

OpenBCA FAQ

How to use this FAQ

Questions are numbered so users can reference a specific item in [GitHub](#) discussions or Technical Support Office Hours. The FAQ will be updated on a regular basis as questions and answers are updated or added. For additional support, see the Technical Assistance tab on NASEO's OpenBCA webpage.

1. Download and Launch

1.1. How do I download and launch OpenBCA on Windows or macOS?

Download the release package for your operating system and the two Excel input templates from the OpenBCA webpage or GitHub repository. Save the package to an approved local folder, extract the entire ZIP package, keep the application and supporting internal files together, and launch the OpenBCA application from the extracted folder. Do not run the application from inside the ZIP file.

1.2. What should I do if the application will not launch?

Confirm that you downloaded the correct operating-system package, fully extracted it, and kept all supporting files with the application. Organizational security controls may block downloaded executables, locally bundled Python components, or local file access. If the issue continues, provide the exact warning or error message to your IT department and direct them to the OpenBCA IT Requirements and Technical README resources.

1.3. Does OpenBCA require an internet connection or send my input data externally?

OpenBCA is designed to run on the user's local hardware without requiring an internet connection for model execution. An internet connection is needed to download the application and supporting materials. Follow your organization's data-handling and IT requirements.

1.4. Is OpenBCA supposed to run through a web browser?

OpenBCA's user interface is built using Streamlit, which is a web-based application framework. If you're using the standalone .exe from the GitHub repository, the application should automatically launch and open the OpenBCA interface in a new application window. If the interface does not open automatically, look for the localhost URL displayed when the application starts (for example, <http://localhost:8501>). Copy and paste that address into your web browser to access the OpenBCA UI manually. Should you have trouble downloading the application, check the IT requirements posted on the NASEO OpenBCA webpage.

2. Prepare the Excel Inputs

2.1. What is the difference between the two input files?

The Configuration File defines how impacts are valued, including global assumptions, value streams, calculation methods, avoided costs, temporal granularity, and subsets. The Program Input File defines what is being evaluated, including program and measure data, participation, savings, costs, useful lives, and load shapes. Both files are required.

2.2. Which file should I complete first?

Begin with the Configuration File. Complete the global assumptions and value-stream setup, generate the required value-stream tabs, and enter the system-level data. Then use the Build Program Input macro, which opens the Program Input File and creates the required load-shape structure. Complete program-level inputs first, followed by measure-level inputs and load shapes.

2.3. Can I rename the files or modify the workbook structure?

Keep the original filenames, .xlsm extensions, worksheets, columns, and required headers. To manage versions, store copies in separate date-stamped folders rather than renaming the active files. Use the provided macros to generate required worksheets instead of adding or renaming them manually.

2.4. What if I do not have the most granular load shapes?

The savings data must support the highest temporal granularity used by the applicable avoided-cost value streams. OpenBCA does not convert lower-resolution savings data into higher-resolution profiles.

2.5. Can OpenBCA develop avoided costs or other assumptions for me?

No. OpenBCA applies user-provided assumptions and data; it does not generate jurisdiction-specific avoided costs, define policy objectives, or determine which value streams should be included. Consult the NSPM, MTR Handbook, relevant planning studies, and other appropriate sources when developing inputs.

2.6. Can the tool incorporate T&D deferral value instead of avoided costs, if required? If not, would that require a code modification or a more significant enhancement?

Yes, if the T&D deferral values are provided as inputs over the applicable time horizon, they can be incorporated into the analysis. See User Guide and training videos on the NASEO website for how to tailor inputs for your type of analysis.

2.7. While the tool is designed to support an NSPM-based jurisdiction-specific test (JST), can I use OpenBCA to model traditional cost tests (like the Utility Cost Test, Total Resource Cost Test, or Societal Cost Test)?

Yes, you can use the tool to align with traditional cost tests (or some modified version of them) by configuring the and benefits to align with the current design of your state's test. However, users are encouraged to consult the NSPM to guide cost-effectiveness testing practices in your jurisdiction(s) to ensure fundamental principles are applied. For some tests you may need to use the custom value stream option to capture all the relevant values.

2.8. Can the tool be used to model the Rate Impact Measure (RIM) Test?

NSPM guidance distinguishes between the purpose of BCAs from the purpose of a rate impact analysis. A BCA answers the question of whether benefits will outweigh costs from a chosen perspective (e.g., regulatory, utility system) because of an investment. A rate impact analyses address whether electricity and/or natural gas rates will go up or down (e.g., for all customers, participants, or non-participants) as a result of an investment. These analyses should not be convoluted, and as such, OpenBCA does not explicitly include a RIM test option. However, users can select the custom value stream option to capture (e.g., lost revenues) and develop a run to model the equivalent of a RIM test if a jurisdiction is required to or finds value in directionally understanding the impact.

2.9. Does OpenBCA check for symmetry across included benefits and costs?

Not currently. This is something that may be added in a future version, but for now, ensuring symmetry is the user's responsibility. Consideration was given to building in automatic guardrails, but this created problems for legitimate use cases in the current version. For example, a user might want to configure a set of calculations to isolate and test the impact of a single value stream, which a strict symmetry enforcement would prevent. Future OpenBCA versions may enable over-riding symmetry guardrails. Users should reference the OpenBCA User Guide and the NSPM for best practice on

configuring their JST and conducting BCA more generally, including guidance on maintaining symmetry between benefits and costs.

2.10. Does OpenBCA have preloaded load shapes/impact profiles? Where do they come from, how can users upload new load shapes/impact profiles, and what data are needed for hourly or locational analyses (e.g., node-specific LMPs in constrained areas)?

OpenBCA includes illustrative example load shapes, but these are provided only as demonstrations and are not intended for production use. Users are expected to enter their own electric and natural gas load shapes in the Program Input File. The workbook includes macros that help ensure load shape inputs and system valuation inputs are aligned to the same temporal granularity.

For hourly or locational analyses, users must provide both the DER impact profile and location-specific value stream data at the same level of granularity. For example, evaluating benefits using hourly LMPs requires an hourly load shape (or resource profile) and hourly LMP data for the relevant node or zone.

2.11. Can OpenBCA handle location-specific distribution (and potentially transmission?) impacts. How does this work and can a user enter say, feeder level, impact information?

The user can define different subsets for value stream inputs, and then assign measures to those subsets based on, their location. Each subset can have unique avoided costs for any or all of the value streams. The standalone pathway allows for up to 4 of these subsets. Therefore, feeder level is probably too granular for a straightforward use case, but you could do "high", "mid" and "low" constrained areas.

2.12. Does OpenBCA consider front-of-the-meter (FTM) distributed generation resources? For example, could the tool analyze the value of FTM distributed generation as a peak shavings resource or other values?

Yes. OpenBCA was primarily designed for a variety of distributed energy resources, the framework is flexible and can be applied to FTM distributed generation if the resource impacts can be represented through the available input structures and value streams. For example, FTM DG could be evaluated for benefits such as peak demand reduction, avoided capacity costs, T&D deferral, reliability, or other applicable value streams. The feasibility depends on the specific use case and the availability of appropriate input data.

3. Upload and Validate

3.1. How do I upload the input files?

On the OpenBCA Home Page, select Browse Files, choose the completed Configuration File and Program Input File, and select Upload Selected Files. Confirm that both files upload successfully before selecting Validate Input Files.

3.2. What does validation check?

Validation checks technical and structural requirements, including required global and row-level parameters, unique program and measure IDs, mappings between measures and load shapes, and consistency between avoided-cost and load-shape granularity.

3.3. What should I do if validation returns an error?

Read the full message and identify the affected file, worksheet, field, program, measure, or value stream. Correct the issue in Excel, save the workbook, re-upload both files, and run validation again. Do not run the model while validation errors remain.

Important: Successful validation confirms that the input files meet the tool's technical requirements. It does not confirm that assumptions are reasonable, current, or aligned with jurisdictional policy.

4. Run the Model

4.1. How do I run OpenBCA?

After both files have been uploaded and validation has been completed without errors, select Run OpenBCA. The model processes the configured value streams, program inputs, measures, and load shapes according to the defined Jurisdiction-Specific Test. After a successful run, proceed to Insights & Analysis.

4.2. What should I do if the model does not run successfully?

Review the complete error message. Correct the identified issue in the Configuration File or Program Input File, save the files, re-upload both workbooks, rerun validation, and then run the model again. If the issue remains, retain the error message and a screenshot for Technical Support Office Hours.

4.3. Is there a way for the output to show a variety of BCA tests? (e.g., could a user look at the results of a JST vs a UCT for the same program in the output?)

The current OpenBCA user interface version does not have this capability, but you can do so by running multiple configurations: Set up two sets of input files - one for each test - and run them separately through OpenBCA.

The cost treatment settings let you toggle between utility system impacts only (for UCT), or utility system impacts plus non-utility system impacts (e.g., which could be a JST and/or a traditional cost test like a TRC or SCT). Alternatively, you can enter all of your data once and toggle individual value streams on or off, which lets you configure multiple cost-effectiveness tests using the same underlying set of files.

4.4. What is the runtime for OpenBCA, and to how might the size of the input worksheet (e.g., number of measure rows) affect how long the model takes to run?

Runtime depends largely on the computer's specifications, since OpenBCA runs on your local computer or server. In practice, workbook size and Excel performance tend to be the primary constraints, and most users are unlikely to encounter limits based on row count alone. As the number of measures, value streams and input records increases, processing times may increase, but the tool will typically begin to encounter Excel-related performance limitations before row count itself becomes the bottleneck.

5. Review and Export Results

5.1. What results should I review first?

Begin with total benefits, total costs, net benefits, and the benefit-cost ratio. Then review program-, measure-, subset-, and value-stream-level results to understand the drivers of the overall outcome and confirm that all expected elements are represented.

5.2. Can I download and revise the analysis?

Yes. Results can be reviewed in the interface and exported for further analysis and reporting. OpenBCA supports an iterative workflow: update the assumptions or program data, document the revision, and then upload, validate, and rerun the revised files.

5.3. What should I check if results appear unreasonable?

Review units and sign conventions, participation, program and measure costs, useful lives, NTG assumptions, annual savings, load-shape assignments, avoided-cost units and timing, discount and inflation rates, subsets, and value-stream configuration. A successful run does not guarantee analytically reasonable results.

5.4. For fuel substitution programs or projects, is there a feature that allows one to determine whether the program or project produces positive net BTU savings (i.e., can kWh savings in OpenBCA be converted to BTUs)?

OpenBCA is not currently designed to convert electric kWh savings to MMBtus in order compare electric and natural gas impacts (e.g., for an electrification program). Users can, however, export savings results (kWh for electric, MMBtu for other fuels) and do the conversion in a separate spreadsheet.

5.5. Does the tool allow for easily exporting tables and results?

Yes, figures can be exported as an image, tables can be exported as a CSV file.

5.6. Are there any outputs for non-monetary impacts (kWh, peak demand, gas MMBtus, etc.)?

Yes. You can pull either the dollar benefits or the underlying energy impacts, such as kWh savings, directly from OpenBCA. The Summary Results table include energy impacts (e.g., electric lifecycle kWh savings) tied to each input row. For more technical users, the actual output of OpenBCA is a .db file, which be loaded into a SQL engine to query all outputs directly. See the README in the GitHub repository for the structure of the output tables.

5.7. Is there a way to share the running application's output screens (Insights and Analysis dashboard) with colleagues in real time, outside of screen sharing through a third party like Zoom. If not, is this something being considered in the near future?

Currently, OpenBCA does not provide built-in functionality for real-time collaborative viewing of dashboards or analysis results. Results can be shared through screen sharing, exported outputs, or by sharing the application and underlying files with other users. As an open-source tool, future enhancements are being explored to meet stakeholder needs, contingent upon funding.

6. Getting Help

6.1. What should I include when requesting technical support?

Provide the FAQ question number (if applicable), operating system, OpenBCA release version, the step where the issue occurred, the complete error message, and a screenshot if available. Also confirm whether the input files retain their original names and structure. Do not share confidential data unless permitted by your organization and the support process.

Key Support Resources

Resource	Use it for
Template support buttons	Field definitions, units, and expected input formats
User Guide and tutorials	Completing inputs and running the application
NSPM and MTR Handbook	BCA principles, value-stream selection, and input development
IT Requirements / Technical README	Security review, application execution, architecture, and dependencies
Technical Support Office Hours	Questions that remain after reviewing the documentation

7. Updates to OpenBCA

7.1. Are there plans for major releases with new features or improvements, or will it mostly be maintenance/bug fixes?

OpenBCA will continue to be maintained through critical bug fixes and updates to support tool stability and usability. As an open-source platform, user feedback, issue submissions, and pull requests are welcomed through [GitHub](#). Future feature development priorities will be evaluated based on community needs and available funding resources.