



Valuing Environmental Impacts: Practical Guidelines for the Use of Value Transfer in Policy and Project Appraisal

Non-Technical Summary

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NON-TECHNICAL SUMMARY

I. Introduction

Background

This document provides practical guidelines for valuing environmental impacts via an approach known as ‘value transfer’. It augments guidance provided by Defra in *An introductory guide to valuing ecosystem services*¹, which seeks to ensure that the true value of ecosystems and the services they provide are taken into account in policy decision-making.

Assessment of the impacts of policies should be consistent and transparent. Cross-Whitehall guidance in the HM Treasury *Green Book*² requires that all new policies, programmes and projects be subject to a comprehensive but proportionate appraisal. This is to ensure that interventions enacted by public sector bodies are in the best interest of society overall and provide a full analysis of potential outcomes. A key component of appraisal is the comparison of the total benefits of a proposal to the full costs incurred by Government and society. Here the *Green Book* requires that all relevant costs and benefits be valued in monetary terms and the net benefit or cost of the proposal be calculated.

Costs and benefits of proposals, typically, are estimated using market prices. Wider social and environmental costs and benefits for which market prices are not available, requires the use of economic valuation methods (which are also known as ‘non-market valuation’ methods).

Value transfer and valuing environmental impacts

There is a substantial body of evidence on the value of environmental costs and benefits. **Value transfer** (which is also known as ‘benefits transfer’) allows existing economic valuation evidence to be applied in a new context, such as estimating the monetary value of environmental benefits associated with a proposed policy. It is typically a quicker and lower cost approach to generating economic valuation evidence, compared to commissioning a specifically designed primary valuation study. Speed and cost make value transfer a practical tool for policy appraisal given the constraints on time and resources available for decision-making. In particular, using value transfer can enable the effort of appraisal to remain proportionate to the proposal as required by the *Green Book*.

However, ‘quick’ and ‘lower cost’ do not mean that value transfer is easy. Judgements are required as to when value transfer can be used and the level of effort that is appropriate. Overall, the more accurate the results need to be, the more effort is required. These guidelines emphasise transparency and the appropriate use of sensitivity analysis to address concerns of accuracy. The role for value transfer promoted by the guidelines is to make the best use of available economic value and other evidence, given the time and resource constraints that limit the scope of the analysis.

¹ Defra (2007) *An introductory guide to valuing ecosystem services*:
<http://www.defra.gov.uk/wildlife-countryside/pdf/natural-environ/eco-valuing.pdf>

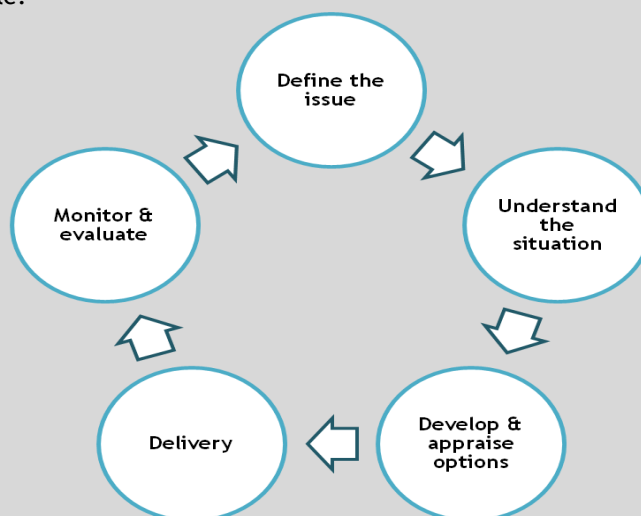
² HM Treasury (2003) *The Green Book: Appraisal and Evaluation in Central Government*, Treasury Guidance, The Stationary Office.

Guidelines for value transfer

The core component of these guidelines is a set of ‘best practice’ steps for value transfer. The primary audience for the guidelines are economists in Central Government and Executive Agencies responsible for estimating the value of environmental costs and benefits of decision-making options. Best practice for value transfer however requires input from policy analysts, scientists and other technical experts to ensure that the analysis and results are formulated to meet the needs of decision-making (**Box 1**).

Box 1: Economic valuation evidence and the policy cycle

Evidence on the value of ecosystem goods and services can be required at all stages in the ‘classic’ policy development cycle:



The stage of the cycle however, may determine the precise requirements for the evidence:

- Improving knowledge - understanding of the significance and magnitude of environmental impacts can be aided by economic value evidence. Here value transfer is well suited to assisting the steps of ‘*define the issue*’ and ‘*understand the situation*’.
- Informing policy decisions - robust assessments of the value of environmental costs and benefits are required for Impact Assessments to ‘*develop and appraise options*’ and inform ‘*delivery*’. In many cases value transfer is an appropriate approach for generating this evidence. In certain circumstances however specifically commissioned primary valuation studies may be preferred over value transfer.
- Reviewing outcomes - assessing the effects of policies and projects in retrospect may also require economic value evidence, which can be generated by value transfer, to judge effectiveness.

Overall, economic value evidence provides one input to the decision-making process; its need and the level of accuracy required should be determined in conjunction with the overall policy context and other types of evidence (e.g. scientific and technical and/or deliberative and participatory, etc.) that are also available. These judgements can only be made on case-by-case basis; key considerations in this regard are highlighted in the guidelines.

The guidelines are intended to assist in:

- Deciding if value transfer is appropriate for a given appraisal;
- Selecting the most appropriate approach to value transfer and applying an appropriate level of effort;
- Selecting the most suitable economic value evidence;
- Implementing the steps of value transfer; and
- Presenting the results of value transfer to inform decision-making.

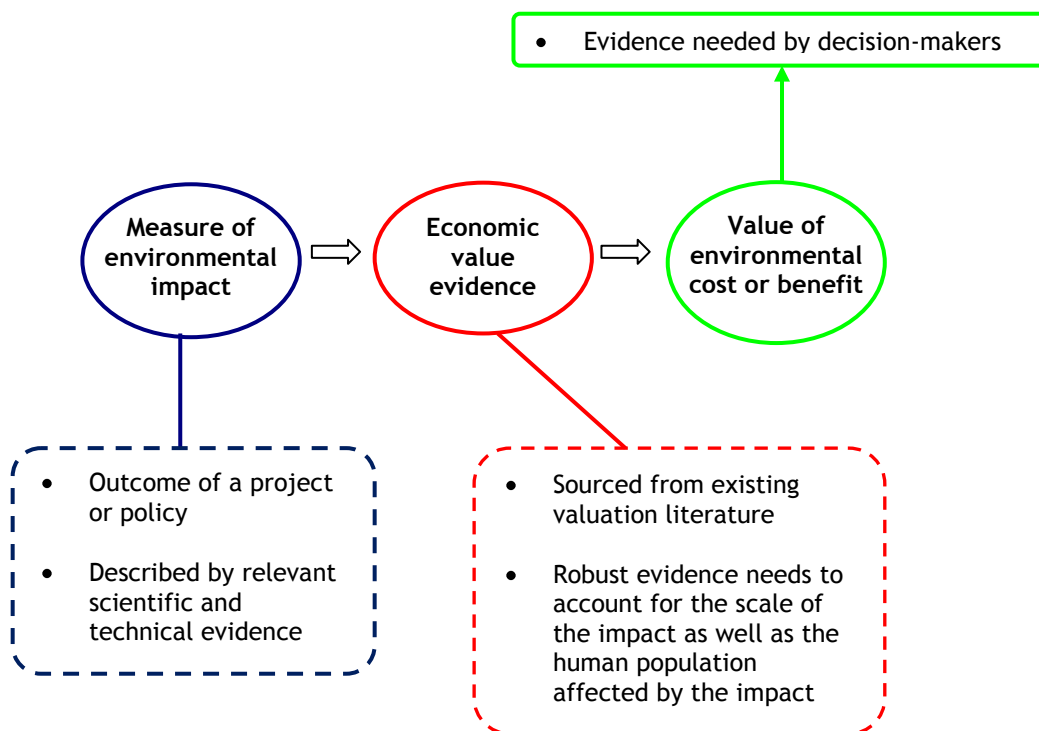
The guidelines apply equally to policy and project appraisal (the assessment of whether an action is worthwhile) and evaluation (the assessment of whether an action was worthwhile).

II. The basic process for valuing environmental impacts

Evidence for decision-making

Economic valuation enables environmental costs and benefits to be directly compared to other project or policy outcomes that are readily measured in monetary terms. A simplified illustration of the value transfer process in generating evidence for decision-making is provided in **Figure 1**.

Figure 1: Value transfer input to decision-making



A hypothetical example illustrates the process presented in Figure 1:

- Policy-makers wish to assess the costs and benefits of proposed regulations for reducing effluent discharges from waste water treatment works.
- Investments by treatment works operators mean that water quality at beaches will improve from 'moderate' to 'good' status - this is based on scientific modelling of water quality.
- Existing valuation evidence reports that value of the change from 'moderate' to 'good' status water quality is £5 per person per beach visit.
- The total economic value of the improvement in water quality at beaches - the value of the environmental benefit of the policy - is estimated by multiplying £5 per person per visit by the number of visits to beaches. This product is then summed over the time period that the improvement in water quality is sustained.

This example over-simplifies a process that can involve detailed scientific and economic analysis and expert and stakeholder consultation. However, it conveys the main elements of the economic valuation 'process' that needs to be understood by all involved in the appraisal of project and policy proposals.

III. Practical steps for value transfer

Value transfer guidelines steps

The guidelines present an eight-step approach to value transfer, which is illustrated in **Figure 2**. This highlights the tasks for economists undertaking the analysis and the input needed from policy analysts, scientists and other technical experts. This is to ensure that the appropriate level of evidence is generated for decision-making.

The steps illustrated in Figure 2 follow a logical process that requires:

- Policy analysts and economists assess the policy question and evidence needs and determine if value transfer is an appropriate approach in that setting (Step 1).
- Policy analysts, scientist and other technical experts assist economists in collating and understanding evidence (e.g. from scientific studies) on the expected impacts of a policy or project (Steps 2 & 3).
- Economists carry out the value transfer analysis. They ensure estimates of the value of environmental costs and benefits are robust and key sensitivities are identified and tested with input from policy analysts, scientist and other technical experts (Steps 4 to 7).
- Economists report results for use by decision-makers, ensuring all involved in the process are informed of the key assumptions and limitations of the analysis (Step 8).

In practice the analysis will not always follow a linear progression through the eight steps. Typically an iterative process can be required through Steps 2-4 where supporting data and information are refined as understanding of the environmental impact to be valued and availability of valuation evidence improves.

Figure 2: Practical steps for value transfer

