years
- Proposals for Minimum Energy Efficiency Standards (MEES) include a 7 year payback limit

- The Private Rented Sector (PRS) exemptions register allows exemption on an individual basis

There were eight responses to Q9. A number of responses noted that existing enforcement of energy efficiency regulations was weak. The examples of enforcement methods and issues were:

- the lack of agreed responsibilities for enforcement in advance of the regulations for interlinked smoke alarms in Scotland
- the difficulty of accurately identifying properties, landlords and non-compliance in the non-domestic private rented sector for the enforcement of Minimum Energy Efficiency Standards (MEES)
- Washington DC used the absence of a benchmark report to assume that a building is non-compliant with the Building Energy Performance Standard
- In the Netherlands enforcement is through periodic penalty payments, a fine or closure of the office building
- Compliance Scheduled Monument Consent
- Planning and environmental appeal
- Enforcement of the Private Rented Sector (PRS) exemptions register is strengthened by lenders requirements

The work of the Organisation for Economic Co-operation and Development (OECD) with regard to regulatory enforcement was noted in the responses.

2.7 Measurement

We sought evidence of the effective use of measurements within regulations such as:

- Actual measured direct or indirect emissions
- Estimated direct or indirect emissions
- Fuel consumption or costs
- Installation of specified heating or cooling equipment
- Thermal resistance of building elements
- Internal operating temperatures

We also sought evidence of the measurement of any consequential impacts which were outside the original intended scope of regulations, such as:

- Land Use
- Fuel Poverty
- Comfort Levels

Q10: Can you provide evidence of measurements used by regulatory frameworks?

There were seven responses to this question. The following examples of measurement were provided in the answers to this question:

- Fuel consumption
- Installation of heating/cooling equipment
- Thermal resistance of building elements
- Internal operational temperatures
- Whole Building Emissions
- Calculated energy consumption
- Calculated carbon emissions
- Calculated energy costs
- Real Estate Asset Value
- Scope 1: Emissions from combustion of gas and fuel
- Scope 2: Emissions from purchased electricity
- Scope 3: Emissions from business travel
- embodied carbon
- delivered energy
- Electric Vehicle Charging

The following frameworks for measurement were noted in responses to Q10:

- NABERS
- Building Regulations (England & Wales) Part L
- International Building Operation Standard (IBOS)
- Streamlined Energy and Carbon Reporting (SECR)
- Energy Saving Opportunity Scheme (ESOS)
- Climate Change Agreements Scheme (CCA)
- EU Emissions Trading Scheme (ETS)
- France's Environmental Regulation RE2020
- PAS 2038
- Inform Guide: Improving Energy Efficiency in Traditional Buildings
- Technical Paper 34: Energy consumption and behaviour profiles for eight traditionally built dwellings
- Guide to Energy Retrofit of Traditional Buildings

3. Next Steps

The Scottish Government will consider the evidence provided in response to this Call for Evidence to inform the development of options to regulate the energy efficiency and zero-emissions heating of existing non-domestic buildings. A further public consultation on the proposed options for regulation will be published in late 2022 as outlined in the Scottish Government's Heat in Building Strategy 2021. All responses to the Call for Evidence have been published at:

https://consult.gov.scot/energy-and-climate-change-directorate/energy-efficiency-non-domestic-buildings/

Although the Call for Evidence has closed we would welcome the submission of any further evidence relating to the questions above to: nondom.heatinbuildings@gov.scot

Non-domestic Regulation, Assessment & Enforcement Team
Heat in Buildings Regulation Unit
Directorate of Energy & Climate Change
Scottish Government
2H North
Victoria Quay
Edinburgh EH6 6QQ

4. Scottish Government consultation process

Consultation is an essential part of the policy-making process. It gives us the opportunity to consider your opinion and expertise on a proposed area of work. You can find all our consultations online: http://consult.scotland.gov.uk.

Each consultation details the issues under consideration, as well as a way for you to give us your views, either online, by email or by post. Responses will be analysed and used as part of the decision-making process, along with a range of other available information and evidence. We will publish a report of this analysis for every consultation. Depending on the nature of the consultation exercise the responses received may:

- indicate the need for policy development or review;
- inform the development of a particular policy;
- help decisions to be made between alternative policy proposals; and
- be used to finalise legislation before it is implemented.

While details of particular circumstances described in a response to a consultation exercise may usefully inform the policy process, consultation exercises cannot address individual concerns and comments, which should be directed to the relevant public body.

[i] Heat in Buildings Strategy – Achieving Net Zero Emissions In Scotland's Buildings

[ii] Energy efficiency - regulation in existing non-domestic buildings: call for evidence - gov.scot (www.gov.scot)

[iii] Filling the policy gap: Minimum energy performance standards for European buildings - Regulatory Assistance Project (raponline.org)
[iv] Case studies: Minimum energy performance standards for European buildings - Regulatory Assistance Project (raponline.org)
[v] Next steps for MEPS: Designing minimum energy performance standards for European buildings - Regulatory Assistance Project (raponline.org)
[vi] Regulating for Zero Emissions Homes – research report and policy briefing | The Existing Homes Alliance | Scotland (existinghomesalliancescotland.co.uk)
[vii] New Energy Efficiency Obligations for Real Estate Located in the Flemish Region (linklaters.com)
[viii] Energy regulations in France: news and implications (Longevity Partners USA (longevity-partners.com))
[ix] Guide to the 2021 Building Energy Performance Standards | ddoe (dc.gov)
[x] DC BEPS is Coming! Building Energy Performance Standards in DC (ghtltd.com)
[xi] Performance and energy efficiency of traditional buildings: Gap Analysis, Update 2020 | Historic England
[xii] Evaluating the renewable heating and efficiency obligation for existing buildings – insights into the mechanisms of mandatory building requirements (eceee.org)
[xiii] Skills Investment Plan for Scotland's Historic Environment Sector
[xiv] Best practice in heat decarbonisation policy | UKERC | The UK Energy Research Centre
[xv] A Review of Heat Decarbonisation Policies in Europe (climatexchange.org.uk)
[xvi] Success Story - Decarbonising heating in buildings (agora-energiewende.de)
[xvii] The decarbonisation of the EU heating sector through electrification: A parametric analysis - ScienceDirect

Agenda

1. Welcome to any new members – 5 mins
2. Introduction - confirmation of co-chair; minutes of the last meeting; strategy publications – 10 mins
3. Data summary (presentation and discussion) – 20 mins
4. ---------- 10 minutes break ----------
5. Call for Evidence (presentation and discussion) – 20 mins
6. Topics and date for next meeting – 10 minutes

Intro

- Co-chair – [redacted], role, all agree?
- Minutes from August meeting – all agree?

Update on publications

- SG final HBS published
- UKG HABS and NZS published
- Green Minister and Bute House Agreement between SNP and Greens

Item 5. Call for Evidence

Purpose of the Call for Evidence

- One source of information could be gathered through a CfE
- CfE used as an initial first engagement in an areas of new policy development where there is no preference proposal developed
- Public signal of our intention to Regulate – gives the market some forewarning
- Demonstrates Ministers' commitment to regulate
- Seeking information on regulatory approaches used elsewhere
- Get evidence on the 3 broad options
- Limitations – it won't necessarily provide objective, impartial, representative evidence on the 3 options

Timetable

- Seeking WG's clearance of draft CfE – after which will put up for Ministerial clearance
- Plan for CfE to be published late Nov, for response by end Jan?
- Inform development of proposals for a formal consultation in summer 2022

Summary of the CfE

- Narrow scope – excludes domestic, LHEES, NZPSBS, BAR, NBHS, funding programmes
- Starts by asking for views on 3 regulatory approaches
- Asks for evidence on effectiveness and how regulations work:
  - Identification of buildings in scope and how they are categorised
  - Triggers for application of regs
  - Enforcment
  - Measurement – actual vs modelled emissions
  - Operation of regulations

- We are seeking evidence including but not limited to :
  - whether they focus on reducing heat demand, incentivising ZEH or both;
  - the effectiveness at reducing actual energy used for heating/cooling, reducing emissions, encouraging uptake of zero emissions heating and making fabric improvements;
  - the cost effectiveness of regulations leading emissions reduction at lowest cost, the administrative burden on buildings and enforcement, effective deterrents to ensure compliance, monitoring of effectiveness;
  - the acceptability/public buy-in and reputation/perception, consequential benefits (e.g. comfort), workability/implementation challenges;
  - the duration of regulations, the long term stability vs flexibility to amend and does it provide signals for longer term investment, the degree to which the market and reputation drives improvement vs more interventionist approaches;
  - how the different approaches can accommodate the diversity of the non-domestic building stock (size, use, age/construction, energy demand etc);
  - and how they deal with different patterns of ownership and letting (e.g. some never change ownership, and split responsibility between landlord vs. tenants).
  - Any lessons learned or approaches that have not worked, unintended consequences etc.

Reminder of the WG ToR

2.5 The Working Group will examine the options described in 2.4 with specific reference to the following criteria:

i. Effectiveness in **reducing the heat demand** of existing non-domestic buildings

ii. Effectiveness in **driving installation of zero-emission heat sources** in existing non-domestic buildings

iii. Impact on **future operating costs** for existing non-domestic buildings

iv. Impact on **investment and maintenance cycles** for existing non-domestic buildings

v. Resources required to deliver regulations and ensure compliance

Discussion

- Are we asking the right questions?
  - Should topic questions within the Call for Evidence ask stakeholders for their opinions or documentary evidence?
  - Are there additional topics that should be included in the Call for Evidence?
  - Should the three options for regulation be included in the introduction to the Call for Evidence?
- Do you think it will provide any information to support your decisions?
- Does the WG agree to clear the CfE? Vote in meeting or by correspondence by 1 Nov.
- What information does the WG need in order to consider the options and provide a recommendation to the Minister?
- What other types of info do you need in order to consider the options? What other means of obtaining this can you suggest?
  - e.g. roundtable discussion lead by WG
  - External invites to WG to give evidence – e.g. Utility companies
  - Input from other SG WG – e.g. the existing utilities one
- We want the WG to lead this process rather than just be a sounding board for SG proposals.

Regulation of Heat and Energy Efficiency in Existing Non-Domestic Buildings

Minutes of the Short-life Working Group meeting on 10th August 2021 via MS Teams
Contact: [redacted]@gov.scot
Approved by members of the Working Group on 21st October 2021

1. Attendance

1.1 External

[redacted] – Construction Scotland Innovation Centre
[redacted] – Scottish Property Federation
[redacted] - Historic Environment Scotland
[redacted] - Chartered Institution of Building Service Engineers
[redacted] – Scottish Futures Trust
[redacted] – Energy Technology Partnership
[redacted] - Zero Waste Scotland
[redacted] - Industrial & Commercial Heating Equipment Association
[redacted] – Royal Institution of Chartered Surveyors
[redacted] - UK Hospitality Scotland
[redacted] - Elmhurst Energy Assessors
[redacted] - Energy Savings Trust
[redacted] – NHS Highland Estates

1.2 Scottish Government

Energy & Climate Change Directorate
Non Domestic Energy Efficiency & Zero Emissions Heat Regulation Team
[redacted] (chair) Team Leader
[redacted] (secretariat) Senior Technical Advisor
[redacted] (notes) Policy Adviser
Heat Strategy Unit
[redacted] (presenter) Head of Heat and Energy Efficiency
[redacted] - Team Leader: Heat Programme & Strategy
[redacted] - Senior Policy Advisor: On-gas heat decarbonisation
[redacted] – Team Leader: Heat Networks Policy
Energy Efficient Scotland Advice & Non-Domestic Delivery
[redacted] – Team Leader: Non-Domestic Programmes
[redacted] - Heat Policy Officer
Chief Economist Directorate
Office of the Chief Economic Adviser Economic Analysis
[redacted] (presenter) Economic Adviser: Energy & Climate Change
Local Government and Communities Directorate
Building Standards Division

[redacted] - Head of Technical Unit

1.3 Apologies

[redacted] – Scottish Energy Officers Network
[redacted] – Scotch Whisky Association
[redacted] – Building Research Establishment

2. Notes

This was the Inaugural meeting of the reconvened Working Group. All attendees introduced themselves.

[redacted] confirmed the format and timetable for future meetings.
[redacted] confirmed the objective of the Working Group, the Terms of Reference (circulated on 6th August 2021) and that she would be acting as chair for this meeting.

Expressions of interest were sought from members to act as co-chair for future meetings.

[redacted] provided a presentation on the Regulation of Heat and Energy Efficiency in Existing non-Domestic buildings (circulated on 13th August 2021).

Three possible regulatory options were described:

A) Measures based

B) Minimum standard

C) Operational rating

A guided discussion, based on questions in the presentation, followed and is summarised as:

- There was broad support for Option C however a combination of the options may be required

- Concerns were raised with regard to:
  - Bespoke recommendations for specific buildings
  - Information and support required for building owners
  - Varying approaches required for large or small buildings
  - Upskilling required to deal with the diverse building stock
  - Trigger points and phasing required for each option
  - The combination of modelled and real data
  - Utility supply issues

- There were requests for further data with regard to:
  - Scottish Government resource constraints
  - Display Energy Certificate (DEC) programme
  - Records of all buildings sold or let
  - Update on the Heat in Buildings Strategy
  - Detailed description of the non-domestic Building Stock

3. Actions

Date raised	Action	Who	Due date
10/8/21	Data to support WG consideration of 3 options	Scottish Government	Next meeting
10/8/21	Confirm next meeting	[redacted]	October

Regulation of Heat and Energy Efficiency in Existing Non-Domestic Buildings

Minutes of the Short-life Working Group meeting on 21st October 2021 via MS Teams
Contact: [redacted]@gov.scot

1. Attendance

1.1 External

[redacted]	Historic Environment Scotland
	Law Society of Scotland
	CIBSE
	Energy Technology Partnership
	BRE
	Energy Saving Trust
	Zero Waste Scotland
	Industrial & Commercial Heating Equipt Assoc.
	Federation of Small Businesses
	Scottish Futures Trust
	Scottish Energy Officers Network
(co-chair)	RICS
	Elmhurst Energy

1.2 Scottish Government

[redacted] (co-chair)

[redacted] (secretariat)

1.3 Apologies

[redacted] Scotch Whisky Association
[redacted] – NHS Highland
[redacted] – Scottish Construction Innovation Centre

2. Notes

This was the second meeting of the reconvened Working Group. [redacted], [redacted], [redacted] and [redacted] introduced themselves.

[redacted] was confirmed, alongside [redacted] as co-chair. The minutes of the previous meeting (10th August 2021) were approved.
[redacted] highlighted the recent publication of Scotland's Heat in Building Strategy and the UK's Heat and Building Strategy. The appointment of Patrick Harvie MSP as Minister for Zero Carbon Buildings, Active Travel and Tenants' Rights was noted.

[redacted] gave a presentation on data sources available followed by discussion
[redacted] gave a presentation on the proposed Call for Evidence followed by discussion

Actions

Date raised	Action	Who	Due date
21/10/21	Further comment on data sources by email	WG members	1/11/21
21/10/21	Further comment on draft Call for Evidence	WG members	1/11/21
21/10/21	Final Call for Evidence circulated to WG members	[redacted]/SSe	Post COP26
21/10/21	Arrange meetings with CIBSE, BRE	SSe	Post COP26
21/10/21	Confirm date of next meeting	SSe	January 2022
21/10/21	Circulate papers for meeting	SSe	February 2022
10/8/21	Data to support WG consideration of 3 options	Scottish Government	completed
10/8/21	Confirm next meeting	SSe	completed

Minutes of the Working Group on the Regulation of Heat and Energy Efficiency in Existing Non-Domestic Buildings

Third meeting of the Working Group on 31st March 2022 via MS Teams
Contact: [redacted]@gov.scot

External

[redacted]	Energy Savings Trust
	Scottish Property Federation
Co-chair)	RICS
	Energy Technology Partnership
	Elmhurst Energy
	CIBSE
	UK Hospitality
	BRE
	Scottish Energy Officers Network
	Historic Environment Scotland
	Scottish Futures Trust
	Construction Scotland Innovation Centre
	Industrial & Commercial Heating Equipment Association

Scottish Government

[redacted] (Co-chair)
[redacted] (Secretariat)

Apologies

[redacted]	Federation of Small Businesses
	Scotch Whisky Association

Notes on the Meeting

[redacted] (chair) and [redacted] (secretariat) from the Scottish Government presented the slides as shown in the document 'WG21 Presentation 31 March'. Please note these are designated as "official sensitive", they do not represent Scottish Government policy and should not be shared beyond members of the Working Group.

Call for Evidence

[redacted] provided a summary of the 14 responses to the public consultation Regulation of energy efficiency in existing non-domestic buildings: call for evidence. The examples provided within the responses have established a broad base of evidence which can be referred to in the development of regulatory framework for Scotland.

Data Review

[redacted] provided a brief update on the ongoing Data Review on Commercial Buildings carried out by ClimateXChange on behalf of the Scottish Government (IQ31). This will provide an assessment of Scottish non-domestic buildings data and identification of data gaps with a focus on energy use and CO2e emissions.

[redacted] confirmed that the Scottish Government is aware of the stock model being developed by UCL for non-domestic buildings in England & Wales. This is of interest however the rating valuation system applicable in Scotland would require separate development of a comparable model.

Current & Proposed Regulations within UK and EU

The wider context in which the Scottish Government is developing regulations was set out. [redacted] provided a summary of proposals for the regulation of heat in non-domestic buildings in England and Wales: Minimum Energy Efficiency Standard (MEES) requiring EPC rating B for private rented sector by 2030 and introduction of a Performance Energy Efficiency Rating Scheme (PEERS).

[redacted] provided a summary of proposals for the recast EU Energy Performance of Buildings Directive (EPBD): standardising the A-G scale of EPCs across the EU and focussing improvements on the worst-performing 15% of buildings in all EU nations.

Concerns with the EPBD requirement for a Primary Energy Indicator measurement were noted. The Scottish Government will advise Ministers on alignment once the EPBD is finalised.

Proposed Regulatory Framework

[redacted] described possible building blocks being explored for a regulatory framework that could be used alone or in combination - these does not constitute official Scottish Government policy. These proposals are intended to accommodate the diversity of the non-domestic built environment and ultimately deliver the objective of zero direct emissions. The regulatory approach needs to be enforceable, economically feasible, understandable and compatible with the European Convention on Human Rights (ECHR).

Five potential blocks are:

1. Reporting on a building's heating system
2. Reporting on direct emissions resulting from fossil fuel use
3. Setting a long term trajectory to 2040 of tightening emission limits for buildings
4. Modifying non-domestic EPCs and setting a minimum energy efficiency standards
5. Mandating the installation of Zero Direct Emission Heating (ZDEH) systems at the point of system replacement.

Notes on Discussion

Discussion on the building blocks for regulation was led by [redacted] (questions on slide 12).

There was general interest in the building blocks, and the Scottish Government clarified points raised by members:

- **Emission levels** – the *principle* of emission limits are being considered, the levels are *illustrative*, with further work required to establish appropriate levels and timing.
- **Zero Direct Emissions** – regulations will focus only on direct emissions (scope 1) generated within the curtilage of the building. Scotland's statutory GHG reporting accounts for emissions associated with electricity at the point of generation not consumption.
- [redacted] **Regulating for Energy Efficiency** – the objective of regulations is to reduce heating to zero, which will ultimately require replacing fossil fuel heating systems with ZDEH systems. Regulations cannot effectively specify energy efficiency targets across the diversity of the non-domestic stock - individual building operators are best placed to take decisions on how to eliminate their emissions (i.e. extent of savings through energy efficiency). Similarly these regulations are not the place to deal with the wider impacts of switching to ZDEH.
- **Emissions from Heat Networks** – these regulations will consider heat networks to be ZDE as a separate legislative framework proposed to implement the Heat Networks (Scotland) Act 2021 will be used to decarbonise heat networks (see the Heat Network Delivery Plan[1]).
- **Financial Support for Decarbonisation** – the Green Heat Finance Taskforce[2] is examining the options for private finance.

Points raised by some members during the discussion included:

- The burden of reporting heating system and energy consumption for businesses and building operators including potential duplication with other regimes;
- the difficulty in defining floor area for emissions limits, in particular heated floor area (which would be the most relevant variable to use);
- that existing reporting formats such as Display Energy Certificates (DEC) could be used for reporting energy consumption rather than creating new ones;
- that emission limits will need to accommodate the dynamic nature of carbon factors due to changes occurring outwith the built environment (i.e. changing electricity generation mix [DN: SG clarification above regarding definition of ZDEH means electricity will have a zero carbon factor). And the risk that policy approach to ZDEH in buildings could have unintended consequences in the wider energy system;
- that network capacity constraints arising from the wholesale conversion to electric heating means that demand reduction needs to be considered;
- options for segmenting the non-domestic building stock
- that there is a missed opportunity for domestic-like buildings, and a risk of contradictory how regulations for domestic-like non-domestic buildings and domestic buildings treat demand reduction to ensure consideration of the consequents of electric heating on consumers;
- consideration of building finance which is as important as regulations to successfully achieving the objective of converting to ZDEH and eliminating emissions;

[1] Heat Networks Delivery Plan - gov.scot (www.gov.scot)

[2] Heat in Buildings - Green Heat Finance Taskforce: terms of reference - gov.scot (www.gov.scot)

- that advice and support is an integral part needed alongside regulations to help businesses and building operators take informed decisions on investment to eliminate emissions;
- that enforcement can be achieved outwith regulations – for example lenders in England are increasingly not willing to lend to buildings that are not meeting the MEES requirements;
- that EPCs enable a comparison of buildings across fuel types to assess their relative performance.

The Scottish Government will develop an interim report using these points for the working group's consideration in the subsequent meeting (May – date tbd), to inform the summer scoping consultation.

The meeting closed with a request for members to provide any additional views or comments to: nondom.heatinbuildings@gov.scot.

Date raised	Action	Who	Due date
31/3/22	Email further comments on building blocks to SG	WG members	25/4/22
31/3/22	4th meeting to discuss interim report that sets out how building blocks could be used for regulation	SSe	TBC – w/c 2/5/22
31/3/22	Circulate draft interim working group report for discussion	[redacted]/SSe	May
21/10/21	Further comment on data sources by email	WG members	Completed
21/10/21	Further comment on draft Call for Evidence	WG members	Completed
21/10/21	Final Call for Evidence circulated to WG members	[redacted] SSe	Completed
21/10/21	Arrange meetings with CIBSE, BRE	SSe	Post COP26
21/10/21	Confirm date of next meeting	SSe	Completed
21/10/21	Circulate papers for meeting	SSe	completed
10/8/21	Data to support WG consideration of 3 options	Scottish Government	completed
10/8/21	Confirm next meeting	SSe	completed

Regulation of Heat in Existing Non-Domestic Buildings

Thursday 31st March 2022

Chair
[redacted]gov.scot)
[redacted]@rics.org)

Secretariat
[redacted]@gov.scot)

AGENDA

1.	Introduction	5 minutes
2.	Update on the Call for Evidence	10 minutes
3.	Summary of UK and EU approaches	10 minutes
4.	Outline of possible regulatory framework	30 minutes
5.	Discussion	20 minutes

Description of the 3 Options for Regulation

A. Measures-based	B. Minimum Standards	C. Actual Performance
• Regulations stipulate improvement measures to be implemented • Assumes government can define appropriate measures across all buildings • Legislative competence to require installation of zero emissions heating is not clear • **Eg: Current Energy Action Plans from 2016 Regulations**	• Regulations set a common standard using existing infrastructure (e.g. EPC) • Modelled performance • Comprehensive set of standards required • Currently being established across domestic buildings in Scotland • **Eg: England & Wales - all private rented buildings to achieve EPC 'B' by 2030**	• Regulation based on metered energy consumption • Public disclosure of rating generated from consumption reflects building operation • Building users determine what measures to take to improve rating • **Eg: England & Wales - proposal for offices over 1000m^2**

Call for Evidence

- Examples and evidence were provided from Scotland, the UK and the EU
  - Mandating specific measures
  - Setting a minimum efficiency standard
  - Regulating on operational energy consumption
- Most evidence focussed on emissions and energy - some non-energy examples such as the introduction of linked smoke alarms in Scotland
- Provides a broad baseline of evidence for the development of regulations
- CXC Data Review of Non-Domestic Building Information

Wider context: UK and EU Regulatory Frameworks

In developing a Scottish regulatory framework, we are taking into account the wider context. Scottish Ministers may wish to align to the EU proposals, or be invited to align with the UK Government.

UK regulatory framework

- Minimum Energy Efficiency Standards (MEES)
- Property Energy Efficiency Rating (PEERS)
- ESOS

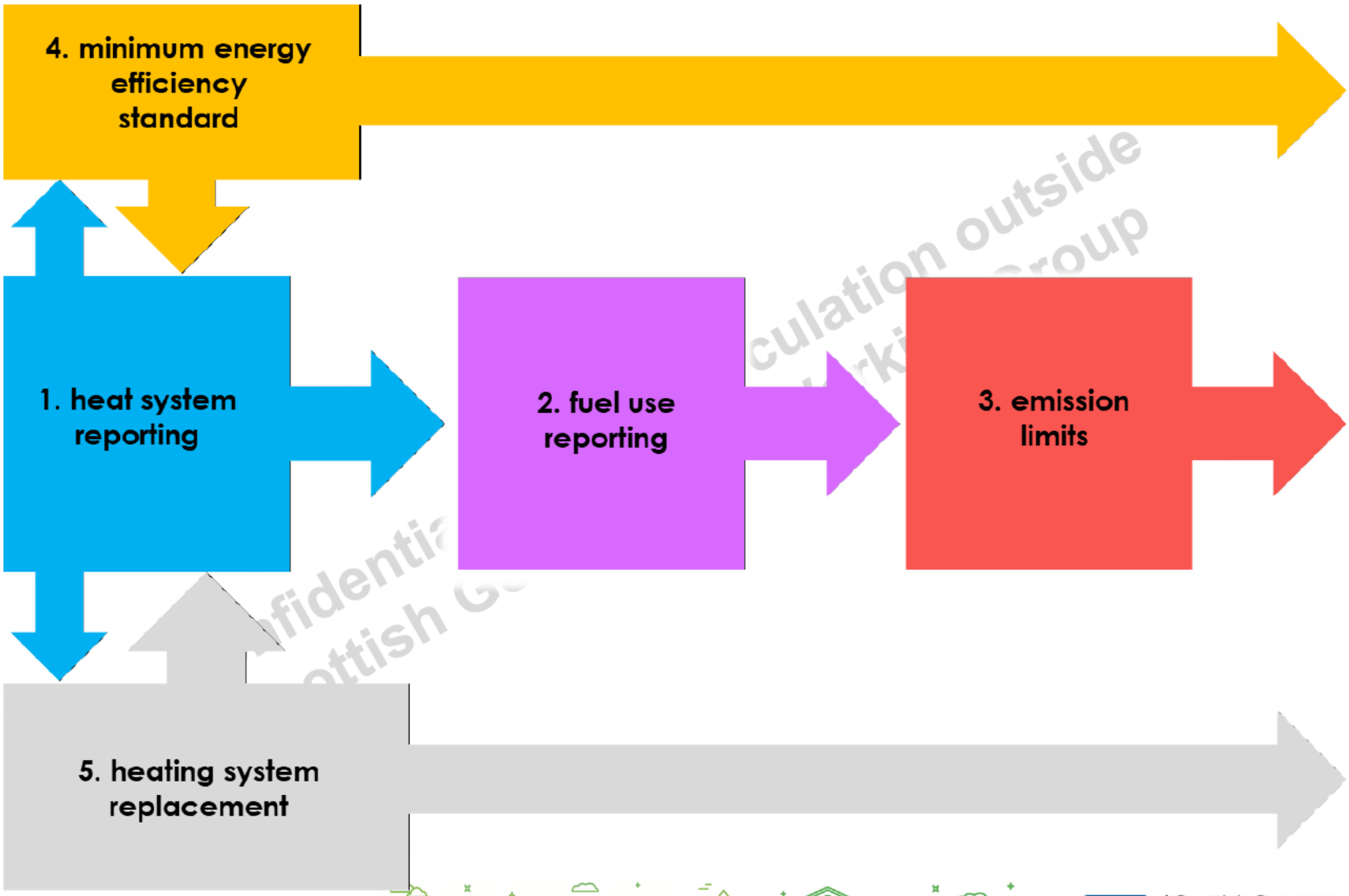
EU regulatory framework

Dec 2021 – EU proposals to recast the EU Energy Performance of Buildings Directive (EPBD) include:

- Totally decarbonisation by 2050 with intermediate target in 2030
- Standardise EPCs using primary energy and scale so worst 15% are G
- Set minimum standards of EPC F by 2027 and EPC E by 2030
- Introduce renovation passports

EPBD links but does not define regulatory frameworks across the EU

5 Possible Blocks for a Scottish Regulatory Framework



Block 1. Heating System Reporting

One of, initial requirement for all buildings (as listed on the Business Rates Valuation roll) to report the following:

- UPRN
- Heating Appliances installed

Buildings with combustion appliances would be offered contacts for tailored advice and decarbonisation support.

Strengths	Weaknesses
• Minimal financial and administrative burden for business • Creates a database of all heated buildings	• Requires substantial digital infrastructure • Enforcement

Block 2. Fuel Use Reporting

Subsequently, all buildings reporting combustion appliances required to annually report:

- UPRN
- Combustion fuels – annual consumption by fuel type
- Heated floor area

Submission of the annual report will trigger a response that could include:

- annual direct emissions intensity ($kgCO_2/m^2$) calculated from fuel consumption. (Note direct emissions to be defined as those occurring within the curtilage of the building).
- notification of future emission limits
- contacts for support and funding

Strengths	Weaknesses
• Creates a database of building emissions • Minimal financial cost for business	• Administrative burden for business • Enforcement • Audits required to check compliance

Block 3. Emission Limits

All buildings have to meet the same direct emission limits on a trajectory set out in the regulations.

The emission limits would be informed by CIBSE best practice benchmarks and could be as follows:

- 2030 - 50kgCO_2/m^2
- 2035 - 20kgCO_2/m^2
- 2040 - 10kgCO_2/m^2

This allows organisations to decide how to meet target – whether through energy efficiency or switching heating supply (completely or partially)

Long term trajectory to accommodate investment decision making and long term lease arrangements

Non compliance with these limits would be subject to enforcement

Strengths	Weaknesses
• Clearly signposted from outset • Clear and direct link to emissions • Standardised approach across all ND buildings	• Results dependent on floor area • Administration costs • Enforcement

Block 4. Minimum Energy Efficiency Standards

Revised layout of Non-domestic EPCs to include:

- Absolute estimated energy demand
- Absolute estimated direct emissions (e.g. occurring within the curtilage of the building)
- Relative alphabetic rating as per England & Wales
- Addition of '*' to rating for a building with no direct emissions

Possible alignment with MEES in England & Wales:

- by 2030 any building on sale or rental must achieve EPC B or EPC *

Consider additional changes to align with the revised EPBD

Strengths	Weaknesses
• Direct link to decarbonisation • Flexibility for businesses • No exemption route • No costs for all-electric buildings • Adaptation of an existing tool	• Both options financially onerous • Avoidance of EPC on sale or rental

Block 5. Heating System Replacement

All non-domestic buildings to install a Zero Direct Emissions Heating (ZDEH) system on boiler breakdown.

Suggested exemptions:

- Located In a Heat Network licence zone
- ZDEH is not possible on technical or economic grounds
- Combined methane / H_2 appliances
- Combined biofuel / fossil fuel appliances

Strengths	Weaknesses
• Applies to all fossil fuel users • Development of a fossil-fuel register • Could be linked to grant support	• No mechanism for identifying replacements • Unexpected and significant financial burden for businesses • Could encourage the use of older appliances • Could encourage the use of non-heating appliances

Discussion .....

1. Could Blocks 1-3 meet the objective of completely decarbonising heating in buildings?
2. Would setting emission limits provide long term certainty to allow investment decisions across the non-domestic sector?
3. What will influence the decision on how to meet emissions limits?
4. Should limits vary according to building characteristics?
5. How to accommodate different lease arrangements?
6. What would be the impact on the market for commercial property?
7. What means of enforcement would provide an effective deterrent?
8. How should compliance be checked?

Close

Propose a further meeting to discuss blocks in more detail

Please send us any views on the blocks in the interim via email

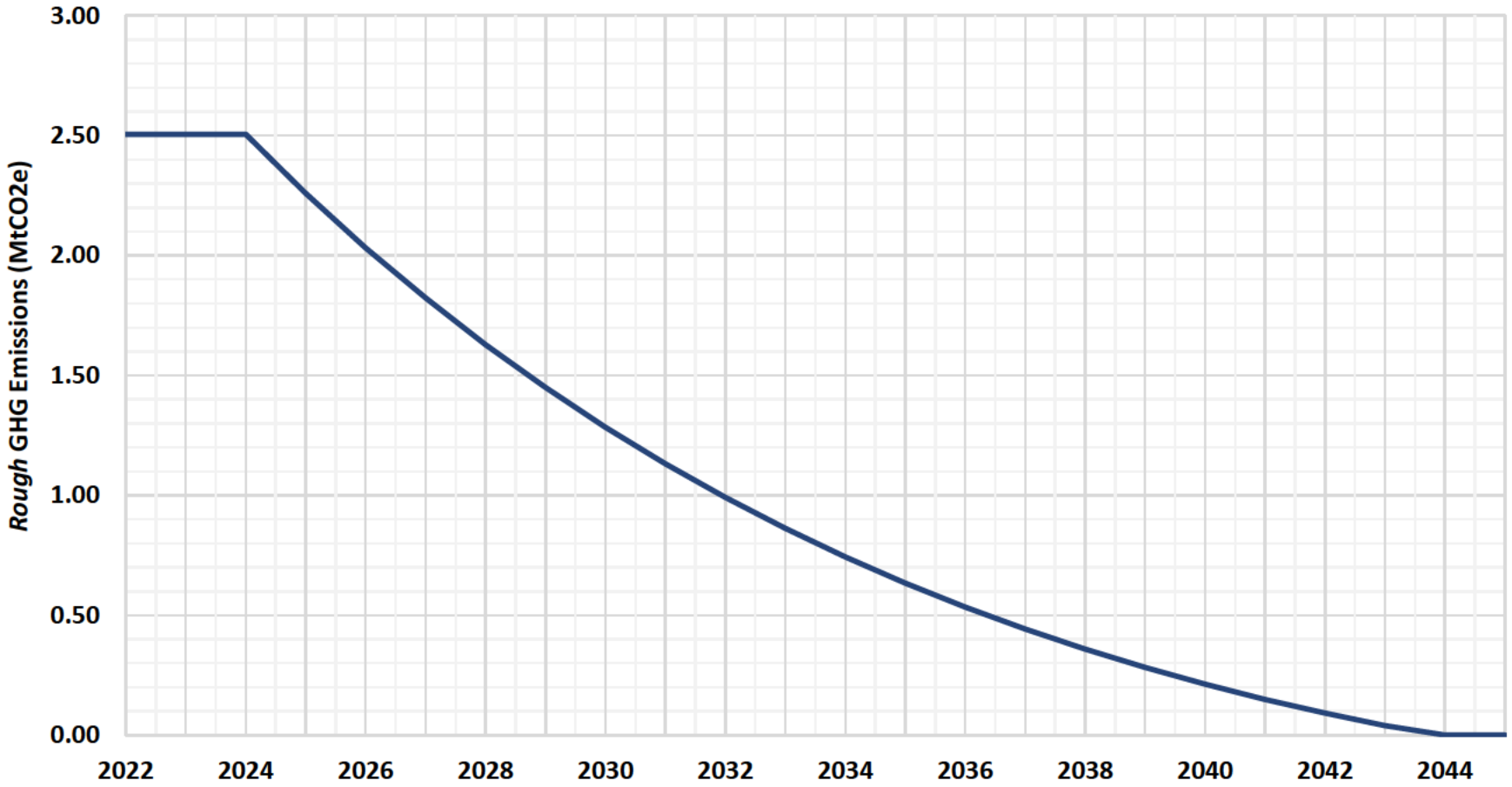
Prepare a interim report on policy preference

Ministerial clearance to consult on policy preference

Date of next meeting - w/c 25 April

Summer 2021	Introductory Meeting
Autumn 2021	Discussion on Options
Winter 21/22	Public Call for Evidence
Winter 21/22	Working Group: Interim Report
Summer 2022	Public Consultation
Autumn 2022	Working Group: Final Recommendation

Non-domestic emissions (MtCO2e), 2022-2045.



Note: The figures presented here are preliminary estimates and have not been quality assured.
The CCC reported that non-residential building emissions amounted to 2.5 MtCO2e in 2019 (CCC Report to Scottish Parliament 2021).

Summary of Data Sources for Energy Use in Non-Domestic Buildings in Scotland

[redacted]
Heat in Buildings Regulation Unit
Directorate of Energy & Climate Change

1. Data Requirements

The modelling and analysis that underpins both policy and regulation in the Scottish Government relies on data. This document provides a summary of the available data sources which relate to the energy efficiency and greenhouse gas emissions associated with the non-domestic building stock.

We would ask the members of the Working Group to consider this summary and to highlight any additional data which they require in order to provide recommendations to the Scottish Government Ministers. In particular we'd like the Working Group's views, as to:

1.1 Any data sources which have been omitted from this summary
1.2 Comments as to the quality or accessibility of data sources listed
1.3 Whether there is a requirement for a formal evidence review in this area

2. Background

This document sets out the data sources that are available to describe, monitor and regulate the use of heat in non-domestic buildings in Scotland. It will be edited following the meeting to incorporate any comments or additions from the Working Group. This document will be used as background to inform the Call for Evidence which will be discussed by the Working Group and published by the Scottish Government at the end of 2021.

Heat demand across Scotland's non-domestic building stock is heterogeneous. The range of activities taking place within non-domestic buildings when combined with the range of building types and forms has made it difficult to identify and develop data sources which provide a comprehensive picture of energy use in the non-domestic built environment. There are also issues with linking existing data sources together to provide information on individual buildings or groups of buildings. The data sources marked in red are those which are currently being used by Scottish Government to describe the non-domestic building stock.

3. Databases

These provide a comprehensive listing of cases within a defined population. The information provided for each case is limited.

3.1 One Scotland Gazeteer – a land and property dataset containing address and UPRN information which is maintained by each of Scotland's 32 local authorities - updated monthly
3.2 Scottish Assessors Association – holds information on non-domestic properties (via Rateable Values) across Scotland as provided to each local authority
3.3 National Energy Efficiency Data Framework – this is a collection of data known as NEED which uses electricity and gas consumption data from individual meters across the UK
3.4 DUKES – a digest of the UK's energy statistics categorised by Industrial Activity End-Use

3.5 Scottish Landlord Register – the official register of landlords of private rental properties in Scotland
3.6 Land Registry – this provides information on both land and property but has yet to be comprehensively digitised
3.7 Building Standards Register – a listing, provided by each local authority of building warrant applications
3.8 NHS Hospitals - the name, address, location and UPRN of every NHS hospital in Scotland

4. Surveys

These can provide more detailed information for each case but are carried out for a limited sample within a defined population. The representative nature of this sample can be assessed if the composition of the population is known.
4.1 Energy Performance Certificate Register – this provides information on Energy Performance Certificates, Energy Action Plans and Display Energy Certificates
4.2 Non-Domestic Building Survey (NDBS) - this work is planned by BEIS to cover a representative sample of all non-domestic building types in England and Wales in 2021.
4.3 CarbonBuzz – this project allows anonymous comparisons of projected and actual energy use across different sectors

5. **Models**

These combine information from both databases and surveys to provide a picture of a defined population. The granularity and accuracy of the model will vary depending on the method used to develop it and the intended use.
5.1 Scotland's Heat Map - this is a resource for assessing heat demand and supply opportunities across Scotland
5.2 ND-NEED – this model of energy consumption in non-domestic buildings in England & Wales is based on the Valuation Office Agency's list of all non-domestic premises which contains information on the premises' use and size.
5.3 ND-BED – this model is being developed to provide information on non-domestic buildings and their energy use across Scotland.
5.4 N-DEEM – the Non-Domestic Energy and Emissions Model was developed by BRE in 2000 using a variety of survey data combined with VOA data for England & Wales.
5.5 ENUSIM – this is an example of a model which was first developed in 1991 by Midlands Electricity to forecast industrial demand for electricity within their region
5.6 CaRB Classification – these 14 primary use codes have been developed from VOA activity codes to cover non-domestic buildings in England and Wales.
5.7 CIBSE Technical Memorandum 46 (TM46) – this 2008 publication provides a comprehensive set of energy and emission benchmarks for non-domestic buildings