

Ofgem Request for Information

**TRANSITION Project
August 2018**

Version 1.0



Scottish & Southern
Electricity Networks

Question 1

1. Please provide a detailed commentary against each work package/line item in the 'whole project costs' tab of the full submission spreadsheet you submitted in July.

Please see attached document, additional information has been provided on the costs included in the Full Submission spreadsheet. Where applicable we have identified the areas where duplication has already been identified and cost reduced, and highlighted areas, where we currently see potential for future duplication as the project progresses. The governance processes we already have in place with the other DNOs to deliver the T.E.F. programme will continue to focus on ensuring that project outputs are utilised where possible and that duplication is avoided. This is described in more detail in the following sections.

a) The internal processes you put in place to understand where there may be areas of unnecessary duplication before engaging with other licensees.

The TRANSITION project has been specifically designed to demonstrate the models being developed by the Open Networks Project (ON). It is our strong belief that aligning to the Open Networks project (and therefore with all DNOs, TOs, ESO, BEIS and regulator) is the surest way to ensure TRANSITION remains relevant and will contribute meaningfully to the future of DSO in GB. Therefore, we consider alignment with the ON project and its associated products is the key determinant in ensuring that the TRANSITION project outcomes are complementary rather than duplicative.

Our internal processes for managing TRANSITION and for identifying areas of duplication will be via our established project management procedures for the delivery of our portfolio of innovation projects. Key to ensuring that the project remains relevant and duplication avoided will be the input from both the internal SSEN DSO Strategy Group and importantly the SSEN representatives from each of the Open Networks Workstreams. These are described in more details below.

SSEN DSO Strategy – Supporting a Smarter Energy System

SSEN's approach to managing the DSO transition is set out in our published strategy – Supporting a Smarter Energy System¹. In this document, we have set out our priorities and principles for managing the DSO transition and reaffirmed our commitment to supporting the Open Networks project. The TRANSITION project has been developed to support these principles.

In addition, the SSEN DSO Steering Board chaired by the Director of Engineering and Investment is responsible for the coordinating all aspects of smart grid development in SSEN. This forum includes staff involved in the delivery of Open Networks, staff responsible for delivery of TRANSITION as well as from across the wider SSEN business. Within SSEN, this forum will help ensure that the TRANSITION project remains aligned with both the wider SSEN strategy and SSEN inputs to the Open Networks project.

¹ <https://www.ssepd.co.uk/SmarterElectricity/>

A series of internal workshops are already underway to refine the requirements of the TRANSITION project, these include the TRANSITION projects team, the SSEN representatives from the relevant ON workstreams as well as internal subject matter experts.

Innovation Steering Board

SSEN have in place a long-established process for the delivery of our portfolio of LCNF Tier 2 and NIC projects. Key to this is ensuring that our projects outcomes remain relevant and will continue to produce benefits for customers. This process is managed via our Innovation Steering Board (ISB) chaired by the Director of Engineering and Investment, which meets monthly to ensure that the innovation portfolio remains relevant and is delivering the anticipated outcomes. Critical to this will be ensuring that TRANSITION remains aligned with Open Networks.

The SSEN TRANSITION project manager will be responsible for reporting on project progress to the ISB, which will also include a wider requirement to report on the progress of the T.E.F. programme, including opportunities to utilise learning from EFFS or FUSION to progress the TRANSITION project and identify further areas of potential collaboration or avoid unnecessary duplication.

The majority of our NIC projects have Stage Gates purposely designed and programmed to allow the project to be reviewed and the business case re-evaluated to ensure that the project can proceed. If we consider that the project is unlikely to deliver the anticipated benefits, then we will reshape or even cancel the project. For example, our review of the SSEN002 MASC project identified that it was in customers best interest to conclude the project early. This allowed over £2m of funding to be returned to customers.

TRANSITION includes a significant Stage Gate prior to any major deployment, and we built in optionality (such as the potential for three separate trial sites) to account for uncertainty in future and allow the scope to be reduced if aspects were no longer required. The Stage Gate provides formal review points to re-evaluate the scope and budget to ensure that the project will deliver benefits, is still aligned with Open Networks and if the outputs from EFFS and FUSION can be utilised to improve the quality of the project outputs.

By building upon our well proven process for managing Innovation projects via the ISB, with input from the SSEN DSO Steering Group, (both chaired by the Director of Engineering and Investment) this will ensure that the project will remain aligned with the wider industry and that areas of potential duplication are identified, as presented in Figure 1.

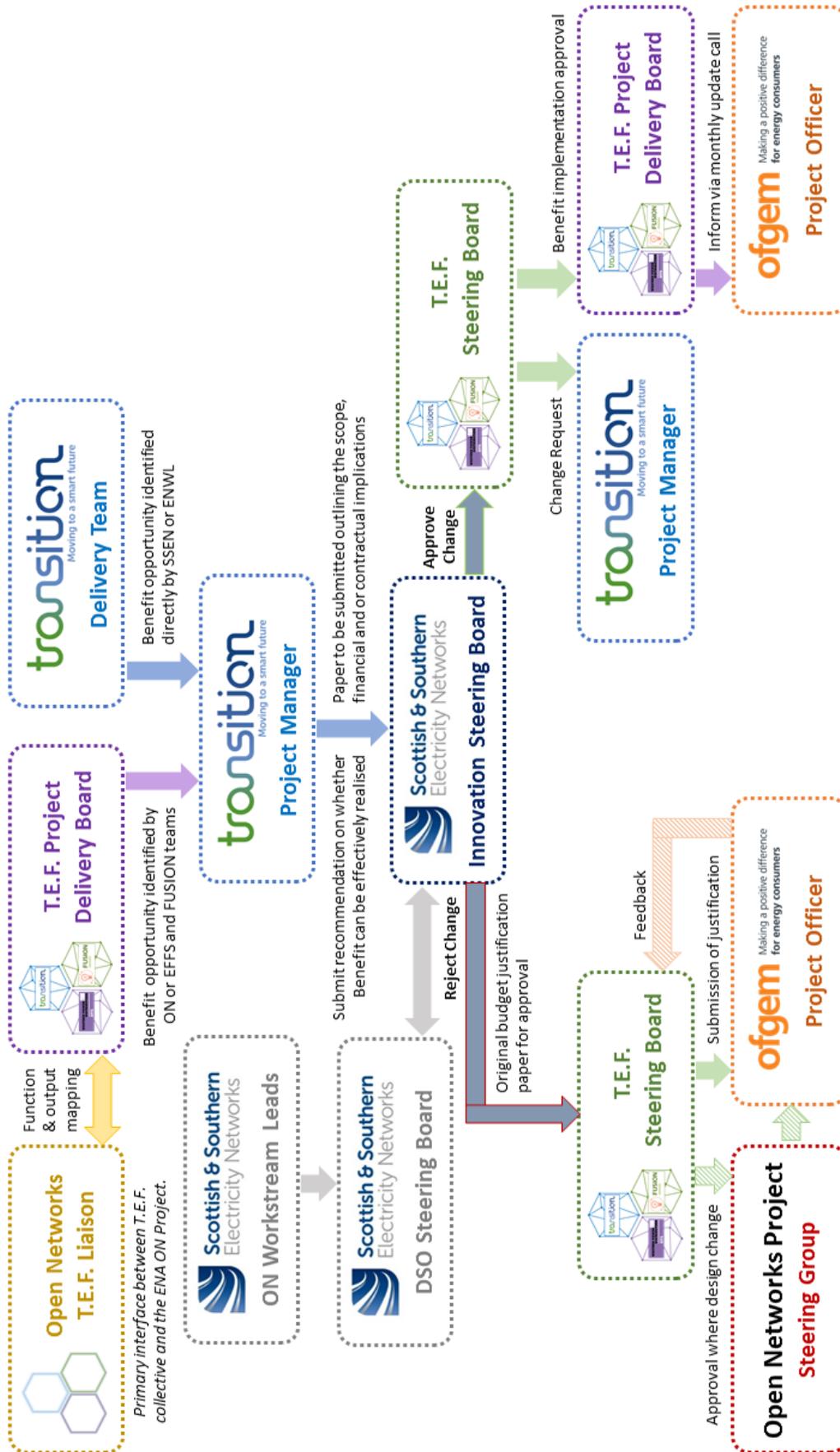


Figure 1: SSEN potential saving identification and realisation process diagram

b) The processes you implemented within your business after engaging with the other licensees to remove areas of un-necessary duplication or reduce cost?

The Open Networks project is the key framework for identifying areas of collaboration and duplication amongst the three T.E.F. projects. When the T.E.F. projects first engaged, each project mapped their outcomes and objectives to the Open Networks Workstream 3 Product 2, Functional and System Requirements.

The use of this matrix provided a structured approach, which demonstrated how the outputs from the three T.E.F. projects are informing the development of these DSO requirements. It readily demonstrated the fundamental differences between the projects and areas for possible collaboration. We intend to continue to use this mapping to the Open Networks projects outputs as being the key mechanism for identifying areas of overlap or duplication. This will help to inform the evolving register of areas of collaboration which will be developed via the T.E.F. Project Delivery Board.

As the project progresses, the monthly T.E.F. Project Delivery Board meetings will be a forum to share progress and outputs and to identify areas for future collaboration. Depending upon the scale of the impact, this will be reviewed and approved in accordance with the SSEN project management requirements.

At the appropriate time the TRANSITION Project Manager will make a recommendation to the ISB, as to whether the project is able to realise the collaboration saving or if it needs to revert to the original budget. If, the recommendation is that the original budget is required, then the recommendation will need to provide robust justification as to why the collaboration cannot be achieved.

Please see Figure 1 for internal process now implemented to manage individual saving opportunities. This is separate to the defined Stage Gate process which will take a more holistic view ahead of any physical trial deployment.

c) The areas of potential future savings relative to the proposed budget which are attributable to the processes for avoiding unnecessary duplication which you have implemented – please include the scale of potential future savings.

In the T.E.F. Compliance Document Appendix 1 (attached to this submission) we identified areas where there is the potential to avoid duplication and reduce costs for customers. To be successful, this will require close collaboration between the three projects to ensure that areas of overlap are identified early and result in sharing of outputs and cost reduction, are designed out completely or are robustly justified where there are reasons for duplication. The areas currently identified as offering potential future savings and benefits are Trial requirements optimisation, procurement of forecasting model and joint procurement. TRANSITION has committed to the removal of a physical trial within the ENWL licence area and stakeholder engagement collaboration to unlock savings:

- £1.7 million saved through scope rationalisation due to T.E.F. collaboration and ON World development progress;
- £90k saved through aligned and or combined stakeholder engagement;
- £183k voluntary contribution through freezing the original compulsory licensee contribution;
- £250k additional voluntary contribution addition from SSEN as evidence of direct support from SSEN.
- Overall 16.2% reduction in NIC funding request for TRANSITION.

The response to Question 1 and accompanying Financial Commentary breaks this down per workpackage. To ensure deliverables are still met, TRANSITION will draw on outputs from FUSION and the EFFS development of the Cornwall Local Energy Market, alongside key inputs from ENWL, our project partners. TRANSITION proposes to trial in up to two locations at present as until detailed design has been conducted and definitions and requirements reviewed with EFFS and FUSION, it would be inappropriate to remove any further post Stage Gate elements. Yet if during this process one TRANSITION trial location was able to deliver the same overall learning when viewed alongside the other two NIC projects, SSEN would commit to removal of the applicable trial elements. Current calculations indicate future potential savings in this area of up to £266k which is influenced by the number of trials and their size.

Procurement of a forecasting model was investigated in a detailed T.E.F. workshop with forecasting specialists to understand the potential for collaboration in this area. TRANSITION planned to procure market-ready forecast software for the purposes of the trials, but as EFFS are developing a similar tool we plan to design the detailed requirements to facilitate adoption of the outputs, achieving a saving of £225k from TRANSITION at the common Stage Gate. If this is not fully achievable, justification must be provided which is approved by the T.E.F. Steering Group and Ofgem during the Stage Gate process outlined in the T.E.F. Compliance Document Appendix 4 (attached to this submission).

Through ongoing discussion, we have identified potential opportunities for sharing the procurement administration activities to help deliver benefits for the T.E.F. projects. Subject to further discussion with procurement experts, and once the requirements of both projects are better defined, it may be possible to undertake a joint exercise which would not only save on administrative costs by approximately £2k from TRANSITION but may attract a better deal from suppliers who value the opportunity to work with

two projects across three DNOs. This will be clarified during the first phase of the project and confirmed by the Stage Gate.

The current value of the potential TRANSITION savings identified is £493k, resulting in expected savings at Stage Gate being a percentage of this figure. Importantly this is only the value of the potential future savings which are attributable to the processes we have followed to date. TRANSITION is committed to regular review of the trial definitions and requirements alongside EFFE and FUSION as outlined in the Project Delivery Board and Steering Board Terms of Reference, thus additional opportunities for adding value or making savings are and will continue to be actively sought.

d) The approach you will take to achieve these future savings.

The proposed governance structure for the TRANSITION project and the wider T.E.F. programme is focused on ensuring alignment with Open Networks. This will ensure the T.E.F. outcomes and learning are best placed to progress the industry wide transition to DSO and avoid unnecessary duplication amongst the three NIC projects. The T.E.F. governance structure is described in Compliance Document and is attached to this submission. We have added further detail in the attached proposed Draft Terms of Reference documents for the T.E.F. Steering Board and Project Delivery Board, both of which are attached for information. The key driver within the governance structure is to ensure that the projects are aligned such that they can;

- Actively seek to design the projects to ensure that early stage outcomes and learning can be used by the other T.E.F. projects;
- Identify areas of potential duplication in advance and ensure that learnings are complementary; and
- Ensure alignment with wider industry developments and the Open Networks project.

TRANSITION has already identified several areas where future savings are expected to be achieved, although it is not possible to accurately quantify the amounts at this early stage. The approach to achieving these savings is that they will be separately identified within the project budget as 'anticipated collaboration budget items'. This will also include an indication of the time required to determine if the collaboration benefit will be realised. As the project progresses we will be able to more accurately quantify the additional savings and potentially add items to this list, based on our ongoing interaction with the other projects and the monthly Project Delivery Board meetings.

Where the collaboration saving can be achieved, the TRANSITION Project Manager shall identify the legal and procedural requirements to be put in place to realise the saving and discuss with peers during the next meeting of the T.E.F. Project Delivery Board. Such requirements are expected to include licencing of the [REDACTED] forecasting model and administration of joint events to ensure coherent presentation of complementary material.

SSEN recognises the importance of collaboration and is committed to working closely with the EFFE and FUSION projects. The overall T.E.F. programme is now much better aligned to provide an opportunity for cross-utilisation of outputs. Where relevant it will always be SSEN's firm intention to use outputs from EFFE and FUSION to improve outcomes or reduce the overall cost of the T.E.F. projects. For clarity, only if the products are not available, not capable of delivering our requirements or cost too much would we not consider their inclusion in TRANSITION.

Question 2

2. How have you ensured that the definitions and requirements of TRANSITION trials and your use of market models within the project will deliver learnings that are complementary (rather than duplicative) of those that will be delivered by the other two licensees?

Since its initial inception, the TRANSITION project has been firmly focussed on supporting the successful delivery of the Open Networks project. Therefore, the definitions and requirements of the proposed trials for TRANSITION have matured and developed in parallel with the products and outputs from the Open Networks project. [REDACTED]

Throughout, the ongoing collaboration discussions, the three T.E.F. projects have focussed on using the Open Networks Project as the framework against which to assess areas for collaboration and avoidance of duplication. Maintaining a close alignment with the Open Networks project will ensure that the outputs from TRANSITION complement and support the delivery of DSO in GB. SSEN have identified a number of specific activities in the Open Networks project which will be used to determine the detailed design of TRANSITION and the other two projects, for example;

WS3 – DSO World Impact Assessment

The TRANSITION trials are being developed to specifically inform the Open Networks Project, through provision of evidence against the ON-defined DSO Worlds and increasing the level of competence against specific “least regrets” DSO functions. The DSO World Impact Assessment within ON Workstream 3 is currently being tendered. The outputs from this work, will further allow further refinement of the TRANSITION scope and enable detailed comparison with the other T.E.F. projects as they too move through the design phase. This will be particularly useful for comparing with the proposed FUSION model which is adopting the Universal Smart Energy Framework.

Workstream 3 Product 7 – Innovation Gap Analysis

Workstream 3 Product 7 of the Open Networks project will be used to identify any “gaps” in existing project portfolios across licences which will require further innovation ahead of smart grid implementation. SSEN and WPD are directly involved in the delivery of this product, facilitating the accurate representation of the T.E.F. projects. Where possible we will endeavour to address any gaps, which could be addressed through modification or additional collaboration which, while not necessarily leading to T.E.F. savings, would offer greater overall value to our customers.

Open Networks Future World Consultation

Whilst the DSO transition in GB has progressed significantly, there are still several directions being evaluated, resulting in considerable uncertainty on the requirements for many key functions. The Open Networks project currently undertaking a “Future

Worlds Consultation"², the outputs from which will at the very least direct the design phase and may well significantly impact the scope of the TRANSITION project. Following closure of the consultation on the 25th September 2018, findings will be collated and analysed before presenting to Workstream 3 representatives for review and feedback. At this time the TRANSITION project team will also review and construct a proposal for the DSO World(s) to be trialled within TRANSITION. The proposal will be shared with Workstream 3 for comment before presentation to the T.E.F. Steering Board and Open Networks Steering Group for approval. While this approval would facilitate elements of the design and trial setup phase, physical deployment of the trial and the associated market models can only be actioned at the Shared Stage Gate which is discussed in detail in the attached document (attached to this submission).

The TRANSITION trial work package is currently being developed and will note similarities and differences to those proposed for EFFS and FUSION. As the T.E.F. projects move into the detailed design phase the trial definitions, scope and requirements will be reviewed at the monthly T.E.F. Project Delivery Board meetings to identify synergies and ensuring no unnecessary duplication. We understand that as the three projects develop through the detailed trial design stage, the current understanding may change and new opportunities to either enhance learning achieved or avoid unnecessary duplication may arise. These will be identified within the monthly T.E.F. Project Delivery Board meetings and it will be the responsibility of the TRANSITION Project Manager to ensure their impacts on the TRANSITION project are understood and communicated.

To facilitate transparency, we propose to invite the Ofgem project Officer to a defined half hour conference call during the monthly T.E.F. Project Delivery Board meetings where an update on current and potential collaboration themes can be provided. In addition, it will provide a channel for Ofgem to present issues which could potentially be integrated and tested within TRANSITION. TRANSITION is committed to optimising learning and maintaining relevance, thus a similar interface with BEIS is also planned.

The T.E.F. Open Networks Representative, initially an SSEN resource, shall be responsible for the engagement between T.E.F. and the Open Networks Project. TRANSITION recognises we will require engagement with the ON project (and other relevant ENA-led working groups) on an enduring basis. Several ON Products are of common interest to T.E.F., including the DSO Worlds themselves. A strawman for engagement is described in the attached document, and a meeting between the T.E.F. Project Delivery Board and Open Networks project management team to further develop this process is scheduled for 6 September 2018 (agenda attached).

Have the definitions and requirements of your trial and market model changed since your Full Submission?

Since TRANSITION was originally submitted to the 2017 NIC competition, there have been changes to the definitions and requirements of the trials and market model. Since then, there have been important developments at both industry level (via Open Networks) and at a more local level which SSEN have been actively involved in. The DSO Worlds developed by ON were not available at the time of our Full Submission, so we included

² <http://www.energynetworks.org/electricity/futures/open-networks-project/future-worlds/future-worlds-consultation.html>.

three potential market models to illustrate the ambition of TRANSITION. As identified earlier, TRANSITION's intention has always been to demonstrate and trial on the ON-developed market models or 'Worlds', as these develop we will be able to refine the scope of TRANSITION.

The DSO Worlds and trial requirements are discussed in detail in the section which follows.

Market Model/DSO Worlds

Since our submission, the ON Future Worlds Consultation has been issued, which describes five potential "DSO Worlds". Smart Grid Architecture Models (SGAM) have been developed for each and associated reports written to communicate the common view to stakeholders. The consultation working group proposes to collate, analyse and communicate findings before the end of this calendar year.

TRANSITION will draw on outputs of the consultation before formally selecting the DSO World(s) to be developed and tested by the project. However, there are functions and capabilities which will be required regardless of the DSO World selected. SSEN and UKPN lead the ON Workstream 3 product identifying areas of "least regret", which can be developed independently of the World chosen and will be used to inform the detailed development of the TRANSITION project. We intend to engage EFFS and FUSION to identify synergies in developing these functions. While the consultation will provide direction, we recognise that there may still be questions left unanswered and so have designed a Stage Gate into the project to specifically ensure that the projects continue to support and inform the progress of the Open Networks project, bringing benefits for customers.

Trials based on World A (DSO Coordinates) and World C (Price Driven Flexibility) would naturally fit with the SSEN and ENWL-led TRANSITION project. EFFS propose to base their project on World B (Coordinated DSO-ESO Procurement & Dispatch), complementing the TRANSITION learning and avoiding unnecessary duplication. However, TRANSITION would be able to adopt World B (Coordinated DSO-ESO Procurement & Dispatch) without significantly impacting Project Deliverables or loss in learning value if required. World D (ESO Coordinates) and World E (Flexibility Coordinator) still feature a DSO actor, therefore development of the "least regrets" DSO functions still remains valid. If the industry directs us towards World D or World E we recognise that this would alter scope of the trial deployment phase, impacting the Project Deliverables and value of some proposed works, factors will be considered in our recommendations to the Open Networks Steering Group at the Stage Gate.

TRANSITION identified the swiftly evolving nature of smart grid implementation during the Full Submission development phase and so constructed the proposal to enable adoption of the latest learning. While this approach accounts for a wide range of industry developments, it was recognised that there may be a more fundamental shift in approach which significantly reduces the value of TRANSITION outputs in the current timeframe. Thus, SSEN included a Stage Gate ahead of physical trial deployment to allow the project to Stop, Modify or Progress as planned, depending on decisions from the Open Networks Steering Group and Ofgem. EFFS and FUSION have now adopted this approach and we have aligned our timelines to achieve a common Stage Gate and associated process. Hence, we propose to utilise this common Stage Gate to manage any significant change in scope due to future DSO World selection, allowing TRANSITION to protect customer

investment and only focus on trials resulting in relevant learning which support the wider DSO transition in GB.

Trial Requirements – Market Participants

TRANSITION recognised a key risk to the project successfully demonstrating a DSO world; this was the risk of insufficient Market Participants to demonstrate a competitive marketplace of flexibility – leading to higher costs and possibly the inability to trial certain functions. We have addressed this risk through early identification of a potential trial area which has prominent levels of engagement and enthusiasm to demonstrate a flexible energy market.

SSEN are already supporting various local groups with their transition to a 'smart grid'. [REDACTED]

[REDACTED]

[REDACTED]

TRANSITION and [REDACTED] has been presented to BEIS directly, and SSEN propose to provide regular updates and opportunities for feedback, ensuring development in [REDACTED] is coordinated and well informed.

Figure 2: 