

# Policy Committee

25 September 2023



**Reading**  
Borough Council  
Working better with you

<b>Title</b>	Strategic Infrastructure – Electric Network Capacity
<b>Purpose of the report</b>	To note the report for information
<b>Report status</b>	Public report
<b>Report author</b>	James Crosbie, Assistant Director for Planning, Transport & Public Protection Ben Burfoot, Sustainability Manager
<b>Lead Councillor</b>	Councillors Brock & Terry
<b>Corporate priority</b>	Thriving Communities
<b>Recommendations</b>	<ol style="list-style-type: none"><li>1. That Policy Committee notes the content of the report.</li><li>2. That Policy Committee considers options to engage with Scottish and Southern Electricity Network from a local and regional perspective with a view to determining how best to unlock the capacity needed for environmentally and economically sustainable growth.</li></ol>

## 1. Executive Summary

- 1.1. The local electricity network is operated by the District Network Operator (DNO) which is Scottish and Southern Electricity Network (SSEN) for Reading and a large area of southern England. They take power from the National transmission network (operated by National Grid) with generation capacity being altered according to its needs.
- 1.2. The Borough is now facing network capacity issues in the local grid, which were not previously a constraint on the council's projects or housing delivery but which have become an issue with the delivery of various climate policy initiatives. The issue has crystallised as the DNO is placing restrictions on new connections meaning that significant new developments (e.g. 50-100 houses or equivalent) may not be able to secure the grid capacity needed to comply with Local Plan policy requirements if they generate new electricity consuming loads via heat pumps and/or EV charging points. Equally, other new connections such as the delivery of solar farms could be impacted by such restrictions. Overcoming grid capacity constraints will require significant investment and other changes to how capacity is allocated by the DNO and we have supported their efforts to lobby for a regulatory regime which enables an appropriate level of investment. It is not clear at present, however, how and when the necessary investment and changes will come forward. If they are not forthcoming, they will represent a major constraint on our ability to deliver a range of Local Plan and climate policy ambitions.

## 2. Policy & Background Context

- 2.1. The Reading Local Plan is the key policy lever by which the council can affect future change to the development market. When it was adopted in 2019, the Local Plan was closely aligned with the ambition set out in the Council's climate emergency declaration of a net zero Reading by 2030. The Local Plan is currently being reviewed and the council would hope to further strengthen this alignment, therefore reducing the overall environmental impact of new developments.
- 2.2. The government is currently consulting on a Strategy and Policy Statement which is being developed in accordance with the Energy Act 2013. The Statement aims to take a whole systems approach to delivering a path to net zero and energy security whilst future proofing the UK's energy system.
- 2.3. In a report commissioned by the House of Commons Business, Energy and Industrial Strategy Committee, titled "Decarbonisation of the power sector, Eleventh Report of Session 2022-23" (April 2023) a number of significant issues were raised to government, many relevant to this report including:
  - Network constraints and issues securing a connecting to the grid are *"impinging on the ability to deploy low-carbon technologies...The queue to connect to the grid is based on a first come first served basis, resulting in viable projects getting stuck behind those which may be speculative.....National Grid ESO expects 30-40% of projects in the queue to come to fruition, with many pipeline connections likely to be speculative"*.
  - It was acknowledged that the level of investment required to reinforce the network needed to be balanced against the cost to the end user and this balance had not been achieved by Ofgem, but equally, the DNO's had not necessarily made use of their allocated funding.
  - DNO's had delayed the anticipatory investment required and this presented clear and present risks to the delivery of low carbon power.
  - There has been a *"clear lack of strategic planning and coordination of energy infrastructure and network upgrades. A failure to plan from a whole system perspective risks increasing the overall costs of the transition"*.
- 2.4. In the transition to net zero by 2050, peak demand on the low voltage network is expected to increase rapidly, in part due to the electrification of heat and transport, while distributed generation is also likely to place strain on the system. These effects will be partly offset by smart appliances and shifts in consumer behaviour, however, network reinforcement and upgrades are still likely to be required. Crucially, reinforcement expenditure is recovered through customer electricity bills, so finding ways to defer or avoid reinforcement is essential to ensure that the cost to customers is as low as possible.

## 3. The impact on Reading

- 3.1. Reading is now facing network capacity issues in the local grid, which were not previously a constraint on our planned development and projects, but which have become an issue since the policy ambitions associated with the Council's objective to achieve net zero by 2030 and through the delivery of the 2019 Local Plan. The issue has crystallised as the DNO is placing restrictions on new connections meaning that significant new developments (e.g. 50-100 houses or equivalent) may not be able to secure the grid capacity needed to comply with

Local Plan policy requirements if they generate new electricity consuming loads via heat pumps and/or EV charging points.

- 3.2 The need for additional network capacity was emphasised by Reading and other stakeholders as part of engagement in conversations with SSEN whilst they were developing their 'ED2 business plan' (for the period 2023 to 2028). Reading's Local Plan and other key strategic documents were sent to SSEN as part of the council's engagement with this process which provided the evidence base for the need for the additional capacity investment.
- 3.3 The first indication Reading received that network capacity limits were being applied was when officers sought to install a High Voltage network on the Bennet Road depot site to accommodate the growing EV fleet. Officers were advised that a cap of 500kva was being applied.
- 3.4 Subsequently, evidence of the problem arose in a planning context where a developer required 2153kVa of capacity to install heat pumps to comply with Local Plan policies on 'zero carbon homes'. The application for this was rejected by SSEN who could only provide 500kVa, and the number of heat pumps had to be significantly reduced with the remaining properties to be heated using gas boilers, with the likely effect of either locking those homes into fossil fuels beyond the 2030 target or requiring costly retrofit prior to this date.
- 3.5 The Reading Local Plan requires larger developments to install low carbon heating (effectively meaning heat pumps) and RBC has its own plans to install large solar installations and EV charging in response to the Climate Emergency. These ambitions will be severely restricted by any network capacity cap. SSEN has indicated they have £1bn of 'uncertainty budget' in their 2023 to 2028 business plan period to help tackle the net zero challenge but it remains unclear how we are best to ensure that appropriate reinforcements are made to the grid so that these connections can be made.
- 3.6 There are implications for some of Reading's pipeline priority projects which include:
  - The council had conversations with SSEN in 2022 to discuss a potential solar farm. At the time it appeared that if the connection was less than 1MW (~1000kVa) it would not require any onerous connection restrictions or incur costs for grid reinforcement. The council is now unclear whether a restriction on this generation would apply.
  - Further large solar installations in Reading have been envisaged in the new solar programme and could also fall foul of a cap being applied.
  - EV charging networks: the recent strategy to install EV charge points into the streetlighting network could require a large addition to the grid which would almost certainly create challenges. Again, the council notified SSEN of its intention to install >5000 charging points in the coming years including private additions.
- 3.7 The list above only relates to Reading led projects, and other partners across Reading and the wider region who share our ambitions may face similar challenges as they seek to decarbonise buildings and vehicle fleets. The cumulative impact currently will undermine strategic ambitions for a net zero Reading by 2030, make Local Plan policies unenforceable and developments less desirable to consumers as well as undermining investor confidence in low carbon

solutions in Reading and the wider SSEN area, which could go to other areas where the DNOs may be better prepared to support the transition.

#### 4. Proposals

- 4.1 Whilst the issues raised in this report are beyond the direct control of the Council, some influence can be indirectly exerted by highlighting the issues on our own account and with/through neighbouring areas and partner organisations who share these concerns. There have been some initial discussions with the Department for Levelling Up, Housing & Communities and OfGEM about the challenges, however other options include:
- 4.2 **Direct engagement with SSEN:** SSEN's 2023 to 2028 'ED2' business plan details the current delivery structure and approach to net zero. <https://ssenfuture.co.uk/wp-content/uploads/2021/12/24645-SSEN-ED2-Final-Business-Plan-Website.pdf>. There are various teams at SSEN who are responsible for different investment time frames. Future investments beyond ED2 are being dealt with by one team, another team deals with connections for the next 1-2 years and there are also local teams. Liaison with SSE therefore needs to take place on a number of levels and this engagement is significantly helped by the southern area liaison team who are able to coordinate those engagements.
- 4.3 **Indirect lobbying of SSEN:** officers have been working with the Greater Southeast (GSE) Net Zero Hub to collaborate with SSEN and to pre-empt further network capacity issues and also to further local network functions that can facilitate the electrification of heating and transport at scale. There may be a need, however, to escalate the issue through higher level political channels.
- 4.4 **Local Area Energy Planning:** in the medium term, Local Area Energy Plans (LAEPs) might offer a way forward. LAEPs take a proactive, evidence-based and data-driven approach to the whole energy system, generally being led by local government but developed collaboratively with stakeholders. The process enables identification of different energy futures and development of the most cost-effective options for decarbonisation. A key issue to resolve is whether a LAEP should be developed at Reading or Berkshire scale with our neighbours. SSEN have developed 'LAEP+' which is their tool to deliver services in the region. It is a paid for service but they are seeking innovation funding to make it free to local authorities. The council, which is represented on the board of the GSE Net Zero Hub, is also working on a government-funded project to advance LAEP funding.
- 4.5 **Regional System Planning:** longer term, the governance of local energy networks is changing through the proposed creation by Government of the Regional System Planning role. This body will be independent of the local energy network providers and will involve Ofgem so it is understood that local government can help steer and manage local grid reinforcements in their local areas. It is unclear how long this will take to be established but it will take some time for the statute to be developed, passed and implemented. A Reading/Berkshire LAEP could be an important input to this process either way.
- 4.6 A common challenge with all of the above options is the Council's very limited capacity and expertise to engage fully with this complex policy area. It is, however, fundamental to the council's climate policy ambitions and Local Plan implementation. There may be a case for lobbying SSEN to fund work in this area enabling councils to be more 'intelligent clients' in the process, and it is understood

that the new regulatory settlement would provide for this, either by embedding resources to engage in Local Area Energy Planning within Councils or embedding the same resource within SSEN to work with Councils.

- 4.8 It is recommended that Policy Committee considers the proposed routes of engagement as outlined above.

## **5. Contribution to Strategic Aims**

- 5.1. The Council's new Corporate Plan has established three themes for the years 2022/25. These themes are:

- Healthy Environment
- Thriving Communities
- Inclusive Economy

- 5.2. These themes are underpinned by "Our Foundations" explaining the ways we work at the Council:

- People first
- Digital transformation
- Building self-reliance
- Getting the best value
- Collaborating with others

- 5.3. Full details of the Council's Corporate Plan and the projects which will deliver these priorities are published on the [Council's website](#). These priorities and the Corporate Plan demonstrate how the Council meets its legal obligation to be efficient, effective and economical.

- 5.4. Engagement on this key strategic issue will have an impact across all the following themes:

- Healthy environment. Decarbonisation has a direct relationship in improving air quality and reducing impacts of climate change.
- Thriving Communities. The Local Plan and Carbon Plan 2020-25 set out our ambitions for development which contributes to our net zero by 2030 ambitions and support the council's response to the Climate Emergency declaration. Failing to deliver against these plans will have a long-term impact on the ability of communities, and particularly vulnerable residents who are most exposed to those impacts, to thrive.
- Our Foundations. This paper sets out the need to collaborate with others (SSEN) in order to understand next steps towards accelerating decarbonisation and meeting local/regional demand.

## **6. Environmental and Climate Implications**

- 6.1. The Council declared a Climate Emergency at its meeting on 26 February 2019 (Minute 48 refers).

- 6.2. A Climate Impact Assessment had not been conducted for this report as the recommendations themselves will not have a direct impact on carbon emissions or our resilience to climate impacts. The subject matter of the report is, however, central to our ambitions to deliver 'a net zero, resilient Reading by 2030' as set out in the vision statement for the Reading Climate Emergency Strategy 2020-25, as explained in the main body of the report.

## **7. Community Engagement**

- 7.1. Whilst there is no direct wider community engagement required in respect of this paper, officers are in regular dialogue with the development community who are directing their concerns, to help inform conversations and engagement with SSEN.

## **8. Equality Implications**

- 8.1. There are no equality implications to consider as part of this report.

## **9. Other Relevant Considerations**

- 9.1. Whilst the focus of this report is on ensuring sufficient local capacity and supporting decarbonisation objectives, there are Public Health considerations of a failure to decarbonise, which include impacts on respiratory conditions and excess heat.

## **10. Legal Implications**

- 10.1. There are none.

## **11. Financial Implications**

- 11.1. There are none.

## **12. Timetable for Implementation**

- 12.1. Not applicable.

## **13. Background Papers**

- 13.1. There are none.