



Annex
A11.12 – VIP T2 Project Provision
Proposal
December 2019

As a part of the NGET Business Plan Submission



RIIO-T2



Electricity Transmission

A11.12 – VIP T2 Project Provision Proposal

(December 2019)

Submission annex

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Introduction and context

The visual amenity provision is a funding mechanism, currently capped for RIIO-T1 at £500m in 2009/10 prices (£657m in 2018/19 prices), which was created by Ofgem in response to direct lobbying by campaign groups. It covers all three Great Britain electricity transmission owners (TOs), and its aim is to provide funding for work to help reduce the visual impact of existing electricity transmission infrastructure in designated landscapes, including English and Welsh Areas of Outstanding Natural Beauty (AONBs) and National Parks. It also allows for funding of smaller-scale (non-undergrounding) projects. The ultimate aim is to restore treasured landscapes for the benefit of all who visit, live or work there.

Since the provision was established at the start of the T1 period, NGET have established the Visual Impact Provision (VIP) project. The policy supporting this came out of a robust and comprehensive stakeholder-led process, which included the development of and consultation on a Landscape and Visual Impact assessment methodology. This has been done to ensure that proposed VIP projects in England and Wales reflect stakeholders' priority areas. The process also includes carrying out detailed cost analysis and consumer acceptability testing research on a project-by-project basis, to ensure there is support for the efficient delivery of each scheme within the bounds of the overall provision. The recommended works in the T1 period include a mix of major undergrounding projects and more local, stakeholder-led projects (known as Landscape Enhancement Initiative, LEI, projects). This visual amenity provision is proposed to continue for the T2 period, with LEI funding set at a maximum of 2.5% of the total provision.

This annex provides further details in support of the sections on visual amenity in Chapter 11 of our submission and its accompanying engagement log. In particular, the aim of this annex is to provide evidence which will allow Ofgem to set an appropriate expenditure cap for VIP in the T2 period, notwithstanding the fact that each new project will still be subject to its own testing by the independent Stakeholder Advisory Group, Ofgem and through bespoke consumer research.

Ofgem's requirements for setting the expenditure cap

As part of their work to develop the T2 framework, Ofgem carried out a consultation on this topic where 31 out of 32 respondents supported the continuation of this work in the T2 period. Consequently, Ofgem's May 2019 Sector Specific Methodology Decision (SSMD) stated that the scheme should continue into RIIO-T2 subject to consumer willingness to pay, and defined what consumer willingness to pay should mean:

Retaining the scheme to mitigate the visual impacts of pre-existing transmission infrastructure in designated areas (*relevant paragraphs taken from Ofgem's May 2019 Sector Specific Methodology Decision document*)

- 3.232 Having considered the responses to this question we have decided to retain the scheme to mitigate the visual impact of pre-existing transmission infrastructure in designated areas, subject to updated analysis that there is consumer WTP for additional projects in RIIO-ET2.
- 3.233 We note the concern by one stakeholder that this scheme is adding costs to electricity bills. However, the scheme is contingent on consumer valuation of the benefits from mitigating the visual impacts of existing infrastructure and willingness to pay for these projects. The study of WTP will be updated for RIIO-ET2 to verify consumers' preferences.
- 3.236 We welcome the support from the majority of stakeholders that answered this question that updated WTP should be used to inform the allowance for the scheme in RIIO-ET2.
- 3.237 We've considered the views of some stakeholders that the allowance in RIIO-ET2 should be informed by a study of willingness to accept the persistent presence of visual intrusion, which they think is a better measure of the value of the amenity loss. We recognise that WTA is an alternative measure of the amenity loss as it estimates the amount of money at which a person would be

indifferent to the impact on visual amenity. However, we think there could be some issues with using such an estimate. For example, it could suffer from an upward bias because people are asked to state the amount of compensation they would require to accept permanent loss of visual amenity without considering who bears the direct financial consequence of any such compensation. We believe that factors such as household budget constraints, should play an important consideration in setting the value of the expenditure cap because the efficient cost of mitigation schemes is paid by all consumers. Therefore, in line with our environmental responsibilities and obligation to protect existing and future consumers, we consider that the value of the expenditure cap for mitigation projects in RIIO-ET2 should be informed by a measure that reflects both the ability and inclination of consumers to pay. Accordingly, we think that WTP is the preferred approach for estimating this value.

- 3.238 It is important that the value of the expenditure cap set aside for mitigation projects in RIIO-ET2 is considered viable by electricity consumers. We will use the median estimate of consumer WTP as a starting point for setting the overall expenditure cap in RIIO-ET2. We reserve the right to determine the expenditure cap having considered the robustness of updated WTP and other relevant considerations, as we did in RIIO-ET1 in order to balance issues of affordability for consumers on the one hand and facilitating the TOs to mitigate the visual impacts of pre-existing transmission infrastructure in landscapes with high visual amenity.
- 3.239 We disagree with the view that the consultation question on using an updated WTP study to help inform our decision on the mitigation scheme in RIIO-ET2 was futile given that the TOs have already commissioned a WTP study. Despite it having already been already commissioned, we still could have decided not to rely on the study. For example, if responses to our December consultation provided evidence that it would be inappropriate to use an updated WTP to inform our decision on the value of the expenditure cap. However, we have now considered stakeholder responses, including the opposition of some stakeholders to the use of an updated WTP study, but our position is that an updated WTP study is the preferred approach for setting the value of the expenditure cap in RIIO-2.

Findings from the TOs' willingness to pay study

As mentioned in 3.239 above, we, along with SP Transmission and SSE Transmission, commissioned a joint willingness to pay study in 2019. This covered a nationally representative sample of 1,000 domestic consumers plus 600 business consumers. Learning lessons from previous willingness to pay studies in the energy and water sectors, for this latest study:

- we sought advice from Citizens Advice, Ofgem and the respective Independent Stakeholder Groups as we developed the research approach
- we provided more overall context and asked consumers for views on a wider range of topics. As well as visual amenity, the study also covered the topics of network reliability, resilience, the environment, innovation, supporting communities, and facilitating future decarbonisation. This allowed respondents to think about a wider range of potential energy bill impacts when providing their answers (when setting the provision for RIIO-T1, the study focused on visual amenity).
- we asked respondents to think about enduring bill impacts to more accurately reflect how costs are shared (whereas the 2012 study focused on the eight years of RIIO-T1)
- we commissioned one provider (NERA) to cover all three TOs, removing the risk of conflicting methodologies creating different sets of results, and creating consistency across networks in how we interpret and use these results (this had been a criticism in ED1 and in subsequent water industry willingness to pay exercises)

Results from this study showed there is positive consumer willingness to pay for visual impact improvements in the T2 period, among both domestic and business consumers (the full report of results from this study can be found in annex NGET_A6.04).

Specifically, the study showed a GB-wide willingness to pay value of £6.87 per household per year to underground an additional 20 miles of existing lines in designated areas (National Parks, AONBs and National Scenic Areas in Scotland), plus an additional £4.14 per household per year for smaller LEI-type projects in designated areas.

It should be noted that these are mean values, not medians (as stipulated in Ofgem's guidance point 3.238 above). NERA's view is that the approach of using means allows the values to be used in sizing an overall provision by multiplying them by the number of affected consumers. As it is not an average, this is not the case with a median value.

Following subsequent discussions with Anna Kulhavy (Ofgem) and to ensure adherence to point 3.238 of Ofgem's guidance above, we (along with SSE Transmission) asked NERA to also provide median values for the survey attributes which relate to visual amenity. This additional analysis showed a median value of £7.03 per household per year to underground an additional 20 miles of existing lines in designated areas (National Parks, AONBs and National Scenic Areas in Scotland), compared to the mean of £6.87. There was no difference (to two decimal places) between the mean and median values for smaller LEI-type projects in designated areas (£4.14 per household per year).

When looking at willingness to pay values across all visual amenity attributes (including those relating to non-designated areas, which are not part of this provision and are therefore excluded from this annex), NERA found median WTP to be very similar to the mean WTP, and not systematically higher or lower across the attributes.

Taking either the mean or median, converted to totex using either a 'willingness to pay value x number of households' calculation, or a more complex consumer bill impact methodology calculation, these latest findings give values of many billions for T2, which is substantially greater than the amounts proposed by us and the other TOs for a T2 VIP provision.

Triangulation with other research

In developing our RIIO-T2 submission, we have carried out further research, engagement and consultations on the topic of visual amenity, which supports Ofgem's decision that there should be a provision for visual amenity in the T2 period:

- we carried out nationally representative consumer research in late 2017 (via Populus) which indicated there was support amongst consumers for a continuation of the provision in T2
- we held an environment workshop in June 2018 which included a session on visual impact. Over three-quarters of attendees (24 out of 31) supported some form of scheme for existing overhead lines in RIIO-T2.

More recently, we have included the topic of visual amenity in relation to existing lines as part of further consumer research on our proposed T2 plans. This research took the form of a more 'gamified' study, with the aim of using a more user-friendly and engaging way of asking consumer opinion on a range of our business plan topics. The study covered a nationally representative sample of 1,000 domestic consumers and its full results can be found in annex NGET_A6.05.

From this research, we found that 68% of respondents supported additional undergrounding in National Parks in the T2 period, and 69% supported additional undergrounding in AONBs.

We also introduced costs to the options we gave respondents (which were indicative and not reflective of likely actual schemes, as these are still to be agreed). Results showed that, from those who offered an opinion (80% of the overall 1,000 sample):

- 55% supported undergrounding of at least nine miles of existing lines in National Parks, plus at least nine miles of existing lines in AONBs in the T2 period
- when indicatively converted to total expenditure, these 55% supported T2 spend of £360million or more

Note that this was a National Grid-only study and we only covered lines in England and Wales so, unlike the willingness to pay study above, findings cannot be applied GB-wide. Also, given the gamified nature of this research, it may be more suitable for triangulation with other results than for use as the primary source of data.

Our proposals for the T2 period

Priority projects for initiation in RIIO-T2

Our proposed approach for RIIO-T2 is a continuation of the process developed for the RIIO-T1 projects. We continue to work with our independent Stakeholder Advisory Group (SAG), we will consult local groups to develop more detailed proposals, and we will test consumer acceptability for further projects.

During the T1 period, an independent landscape expert (Professor Carys Swanwick) was appointed to create the [Landscape and Visual Assessment Methodology](#) which has been used to systematically classify the 571km of existing overhead line in 30 AONBs and National Parks in England and Wales.

As a result of this process, 53.7km of line in 12 sections within eight protected areas were judged to have the highest visual impact. Following engagement with local stakeholders (reports are available via the National Grid VIP website), these were prioritised down to four major undergrounding projects in Dorset, the New Forest, the Peak District and Snowdonia.

We carried out acceptability testing on these four projects in 2017/18, which showed that two thirds of bill-payers (66%) found it acceptable for the overall cost of £469million in 2017/18 prices (£483million in 2018/19 prices) to be passed on to consumers, while one in seven (15%) found it unacceptable.

Acceptability of the individual schemes was broadly similar, ranging from 65% for the Snowdonia scheme to 73% for the Peak District scheme.

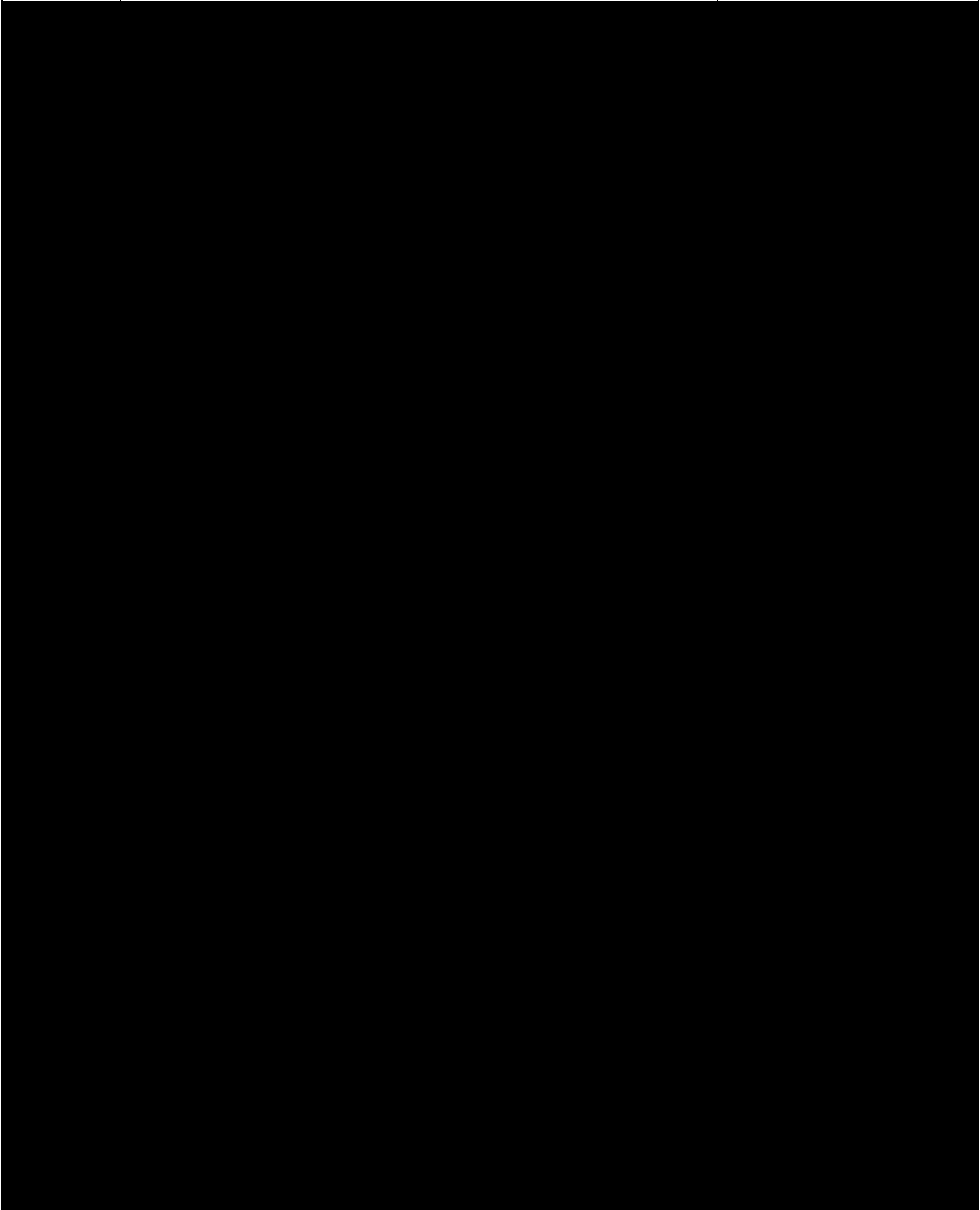
One of these projects has since been approved and is now in delivery, and Peak East and Snowdonia are to be submitted to Ofgem shortly. The New Forest project has been paused in 2019 due to complexities surrounding the European Regulations¹ designed to protect the natural habitats of protected species. Subsequently and at the request of the SAG, we began to develop North Wessex Downs for T1 submission instead, however, since our T2 submission data-set was locked down, it has become apparent that it is not possible to achieve Ofgem’s T1 deadline for submissions on this project either. As we had already started discussions with local stakeholders and received significant support, work on the North Wessex Downs project is actively progressing with the intention of it being a T2 project.

The remaining high priority sections therefore form the basis for consideration as part of the next tranche of major visual amenity projects. For SAG meeting 11, we revisited the original landscape and visual assessment to make sure that the scoring was still correct, updated the route section score sheets as required for the highest priority sections (purple and red), and incorporated learning from the first tranche of projects.

SAG meeting 13 was held on 4 December 2018. The prioritised options discussed for potential future projects (for initiation in RIIO-T2) at that time are listed in the following table along with an update on their current status with specific regard to them being submitted as T2 projects:

Section	December 2018 view	December 2019 view
[Redacted content]		

¹ While these Regulations are designed to prevent the permanent loss of habitats, and not to stop short-term work that we believe could have provided a net gain to the environment in which we were working, it is evident that the legal position is complex and, importantly, untested for a project of this nature. It was therefore unlikely that a planning application for this project would receive approval before the T1 funding deadline.

Section	December 2018 view	December 2019 view
		

Section	December 2018 view	December 2019 view
[Redacted content]		

For RIIO-T2, there are therefore two priority projects (in addition to North Wessex Downs, which is actively being pursued) and some other ‘reserve’ projects which could be developed instead (if, for example, there were insurmountable issues with one of the priorities). In addition, should the legal position change, the New Forest project could be reinstated. This position has been confirmed with SAG at subsequent meetings including, most recently, SAG meeting 16 on 5/6 November 2019.

However, other than North Wessex Downs, we have not submitted or discussed any of these as specific T2 candidates in our publicly-available December business plan because we have not yet begun local stakeholder engagement, and it would be wrong to do so (raising the expectations of local stakeholders) until a T2 provision has been agreed.

Deliverability

For all NGET projects, we need to consider a number of economic deliverability dimensions: (i) internal resources, (ii) planning and consenting constraints, (iii) external resources, and (iv) system access.

While it would be possible to mobilise a much larger project team to develop more of these projects in parallel, with the current team it is practical to develop two or three projects at any one time at the same time as delivering two or three projects. It is unlikely that we can compress timescales and deliver projects more quickly because – as these projects are by definition in some of the most sensitive and protected landscapes in England and Wales – the number and complexity of stakeholders from whom we need support is considerable.

A further constraint is the number of specialist transmission contractors available and willing to tender for such work (not forgetting other major underground cabling projects which are also progressing in the T2 period such as London Power Tunnels 2 and asset replacement of Dinorwig-Pentir). In the case of major undergrounding projects, system access is less of an issue than for other similar-sized projects because the cables can be installed and commissioned with the existing overhead line circuits in service. Relatively short outages are then required to transfer the power to the new cable circuits, before the overhead line section can be decommissioned and the pylons dismantled.

Taking the above into account, the following shows a feasible indicative programme for projects in flight in the T2 period. This specific programme was presented to SAG16 on 6 November 2019 based on more detailed discussion at previous meetings. They noted that a phased approach was necessary.

Project		2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
RIIO-T1	Dorset	Develop	Submit	Deliver	Deliver	Deliver	Closure								
	Peak East	Develop	Develop	Submit	Deliver	Deliver	Deliver	Closure							
	Snowdonia	Develop	Develop	Develop	Submit	Deliver	Deliver	Deliver	Deliver	Deliver	Deliver	Closure			
RIIO-T2	North Wessex			Develop	Develop	Submit	Deliver	Deliver	Deliver	Closure					
					Develop	Develop	Develop	Submit	Deliver	Deliver	Deliver	Deliver	Deliver	Closure	
						Develop	Develop	Develop	Submit	Deliver	Deliver	Deliver	Deliver	Deliver	Deliver

In this scenario, there would be three new projects potentially being funded out of a T2 provision:

Project		Total cost	Route length (to be dismantled)
RIIO-T2	North Wessex Downs	██████████	██████████
	██████████	██████████	██████████
	██████████	██████████	██████████

Based on current estimates for project costs and route length (which, other than for North Wessex Downs, are desk-top estimates because we have not started detailed engineering and design work) the minimum value of these three is £████m and the maximum is £████m. Given that we are committed to taking North Wessex Downs through to a funding submission, if only one further project were taken forward in T2, the minimum requested provision would be £████m (North Wessex Downs and ██████████) and maximum would be £████m (North Wessex Downs and ██████████).

NB. If the lower range of £████ were selected as the basis for a T2 provision, this would implicitly rule out ██████ (the highest scoring overhead line section) as an option for the T2 period. A consequence of a shorter price control period (five years as opposed to eight) and a temptation to scale the visual amenity provision accordingly may mean that certain locations (██████ and ██████████, for example) could never be addressed. One way round this may be to set an eight-year provision again (especially given that these complex projects are taking 7-10 years to deliver from inception to financial closure)?

It would also be beneficial to formally specify that part of the T2 provision can be used to fund efficient development costs for future projects which might follow in subsequent tranches; this is a gap in the current framework and means that we are at risk of slowing/stopping work on new projects at each renewal point and again this makes it difficult to maintain momentum on such long-term undertakings.

Landscape Enhancement Initiative (LEI)

We have not considered the deliverability of LEI projects in the above because (i) these are proposed and delivered by third parties, (ii) they use a completely different supplier base, and (iii) they do not require system access because they do not involve changes to transmission assets.

Ofgem’s SSMD states that LEI-type projects should equate to 2.5% of the total provision. Based on that, the range for LEI funding would be between £6.5m and £18.3m depending on the scenario considered:

Scenario	Undergrounding	LEI (2.5%)	Total
Three projects	£580m - £730m	£14.5m - £18.3m	£594.5m - £748.3m
Two projects	£260m - £450m	£6.5m - £11.3m	£266.5m - £461.3m

Scottish Transmission Owners

The above assessment needs to be taken into consideration alongside visual amenity plans from the other GB Transmission Owners.

Summary

Throughout our engagement to prepare for the T2 period, we've consistently heard that there is broad stakeholder support for a visual amenity provision in RIIO-T2. This firmly endorses Ofgem's methodology decision to retain the provision for T2.

When it comes to the size of the provision and setting the expenditure cap, the Ofgem-preferred methodology of using willingness to pay research as the starting point for setting the cap has resulted in GB-wide values which exceed the estimated amounts being proposed by the TOs for visual amenity projects in T2.

The specific piece of evidence that this research does not provide is the exact level at which the expenditure cap should be set; given the relatively low consumer bill impact of transmission networks, transmission willingness to pay studies may often result in values which far outweigh actual costs. One option is therefore that further research is required to provide Ofgem with further data to help them set the expenditure cap.

However, there is nothing to suggest that a further study would provide results which are materially different to the previous T1 research or the more recent T2 research, and therefore additional research would not be an efficient use of TO funds.

Furthermore, as consumer willingness to pay exceeds the proposed T2 costs of visual amenity schemes, and each scheme is also subject to its own rigorous cost assessment and acceptability testing process as part of the approval process, there is an argument that the risk is in setting the expenditure cap too low to enable TOs to deliver the stakeholder-selected priority schemes in T2. Conversely, a higher expenditure cap does not automatically mean that the total will be spent because Ofgem have the framework to control funding in light of consumer acceptability at a later date as part of the scheme-by-scheme assessment process.

We will work closely with Ofgem, the other TOs and other stakeholders on next steps, including understanding Ofgem's exact additional requirements if the evidence presented to date is not sufficient to set the expenditure cap.