OpenBCA Tool

Summary of Core and Potential Functions

Use Cases	Core Functions	Potential Functions
This list of use-cases are examples of common BCA applications from a regulatory, planning, and practitioner's perspective.	The OpenBCA tool is built around the following core functions and can support most use-cases within such categories independently.	For various use-cases, the tool will likely need modifications, synching with other tools, and/or building more features in the basic source code.
1. Pilots, Programs, and Portfolios		
a. Single-DER Measure: DER measures are energy resources on the distribution system that are sited at or near customer facilities and include equipment or behaviors within EE, DR, DG, DS, EV, and BE, and include both prescriptive and custom measures. Applications: -- Single-DER pilots -- Single-DER programs -- Single-DER portfolio planning	The tool is designed to conduct a BCA for single-DER measures (i.e., the same DER in pilot, program, or portfolio form) and will support various applications.	
b. Multi-DERs: Building up multiple DER measures into program and portfolio level groupings. Applies to utility programs and can apply to governmental programs. Applications: -- Multi-DER pilots -- Multi-DER programs -- Multi-DER portfolios -- BCA post Evaluation, Measurement & Verification -- Government DER Programs	The tool is designed to conduct BCA for multiple DER measures/projects with many identifiers for screening at pilot, program, and portfolio levels. The tool will support these applications (see right column for government DSM/DER programs).	If government-run initiatives (e.g., state energy office DER programs) differ from utility programs, it could require external tools or editing features to incorporate a peripheral analysis into the results.
2. Procurement and Planning		
a. Non-Wires/Non-Pipes Alternatives and Location-Specific Evaluations: A program that applies a single- or multi-DER solution to address geographically-specific system constraints in order to defer or avoid investments in capacity infrastructure.	If infrastructure costs can be transformed into $/kw-year (or similar units) to as align with capacity inputs, OpenBCA can be used without any modifications. For more typical applications, see the 'one-time investment' line item below.	In the case of applications that look at one-time investment cost and years of a deferral, the tool itself cannot assess a deferral period and henceforth a deferral benefit. This can be done independently or through modifications in the tool source code.

OpenBCA Tool

Summary of Core and Potential Functions

Use Cases	Core Functions	Potential Functions
This list of use-cases are examples of common BCA applications from a regulatory, planning, and practitioner's perspective.	The OpenBCA tool is built around the following core functions and can support most use-cases within such categories independently.	For various use-cases, the tool will likely need modifications, synching with other tools, and/or building more features in the basic source code.
b. Integrated Resource Planning: A process where utilities plan for future energy needs and assess both supply and demand side resources in order to provide reliable customer service and meet other state goals and objectives.	IRP models can provide inputs to the OpenBCA model for avoided costs, and the OpenBCA outputs can feed back into the IRP model. This is an iterative approach.	The tool is not intended to be an IRP model in terms of least-cost assessment of generation and transmission mix. This is the function of IRP Modeling Tools (e.g., Integrated Planning Model (IPM), EnCompass, Plexos, Resolve) to analyze assets for operations. The two models could ultimately be integrated or co-optimized.
c. Distribution System Planning: A process through which utilities identify and evaluate investments needed to maintain and modernize the distribution grid while supporting safety, reliability, resilience, affordability, and the integration of grid-edge resources. The Berkeley Lab Interactive Decision Framework for Integrated Distribution System Planning provides additional guidance on the broader planning process. Applications: -- Grid Modernization and Infrastructure Analysis -- Integration of Localized Distribution and Transmission Planning Efforts	DSP models can provide externally developed planning and engineering inputs—such as location-specific needs, avoided or deferred infrastructure costs, constraint timing, and reliability or resilience values—to evaluate the cost-effectiveness of DER alternatives and portfolios. Results can feed into an iterative distribution-planning process.	OpenBCA is not intended to replace distribution system planning or power-engineering tools. It does not identify grid constraints, select specific infrastructure investments, or assess engineering feasibility—for example, whether a conductor on a particular circuit should be upgraded. Traditional grid investments, such as vegetation management, undergrounding, and grid hardening, may also provide reliability, resilience, or safety benefits that are not directly comparable to the load-impact profiles of DERs. Engineering tools such as CYME should therefore be used to evaluate technical system needs and solutions, while OpenBCA can use outputs from those analyses to assess the economic merits of DER alternatives. These tools may be used in parallel and could potentially be integrated, but OpenBCA is not a substitute for power-engineering analysis.

OpenBCA Tool

Summary of Core and Potential Functions

Use Cases	Core Functions	Potential Functions
This list of use-cases are examples of common BCA applications from a regulatory, planning, and practitioner's perspective.	The OpenBCA tool is built around the following core functions and can support most use-cases within such categories independently.	For various use-cases, the tool will likely need modifications, synching with other tools, and/or building more features in the basic source code.
d. DER Potential Studies: Potential technical, economic, and/or achievable DER adoption of utility driven DER programs that inform IRPs and other utility system planning processes.		The tool is not intended to be a potential study tool, which usually requires enhanced features like participation forecasting and acceptance curves. OpenBCA features can be used in-conjunction with or integrated into potential study tools for potential assessments.