

INFFEWS

The CRC for Water Sensitive Cities commissioned an Integrated Research Project ([IRP2](#)) to undertake a Comprehensive Economic Evaluation Framework. The IRP2 team developed a set of tools and resources referred to as the **Investment Framework for Economics of Water-Sensitive Cities (INFFEWS)**, which includes a Benefit: Cost Analysis Tool, a Value Tool, and detailed resources to guide their application and decision making processes.

The INFFEWS Benefit: Cost Analysis (BCA) Tool

The INFFEWS BCA Tool has been developed to assess investments for water-sensitive cities. It supports balanced and systematic decision making and provides evidence for use in business cases. The tool is fully consistent with BCA guidelines prepared by Australian governments. Three different groups of users, with different needs, are envisaged for the tool; experienced economists, non-economists who have been trained, and managers who wish to understand BCA better. In the INFFEWS BCA Tool, the specification of benefits is highly flexible, and can deal with any type of benefit likely to emerge in a project related to water or green infrastructure. A government agency can focus on benefits and costs for society as a whole, whereas a business, such as a water utility, may choose to focus on benefits and costs to the organisation responsible for the project. It can be used by any organisation interested in the distribution of benefits of a project or investment among multiple stakeholder groups.

Features of the INFFEWS BCA Tool

- Flexible and easy to use (available in excel spreadsheets)
- Comprehensive cost assessment, including capital, operational and maintenance costs
- Use of market values and non-market values (sometimes referred to as intangible benefits)
- Capacity to select up to 4 stakeholder organisations (beneficiaries and/or contributors);
- Automatically generates a range of Sensitivity Analysis results, including Monte Carlo and break-even analysis;
- Systematically asks the user to quantify the project risks;
- Inclusion of “with project” versus “without project” scenarios;
- Allows for multiple benefit types, including introduction of staggered and phased benefits;
- Built-in logical consistency checks to flush out any biased responses;
- HELP videos installed throughout the tool and examples provided in the User Guide;
- Drop down and pre-populated menu options;
- The facility to record the sources for each item of data included in the analysis to ensure transparency about the assumptions used;
- The facility for reviewers to comment on each part of the analysis, and for the analyst to respond to those comments;
- A useful summary report of the BCA results.

Components of the INFFEWS BCA Tool

1. Benefit: Cost Analysis and Strategic Decision Making
2. Rough BCA Tool (spreadsheet & guidelines)
3. BCA Tool Spreadsheet
4. BCA Tool Guidelines
5. BCA Tool User Guide
6. BCA Comparison Tool
7. BCA Tool Training Resources

INFFEWS Value Tool

The INFFEWS Value Tool is a comprehensive database of dollar values for non-market benefits generated by water sensitive systems and practices, and includes a set of user guidelines that explain how the information in the database can be used to support business case development using benefit transfer. Some original non market valuation studies have been conducted to test the tools and framework.

The current version of the INFFEWS Value tool contains over 2000 non-market benefit values from 164 Australian studies that are specifically related to investment in water sensitive systems and practices.

There are over 20 different benefit types represented, with a spread of values available, including ecological improvement and biodiversity; reduced recurring costs; improved security of water supply; reduced morbidity/improved health from extreme heat; and improved aesthetics.

Features of the INFFEWS Value tool:

- A comprehensive list of up-to-date values related to water sensitive cities in Australia
- Information organised in an excel spreadsheet-based database
- Compatible with Windows and Mac operating systems
- Easy to use filters and search functions to identify relevant values
- Benefit values classified in a range of ways to assist with identification of relevant benefit types
- Supporting information about the source of the value and details of the method used
- Direct weblinks and full citation of all original studies
- Indication on the level of robustness of the original study based on the review process
- 10 value functions and look-up tables to assist with benefit transfer
- A Decision Tree that provides a quick summary on how to use the tool
- Comprehensive Guidelines on how to navigate the tool and benefit transfer applications
- Comprehensive fully worked examples that demonstrate how to use values from the database and apply these values to new contexts.

Access to INFFEWS

INFFEWS BCA file is available for all to access. However, each individual must register for a copy. CRCWSC members can download a copy from the [INFFEWS BCA Tool](#) website, and anyone can complete the [Request for Access to INFFEWS](#) online form to be emailed a copy of the file.

INFFEWS Value Tool file is available to CRCWSC Participant organisations only. CRCWSC members can download a copy from the [INFFEWS Value Tool](#) website. Temporary access for non-members can be arranged by contacting inffews@crcwsc.com.au

Any questions or feedback should be sent to the CRCWSC via email: inffews@crcwsc.com.au

Links to INFFEWS Resources

- Iftekhhar, M.S, Gunawardena, A., Fogarty, F., Pannell, D. and Rogers, A. (2019). [INFFEWS Value tool: Guideline \(Version 2\): IRP2 Comprehensive Economic Evaluation Framework \(2017 – 2019\)](#). Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities.
- [Benefit: Cost Analysis and Strategic Decision Making](#) (pdf document): Covers BCA basics, guidance on strategic issues related to BCAs, and use of economic information, including BCAs, in strategic decision making.
- [Rough BCA Tool - Guidelines \(word document\) and spreadsheet \(excel\)](#): for a “Rough” BCA. This responds to the need for a very simple tool that captures the essence of BCA. It can also be useful as a first step towards conducting a full BCA.
- [BCA Tool Guidelines](#) (pdf document): Explains the structure and elements of the BCA Tool; information requirements and judgements needed to apply the tool; and suggested strategies for obtaining data for different parts of the tool.
- [BCA Tool User Guide](#) (pdf document): Provides a step-by-step process for entering the required information into the BCA Tool. Includes a template for capturing the qualitative aspects of that information.
- [BCA Comparison Tool](#) (zipped excel): Makes it easy to compare the results from BCAs for multiple projects, or different versions of the same project.
- BCA Tool Training Resources, including a [series of videos on economic evaluations](#)
- [INFFEWS Benefit: Cost Analysis Tool. Industry Note](#). Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities.
- Iftekhhar, M.S., and Polyakov, M. (2019). [Assessment of non-market benefits of WSUD on a residential development: a case study. Industry Note](#). Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities.
- Gunawardena, A., Zhang, F., Fogarty, J., Iftekhhar, M. S., (2017). [Review of non-market values of water sensitive systems and practices: An update](#). Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities.
- Catchlove, R. (2020). [Constructing business cases for water sensitive investments: a handbook for local government](#). 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.