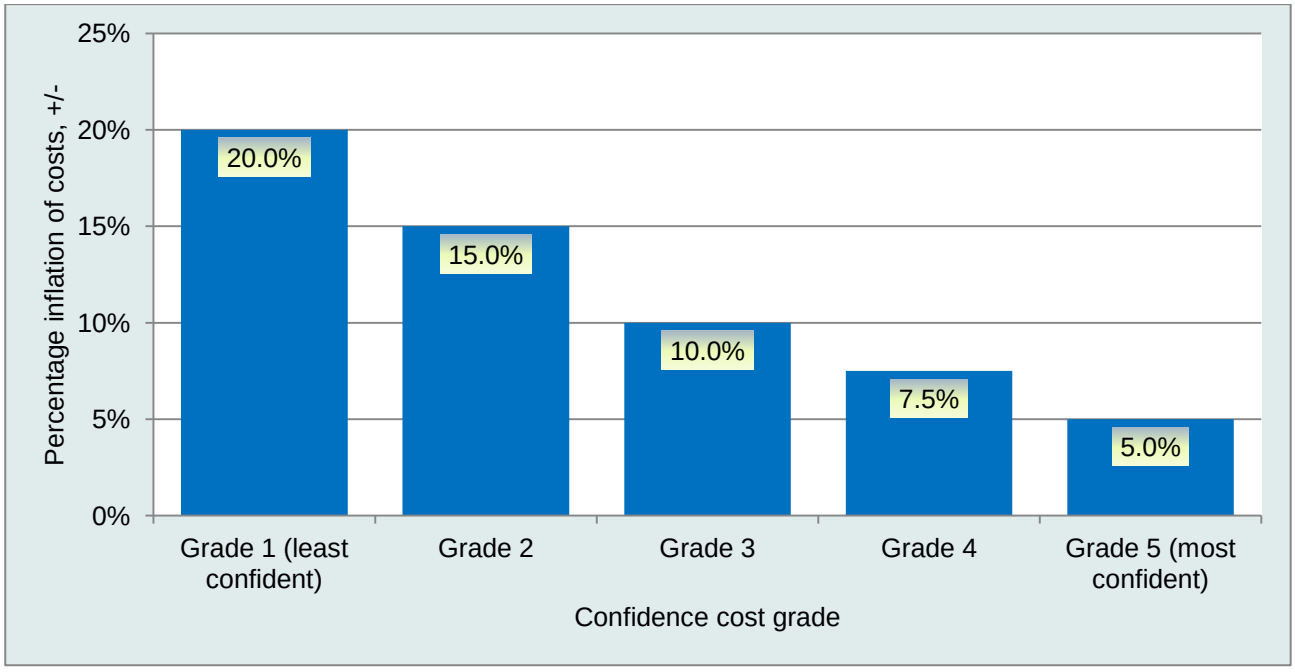
Approach to confidence grades

The table below gives the scope and cost confidence levels that have been assigned to the various categories of SWS AMP5 options, as required by and in accordance with the EA's Water Resource Planning Guidance, Appendix 15 (criteria also reproduced in the appendix to this Technical note). Despite following the WRP guidance, in some circumstances there was some uncertainty over the confidence grade that should be assigned; in these cases the comments in the table below provide more detailed justification for the values used and the associated assumptions made.

Option Type	Scope Confidence	Cost Confidence	Comment
ASR	1	2	ASR has not previously been implemented by SWS, therefore this has been given a level 1 for scope. Cost data has been compiled from dissimilar projects and non-company sources. However SWS does have extensive experience in most components within these schemes (e.g. boreholes, mains, pumping stations), but feel that the scope and cost values should remain as 1, 2 due to the uncertainty of the ASR yield.
Bulk Supplies	5 (4)	4	SWS have considerable experience in developing bulk supply options, with reliable company data available. However, the UTT (Upper Thames Transfer) and Honour Oak options have been assigned a Scope of 4 as they are significantly larger than previous options developed, and therefore have greater uncertainty.
Catchment Management	2 or 1	2 or 1	For the Western Rother option, SWS has carried out similar projects (reservoirs and licence purchases) of a different scale, and costs are from non-company sources and dissimilar projects. For the nitrate removal catchment management options, there is a great deal of uncertainty (and hence these options will be investigated over a long lead time), therefore 1,1
Desalination	1	2	SWS have no previous experience of desalination plants, therefore this option has been assigned a scope of 1, however as desalination is a proven technology, we can have greater confidence in the DOs than the value suggests. Cost data has been compiled from non-company sources and dissimilar projects.
Leakage Management	5	5	SWS is already implementing leakage reduction programmes, therefore has considerable experience in this type of option and reliable cost data is available.
Licence Variation	5	5	SWS have prior experience in similar projects.
Reservoirs	2	3	SWS have not developed any new reservoirs within the last 8 years. Cost data is from non-company sources and previous company projects where applicable.
Surface water abstractions, including bankside storage	5	5	SWS have considerable experience in similar projects with similar scale, and has cost data available. However, JO3a (Pro-active operation of Candover augmentation scheme) has been assigned scope and cost levels of 3 and 4 as it incorporates a new automated operation programme.
Transfers (inter-zonal)	5	4	SWS have considerable experience in developing inter-zonal pipelines options, with reliable company data available.
Groundwater abstractions	4	4	SWS have prior experience in similar projects, with specific cost data available. As a number of these options involve reconditioning of boreholes there will be some uncertainty as to the work required and DO available, they have been assigned scope and cost confidence levels of 4,4.

Option Type	Scope Confidence	Cost Confidence	Comment
Water treatment works	4	3	SWS have prior experience in similar projects. Costs have been defined using some company specific data and some non-company source data, however a greater level of investigation will be required to assess water quality at individual sites and therefore the processes required.
Water Reuse	1	3	SWS have no previous experience of specific water reuse schemes. Cost data has been compiled from non-company sources and dissimilar projects. However SWS does have extensive experience in some of the components within these schemes (e.g. mains and pumping stations).
Water Efficiency	5	5	SWS is already implementing water efficiency programmes, therefore has considerable experience in this type of option and reliable cost data is available.

Southern Water have used the estimates of cost confidence in sensitivity analysis of the preferred planning solution. The costs were inflated/deflated by the percentages set out below for each confidence grade. The results of the sensitivity analysis do not represent the absolute magnitude of investments – the purpose of the cost sensitivity analysis was to understand how changes in relative costs might impact on the final solution set, and thus to inform commentary on the robustness of the least cost options.



The criteria on which the confidence grades were based is summarised in the table below (taken from EA Water Resource Planning Guidelines, October 2012 (pg 192-193))

Criteria	1	2	3	4	5
1. Scope	Company has no previous experience of this type of activity.	Company has had some experience of delivering similar projects, but not within last 8 years.	Company has carried out similar projects but of significantly different scale.	Company has prior experience in similar projects, with similar scale. Company has standard solution/s for this type of activity which has been assessed as providing the least whole life cost solution.	Company has considerable experience in similar projects with similar scale. Company has standard solutions for this type of activity and a process for updating them. It has been assessed as providing the least whole life cost solution.
2. Cost	Cost data is from noncompany sources. Used industry parametric data (e.g. TR61).	Significant use of noncompany sources, costs from dissimilar projects or costs from projects completed more than 8 years in the past.	Company has some company specific data. And some noncompany source data. (eg contractors' estimates with limited or no company specific input).	Cost represents activity where reliable company specific cost data is available (a few data points).	Cost represents activity where reliable company specific cost data is available (reasonable number of data points).