

**MAYOR OF LONDON**

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# London Plan - Part L 2021 impact

06 May 2022

# LONDON PLAN – PART L 2021 IMPACT

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## Introduction

- On 15 June, Part L 2021 of building regulations will be adopted with new energy performance standards
- This will create closer alignment with London Plan policy (e.g. up to date carbon emission factors) but London Plan policy is still more ambitious
- We have assessed the impact of Part L 2021 on London Plan policies with AECOM providing technical modelling and analysis
- As the London Plan isn't being updated this Mayoral term, we will updating the Energy Assessment Guidance to explain how London Plan policy should be applied from 15 June 2022.

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## Timetable

Task	Date
Part L Building Regulations documents published	December 2021
Analysis of impacts on London Plan	Jan - April 2022
Stakeholder engagement	February – May 2022
Confirm approach via website	May 2022
Publish updated Energy Assessment Guidance	June 2022
Part L Building Regulations take effect	15 June 2022

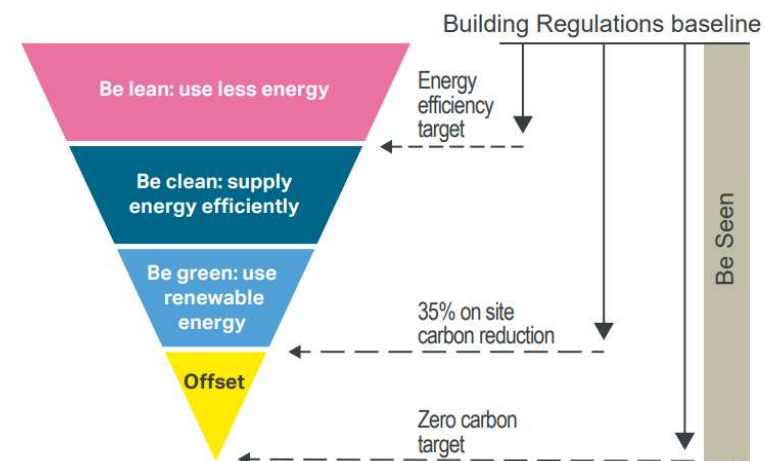
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## Scope of task

- London Plan Policy SI 2 CO<sub>2</sub> emission minimum on-site 35% improvement requirement over Building Regulations for **major** applications is currently based on Part L 2013 standard
- The London Plan includes the ability to review the policy threshold when Building Regulations is updated (see excerpt)
- The key objectives for the London Plan Policy SI2 minimum on-site CO<sub>2</sub> emission threshold update are:
  - Maintain the original intention of the policy whilst being effective at driving on-site improvements towards zero carbon;
  - Have a robust basis for the update;
  - Easily understood by applicants and simple to implement for GLA/London Boroughs; and
  - Limit any additional work for applicants.

Excerpt from the London Plan (2021):

Figure 9.2 - The energy hierarchy and associated targets



Source: Greater London Authority

- 9.2.5 To meet the zero-carbon target, an on-site reduction of at least 35 per cent beyond the baseline of Part L of the current Building Regulations is required.<sup>154</sup> The minimum **improvement over the Target Emission Rate** (TER) will increase over a period of time in order to achieve the zero-carbon London ambition and reflect the costs of more efficient construction methods. This will be reflected in future updates to the London Plan.

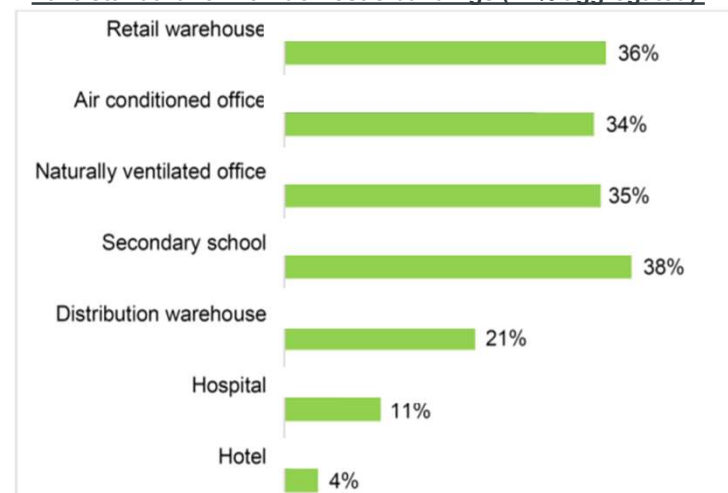
<sup>154</sup> Building Regulations 2013. If these are updated, the policy threshold will be reviewed. <https://www.gov.uk/government/publications/conservation-of-fuel-and-power-approved-document-l>

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## Part L 2021 Key Changes

- Enhanced performance standards which is intended to deliver an aggregated CO<sub>2</sub> emission improvements of 31% and 27% over the Part L 2013 for domestic and non-domestic buildings respectively
- Adoption of updated CO<sub>2</sub> emission factors mean that electricity based heat generation, such as heat pumps, will be able to demonstrate significant CO<sub>2</sub> emission improvements for buildings with high hot water or space heat demands
- The CO<sub>2</sub> emission saving potential of gas boilers and heat networks with gas based systems, such as CHP, will be limited compared to the current GLA approach of using SAP 2012 emission factors where a DHN connection is possible
- The heating assumptions in the notional building used to generate the Target Emission Rates have been updated and will influence policy baseline, % CO<sub>2</sub> emission improvements and technology choice
- A Target Primary Energy Rate (TPER) is now a criterion for complying with Part L 2021 which needs to met as well as the CO<sub>2</sub> requirement

**Government data on Part L 2021 CO<sub>2</sub> emission improvement over Part L 2013 standard for non-domestic buildings (27% aggregated):**



**Changes in fuel emission factors between standards**

Fuel used	Carbon emission factors (kgCO <sub>2</sub> /kWh)		Difference
	Part L 2013	Part L 2021	
Natural gas	0.216	0.210	-3%
Grid Electricity	0.519	~0.136	-74%

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## Key challenges

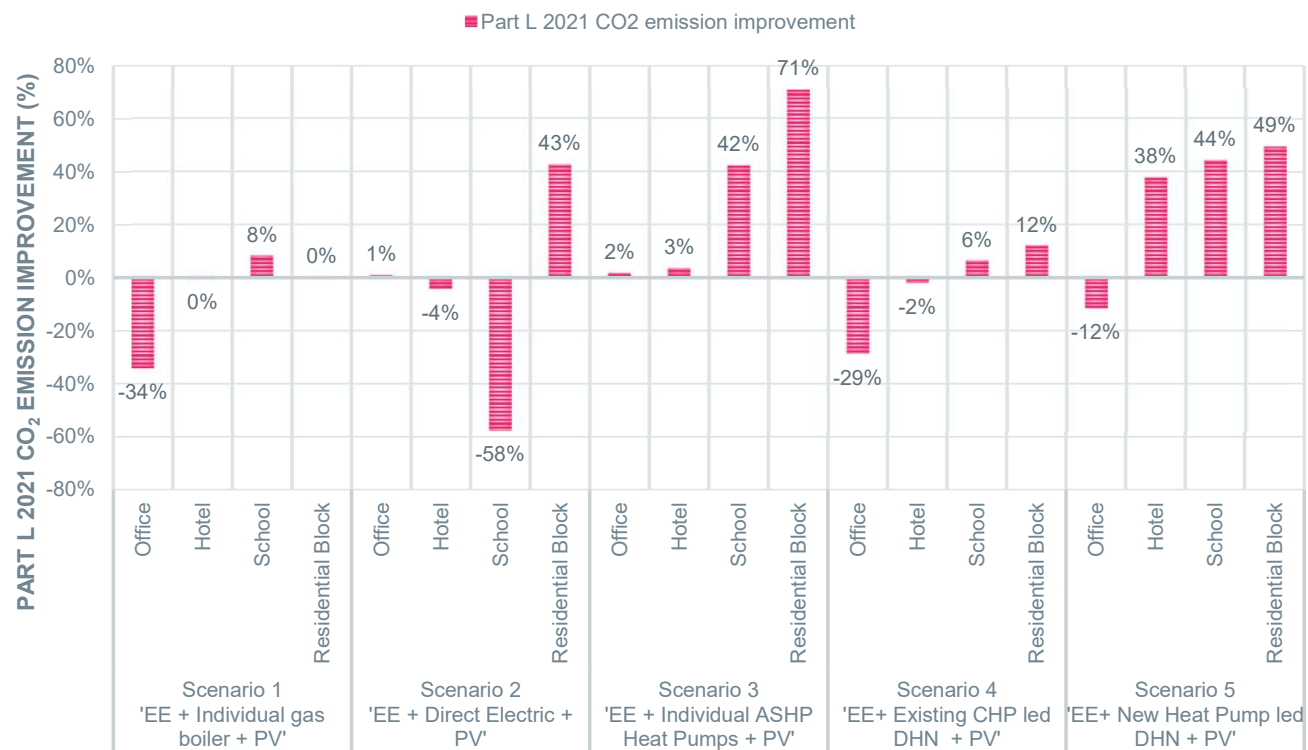
- The implications are complex and the window for responding to Part L 2021 is short as it will be enforced on the 15th June 2022.
- Approved modelling software for Part L 2021 is not yet published and there are no definitive time scales on when it may be available. Current assessment is based on consultation versions of the software for domestic and the latest Part L 2021 version of SBEM
- Changes to Part L 2021 will result in a wide range of CO<sub>2</sub> emission performance for certain technologies and building types
- Maintaining the performance of the current London Plan policies. The published 2020 GLA Energy Monitoring Report shows that on average referable developments achieved a 46% CO<sub>2</sub> emission improvement, far exceeding the minimum 35% improvement target over Part L 2013
- Ensuring that the final proposal does not lead to non-compliant solutions e.g. poor fabric performance with direct electric
- Determining a consistent baseline for the % improvement e.g. current London Plan policy uses a TER generated from a gas boiler system

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## Modelling analysis

- This chart outlines example % carbon improvements that may be achieved against the Part L 2021 standard for a sample set of technology scenarios and building types
- Each of the scenarios assumes typical energy efficiency measures to meet London Plan targets and a conservative estimate on PV (20-40% roof space)
- The results show a wide range performance for the scenarios and building types tested
- Heat pump scenarios provide the largest % improvement
- Further improvements through energy efficiency, increase COPs and PV could be possible

## RESULTS SUMMARY



**Note** technology scenarios have been tested to understand potential performance and are not intended to represent policy compliant solutions

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## Proposed approach from 15 June 2022

- Applicants will continue to be required to aim for net zero by following the energy hierarchy to maximise carbon reductions.
- 35% improvement over Building Regulations would remain as the backstop to serve as a minimum standard (noting that for some building types this is unlikely to be achieved).
- Inclusion of benchmarks for where higher performance can be achieved e.g. residential.
- % improvements will be measured against the Part L 2021 notional building assumptions related to the technologies proposed in the application i.e. current approach of assuming a gas boiler for the baseline will not be continued.
- Secure energy efficiency improvements and demonstrate the Mayor's commitment to accelerate ambition and achieve net zero in-use by introducing the requirement to report Energy Use Intensity and space heating demand metrics in line with CCC, LETI, UKGBC, RIBA recommendations.



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## Additional impacts

- Impact on the carbon offset payments:
  - overall on-site CO<sub>2</sub> emissions are expected to be closer to net zero in Part L 2021 due to grid decarbonisation leading to lower offset payment amounts than would be the case when reported against Part L 2013 with SAP 2012 and SAP 10.0 emission factors
  - gas based heat networks will be the exception when compared with Part L 2013 and SAP 2012 emission factors
- Heat network connections will continue to be supported and the guidance will confirm how heat networks can demonstrate CO<sub>2</sub> emission improvements, for example mechanisms to account for confirmed decarbonisation proposals of heat networks
- Updating the GLA Carbon Emission Reporting spreadsheet to support the presentation of Part L 2021 results, such as isolating CO<sub>2</sub> emission improvements from energy efficiency measures, and the incorporation of EUI/space heating demand metrics