



## Key insights for INFFEWS users

IRP2

The CRCWSC has developed a comprehensive economic evaluation framework to identify and quantify economic, environmental and community values of investments in water sensitive systems and practices. The Investment Framework for Economics of Water Sensitive Cities (INFFEWS) is being adopted by industry and government nationwide (120+ organisations) and the early adopters have provided some insights on their applications.

The CRCWSC's economic evaluation project ([IRP2](#)) has developed [INFFEWS](#), which includes a Benefit: Cost Analysis (BCA) Tool, a Value Tool, a Rough BCA Tool, a Comparison Tool and detailed resources to guide applications and decision making processes.

INFFEWS has been applied to several existing and proposed projects across Australia, providing a structured approach that facilitates transparent, evidence-based decision making. These industry-based applications highlight 9 key insights to help future users avoid common pitfalls and to make INFFEWS easier to use and improve outcomes. In compiling these insights, interviews were carried out with several users.

### 1 Don't rush the process

Often BCA is conducted within tight timeframes, but experience shows rushing the process can lead to inaccurate results. Take the time to think through the breadth of benefits and costs associated with a project, estimate their magnitudes, and make sure there is no double counting.

Similarly, take your time when using the Value Tool to quantify non-market values. It is easy to settle too quickly on a number without exploring the full impact of a project and how these effects can be measured. Allowing time to consider several data sources and recording explanations and justifications leads to more accurate results, and assists with the peer review process. And when you cannot estimate non-market benefits with confidence, include them as text in the BCA so they are not ignored.

### 2 INFFEWS works best when the process is open and consultative

A good BCA relies on good quality data and well-founded assumptions. BCA outputs are better when the process is consultative, information comes from multiple sources and is cross-checked, and the underlying assumptions are supported by relevant stakeholders. Consultation not only improves the quality of inputs to the BCA, but it also generates additional positive outcomes such as developing relationships between diverse stakeholders, facilitating greater acceptance of recommendations, and improving empowerment in the decision making process.

### 3 Attend an INFFEWS training course if using the package for the first time

The first time you use INFFEWS can be daunting. So that you're not overwhelmed, we recommend you attend a training course. This will also decrease learning time, help to avoid mistakes when applying it, and enhance the quality of the analyses. The benefits of a training course are even greater if you attend the course while completing your first application, so you can ask questions specific to the project.

### 4 Seek help and peer review from experienced users

As well as accessing the detailed supporting documentation, we encourage users from all levels of experience to seek help and advice from other users while applying INFFEWS. This will help you think through how a project will be evaluated using INFFEWS, as well as answer particular queries. The INFFEWS Basecamp forum facilitates a community of practice and is a great way to seek timely advice from a wide range of INFFEWS users.

Independent peer review by an experienced economist is an important part of the INFFEWS quality assurance checklist, and for inexperienced users, this peer review process is essential before presenting the results to stakeholders. We have a list of [recommended INFFEWS Providers](#) who can be engaged for peer review and other support, if needed.

## 5 Clearly define the 'with project' and 'without project' scenarios

It is important to clearly understand the difference a project will make relative to the 'without project' scenario. One of the most common mistakes in BCAs is to poorly define the 'with project' and 'without project' scenarios. A poorly defined 'with project' scenario may generate results that are not logically consistent (i.e. the estimated benefits and costs of the project do not reflect the works and actions proposed). A poorly defined 'without project' scenario means you end up using an unrealistic baseline to assess the project's benefits. In particular, conditions may change over time even without the project, and you must account for this. In most cases, it is not suitable to define the baseline as the situation before the project is implemented.

Don't be over-optimistic about the benefits of a project. Take care not to include benefits generated by other resources or infrastructure. For example, new infrastructure in a suburb may not increase recreational opportunities if the area is already well served with recreational opportunities (any users of the new facilities are likely to substitute away from existing facilities). And when estimating avoided costs, make sure the cost would actually have been incurred without the project.

## 6 Don't double count benefits and costs

Take care to avoid double counting both benefits and costs, because it's not always obvious. For example, when a project generates multiple types of benefits and they are measured differently, there is a risk that the different measurement techniques will capture the same benefits. One example is using a survey to measure recreational benefits and then using the change in house prices to measure improved amenity values. But, the change in house prices could also reflect recreation benefits. Unfortunately, it is usually not possible to disaggregate the benefits measured in non-market valuation studies into their constituent parts, so be conservative to reduce the risk of double counting. Another example is to include any rise in property value as a one-off benefit, rather than as an annual benefit.

When estimating costs, don't include interest payments and depreciation on capital because they are already captured through the discounting process (although, you do need to include maintenance costs). Also, make sure to assign costs to only relevant parties and not double count.

## 7 Check the information on start and end years, base year, and duration of analysis

Check the benefits and costs are entered into the correct years in the BCA Tool. You can check this in the sheet called "12. Detailed results". It is easy to incorrectly specify the start and end years for parameters, especially for a detailed project. If a benefit or cost occurs in one year only, the start and end year should be the same.

After selecting the start year, enter numbers as real values (adjusted for inflation to the same base year – usually the present). It is important that all projects that are going to be compared have the same timeframe (start year of analysis and length of analysis) and discount rate in the BCAs.

## 8 Present both the Benefit Cost Ratio (BCR) and Net Present Value (NPV)

When determining whether to fund a proposed project, the decision making organisation may use either the BCR or the NPV. As a rule of thumb, the BCR should be used to rank projects when funding resources are limited, and either BCR or NPV can be used to assess whether overall benefits exceed costs. It is good practice to present both the BCR and NPV in project results to give the project organisation flexibility in their decision making process.

## 9 Check the robustness of the analysis

When considering the results of a BCA, decision makers need to know how robust the results are. INFFEWS has a built-in capacity to conduct comprehensive sensitivity analysis. It provides information on the distributions of the BCR and NPV and also how sensitive results are to key assumptions and parameter values.

## Case study applications

A [webinar recording](#) is available where two industry INFFEWS applications were presented by [Urbagua](#) and [E2DesignLab](#) and these insights were discussed with a panel. Further, the IRP2 team reviewed 4 industry-led applications, which are available to Participants to access. Once logged into the CRCWSC website, visit the [BCA webpage](#).

## Further information

- Visit the IRP2 website: <https://watersensitivecities.org.au/content/project-irp2/>
- Overview of [INFFEWS](#)
- Join the online INFFEWS Forum. To join, please email: [inffews@crcwsc.com.au](mailto:inffews@crcwsc.com.au)
- Subscribe to [Pannell Discussions](#), in particular, see blog #322, #323 and #324 to learn when to use the BCR or NPV.

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