

## Gate two query process

<b>Strategic solution(s)</b>	Severn Trent Sources
<b>Query number</b>	STS009
<b>Date sent to company</b>	24/01/2023
<b>Response due by</b>	Informal Query

### Query

Please can you provide a discussion on the range and impact of uncertainties [relating to carbon] and a plan to mitigate them.

### Solution owner response

The following response has been drafted from a carbon-specific perspective, as confirmed in the email from Katie Coleborn dated 24/01/23.

The range of uncertainties relating to the five options considered at G2 for Severn Trent Sources are demonstrated in ST Sources Annex A4 Carbon Report, Section 3.3 Sensitivity Analysis, which reviews the Net Present Value carbon costs when applying the low, central and high series carbon values, as required by the RAPID G2 guidance. This guidance references the government publication 'Valuation of greenhouse gas emissions: for policy appraisal and evaluation' which acknowledges that:


*There is a significant range of uncertainty in the carbon values derived from any modelling. The differences in carbon price trajectories are often driven by either structural differences in modelling approaches or by differences in underlying scenario assumptions on future evolution of socioeconomic factors (for example, population or GDP forecasts). To capture the full range of uncertainty, a plus or minus 50% sensitivity range has been deemed*

*appropriate around the central series. This is consistent with the previous range used.'*

Mitigation plans are considered in ST Sources Annex A4 Carbon Report, Section 4 Carbon Mitigation Opportunities, where proposals relating to the treatment plant, wetland opportunities, PV arrays, methane capture are discussed. By far, the largest opportunity for reduction in whole life carbon relates to 'non treatment' options that involve the pumping of final effluent flows, or take and put flows, to locations upstream of Netheridge into the River Severn, without tertiary treatment of Netheridge WwTW final effluent.

Discussions are ongoing with the EA regarding the non-treatment options and the potential environmental impacts of these proposals. Further investigative studies are planned in G3 to support these opportunities to mitigate circa 100,000 tCO<sub>2</sub>e of Scope 1 and Scope 2 emissions, and circa 49,000 tCO<sub>2</sub>e Scope 3 emissions over the 80-year lifetime assessment period.

Carbon assessment has followed the ACWG methodology. The Embedded carbon assessment will be further enhanced in Gate 3 following the updated ACWG guidance of 08/08/22. This update came too late in Gate 2 to be fully implemented as discussed at the QLM on 01/12/22.

<b>Date of response to RAPID</b>	08/02/23
<b>Strategic solution contact / responsible person</b>	 <a href="mailto:STSources@severntrent.co.uk">STSources@severntrent.co.uk</a>

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