



Gate 1 queries process

Strategic solution(s)	Severn Thames Transfer
Query number	STT004
Date sent to company	02/08/2021
Response due by	04/08/2021

Query

- 1) Please could you describe how the relationship with potentially mutually benefiting SROs (such as SESRO) will be managed through Gate 2.
- 2) Please could you present (or direct to where we can find) the environmental, societal and economic costs and benefits applied to the STT options, and its supply enabling options, that have lead to the best value conclusions discussed in Section 10.
- 3) Please could you indicate which environmental metrics were assigned to STT by WRSE, as discussed in paragraph 5.16?
- 4) Please could you indicate any whether any societal and amenity values have been identified for the scheme, or further details on how this will be considered through Gate 2 activities.
- 5) Have any wider resilience benefits been identified for the STT scheme at this stage?

Solution owner response

1) Please could you describe how the relationship with potentially mutually benefiting SROs (such as SESRO) will be managed through Gate 2.

STT will continue to work with the WRSE to understand when and how the South East relies upon different SROs in combination with STT. We are particularly interested in the WRSE's 'stress-test' runs to understand the utilisation pattern of each option. The WRSE Investment Model will let us know which year each option is selected and for what reason (i.e. normal year, average or peak demand). The stress-test simulation runs will help clarify during which season and for what varying quantities of water STT is utilised.

We know the South East has connectivity to provide STT water to four companies (with initial import Water Resource Zones): Thames Water (SWX and London), Affinity Water (WRZ4), South East Water (RZ4) and Southern Water (HSW and HSE). There may also be downstream benefits to other WRZs depending on the future transfer connectivity in the South East. We will investigate the results of modelling to understand the benefits associated with each scheme.

From initial WRSE model configurations we know all SROs, after they are selected, can provide benefit at the same time. There are a few constraints to SESRO and STT in particular. There is a limit of 600 MI/d of additional option supply into the River Thames (to benefit London and Affinity), 200 MI/d along the Thames to Southern Transfer and a limit in terms of need from the SWX WRZ. We will review the results to understand how much of this potential benefit is provided by SESRO and STT.

Based on our understanding of the regional modelling process, we may request additional Investment Model runs and stress test simulation runs to understand option selection and utilization. Based on an updated understanding of STT utilisation, we may update our costs.

At Gate 1, Thames Water and Affinity also assessed and reported on the conjunctive use of STT with SESRO. The STT-SESRO Joint Option was provided to WRSE as a feasible option for selection in the investment modelling, albeit no DO benefit having been identified from the current work undertaken up to Gate 1. STT and SESRO will work together further at Gate 2 on this aspect and to evaluate the wider system benefits of the schemes for the South East.

STT are also working closely and collaboratively with other SROs in the delivery of the STT gate deliverables providing efficiencies and benefits to the various schemes. For example, STT is responsible for all the environmental aspects for the receiving rivers upstream of the Interconnector, simplifying and avoiding duplication of effort with the source SROs. Similarly, we are working closely with SESRO to ensure we do not duplicate monitoring and analysis

of the River Thames and undertaking joint procurement with other Thames SROs where this can provide procurement and delivery benefits.

2) Please could you present (or direct to where we can find) the environmental, societal and economic costs and benefits applied to the STT options, and its supply enabling options, that have lead to the best value conclusions discussed in Section 10.

We followed ACWG guidance to characterise the scheme and for the Gate 1 and the findings presented in Section 10 are based on the ACWG methodology. As a result, this section does not include for environmental, societal and economic costs and benefits for the Gate 1 reporting stage.

We have also worked closely with the WRSE to ensure appropriate representation with the environmental and resilience metrics as part of the regional best value appraisal. This work included advising WRSE on the proposed STT phased implementation and iterative conversations with the WRSE environmental and resilience workstreams to ensure as far as possible that the metrics produced by WRSE are broadly consistent with the Gate 1 findings.

Biodiversity Net Gain (BNG) and Natural Capital Assessment (NCA) studies were performed for Gate 1 in order to give an indication of the potential benefits and losses that the scheme could cause. For Gate 1 it has been possible to undertake only a limited cost assessment of the effects of the scheme due to data availability; work is ongoing to capture detailed data and this, together with the further development of the scheme, will enable more detailed cost benefit analysis for Gate 2. Nevertheless, using data from the BNG and NCA studies it has been possible to produce monetised benefits and impacts arising from the STT scheme on various ecosystem service aspects including carbon sequestration, climate regulation services, natural hazard (flood) regulation services, tourism and recreation, and air quality regulation and overall natural capital. These costing are presented in the supporting environmental data provided to RAPID under query STT001

3) Please could you indicate which environmental metrics were assigned to STT by WRSE, as discussed in paragraph 5.16?

As mentioned above in question 2, a limited appraisal of tourism and recreation has been undertaken for Gate 1 as part of the NCA for which supporting documentation was provided under STT001 query. In addition to this, an initial appraisal of societal and amenity benefits has been undertaken by working with the WRSE group for their assessment. Further work will be undertaken for Gate 2 on potential societal and amenity benefits for the NCA, for the interconnector option appraisal, and for WRSE requirements. The STT group is also considering commissioning a 'benefits study' at Gate 2 to look at wider opportunities.

4) Please could you indicate whether any societal and amenity values have been identified for the scheme, or further details on how this will be considered through Gate 2 activities.

Through the Natural Capital and Biodiversity Net Gain assessments in Gate 1 (summarised in sections 5.40 and 5.42) the opportunities of the STT SRO to provide ecosystem services, namely air quality, recreation and tourism, water purification, natural hazard (flood) regulation, climate regulation, and carbon sequestration have been considered. These metrics have also been included in the assessment to support the Welsh goals of sustainable management of natural resources and wellbeing. The potential for improving social, economic and environmental aspects, plus cultural well-being in the future have not been quantified in Gate 1 as further information is required, which is planned for Gate 2 investigations. In Gate 1 a qualitative assessment of the ecosystem services provided by the STT SRO has identified habitat types which have been mapped to the related ecosystem services and thereby societal benefits they provide.

The Natural Capital considerations are included within the SEA Objectives and using indicator questions as suggested in the EA WRPG Supplementary Guidance¹. The SEA assessments undertaken in Gate 1 will be reviewed and conclusions updated in Gate 2. These assessment conclusions will have regard to both positive and negative impacts of the scheme and the relative scores (associated with the SEA ratings) will be provided against relevant elements / options.

5) Have any wider resilience benefits been identified for the STT scheme at this stage?


The SEA assessment criteria includes consideration of resilience benefits. For example, SEA objective 3.5 considers “To improve water efficiency through provision of access to a resilient and sustainable supply of water” and objective 8.3 considers: “To secure resilient water supplies for the health and wellbeing of customers”. Assessment conclusions against these criteria were identified and presented for each of the elements and options considered in Gate 1. It was concluded that the STT SRO would provide several major beneficial effects in respect of providing additional water resources. These include:

- Greater resilience to climate change and enhanced reliability of water supplies;
- Supporting economic and population growth by improving the reliability of regional water supplies;

¹ Water Resources Planning Guideline Supplementary Guidance: Environment and Society in Decision Making (separate versions for England (EA) and Wales (NRW)). Draft published September 2020.

- The opportunity for co-benefits, for example enhanced biodiversity value, recreational and/or
- educational benefits;
- Contributing to a more sustainable water resources management system; and
- Creating local economic and employment opportunities during construction works.

The benefits from STT in other areas such as river flood mitigation is limited but will be reviewed further at Gate 2. There may also be opportunities in working with others such as the River Severn Partnership exploring benefits for utilisation of sources for other purposes when not being used for transfer (e.g. to support agricultural sector using Minworth supplies into the River Avon).

Date of response to RAPID	4 th August 2021
Strategic solution contact / responsible person	 askSTT@jacobs.com