

Reading Borough Local Plan – Reading Friends of the Earth response on Local Plan Pre-Submission Draft Partial Update, November 2024 (Regulation 19)

Introduction:

Reading Friends of the Earth is a local voluntary group of environmental campaigners. We are licenced to use the name 'Reading Friends of the Earth' by the national 'Friends of the Earth' organisation but we are independent and do not represent them.

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Reading's Local Plan Partial Update Pre-Submission Draft, November 2024, is a significant improvement on the previous Plan but there are a number of areas where we believe it is not 'sound' and should be improved to make it more justified, effective and consistent with national policy.

We will be pleased to submit more detailed comments and to participate in hearing sessions if the Inspector sees fit.

Context and general comments:

1/. The Plan addresses 15 years but new development must be suitable for a much longer period. Not only addressing short-term needs and current standards but allowing for likely future changes to sustainability constraints and opportunities to cope with harsher environmental impacts - to local conditions, supply chains, demographic change and including a growth in numbers of 'climate migrants'.

2/. Retro-fit of insulation, heating/cooling systems, waste disposal, flood management, energy supply, transport infrastructure, green spaces etc. etc. will be expensive and inconvenient – and sometimes unachievable. So developers must be set extremely high standards and be required to design in opportunities for future improvement such as heat networks, grey water recycling etc., if they are not to be fitted initially.

3/. The options for off-site compensation – such as biodiversity net gain, energy generation, and payment to the local authority - must be designed, specified and enforced rigorously.

4/. NPPF (2023 version) section 8 c) specifies “**an environmental objective** – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.”

5/. The UK government is committed to achieving 'Net Zero' by 2050 and has committed to an 68% reduction in emissions by 2030, as part of its Nationally Determined Contribution towards the Paris Agreement. At present its strategy is under revision after legal challenges from Friends of the Earth and others.
<https://researchbriefings.files.parliament.uk/documents/CBP-9888/CBP-9888.pdf> and
<https://friendsoftheearth.uk/latest/landmark-high-court-judgment-finds-governments-climate-plan-unlawful-again> .

Comments on Specific Policies:

CC2: SUSTAINABLE DESIGN AND CONSTRUCTION

It is good to see that BREEAM has been replaced by policies with more emphasis on carbon emissions during both construction and use. We strongly support the ideals expressed in the first two paragraphs.

Renewable Energy:

We expect many developments – particularly in multi-storey buildings and dense developments favoured to optimise land-use and transport hubs – will be unable to generate enough solar electricity on-site to meet the 'net zero' policy aim. So the policy should be revised with more detail of how this aim – to fund development of renewable electricity supply - can be achieved in practice.

Because use of electricity for heating and lighting is likely to be greatest during months when generation of solar energy is expected to be low, and significantly at night-time when generation is zero, the requirement to generate the same amount as the demand over the course of the year should be qualified. Energy storage is inherently inefficient – less comes out than goes in; long-term (seasonal) storage will be costly; at times of peak demand

expensive sources will be used such as gas backup with or without carbon capture and storage or use of biogas. So simply comparing solar electricity generated with annual electricity demand is a useful benchmark but not sufficient.

Additionally developers must ensure that the mains supply to the development will be more than capable of meeting the peak demand, or give undertakings to restrict the peak demand.

The requirement to address energy demand for heating in terms of kWh/m²/year could be refined in the interest of optimising insulation and therefore minimising emissions. Heat loss occurs through floors, ceilings and walls so will be less in e.g. a multi-storey block than in a single-storey structure with the same floor area. So the former may be tempted to reduce wall insulation while keeping within the limit when it could achieve better performance than the limit by better wall insulation, probably at little extra cost.

Embodied Carbon:

Requirement for embodied carbon assessment should be altered to require a 3000m² lower limit for an embodied carbon assessment and a lower limit for embodied carbon.

Drewniak et al published in October 2023 mapped embodied carbon in UK developments which were all less than 800 kg/m² so this does not serve as an aspirational target. Construction for most multistorey build typologies had found 400 kg/m² was achievable though a limit of 500kg/m² could be set as a reasonable target for a high level of compliance.

Drewniak quoted weighted averages of current relevant UK typologies were all less than 500 kg/m². As such it is recommended that the floorspace limit is reduced to 3000m² and the embodied carbon limit reduced to less than 500 kg/m². To encourage compliance with net-zero onsite installation the embodied carbon limit could consider exemption of contributions stemming from renewable energy infrastructure and selected high-efficiency measures such as the embodied carbon for materials to enable integration with a heat network.

<https://www.sciencedirect.com/science/article/pii/S0921344923001921>

Exceptional basis clause:

Criteria must be very strictly set and enforced. Alternative uses for the site must be investigated. Must not allow developments where future running demand for energy leading to carbon emissions will continue for decades.

Would like it explained how the financial contribution to the LPA will be calculated given future uncertainties on carbon pricing and electricity pricing.

BREEAM is not an appropriate measure because high scores can be obtained for relatively energy- and carbon-intensive developments. (See 4.1.3 in the document).

Ideally financial contributions as an alternative should be removed (or a 'last resort') as developers are said to exploit this type of mechanism to erect buildings that will continue to require high energy use – 'fabric first' must be the way forward. Connection to a heat network does not automatically provide compliance with a net-zero requirement and should still require total offset.

As such it is recommended that the exceptional basis clause is altered so all options are required rather than only one option of the three (without LPA finance as an option).

Use of potentially contaminating materials:

Use and waste of perfluorinated alkyl substances (PFAS) should be prohibited with zero tolerance since alternatives are available and can be required in all refurbishments and new builds. See CC5 for more discussion).

LETI:

We welcome the reference in 4.1.5 to the LETI Climate Emergency Retrofit Guide. We would like to see it promoted by the Council and other bodies for wider use in Reading.

CC3: ADAPTATION TO CLIMATE CHANGE

Some form of air conditioning or forced cooling may well be necessary or desirable to maintain comfort in future summers in many buildings. Even if not fitted initially retro-fit should be designed in and allowance made in calculations of future summer electricity demand.

Multi-stage heat-exchanger implementation with air handling in/out-take (MVHR) should be encouraged to mitigate heating/cooling requirements for fresh-air intake.

Since harsher storms are expected to become much more frequent within the design life for any new building then suitable tolerance to higher category storms should be considered with a minimum category 2 hurricane tolerance suggested and category 3 hurricane tolerance to be strongly considered.

As well as improving design of the drainage system we would like to see a policy to reduce hard standing - both by design in new developments and by people paving over gardens for car parking – which prevents rainfall being absorbed into the soil. This should reduce the flow into drains.

CC4: DECENTRALISED ENERGY

We support decentralised energy if it can be shown to be compatible with ‘zero-carbon’ aims – so not making unmitigated use of fossil fuels or bioenergy.

We are not aware of any recent studies showing how much of likely future demand can be met from local sources of renewable heat at reasonable financial and environmental cost. We are aware of a paper-study of potential of ground source heat from the aquifer below Reading that can be accessed by bore-holes and heat pumps which looks very promising and that RBC has commissioned studies of decentralised energy. It is important that any technologies adopted have been thoroughly investigated and shown to be long-term sustainable at the proposed scale.

CHP and Biomass:

We have concerns about proposed use of CHP – assuming it involves burning some hydrocarbon (not necessarily ‘fossil’) fuel – on grounds of CO2 emissions and air quality.

If hydrogen is proposed as a fuel we are concerned about the economics and environmental implications of ‘green hydrogen’ supply for this purpose.

Also the likelihood that unmitigated natural gas backup may be proposed in case of problems with the primary energy source. The chances of effective carbon capture and storage in Reading are remote.

The use of biomass is not sustainable and must be disqualified within the definition of renewable-based energy schemes. With the changes in land use expected through national tree cover policies and food security, developers are right to worry about future fuel supply if dependent upon biofuels. Providing adequate safe storage of fuel at scale on site to cover problems in supply isn’t realistic for Reading with limited (and expensive) land available. Developers would want to be sure that there will be a local supplier of biofuel pellets or similar.

The prospect of fuel supply interruption may be used as a reason for not providing CHP-driven community energy systems if significant local fuel storage is not made available.

CC5: WASTE MINIMISATION AND STORAGE

Maceration:

Where relevant for wastewater transport from sites, developments without onsite composting capability should be encouraged to utilise macerators implemented with suitable building wastewater system design.

PFAS:

Use and waste of perfluorinated alkyl substances (PFAS) should be prohibited with zero tolerance since alternatives are available and can be required in all refurbishments and new builds. This will be essential to avoid significant further environmental contamination of local waterways. PFAS are often used in surface sealers, paint, adhesives, tile, grout, concrete, carpets, textiles, and within refrigerants as well as various types of insulation however alternatives to all of these exist.

For wider context, the European Chemicals Agency is planning a ban on nearly all PFAS expected to be published in 2025 with restrictions effective as early as 2026.¹ This detail in the Reading Local Plan is important to ensure persistent organic pollutant (POP) waste/effluent is minimised which does not currently fall under POP UK-EU regulatory alignment.

Prohibition of PFAS for refurbishment and new build also falls under CC10 however has been considered here as PFAS waste to landfill is reasonably expected to contaminate groundwater as well as local exposure due to ageing and use of such articles.

Rather than requiring Health Impact Assessments (HIA) for any permitted use the complete ban of PFAS is recommended which is much more feasible to implement than defining a new means to consider PFAS within HIA.

Perhaps the local plan needs to identify the need for storage or processing areas/ recovery and recycling areas to deal with the flow of new materials needed within these new systems. This would include biofuels but also reprocessing of batteries and solar panels etc. to recover valuable materials.

Waste from Sustainable Technologies:

Over time there is going to be a significant increase in waste solar panels, batteries, heat exchangers etc., all of which will contain rare (and valuable) metals and be of different generations so require skill to identify and disassemble. The present facility at Smallmead (re3) is unlikely to be suitable as it stands.

The current re3 contract should be reviewed in view of future needs and new facilities should be provided to support moves to a sustainable 'circular economy'.

CC7: DESIGN AND THE PUBLIC REALM

'Built Form': should include reference to accessibility by bicycles including bicycles with trailers to transport children or goods.

'Nature': should include a requirement that new plantings and/or new natural features are actively managed – by developer or new owners/tenants and checked after perhaps 5 years and replaced if necessary. Many planted trees seem not to survive.

CC8: SAFEGUARDING AMENITY

New developments must not result in increased air pollution beyond current WHO thresholds. This should be added to the list – many pollutants cannot be smelled and are not in the form of visible dust and fumes. Developers should address expected performance against specific sections of this policy in the planning application. See also EN15.

EN7: LOCAL GREEN SPACE AND PUBLIC OPEN SPACE:

Fobney Meadow / Fobney Marsh

We support calls for the Fobney Meadow / Fobney Marsh area to be designated as a Local Green Space. This area is often flooded and as a result becomes a hot spot within Berkshire for bird life especially during the autumn and winter months. It is a green lung with proximity to other wildlife habitats including Fobney Island Nature Reserve EN7Sb (to the south) which it complements.

Because it floods and is a useful holding area for flood water it is not suitable for development but LGS status would give it enhanced status. Ideally it should be adopted by the Council and a management plan put in place.

Reading Old Cemetery

We support calls for Reading Old Cemetery to be designated as a Public Open Space.

The land lies adjacent to one of the most densely populated areas of Reading, Newtown, and between two roads that are designated as part of an Air Quality Management Action area. It offers a welcome respite to the urban environment and is supported by friends of Reading Old Cemetery who manage part of it as chalk grassland habitat.

¹ https://echa.europa.eu/documents/10162/2082415/2023-02-07_pfas+media+briefing_en.pdf/1661579d-353a-2fb0-1062-38fc3eb4bd78?t=1675849038730

EN12: BIODIVERSITY

b) Biodiversity net Gain

Biodiversity is threatened everywhere and we are concerned that cumulative effects of a number of developments may be underestimated.

Biodiversity net gain and its measurement is a relatively new and uncertain area – ecosystems are very complicated - so we would like to see a target of 20% rather than 10% in the hope that it will be effective as a strategy to at least achieve some net gain.

Off-site improvements to the 'Green Network' should be very useful.

EN15: AIR QUALITY

Reading's Air Quality is very much worse than the WHO targets for NO₂, PM₁₀ and PM_{2.5} - and UK government targets are not keeping up with the WHO. PM_{2.5} is thought to have the most serious impacts on human health – see latest AQ Action Plan.

The Reading Plan refers to Reading's Air Quality Action Plan 2015 but this has now been replaced by '2024 – 2029 Air quality action plan' <https://www.reading.gov.uk/climate-and-pollution/air-quality-action-plan/> but this is likely to be replaced before the end of the Local Plan term.

While much of the PM_{2.5} will be of external origin local emissions from vehicles (braking, clutches and tyres as well as exhaust pipes) will both increase local concentrations and add to the national burden. So reduction in use of vehicles in the Borough should be required.

The proposed criteria to require an AQA is not sound because in the context of both air quality and congestion 100 extra car parking spaces per development may well prove excessive ... especially if many of them were to be used by peak hour traffic ... because congestion has a non-linear response to traffic density, and air quality probably has a non-linear response to congestion and traffic density. All development within the AQMA should be subject to an Air Quality Assessment if parking for motor vehicles is to be provided.

H5: STANDARDS FOR NEW HOUSING

c). Energy use and supply.

We would like to see the average space heating demand requirement reduced – in accordance with 'fabric first' principle. PassivHaus standard is 15 kWh/m² so this should be the standard.

There is a widely recognised "performance gap" between design and delivery of buildings. The PassivHaus design and testing approach has been shown to reliably deliver measured in use outcomes that match those predicted by the design. Developers should either use the Passivhaus methodology or explain how the method that they propose to use will reliably deliver in use energy demands that their design predicts.

In addition as mentioned in our discussion of CC2:

We expect many developments – particularly in multi-storey buildings and dense developments favoured to optimise land-use and transport hubs – will be unable to generate enough solar electricity on-site to meet the 'net zero' policy aim. So the policy should be revised with more detail of how this aim – to fund development of renewable electricity supply - can be achieved in practice.

Because use of electricity for heating and lighting is likely to be greatest during months when generation of solar energy is expected to be low, and significantly at night-time when generation is zero, the requirement to generate the same amount as the demand over the course of the year should be qualified. Energy storage is inherently inefficient – less comes out than goes in; long-term (seasonal) storage will be costly; at times of peak demand expensive sources will be used such as gas backup with or without carbon capture and storage, or use of biogas. So simply comparing solar electricity generated with annual electricity demand is not sufficient to address the requirements of the development.

Additionally developers must ensure that the mains supply to the development will be more than capable of meeting the peak demand, or give undertakings to restrict the peak demand.

The requirement to address energy demand for heating in terms of kWh/m²/year could be refined in the interest of optimising insulation and therefore minimising emissions. Heat loss occurs through floors, ceilings and walls so will be less in e.g. a multi-storey block than in a single-storey structure with the same floor area. So the latter may be tempted to reduce wall insulation while keeping within the limit when it could do better. But better wall insulation should reduce energy use and emissions probably at little extra cost.

We would like to see incentives to reduce electricity consumption by the use of ground- or air-sourced heat pumps and mechanical ventilation with heat recovery. As well as reducing running costs these techniques will help to reduce demand on the local and national electricity supply to reduce the risks of blackouts on cold, still winter evenings.

Exceptional basis clause:

Must not allow developments where future running demand for energy dependent on carbon emissions will continue for decades, or where demand for electricity will be exceptionally high.

The 'either/or' approach seems to supply a lot of options – if developments require 'exceptional basis' consideration they should all be required to produce an energy statement.

As above, it is important that infrastructure is in place to meet peak demand when renewable generation is low. How the financial contribution to the LPA will be calculated given future uncertainties on carbon pricing and electricity pricing should be explained in more detail. Energy demand will continue for the life of the building and £15k per dwelling may be too low.

4.4.46 the Climate Emergency Strategy has been revised.

TR1: ACHIEVING THE TRANSPORT STRATEGY:

TR1 and the Transport Strategy itself offer many great aspirations but in some respects is unclear on what it will actually expect to 'achieve':

- Section 9.3 of the Reading Transport Strategy 2040 says the CO₂ performance indicator (point 11) is to halve emissions to 54 kt CO₂e in 2040. We do not think this is compatible with Reading's net zero aspirations.
- Also that document gives no performance indicators for either time lost to congestion, vehicle-km driven on the roads or modal shift.

We would like to change the word 'should' to 'must' in the first line of this policy and the last line of 4.5.3.

4.5.2 The predicted growth in trips presents a major challenge unless modal shift to active travel and/or public transport can be achieved.

TR2: MAJOR TRANSPORT PROJECTS

East Reading Bus Rapid Transit:

We are disappointed that East Reading Bus Rapid Transit seems to still be promoted. A scheme on this route was rejected by Wokingham Borough Council because of impact on the Thames-side environment (used by people of East Reading) in that Borough, including bridge over River Kennet. It was not predicted to have significant impact on air quality or congestion. It would reduce local green space. This scheme should be abandoned and no further funding directed towards it.

While bus rapid transit from Wokingham Borough is valuable the new bus lane on London Road (already implemented) provides that option.

Cross Thames Travel:

Measures to be assessed should prioritise road user charging and de-prioritise an additional road bridge which would have very high environmental and financial cost and encourage more and longer road-trips.

We are very keen to supply additional supporting evidence to the Council on the advantages of road user charging and the disadvantages of providing additional roadspace.

END - Final Version 18th December 2024