

New to economic valuation and value transfer?

Economic Values in IWM Evaluation – May 2023

Economic Values in IWM evaluation factsheets provide planners with guidance on the selection of values for estimating the economic value of benefits derived from integrated water management (IWM) projects. These Fact Sheets assume users have some familiarity with using economic values in IWM evaluation, and the benefit value transfer approach. If you are new to using economic evaluation for IWM evaluation, or are looking for a refresher on these concepts this factsheet recommends useful resources and tips.

This is a joint initiative between Melbourne Water, Greater Western Water, South East Water, Yarra Valley Water and Barwon Water in supporting a common IWM evaluation framework.

Guidance on economic evaluation

If you are new to using economic values in IWM evaluation and value transfer, or are looking for a refresher on these concepts, we recommend you review the guidance on valuing non-market impacts in economic assessments developed by the Victorian Department of Economic Development, Jobs, Transport and Resources and / or the guidance on shown below .

This practical and relatively short resource includes sections on Introductory Concepts, Benefit Transfer and step-by-step guidance for working through how to include non-market impacts in economic assessment.

You can access this free resource at [DEDJTR Guidance-on-valuing-non-market-impacts](#)

How to evaluate economic values in IWM evaluation in 'today's dollars'?

All of the economic values in these fact sheets need to be adjusted to today's dollars (i.e. the year of your evaluation).

It is essential that the costs and benefits used in an economic analysis are compared on an equal footing. This means all costs and benefits should either include or exclude inflation. When transferring values from the fact sheets you will need to make this adjustment to include or exclude inflation yourself.

Typically, cost benefit analysis is undertaken using a real discount rate (i.e. excluding inflation). This means that the discount rate applied does not consider how the value of money will change into the future due to inflation. Instead, all costs and benefits, both now and in the future, are presented in 'today's dollars'.

With 'today' representing the year of the analysis.

For example, imagine an IWM business case is being prepared in 2023 to consider the costs and benefits associated with a recycled water project. It is proposed that the project will be constructed in 2025. The cost estimate for the project was prepared in 2019 and the potable water saving benefits due to the project are expected to be realized in 2030.

This project's costs and benefits should both be expressed based on their value in 'today's dollars', i.e. in real dollars based on the year of the analysis (in this case 2023). This means that the:

- Cost estimate from 2019 needs to be adjusted to reflect the inflation from 2019 to 2023. This can be done based on the Consumer Price Index (CPI) published by the Australian Bureau of Statistics (ABS), by using the Reserve Bank of Australia's Inflation Calculator or the ESC's CPI converter (2021)¹.
- If the Long Run Marginal Cost (LRMC) is used to monetize the potable water savings during early feasibility assessment, it should be adjusted to reflect the inflation. For example, if the LRMC is in \$2019, it therefore needs to be inflated to \$2023.

Useful resources on economic evaluation

SEVT (2021) Social and Environmental Values Table, developed by Marsden Jacob Associates for Melbourne Water Economic Benefit values for recommended for the Melbourne context

CRC Water Sensitive Cities Economic evaluation resources (found at <https://watersensitivecities.org.au/research/our-research-focus-2016-2021/integrated-research/irp2-resources/>)

- Pannell, D.J. (2019). Benefit: Cost Analysis and strategic decision making for water-sensitive cities, Cooperative Research Centre for Water Sensitive

¹ For the ESC CPI converter

Cities, Melbourne (excellent guidance on the why and how to prepare cost benefit analysis for better whole of community outcomes).

- Iftekhar, M.S, Gunawardena, A., Fogarty, F., Pannell, D. and Rogers, A. (2020). INFFEWS Value tool: Guideline (Version 3): IRP2 Comprehensive Economic Evaluation Framework (2017 – 2019). Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities (An overview on the use and selection of non-market values for benefit transfer).
- Iftekhar, S, Gunawardena, A, Fogart, J.(2018) INFFEWS Value Tool Benefit:Cost analysis of urban water and green infrastructure projects (version 2019-12), Cooperative Research Centre for Water Sensitive Cities.

WSAA (2019) Willingness to Pay: Principles for a robust study, August 2019, prepared by Marsden Jacob Associates and Centre for International Economics for Water Services Association of Australia.

Case studies using benefit valuation

Blackmore, L., Iftekhar, S., and Fogarty, J. (2019). Subiaco Strategic Resource Precinct Case Study: Non-Market Valuation of Recycled Water – Final Report (Draft). Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities

CRCWSC (2020) INFFEWS Benefit Cost Analysis Tool: Booklet of applied examples Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities

Iftekhar, M. S. and Polyakov, M. (2019). Assessment of nonmarket benefits of WSUD in a residential development: Belle View case study. IRP2 Comprehensive Economic Evaluation Framework (2017 – 2019). Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities

Iftekhar, S., Polyakov, M. and Rogers, A. (2020). Assessment of social preferences of water sensitive housing features. Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities

Iftekhar, S., Polyakov, M. and Rogers, A. (2020). Assessment of nonmarket benefits of implementing largescale WSUD: Greening the Pipeline Case study Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities

Morgan, C. (2021). *INFFEWS worked example: Princes Park Stormwater Harvesting* Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities.

Petersen, E (2020). INFFEWS application: Proposed Blacktown green roof demonstration project.

Petersen, E (2020). INFFEWS application: Ideas for a Waterwise Queens Park Regional Open Space.

Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities. Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities.

Whiteoak, K and Saigar, J (2019). Estimating the economic benefits of Urban Heat Island mitigation– Economic Analysis. Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities

Information on potable water avoided costs and LRMCs

Melbourne Water, 2020b, Briefing note – Guidance on Melbourne water supply costs and investment evaluation for long-term planning, January 2020, File name: 2020 MWC Bulk Water supply cost guidance -January20.pdf
Melbourne Water, 2020c, Bulk Water Supply Costs Calculator (BWC_version 21) for future centralised infrastructure planning: Quick reference guide v21, File name: 2020 BWC_v21 cost analysis instructions_rev200619.pdf

Melbourne Water, 2020a, LRMC 2020 reference values, File name: 2020-05-14 Memo on Table of LRMC reference values for RWCs.pdf

Melbourne Water. 2018. Methodology for estimation of headworks and desalinated water costs and long run marginal costs for planning. February 2018.

Need more information?

The Metropolitan Investment Evaluation Group (MIEG) is an IWM economic valuation community of practice within Metro Water utilities. This is a group of people who regularly work with IWM economic evaluation. You can contact your MIEG representative if you have questions about these Fact Sheets, how to apply them or access to the recommended resources.

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