**MAYOR OF LONDON**

**LONDON ENVIRONMENT STRATEGY CONSULTATION**

**CIBSE Response**

**Submitted 17ᵗʰ November 2017**

Note – for clarity, the consultation questions are in non-italic black, and *CIBSE response in italic green*.

**Introduction**

*The respondent is **The Chartered Institution of Building Services Engineers (CIBSE).** CIBSE is one of the leading global professional organisations for building performance related knowledge. The Institution and its members are the primary source of professional guidance for the building services sector on the design, installation and maintenance of energy efficient building services systems to deliver healthy, comfortable and effective building performance. Our focus is on adopting a co-ordinated approach at all stages of the life cycle of buildings, including conception, briefing, design, procurement, construction, operation, maintenance and ultimate disposal.*

*We found out about this consultation through online media and our professional network.*

**Overarching Questions**

1.    Do you agree with the overall vision and principles of this draft London Environment Strategy?

*Yes, we broadly welcome and agree with the **targets and proposals**, subject to the caveats and comments detailed in our responses to the individual chapters.*

*We are also very supportive of the **approach** including: seeking solutions that bring **co-benefits** between various environmental and health and wellbeing issues; aiming to develop a strategy that is **evidence-based**; seeking **collaboration** between the public and private sectors and between local and national actors; implementing **pilots** for innovative or challenging proposals, with **leadership by example** from the public sector.*

2.    To achieve the policies and proposals in this strategy, which organisations should the Mayor call upon to do more (for example central and local government and businesses) and what should the priorities be?

*As is already highlighted in many areas of the strategy, the Mayor should collaborate and seek support from a broad range of actors:*

- *Central government, for issues beyond the Mayor's control, in particular related to Building Regulations, consistency of policies across departments, financial incentives, and a decarbonisation and low-air-pollution strategy for the national grid infrastructure (gas and electricity). London could also be acknowledged as leading by example, to inform the development of future national policies. London, as a leading global city, offers significant knowledge and experience in buildings and the urban environment and the infrastructure to support them. As central government seeks to implement many of the measures set out in the Clean Energy Plan the public sector and industry in London can support, inform, pilot and develop policies with Central Government that will deliver the clean growth, more healthy urban environments and greater energy efficiency and security which we all seek.*
- *London Boroughs, to ensure the implementation of policies and monitor their impact;*
- *Other cities and other countries, to learn from best practice elsewhere and for joint advocacy on sustainability;*
- *The **private sector,** to ensure technical and financial feasibility, gather feedback on implementation, and inform policy on a rolling basis about best practice solutions, constraints and opportunities.*

*We would also point to the following two areas of opportunities for multi-disciplinary collaboration on environmental, health and wellbeing issues:*

***Health and wellbeing boards***

*It is our understanding that the health and wellbeing boards set-up as a result of the Health and Social Care Act 2012 are intended to better support long-term healthcare and public health decisions. We have not carried out a systematic review, however evidence indicates that the current typical set-up of health and wellbeing boards does not maximise opportunities; from anecdotal feedback and from a high-level and randomized review of the composition of these boards, it is apparent they typically do not include representatives from the planning and transport departments. Their composition implies a focus on healthcare provision, with limited attention to preventative approaches to public health, including how built environment and transport decisions can best support healthy lifestyles and environmental improvements.*

*We would recommend this is reviewed more systematically, and options considered to maximise the opportunities created by these health and wellbeing boards to encourage collaboration and inform decisions at a local level. This could facilitate decisions that impact air quality and associated health and environmental issues, for example decisions on low-impact transport modes and the introduction of **green and blue infrastructure**.*

***Health Impact Assessments***

*Built environment decisions can have long-term impacts on the environment and on public health, which could be captured by long-term impact assessments such as Health Impact Assessments (HIAs). Feedback from members indicates that the adoption of HIAs is limited, and that Local Authorities would greatly benefit from additional resources (e.g. staff, training, guidance) on the application of HIAs.*

*In the future, as knowledge and evidence build on the long-term impact of decisions in the planning process, options could be examined to better reward and incentivize the decisions which support better outcomes, for example through the use of S106 contributions.*

3.    Do you agree that this draft London Environment Strategy covers all the major environmental issues facing London?

*Largely, although more could be included on resource efficiency and the environmental impact of materials and resource use in general – see more detailed comments in the waste chapter*

4.    There are a number of targets and milestones in this draft London Environment Strategy, what do you think are the main key performance indicators that would demonstrate progress against this integrated strategy?

*As an over-arching comment, for objectives delivered by the planning system we would recommend the use of indicators related to performance in operation (e.g. actual energy use, biodiversity monitoring of green roofs etc) rather than based on statements at the planning application or practical completion stage. We would also support disclosure of performance in order to harness the potential of peer pressure to encourage improvements.*

*See also more specific comments on energy and carbon indicators in our response to the Climate Change Mitigation and Energy chapter.*

5.    What are the most important changes Londoners may need to make to achieve the outcomes and ambition of this strategy? What are the best ways to support them to do this?

*The areas that seem most challenging in terms of the day-to-day impact on Londoners are, in our opinion, the following, as they rely on a combination of technological solutions, multi-disciplinary collaboration of professionals, and behavioural changes:*

- *Encouraging and delivering energy efficient refurbishments of homes on a large scale*
- *Achieving a significant shift in modes of transport to more walking and cycling*
- *Meeting the targets for landfill diversion and recycling, especially organic waste.*

*See also more specific comments where relevant in the individual chapters, for example on the adoption of electric vehicles.*

**Air Quality**

1.  Do you agree that the policies and proposals outlined will meet the Mayor's ambitions for air quality in London and zero emission transport by 2050? Is the proposed approach and pace realistic and achievable, and what further powers might be required?

*We have not carried out an assessment of impact of the proposed policies, and we also note that the estimates of impacts are in terms of <u>emissions</u>, with estimates in resulting <u>concentrations</u> not yet available. We do not therefore feel in a position to comment in detail on whether the policies are likely to meet the objectives. We have commented below on areas we support and those where we see potential risks or opportunities.*

*We support the adoption of ambitious targets and a comprehensive approach, and we think it represents an opportunity for London and the UK to demonstrate **leadership in multi-disciplinary long-term approaches**.*

*We strongly support the proposed adoption of **health-based WHO guidelines**, beyond the current legal limits.*

*We support the **data-based analysis** presented in the strategy. As a small caveat, we would highlight that statements such as "9,000 Londoners die prematurely because of air pollution" are misleading, and we would point to guidance from organisations such as COMEAP[1] for appropriate wording and a more accurate representation of the impacts of air pollution. This is important in order to retain a credible message aligned with the scientific community.*

*We support the intent to keep **collaborating with European and international partners** on the issue, including post April 2019.*

*We support the intent to **monitor the impact of measures on air quality**. Some of the proposals will rely on new technologies, behaviour change, or a complex interplay of factors, and it is therefore important to grow a better understanding of what works and to avoid unintended consequences. We are aware for example that NICE recently highlighted the need for a better understanding of the long-term effects of low emission zones[2], and that such zones in other cities have had detrimental effects in neighbouring areas[3]. We would also support more research and monitoring into **the impact of green infrastructure**, and would be happy to collaborate with the Mayor on this.*

*<u>Transport:</u>*

*We strongly support the intention to promote **walking and cycling**, rather than focusing on technology shift alone.*

*The proposals rely on the widespread deployment of zero emissions vehicles. We would highlight that the adoption of electric vehicles could put significant pressure on the electricity grid, both locally and nationally (e.g. grid stability, availability at times of peak demand).*

---

[1] COMEAP, The mortality effects of long-term exposure to particulate air pollution in the United Kingdom, 2010
[2] NICE, 2017 https://www.nice.org.uk/guidance/ng70/chapter/Recommendations , paragraph 1.3.1
3 Airparif, *Closure of the Seine bank road: Impact on air quality and results of the first monitoring campaign*, April 2017 https://www.airparif.asso.fr/_pdf/publications/PR_%20Airparif%20_%20EN_VSB_%20040417.pdf

*We would therefore suggest the following points:*

- *Electric vehicles require a change in thinking and a more coordinated approach between the transport and **built environment sectors**. The implications for how buildings, neighbourhoods and cities are planned need to be considered, including the technical, safety and financial implications of integrating charging points and batteries within individual homes.  CIBSE would be happy to collaborate with the Mayor on this.*
- *A small number of pilots have been announced into **smart charging points** allowing the network operator to control the timing of vehicle charging, with rewards for consumers adopting this option. We would expect the barriers not to be solely technical, but also related to consumer attitudes, and we would recommend research into this as well as into the technical and financial aspects. The very large majority of existing charging points do not have this "smart" capacity. Subject to positive trials, this could be required of all new charging points. Electric Vehicles represent a significant change for consumers, and it is important that pilots address issues of consumer acceptability.*
- *We support the approach to use the **public transport fleet** to **lead by example** and commit to an early phasing-out of petrol and diesel vehicles. This could contribute to consumer awareness, while offering early feedback and driving commercial development. Early public sector commitment has the potential to drive investment and wider uptake.*
- *As a chartered engineering institution we generally encourage policies to be **technology-agnostic and focus instead on desired outcomes**. We therefore support the current targets, which are focused on carbon and air emissions, keeping options open for potential future developments in batteries (e.g. solid state as well as the currently more common lithium options) and vehicles (e.g. fuel cell-based or electric).*
- *Links between electric vehicles and the development of **autonomous vehicles and of the shared economy** should be explored: car pool models could bring benefits by reducing the number of vehicles (i.e. more space recovered from un-required parking, less use of natural resources in manufacture) ; they could also, as a managed fleet, offer better control over the location and timing of charging. We would encourage research and pilots into these models, including technological development as well non-technical barriers such as consumer attitudes and behaviour change. It is important that developments in relation to charging of Electric Vehicles are taken forward as far as possible without compromising the development of Autonomous Vehicles.*
- *While electric vehicles can offer lower air and carbon emissions, they have considerable embodied energy and carbon; shifting to walking and cycling should therefore still be a priority to reduce demand for electric vehicle journeys. In a  move from ownership to hire models then reducing demand for electric vehicles for short journeys becomes more significant.*

*Below are some examples of approaches taken by other countries / cities. We have not reviewed their effectiveness but would encourage they are evaluated to gather lessons learnt, both in terms of effectiveness and acceptance by the population:*

- *Banning old cars from city centres altogether or reducing traffic volume by alternating which days cars can use city centres (Beijing/Paris/Madrid)*
- *Pedestrianizing entire areas/roads (Madrid/Paris)*
- *Smart city solutions to reduce car use (Helsinki)*
- *Focus on urban form and planning (Helsinki/Beijing) – enabling wind to penetrate city to effectively disperse pollutants.*

### *Buildings:*

*As highlighted in the strategy, buildings are responsible for a large proportion of polluting emissions. Energy efficiency could help reducing polluting emissions and also offer co-benefits, including carbon emissions, comfort, and fuel poverty. We think the strategy could be reinforced, and that it will require collaboration with central government  - see response to question 5 and to the Climate Change Mitigation and Energy chapter.*

2.    Do you agree with the Mayor's policies and proposals to raise Londoners' awareness of the impacts of poor air quality?

*We agree that awareness based on factual information is important to help Londoners make the best decisions for them. We are however aware of concerns that growing awareness of air pollution could have detrimental effects on health, if it led people to reduce their physical activity in order to reduce their exposure (we understand from academic research that for most people in most locations, the benefits of physical activity will outweigh the downsides of additional exposure[4], but this may not be clear to the general public); it could even lead to increased emission if it led people to drive on the misled thinking that their exposure will be lower inside a vehicle. We would recommend **collaboration with public health authorities** to ensure a proportionate message, which protects the most vulnerable from harmful exposure (e.g. those with existing respiratory conditions) but allows others to make informed and balanced decisions depending on the nature of the pollution incident.*

*We would also highlight that **actual improvements must take place in parallel with raised awareness**, in order to limit the risk that improved awareness would increase the attractiveness and value of low-pollution areas, placing them further out of reach for people on low income and therefore risking worsening health inequalities.*

3.    Do you agree with the Mayor's policies and proposals to safeguard the most vulnerable from poor air quality?

*Yes; we support in principle the intent to reduce health inequalities in London, and also to pay particular attention to young children.*

*We welcome the attention to **site location and layout** in the case of new developments. Attention at these early design stages can bring significant benefits, help protect vulnerable populations, and reduce the need for more complex solutions at a later stage. In many cases, it is also likely to bring other benefits including reducing the risk of overheating and excessive noise, for example by avoiding single-aspect apartments and school spaces on high-traffic roads and offering more flexible ventilation solutions.*

*See also response to question 2 for comments on the attractiveness and value of low-pollution areas.*

4.    Would you support emergency measures, such as short-term road closures or vehicle restriction, during the periods of worst air pollution (normally once or twice a year)?

*Yes in principle, if evidence shows they are effective in the affected area without creating negative consequences elsewhere (e.g. by diverting traffic or causing congestion elsewhere).*

5.    Do you agree with the proposed approach to reducing emissions from non-transport sources (including new buildings, construction equipment, rail and river vehicles and solid fuel burning)?

*__Planning framework__*

*We believe the **planning process** offers more opportunities to incorporate air quality considerations. In the current planning application process, much of the evaluations of air quality focus on an impact assessment, which results in the following:*

- *The impact is often assessed to be insignificant or minor <u>compared to the existing situation</u>, rather than in relation to health-based objectives, and*

---

[4] Tainio et al, *Can air pollution negate the health benefits of cycling and walking?* Preventive Medicine 87 (2016) 233–236

- *The assessment focuses on the impact of the scheme on local air quality; how outdoor air quality may impact the future users of the building is often not assessed nor considered.*

*Please also see response to Overarching Questions - Question 2 for information on where we see opportunities for a more effective consideration of air quality and public health preventive approaches in the planning process. In particular, we do not think the current planning framework sufficiently supports the adoption of built environment and infrastructure measures with the best long-term environmental and health outcomes, such as **green infrastructure**.*

### *Buildings*

*As noted in the strategy, air pollutant emissions from buildings are a significant proportion of the current total London emissions. We think the strategy could be reinforced, and that it will require collaboration with central government.*

***Energy efficiency** would help reducing air pollutant emissions from buildings and also offer co-benefits in reducing carbon emissions, as well as benefits to occupants such as comfort, energy bills and fuel poverty. The proposals to reduce emissions from buildings are not detailed and focus on reducing emissions from boilers, rather than embracing wider measures including fabric efficiency. We acknowledge this is partially addressed in the Climate Change Mitigation and Energy chapter but think this is an extremely important area which warrants more developed proposals and collaboration with central government and the private sector – see also comments in the Climate Change Mitigation and Energy chapter.*

*We support an approach which takes account of both carbon reduction and air quality when reviewing heating solutions, including **district heating and combined heat and power** schemes, particularly in Air Quality Management Areas. New schemes should include plans for long-term transition to zero carbon and zero air pollution emissions  – see also response to Climate Change Mitigation and Energy chapter.*

### *Diesel generators and STOR*

*We welcome the attention given to this issue in the strategy, including both new and existing plant. We agree that liaison with central Government is needed on this issue. In support, we would highlight DEFRA's impact assessment in December 2016, which states: "domestic energy market incentives are leading to an increase in high NOx (oxides of nitrogen) emission generators, which (…) have the potential to exceed the Gothenburg 2020 NOx emission ceiling and hourly NO2 (nitrogen dioxide) limits set in the EU Ambient Air Quality Directive". Defra therefore recommend the introduction of additional emission controls to address the growth in emissions from high-NOx emitting generators. They state this "will deliver significant benefits to public health and the environment and (…) avoid potential breach of EU and international air quality limits and standards"[5].*

### *Construction equipment*

*We welcome the attention to this source of emissions. Best practice case studies could be gathered, continuing the work of the London low Emission Construction Partnership and with leading London boroughs such as the City of London. Non-road vehicles and equipment can significantly contribute to noise and air pollution in urban areas, and a switch to electric or hybrid models could therefore bring significant benefits; they are typically un-used at night, therefore being able to be charged at night of low demand. Incentives should researched in order not to burden the sector.*

---

[5] https://uk-air.defra.gov.uk/assets/documents/reports/cat07/1710060932_DA_Air_Quality_Pollutant_Inventories_1990-2015_v01-01.pdf

*Others*

*We support the intention to tackle emissions from **waterways**. While small in total for London, we are aware that their local effect can be significant, for example from canal boats in winter on the Regent's Canal, with noticeable smoke and smells from wood and fuel burning affecting the canal path and neighbouring properties.*

***Reducing emissions from roadworks**: we would highlight guidance from the National Joint Utilities Group on best practice design of utilities[6]. This can help reduce long-term disruption and expenses in material and financial resources. It also incorporates wider best practice guidance for the design of roads and streets, including the integration of trees.*

6.      Please provide any further comments on the policies and programmes mentioned in this chapter.

*We welcome the attention to **indoor air quality** in new and existing buildings. We would encourage the Mayor to build on existing expertise and collaborate with parties including Public Health England and the UK Indoor Environmental Quality group. CIBSE are also well-placed to help develop best practice in design and operation on this issue, and we would be happy to collaborate with the Mayor's team on this.*

*We would also highlight the need to collaborate with Central Government on the **Building Regulations** approach to indoor air quality, to encourage a more comprehensive and robust approach.*

### Green Infrastructure

1.      The Mayor's ambition is to make London a National Park City. What should the attributes of a National Park City be and what would we need to achieve for it to be considered successful?

*No comment*

2.      In what ways can the Mayor help to ensure a more strategic and coordinated approach to the management of London's network of parks and green spaces?

*Management of green infrastructure is crucial for benefits to be delivered. We would encourage monitoring of outcomes to check the impact of current programmes and policies, to learn and disseminate lessons on the most effective approaches.*

*CIBSE would point to best practice guidance such as that available from the Landscape Institute and the Trees Design & Action Group[7]; we are also aware of best practice by some local authorities which incorporate financing requirements for long-term management of green spaces within their funding requirements (e.g. S106 contributions), rather than allowing for capital cost contributions alone.*

3.      Do you think the proposed policies and programmes will ensure London's important wildlife is protected and enhanced?

*No comment*

---

[6] NJUG, Volume 4 *NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees*, 2007 http://njug.org.uk/wp-content/uploads/2016/09/V4-Trees-Issue-2-16-11-2007.pdf
[7] Tree Design and Action Group, *Trees in Hard Landscapes – A Guide for Delivery*, 2014 http://www.tdag.org.uk/trees-in-hard-landscapes.html

4.    Do you think the proposed policies and programmes will be effective in increasing London's tree canopy cover?

*No comment*

5.    How best can natural capital thinking be used to secure greater investment in the capital's green infrastructure?

*We strongly welcome the growing recognition of **ecosystem services**, including those provided by green infrastructure. We are however aware that this is **still an area of research and development**. For example, we understand that even current leading models such as iTree do not take all natural capital benefits into account (e.g. health and wellbeing, especially mental health). The use of natural capital models should therefore be used with caution to avoid unintended consequences and "under-valuation" of the nature.*

6.    Please provide any further comments on the policies and programmes mentioned in this chapter.

*We welcome the overall approach to developing biodiversity and green infrastructure, including large features as well as small incremental measures. Similarly to the proposals for air quality and carbon emissions, we would recommend **monitoring of outcomes**, including biodiversity, run-off attenuation, and indicators of access to green space.  In view of the Mayor's ambition to reduce health inequalities, we would support more attention to **local data** (e.g. access to green space) rather than only looking at totals and averages across London.*

*We would defer to experts on detailed approaches to biodiversity. We however offer the following broad recommendations **on biodiversity offsets**, based on experience in carbon offsets:*

- *Offsetting strategies often **over-estimate future potential benefits**, compared to the actual delivered benefits which in practice rely on good design, implementation, and management. This is the case for carbon offsets and we would encourage similar caution in the case of biodiversity proposal: for example, urban tree planting often has low success rates, so a "potential future tree" should not be assumed to have the same value as an existing mature healthy tree.*
- *Carbon offsetting strategies can be costly and time-consuming to manage, and it is now recognised that London boroughs would benefit from guidance to deliver carbon savings in practice. This lesson should be taken into account if biodiversity offsetting is proposed.*

**Climate Change Mitigation and Energy**

1.    Do you agree that the policies and proposals outlined will meet the Mayor's ambition to make London a zero carbon city by 2050? Is the proposed approach and pace realistic and achievable?

*Becoming a zero carbon city by 2050 is a very ambitious goal. We support it, but think it would require more comprehensive policies than those currently proposed.*

*<u>Transport</u>*

*This requires a whole-systems approach and cooperation with business and central government, especially on the grid infrastructure - see response to Air Quality - Question 1.*

*<u>Buildings – development subject to the planning system</u>*

*We would highlight the work recently carried out by the **London Energy Transformation Initiative (LETI)**, which gathered the views of a large number of professionals from a wide range of backgrounds. We would refer the*

*Mayor to the recommendations of the group[8], which CIBSE broadly support, and would encourage the Mayor to liaise with LETI to develop detailed proposals. We would also be very happy to collaborate with the Mayor on this.*

*Our key recommendations are as follows:*

- *There is a far reaching consensus that the **current approach does not deliver sufficient carbon emissions** reduction in practice.*
- *We would welcome a serious and informed debate about the most **appropriate metrics** i.e. carbon, or energy, or a combination or both. In any case, we do not believe that the current ones (i.e. carbon metric based on Building Regulations Part L) are adequate, as they only cover regulated emissions, are not a representation of operational performance, and are linked to a carbon emissions factor for the electricity grid which is very much out of date, potentially leading to decisions with detrimental long-term carbon outcomes. We would also point to the successes of the NABERS approach in Australia in allowing better prediction of actual performance <u>and</u> driving a demand for better performance; this is particularly relevant to the speculative landlord-led commercial office development.*
- *We continue to support the application of the **energy hierarchy**, with passive design and energy efficiency as the first step.*
- *We support the proposals to better encourage **demand management, storage, and peak demand reduction.***
- ***District energy** schemes should produce plans for long-term transition to zero-carbon and zero-air-pollution emissions. Policies should be outcome-focused and technology agnostic, with the best solution determined by the team on a project-by-project basis.*
- *We would strongly encourage **monitoring, transparency, and disclosure of operational outcomes**, as this can be a strong driver for improvements. This should apply to individual buildings, and to the performance of district energy schemes.*
- *In the longer-term, we would encourage a transition to **operational outcomes**, rather than targets based on design and practical completion estimates.*
- *While **carbon offsets** offer flexibility to constrained sites and help create budgets for carbon savings elsewhere, we are aware that the carbon reductions delivered in practice are often lower than anticipated. This is due to a combination of factors, including the difficulty of estimating future savings and the management of carbon offset budgets. We would strongly encourage the Mayor to support individual London boroughs on this, to ensure consistency of approaches and cost-effective measures.*

*We are aware from members that while the intention of the London Plan is for carbon reduction targets to apply in **major refurbishments** subject to planning applications, this is often not the case. Many such refurbishments are extensive (often, wholesale replacement of the façade and building services) and therefore offer substantial opportunities for carbon reduction. Guidance should be clearer for these planning applications, and implementation more consistent. There is a need for better co-ordination of these projects with the Building Regulations requirements for refurbishment projects.*

### *Buildings – existing*

*See responses to questions 2 and 3*

2. To achieve the Mayor's zero carbon ambition we estimate (between now and 2050), up to 100,000 homes will need to be retrofitted every year with energy efficiency measures. Do you agree with the Mayor's policies and proposals to achieve his contribution to this? What more can central government and others do to achieve this?

*We support the intent but are uncertain that the current proposals would be able to achieve this. This would require significant incentives, but also significant **resources and upskilling** in the built environment sector. We*

---

[8] https://www.leti.london/

*encourage action at the London level and the piloting of some models of delivery (e.g. Energiesprong), however we think close cooperation with central Government is required in order to achieve change at the significant scale that is required. In the immediate term we encourage the Mayor to engage with the* **consultation on the Green Deal, due to close 23<sup>rd</sup> November 2017**.

3.     Which policies or programmes would most motivate businesses to reduce energy use and carbon emissions?

### *New buildings*

- **Design and construction**: *see response to question 1*
- **In operation**: *we would strongly encourage the introduction of requirements to monitor and verify performance in operation, rather than planning conditions linked to design or practical completion stage alone. For more detail, refer to the LETI recommendations. We would be happy to collaborate with the Mayor on this.*

### *Existing buildings*

*We are aware that* **public disclosure of operational performance** *can act as a strong incentive, and would support this, for example as an extension of the Display Energy Certificates to commercial buildings or through other platforms..*

*For other policy and financial incentives, we encourage cooperation with central Government, including the current consultations on the* **Green Deal** *and* **carbon reporting**.

4.     Please provide any further comments on the policies and programmes mentioned in this chapter, including those in the draft solar action plan and draft fuel poverty action plan that accompany this strategy.

### *Embodied carbon*

*We welcome the proposals to introduce an encouragement to consider embodied carbon, and the reference to emerging industry methods such as those from the RICS.*

### *Solar action plan*

*We note the draft solar action plan mentions grants; these may be appropriate in some circumstances, however we would caution that grants can distort the market and result in inflated capital costs, rather than helping affordability and driving demand; by contrast, financial incentives such as Renewable Heat Incentive or Feed In Tariffs encourage actual output; it is then naturally to the benefit of the owners to maximise efficiency and minimise capital cost, as appropriate to the context of their project.*

### *Licence Lite*

*We would be interested to follow the developments of Licence Lite, and in particular how "additionality" is demonstrated i.e. how to ensure that the "clean" electricity purchased by the GLA Group will meet the Mayor's intent of stimulating demand, <u>in addition to</u> the low-carbon electricity which would already be produced by some developments as part of their planning obligations.*

**Waste**

1.    Do you agree that the Mayor's policies and proposals will effectively help Londoners and businesses to recycle more?

*No comment*

2.    Do you support the Mayor's ambition to ensure food waste and the six main recyclable materials (glass, cans, paper, card, plastic bottles and mixed plastics) are collected consistently across London?

*No comment*

3.    Do you think the Mayor should set borough specific household waste recycling targets?

*No comment*

4.    What needs to happen to tackle poor recycling performance in flats?

*No comment*

5.    What are the most effective measures to reduce single-use packaging in London such as water bottles and coffee cups?

*No comment*

6.    Please provide any further comments on the policies and programmes mentioned in this chapter.

*Construction waste is responsible for about a third of total UK waste[9]. There is little mention of construction waste in this chapter, however we acknowledge the strategy refers elsewhere to embodied carbon and the circular economy. We strongly encourage that these issues form part of the environment strategy to ensure the environmental impacts of resource use (not only embodied carbon) are taken into account.*

**Climate Change Adaptation**

1.    Do you think the Mayor's policies and proposals are sufficient to increase London's resilience to climate change?

*We do not feel in a position to comment on whether they are sufficient.*

---

[9] Defra, *Office Statistics – UK Statistics on Waste*, December 2016 update
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/593040/UK_statsonwas
te_statsnotice_Dec2016_FINALv2_2.pdf

2.    Do you agree with the Mayor's policies and proposals to make Londoners, more aware of the risks of climate change, like overheating in buildings and flooding following heavy downpours?

*Yes, in principle. We support the use of approaches that can offer multiple co-benefits, such as green infrastructure with its potential benefits in reducing urban heat island, flood risk mitigation, biodiversity, and health and wellbeing. See also response to question 4 for references on overheating.*

*We would also highlight guidance provided by CIBSE on this issue, including design, modelling and case studies[10,11].*

3.    Do you agree with the Mayor's policies and proposals to reduce water demand and leakages in London?

*Yes, in principle. CIBSE are strong supporters of efficiency and reducing wastage as the first principle in sustainable design and operation.*

4.    What do you see as the biggest opportunities to tackle climate change risks in London and how can the Mayor support this?

*Green infrastructure: See response to question 2 and to the Green Infrastructure chapter*

5.    Please provide any further comments on the policies and programmes mentioned in this chapter.

*We welcome the reference to the **cooling hierarchy**. We also welcome the reference to encouraging **overheating risk assessments**, and on this matter would point to guidance from CIBSE on assessing the risk of overheating in residences[12] and non-domestic buildings[13].*

*As highlighted in the air quality chapter, in the case of new development, careful site planning and building layout can bring significant benefits in reducing the risk of overheating as well as future exposure to noise and air pollution, for example by avoiding single-aspect apartments and school spaces on high-traffic roads and offering more flexible ventilation solutions.*

**Ambient Noise**

1.    Are there any other actions you think the Mayor should be taking to work with the boroughs and other key stakeholders to reduce noise?

*No comment*

2.    Do you think that the boroughs and the Mayor have sufficient powers to manage noise across London? If not, what additional powers are required and which organisation should hold them?

*No comment*

---

[10] CIBSE, *TM36: Climate change and the indoor environment: impacts and adaptation*, 2005
[11] CIBSE, *TM55: Design for future climate: case studies case studies on designing for future climates*, 2014
[12] CIBSE, *TM59: Design Methodology for the Assessment of Overheating Risk in Homes*, 2017
[13] CIBSE, *TM52: The limits of thermal comfort: avoiding overheating in European buildings*, 2013

3.     Do you agree with the Mayor's policies and proposals to improve Londoners' awareness of the health risks of noise?

*No comment*

4.     Please provide any further comments on the policies and programmes mentioned in this chapter.

*As highlighted in the air quality chapter, in the case of new development we would encourage early consideration of noise in site planning and building layout. Attention at these early design stages can bring significant benefits and reduce the need for more complex solutions at a later stage. In many cases, it is also likely to bring other benefits including reducing the risk of overheating and exposure to air pollution, for example by avoiding single-aspect apartments and school spaces on high-traffic roads and offering more flexible ventilation solutions.*

*We would point to The Professional Practice Guidance on Planning & Noise (ProPG), recently produced jointly by the Association of Noise Consultants (ANC), the Institute of Acoustics (IOA) and the Chartered Institute of Environmental Health (CIEH)[14].*

**END**

Response collated and submitted by:

Dr Julie Godefroy
CIBSE, Head of Sustainability Development
JGodefroy@cibse.org

**Please do not hesitate to contact us for more information on these responses.**

---

[14] http://www.cieh.org/propg/