

Gate 1 queries process

Strategic solution(s)	Thames to Affinity Transfer
Query number	TAT004
Date sent to company	28/07/2021
Response due by	30/07/2021

Query

1. Have social and economic benefits been explored for this submission? If so, please provide further information.
2. Please provide further information on whether any of the options, or combination of options, for this solution are considered to provide wider best value for customers beyond least cost (see section 10 of the template).
3. Were the NPVs and AICs reported in Table 10 also calculated for the 50 MI/d options? If so, please point us to those calculations.

Solution owner response

- 1. Have social and economic benefits been explored for this submission? If so, please provide further information.**

Yes, the social and economic benefits of the options have been explored in sufficient detail for a feasibility level analysis, as provided at Gate 1. As stated in Section 2.13 all of the transfer options provide opportunity for biodiversity enhancement through habitat creation and also to develop wider socio-economic benefits (e.g. providing programmes on water at local educational facilities). However, at this stage the social, economic and wider benefits associated with the scheme was limited to preparing commentary aimed at differentiating between the options. This information did not provide significant insight into the differences between the options, hence was not extensively developed for Gate 1, but will be explored further for Gate 2, once the regional preferred solution is

confirmed by WRSE. These benefits have not therefore been explicitly included in the scheme at Gate 1, but the opportunity is identified for all the options and will be investigated further for Gate 2 once the footprint and specifics of the chosen option are known.

Essentially water transfer schemes that purely comprise of assemblages of conveyance assistance (e.g. pumps, pipelines, treatment and storage) such as T2AT, are designed to balance the supply and demand of water over large distances. The physical transfer is from an area with adequate water resource to an area where resources are more limited. The scheme will therefore contribute to meeting future growth and increases in demand for water within the supply area and will enable a secure supply of water to customers' homes. The security of water supply will also have a positive impact on local business water users; by reducing the risk of water scarcity to business growth and other sectors during drought.

The T2AT scheme will contribute to the protection of Chalk stream habitats by potentially enabling the future reduction in abstraction from existing Chalk groundwater sources. As well as affecting natural ecosystems, this can also impact the livelihoods of those who depend on these natural resources being available and the recreation and amenity benefits to the local community. There are associated benefits of direct employment, promoting education and skills development and the benefits of deepening stakeholder relationships that will come alongside the construction of the scheme.

Further examples of Programmes and initiatives that could be implemented as part of T2AT scheme to deliver public value are listed as follows:

- For example, Thames Water's 'Time to Give' programme encourages employees to undertake volunteering in local communities, including activities such as river restoration and school engagement.
- For example, the Affinity Water programme that develops community partnerships by introducing new fixed price and a capped Social Tariff for low income customers.
- Providing educational programmes on water at local educational facilities, placing particular emphasis on the benefits of water transfers and the necessity to implement sustainable water infrastructure solutions.

More widely, socio-economic benefits could accrue through:

- Job and training opportunities, particularly in the construction sector. This will occur primarily during the construction period through supply chain benefits generated by the T2AT scheme, together with the spend by construction workers and contractors in local communities.

- Cascading benefits through procurement, by requiring companies in the supply chain to demonstrate how they will provide social value to local communities in executing construction works or operation and maintenance contracts.

2. Please provide further information on whether any of the options, or combination of options, for this solution are considered to provide wider best value for customers beyond least cost (see section 10 of the template).

A clear preference for one of the T2AT options cannot be stated in isolation. The shortlisted options make use of different new sources of water – including raw water storage, inter-basin raw water transfer or effluent reuse. The options are configured to ensure that whatever options forms the best value plan for the south east region, the resources can be shared between Thames Water and Affinity Water if appropriate. Therefore, concluding which of the T2AT options forms the best value for customers cannot be done until the regional best value plan is formed and consulted upon. However, initial preferences may be stated, based upon the comparisons between the 8 options, but these should be treated as indicative only and decisions should not be made based upon the simple comparison between the shortlisted T2AT options in isolation.

As noted in our Gate 1 submission, the option that is considered to provide the best value for customers, in isolation from any contributing factors associated with the new source(s) of the water, would be the Existing Thames Reservoir option – most likely as the 100 MI/d option. Excluding the economic least cost, this option has been analysed to have:

- The lowest construction carbon footprint per unit of water supplied and the second lowest operational carbon footprint (at full capacity),
- The equal best environmental performance, in terms of negative residual impacts across the SEA objectives,
- Very low risk of causing non-compliance under the Water Framework Directive,
- No transmission pathways (under the Habitats Regulations Assessment) by which a Likely Significant Effect on a European site could reasonably occur.
- A relatively high level of resilience through:
 1. Low risk of failure of planned service due to the additional reliability (compared to other T2AT options) provided by the bankside storage (Wraysbury Reservoir), which reduces the likelihood of service failure following outage events.
 2. Enhanced operational flexibility, to account for the additional reliability provided by Queen Mother Reservoir, which can be used as an alternative to Wraysbury, thereby increasing the ability of the option to recover from a failure event.

The Existing Thames Reservoir option also has a relatively low impact on customer and community disruption during construction. This is due to the lower level of new infrastructure required for this option compared to others, enabled through the use of

existing raw water tunnel which minimises the length of new raw water mains required. As noted in Section 8 of our Gate 1 submission, customers do have various concerns about transfers, including cost, construction disruption, environmental impacts, energy use and lack of benefits to local communities. The Existing Thames Reservoir option addresses all of these concerns relative to the other T2AT options.

However, the Existing Thames Reservoir option would need to be delivered in conjunction with SESRO, to avoid any undue derogation of the total raw water storage availability for Thames Water’s customers in London. Should an alternative SRO be selected as the source water for the T2AT under the WRSE regional best value plan for London, then an alternative T2AT option would need to be considered.

3. Were the NPVs and AICs reported in Table 10 also calculated for the 50 MI/d options? If so, please point us to those calculations.

Yes, NPV and AIC values were calculated for the 50 MI/d options. In section 10 of the Gate 1 submission, we presented only the values for the 100 MI/d option, due to page limit constraints and as these provided a representative appraisal of the options.

The equivalent table for the 50 MI/d options has been provided previously in response to query TAT002.

Date of response to RAPID	30/07/21
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