

Annex 10

SENSITIVITY ANALYSIS ON ESTIMATED FUEL CYCLE COST

Parametric calculations have been carried out for fuel cycle cost components in order to estimate the effect of probable price changes. These calculations were performed, for reasons of simplicity, for the reference cases of each option assuming that costs of the main components vary from -50 per cent to +100 per cent. The following main components have been identified as the influential factors of total fuel cycle costs: uranium purchase, enrichment, fabrication and reprocessing for the reprocessing option and uranium purchase, enrichment, fabrication, spent fuel transport/storage and spent fuel encapsulation/disposal for the direct disposal option.

The effects of varying the main unit costs for the reprocessing and direct disposal options are shown in Figures 10.1 and 10.2, respectively. It is clear that the enrichment cost is the most sensitive component for both options. Varying the enrichment unit cost from -50 per cent to +100 per cent (corresponding to varying costs from \$55 per SWU to \$220 per SWU) leads to total fuel cycle costs deviations from the reference values from -15 per cent to +29 per cent for the reprocessing option and from -17 per cent to +34 per cent for the direct disposal option. Nearly equal importance on the reprocessing option total cost has also the reprocessing unit cost.

The fabrication unit cost for the reprocessing option and the spent fuel encapsulation/disposal unit cost for the direct disposal option are the less sensitive unit components of total fuel cycle costs.

Figure 10.1 Effect of parameter on reprocessing fuel cycle costs

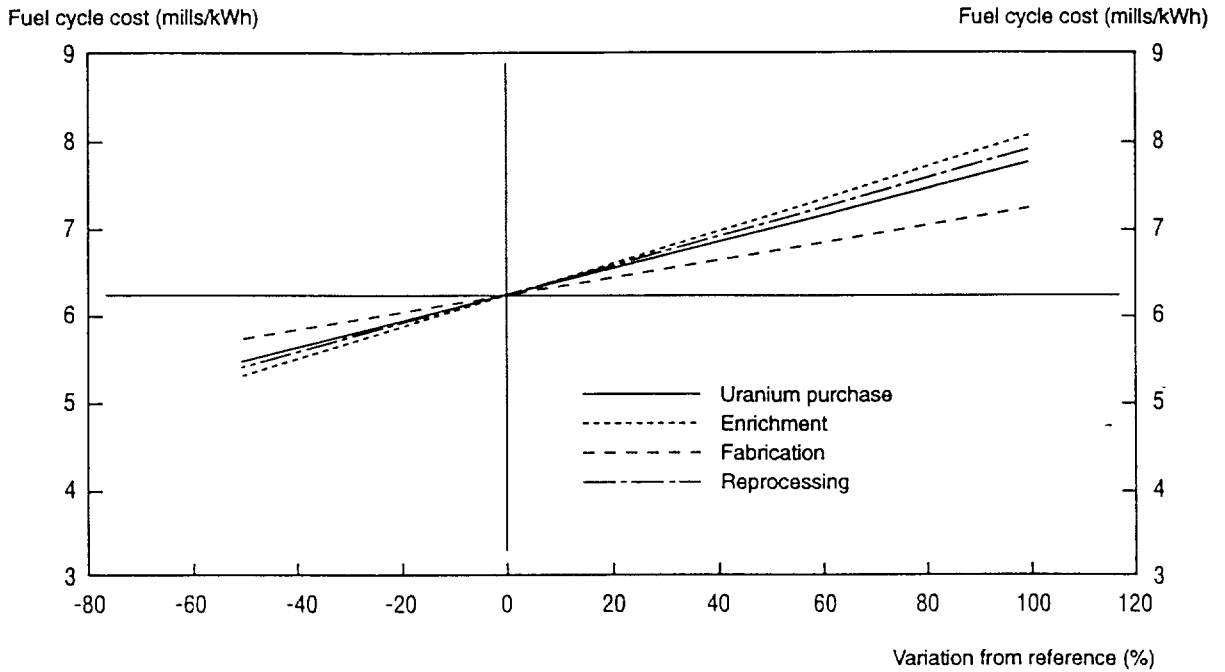


Figure 10.2 Effect of parameter on direct disposal fuel cycle costs

