

LTC Task Force Paper

Lower Thames Crossing (LTC) DCO – CO² Emissions

1. Introduction

- 1.1. At the Task Force meeting on 14 December 2020 (as recorded in the minutes, page 7) Councillor Muldowney highlighted L20 (now L21) in the Hatch Report mitigation list and felt it was good to see that carbon emissions offsetting would be discussed. She stated that carbon emissions would increase during route construction and operation, asking that if Highways England did not meet carbon emission guidelines, would money be granted to Thurrock Council. It was noted that concrete production drastically increased carbon emissions and this would be a problem for Highways England during construction of the scheme, as well as emissions during route operation. It was understood that Thurrock Council were currently working with Highways England on a Carbon Offset Fund, to be discussed during the mitigation meetings.
- 1.2. Within the main Hatch Report, published on 24 February (and its Non-Technical Summary) and with both documents now available on the Council's website - <https://www.thurrock.gov.uk/thames-crossing/lower-thames-crossing-proposals>, page 86 sets out the following:

'Measure L20 (below) links closely to this with a proposal to establish clear annual targets for low emission vehicle usage to ensure emissions levels along the route are kept to a minimum. This could be monitored using the toll information, with financial penalties in place if targets are not met. This money would then fund green, sustainable carbon-reduction initiatives in the borough to off-set the impacts. Similarly to L18, this measure would also need to be implemented on the Dartford crossing to ensure both crossings are equally attractive for drivers to use'.

Measure L20	Target (with penalties) for ultra-low emission vehicle usage on the LTC	
Additional Description	Ensure high levels of low-emission vehicle usage through establishing clear annual targets with financial penalties payable to the Council in the event of exceedance to offset local air quality impacts.	
Type and Scale of Benefits	Impact Areas	Air quality
	Qualitative Impact	Reduce the negative impacts of higher emissions traffic and use any shortfall towards targets to fund green and sustainable initiatives
	Monetary (if applicable)	n/a
Scale of required Investment	Overall	Dependent on target being met
	% request from HE	100%
Priority	High	

Measure L21	Carbon offsetting of the LTC scheme	
Additional Description	Generation of energy through willow planting to offset the carbon cost of the LTC scheme	
	Impact Areas	Environment, air quality, climate change

LTC Task Force Paper

Type and Scale of Benefits	Qualitative Impact	These measures would offset the carbon created through the construction and operation of the LTC scheme and provide financially self-sustaining initiatives which contribute to a more sustainable Thurrock
	Monetary (if applicable)	n/a
Scale of required Investment	Overall	Medium - Initial £77,500 to establish coppice and willow plus upfront site restoration
	% request from HE	100%
Priority	Standard	

1.3. The Hatch Report goes on to highlight further details of these measures:

'This measure promotes the planting of Short Rotation Coppice (SRC) and Short Rotation Forestry (SRF) willow in Thurrock to generate biomass for energy is a primary way for carbon from the LTC scheme to be offset. The Council commissioned a feasibility study in early 2020 looking at possible sites for planting, which can be shared with Highways England. The study finds that SRC could be planted on the former landfill site at Buckingham Hill, and that this site has sufficient area to produce a significant quantity of biomass fuel. It is likely this site would need to be restored before planting could occur. Spoil from the LTC tunnelling works could be used by Highways England or a partner organisation to restore the site.

A business case for the planting has been prepared and finds:

- Establishment costs for 18ha of SRC/SRF on the site would be £77,500 (after the site has been restored);
- Once established, SRC/SRF planting on the site would be revenue-generating and self-sufficient;
- Planting could be underway from 2021 and the SRC could be ready to harvest starting from winter 2024/2025;
- Substitution of fossil fuel derived heat with biomass heat from the SRC and SRF produced could lead to a saving of over 3,500 tonnes of CO₂ over a 22-year period.

A joint venture delivery model between a commercial company and the Council would be sought to plant and manage the willow. If Highways England funded the establishment costs of £77,500 this could kick-start willow planting in Thurrock and provide an immediate benefit of c.15,000 trees being planted on the Buckingham Hill site (very close to the LTC). The establishment of this first site with the help of Highways England would then make smaller, more strategic planting sites viable across the borough'.

2. Current Highways England's Response

2.1 Within the original DCOV1 submission in October 2020 is the Environmental Statement (ES), which contains detailed assessments by topic area. One topic covered is 'Climate' and the Council reviewed an early draft chapter (provided to the Council in July 2020) and raised several issues: the lack of reference to the changing policy/legislative environment; the need for adequate monitoring; and, the need for providing much more detail about offsetting measures. Highways England responded to the points raised in February 2021 confirming that accommodating updates will be undertaken and stating that there is further detail within DCOV1, which the Council has yet to review.

2.2 In addition, the Council commented on the Register of Environmental Actions and Commitments (REAC) in relation to 'Climate' indicating that further commitments are required to include embodied carbon from the use of materials and measures to reduce emissions, to include specific targets for Greenhouse Gases (GHG) during construction and provide commitments to improve resilience to climate change. The Council is still in the process of

LTC Task Force Paper

reviewing the DCOV1 documentation to determine if all these matters have been addressed adequately or if further comments are necessary.

- 2.3 Although the Council has held a number of informal and positive meetings with Highways England over recent weeks to explain the 57 mitigation measures and they attended the 18 January Task Force to set out progress on including various measures into the DCO documentation, there has been no formal communication of their reaction to these measures yet.
- 2.4 Also, it is understood that Highways England, as part of LTC, are developing an Electric Vehicle Strategy that will include opportunities related to infrastructure, policy and market for all vehicle types. As part of developing this strategy, initially Highways England are seeking to understand local authority initiatives.

3. Current and Related Government Policy

- 3.1 Notwithstanding the above, Government through the DfT published its 'Decarbonising Transport – Setting the Challenge' Plan in March 2020 (80pp) – [Decarbonising Transport: Setting the Challenge \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/739460/road-to-zero.pdf). This was the likely result of the amendment of the Climate Change Act 2008 in June 2019, to require the UK to meet net zero by 2050. It sets out current transport modes and their GHG emissions; existing strategies and policies; the projected trajectory of forecast GHG emissions; the challenge and its six priorities; and, an outline of the engagement process to a final Plan. So, this initial document sets out the beginning of a process setting out the current situation and the emission reductions needed. It was followed by a consultation from July-August 2020 requesting ideas about the next steps to reduce emissions in transport. The final Transport Decarbonisation Plan (TDP), is likely to be published in spring 2021, but should set out in detail what government, business and society will need to do to deliver the significant emissions reduction needed across all modes of transport, putting the UK on a pathway to achieving carbon budgets and net zero emissions across every single mode of transport by 2050.
- 3.2 It is noted that the Transport Action Network (TAN) is undertaking/seeking to undertake two legal challenges of Government (DfT and Highways England) policy towards roads (transport is the largest sector for GHG emissions with 27% (with roads accounting for 90%, as set out - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/739460/road-to-zero.pdf):
- [Road Investment Strategy 2 \(RIS2\)](#) – challenging the Government's approval of its RIS2 £27b strategy (published in March 2020) on climate grounds, stating it did not take account of specific climate change objectives and did not include the impacts of air pollution or undertake a Strategic Environmental Assessment (SEA) within their assessment process.
 - [National Policy Statement for National Networks \(NPSNN\)](#) – challenging the Government's refusal to review this policy, which it contends does not account for climate change and is out-of-date on matters of air pollution, biodiversity and design.
- 3.3 Clearly, Government policy towards a green growth agenda has been the subject of several key changes over recent years and further changes are likely. Any such formal policy and legislative changes will be required to be accounted for with the emerging DCO re-submission documentation.

4. Previous DCO Documentation

- 4.1 A 'Carbon and Energy Plan' (approximately 100pp) was submitted as an Appendix to the ES as part of DCOV1. It is not yet clear if this would be included in the subsequent DCO application or amended prior to re-submission. Notwithstanding this, it should be noted that carbon emissions from infrastructure account for 53% of the UK's total emissions. As a major infrastructure project, Highways England needs to ensure LTC contributes to the UK's net zero carbon goal. This Plan therefore sets out how it will do this by quantifying its likely carbon emissions and setting out methods for reducing them.

LTC Task Force Paper

- 4.2 Highways England quantified LTC's emissions covering the construction phase and a sixty-year operational phase using the best available data. The carbon emissions resulting from the construction and operation of the Project are estimated to be 5,272,562 tonnes of carbon dioxide equivalent (tCO₂e) from operational traffic (over 50%), construction materials and enabling works emissions, maintenance and repair works, construction waste and risk items. Further details of the components are set out in the report.
- 4.3 In order to comply with the DfT's Design Manual for Roads and Bridges standards LA 114 'Climate', Highways England states that it has reduced emissions by including mitigation measures embedded in the preliminary design and by embedding carbon reductions in the construction stage through the procurement process to ensure that the Contractors are contractually bound to comply with relevant commitments.
- 4.4 The report sets out how reductions have been achieved, such as use of low carbon materials/operations, reduced size of assets (portals, bridges and junctions), changes to concrete/cement mix (involving more (from 50% to 65%) Ground Granulated Blast-Furnace Slag (GGBS)), planting trees and vegetation, reducing materials used, increasing electric plant and energy efficient equipment, contractors' to reduce emissions beyond the baseline and quantify/report emissions (during construction and operation) and a range of other measures involving compliance with other standards.

5. Summary and Next Steps

- 5.1 Progress on Hatch Report – the Council is in ongoing discussions with Highways England in its response to the measures set out in the Hatch Report and awaits its initial formal response, following which further discussions will be held to secure as many mitigation measures as possible prior to the DCO re-submission.
- 5.2 DCO Documentation and Commitments – the Council officers have not yet reviewed the Carbon & Energy Plan or had any discussions on its content. Furthermore, it is not yet clear what any Council required commitments will be or how they will be secured within the DCO documentation, although comments on the REAC have been made in October 2020 and responded to in February 2021. It is assumed that construction commitments for emissions will continue to be part of the CoCP and REAC (probably beyond those set out as CC001 – CC008). The final Carbon & Energy Plan within the DCO re-submission is also likely to be affected by recent changes in Government policy and legislation.
- 5.3 The Council will be undertaking a detailed review of the DCOV1 soon, once the above-mentioned responses to previous technical comments have been assessed and a further update can be provided at that time.
- 5.4 Legal Challenges – it is not yet known what the outcomes will be, but the RIS2 challenge may well have an outcome later this year.
- 5.5 LTC Response to Government Policy – once the Transport Decarbonisation Plan is finalised approximately in spring 2021, it will be the responsibility of Highways England to demonstrate their contribution to reducing emissions and then hopefully reflect that within parts of the DCO documentation and commitments. Furthermore, any other formal policy and legislative changes by Government will be required to be accounted for within the emerging DCO re-submission documentation.