

OpenBCA Michigan Collaborative

Tool Demo & Release Plan May 5, 2026

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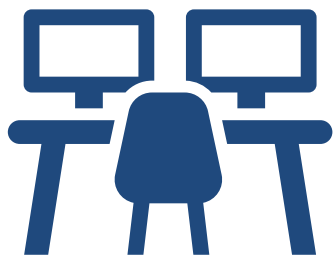
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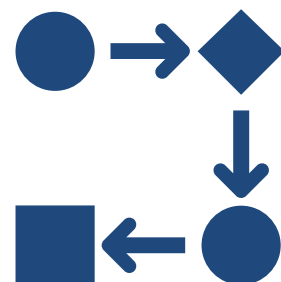
Meeting Agenda and Objectives

1. Purpose and Outcomes
2. Process Review with Michigan Tech. Subgroup & Beta Testers
3. Tool Overview
4. Live Demo
5. Release Package
6. Next Steps, and Q&A

Purpose & Outcomes



**OpenBCA in
Action**



**Michigan's Input
in Development**

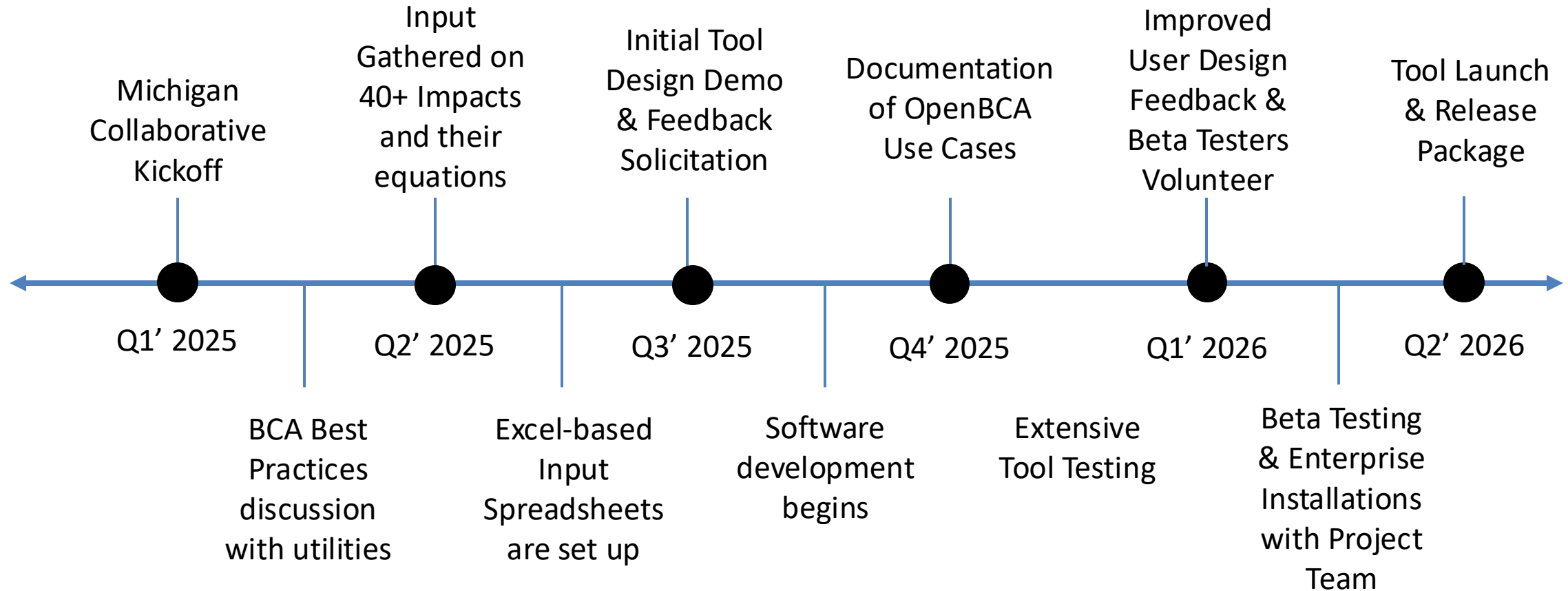


**Launch Timeline
& Coordination**



**Next Steps &
Questions**

MI Technical Subgroup Collaboration



MI Technical Subgroup Collaboration

OpenBCA is compatible with MI specific requirements

Extensive feedback on tool use cases and formulae set up

Improvements in User Experience

Lead with example!



Big thanks to our Beta Testers!

Helped identify Enterprise IT constraints and solutions; OpenBCA installed on utility computers!

Extensive Improvement in User Experience

Offered Insights into running their own pilots through OpenBCA

Clearer error handling, expanded coverage in User Guide.



Margaret Pigman
LBNL



Austin Masterson
DTE



Prathik Addepalli
DTE

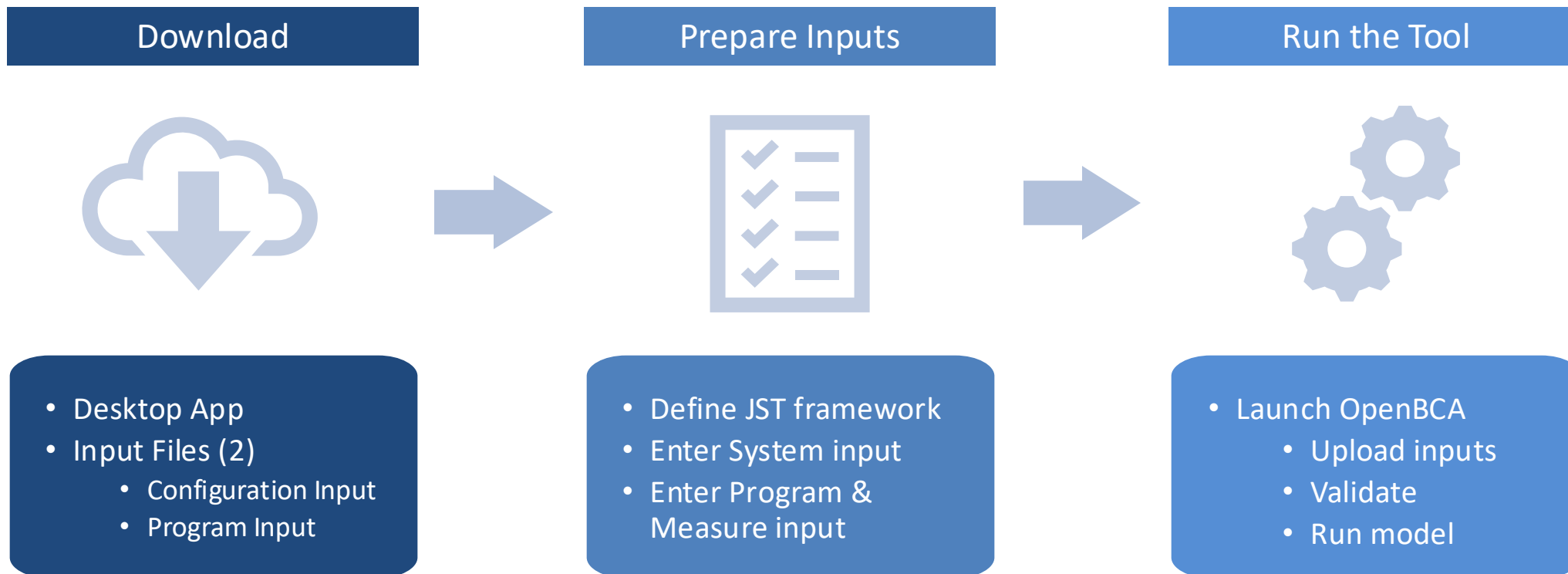


Jill Steiner
Consumers Energy

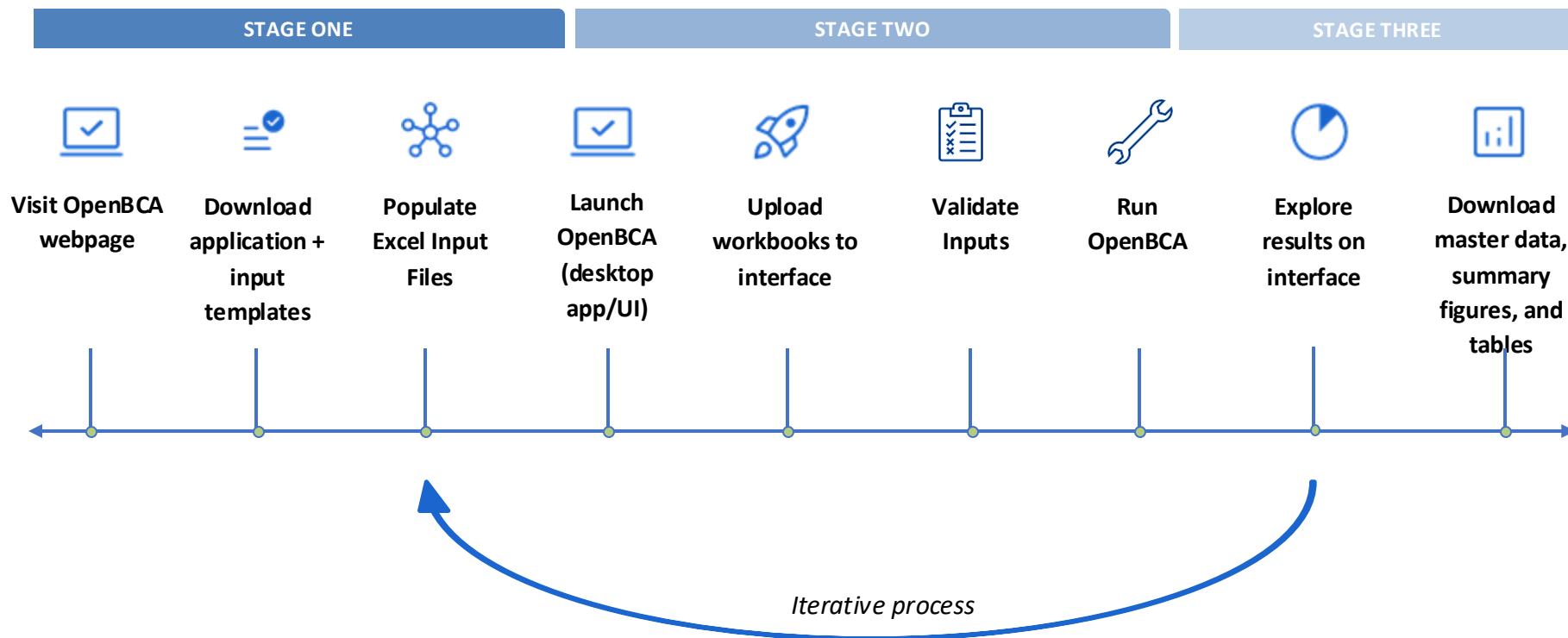
OpenBCA at a Glance

Designed for flexibility

Prepare inputs in Excel, run analyses in a desktop application, and export results for reporting



User Flow



Value Streams supported in OpenBCA

General Utility System
 Electric Utility
 NG Utility
 Societal System
 Host Customer
 Other Fuels
 Custom

Utility Financial Incentives	RPS Compliance (Electric)	Capacity (NG)	Other Environmental Impact	Host Customer NEIs - LI
Utility Program Admin Costs	Energy Market Price Effects (Electric)	Environmental Compliance (NG)	Public Health Impact	Other Fuel Supply Impact
Utility Direct Investment in DERs	Capacity Market Price Effects (Electric)	NG Market Price Effects (NG)	Host Customer Incremental Costs	Other Fuel Market Price
Utility Performance Incentives	Ancillary Services (Electric)	Utility Risk (NG)	Host Customer Transaction Costs	Other Fuel Environmental Compliance
Utility Credit and Collection Costs	Environmental Compliance (Electric)	Utility Reliability (NG)	Host Customer Interconnection Costs	CUSTOM V1
Energy Generation (Electric)	Utility Risk (Electric)	Utility Resilience (NG)	Host Customer Risk	CUSTOM V2
Generation Capacity (Electric)	Utility Reliability (Electric)	Societal Resilience	Host Customer Resilience	CUSTOM V3
Transmission Capacity (Electric)	Utility Resilience (Electric)	GHG Emission Impact (Electric)	Host Customer Tax Incentives	CUSTOM V4
Distribution Capacity (Electric)	Fuel Supply and O&M (NG)	GHG Emission Impact (NG)	Host Customer Incremental Costs	CUSTOM V5

Note: 3 MI Test impacts not explicitly included in OpenBCA as a discreet impact (see next slide)

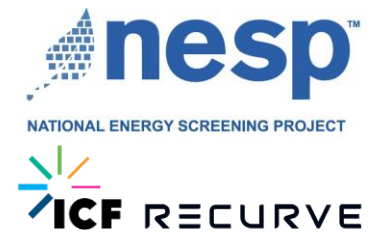
MI Test Impacts Not Explicitly Included in OpenBCA tool (based on updated NSPM v2026 guidance - forthcoming)

- **Host Customer Reliability** - captured as a resilience impact (in host customer buildings and facilities), whereas reliability is associated with grid reliability and is captured as a utility system impact.
- **Societal Econ Development & Jobs** - are often driven by the utility system cost reductions that DERs can provide (which will already be included in the BCA). Quantifying net changes in economic development and jobs to inform regulatory decisions on DER investments should be separate from BCAs, rather than mathematically added to BCA impacts to avoid double counting.
- **Societal Energy Security** – captured through increased reliability and resilience of the grid (including physical and cybersecurity attacks), and reductions in risks to the utility system and customers (related to fuel prices, and energy independence).

The MI Test may be revised to reflect the above upon further review. Users can assign values by defining up to 5 'custom' impacts.

OpenBCA Support Range of Analyses

Ranging from single measures to portfolio-level planning, while complementing existing tools...



Use Case	Core Functions	Potential Limitations
Single-DER Measure DERs (EE, DR, DG, DS, EV, BE) in pilots, programs, portfolios	BCA for single-DER measures in pilot, program, or portfolio form	—
Multi-DERs Grouping multiple DERs for utility/government programs	BCA for multiple DERs at measure, project, program, and portfolio levels	May require external tools or editing features for government-run initiatives
Non-Wires/Non-Pipes Alternatives & Location-Specific Evaluations Deferring/avoiding infrastructure investments	Can use if costs align with capacity inputs (\$/kW-year)	Needs modification or specific inputs for deferral period/benefit assessment
Integrated Resource Planning (IRP) Utility planning for future energy needs	IRP models provide inputs; OpenBCA outputs can feed back iteratively	Not a full IRP model; could be integrated/co-optimized with IRP tools
DER Potential Studies Assessing technical/economic/achievable DER adoption	Cost-effectiveness evaluation of DER adoption scenarios generated by external potential study models	Not a potential study tool; can be used with/integrated into tools as a cost-effectiveness module
Regulatory & Program Use Cost-Effectiveness Screening & Regulatory Filings	Transparent, NSPM-aligned benefit-cost analysis supporting regulatory review and stakeholder review	Depends on jurisdiction-specific assumptions and policy definitions
Distribution System Planning (DSP) Grid modernization, infrastructure analysis	DSP models provide inputs; OpenBCA outputs can feed back iteratively	Not a grid planning model; could be integrated/co-optimized with engineering software

OpenBCA complements—not replaces—planning, potential, and engineering models.

Website in the works!

OpenBCA Tool

NSPM-Based Model for DERs

Model Overview

OpenBCA provides a transparent, standardized framework for evaluating the benefits and costs of distributed energy resource (DER) investments. Built to improve upon proprietary "black box" models, it gives states full visibility into assumptions, methodologies, and data used in the modeling process. With the flexibility to incorporate jurisdiction-specific tests (JST) that reflect state policy priorities, OpenBCA provides a transparent, standardized framework for evaluating the benefits and costs of distributed energy resource (DER) investments.

[Read the summary description of the tool's capabilities](#)

How To Get Started

- 1 Download the software**
 - [Download for Windows \(.exe installer\)](#)
 - [Download for macOS \(.dmg disk image\)](#)
- 2 Download input templates**
 - [Template A - Basic inputs \(Excel · Core data & assumptions\)](#)
 - [Template B - Advanced \(Excel · Extended parameters\)](#)
- 3 Run the tool**

[Background](#) +

[User Guide & Documentation](#) +

[Source Code](#) +

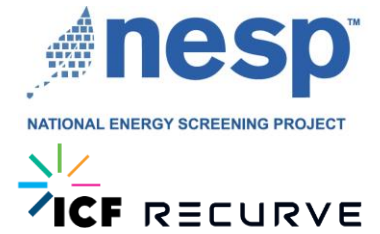
[Training & Tutorial](#) +

[FAQs](#) +

DRAFT

Example Portfolio

Overview of Programs, DERs, and Regional Impact



Programs

Cool Home Comfort

Heat Pump HVAC

Small Business Solutions

Water Saver

DERs

Efficiency

Electrification

Load Shifting

Water Savings

Regions




Subsets

- North Bramble
- South Junction

Live Demo

openbca-app
Deploy

Upload Data & Run Model
Insights & Analysis

Exit OpenBCA

Welcome to the OpenBCA

The OpenBCA software executes Jurisdiction Specific Tests developed under National Standard Practice Manual guidance.

> Runtime path diagnostics

Input files are already detected. You can upload new files if desired or skip to validation of the existing files.

An OpenBCA output database already exists. You can rerun OpenBCA with new inputs or skip to the Insights and Analysis page.

Upload Input Files

Upload Program Input and Configuration files:

+ Drag and drop files here
Limit 200MB per file • XLSM, XLSX

Browse files
Validate Input Files

⚠ New uploads will overwrite existing files.

Upload selected files

Run Validations

Using Database: `\\output\openbca_input_validation.db`

Download Summary Results




Run OpenBCA Model

How would you like to handle the existing output database?

Keep existing output database (do not run OpenBCA)
 Backup existing output database, then run OpenBCA
 Overwrite existing output database

Run OpenBCA

Upload Data & Run Model
Insights & Analysis
Deploy

Exit OpenBCA

OpenBCA Insights and Analysis

Explore the results of your Jurisdiction Specific Test

Universal Filters

These selections will be applied to all analyses below.

Limit Id to:
Choose options

Limit Program Name to:
Choose options

Limit Measure Name to:
Choose options

Limit Measure ID to:
Choose options

Limit Avoided Cost Subset to:
Choose options

Limit Start Year to:
Choose options

JST Metrics

Total Benefits	Total Costs	Net Benefits	JST Ratio
\$168,270	\$78,684	\$89,586	2.14

Portfolio Analysis

Display

Figures
Tables

Waterfall Steps

Impact Category
 Value Stream

Benefit and Cost Breakdown



Category	Value (\$k)
Electric	100.2
Non-System	45.4
Natural Gas	19.7
Tax Incentive	2.5
Host Customer NER	1.2
Societal Resilience	0.8
Propane	0.6
Host Customer Reliability	0.4
Admin	-15.5
Measure Cost	-65.7
Total	89.6

Benefits vs Costs by Program Name

Create Categories From:

Program Name
 Measure Name
 Measure ID
 Avoided Cost Subset
 Start Year

Plot:

Benefits vs Costs
 JST Ratio vs Net Benefits



Legend: ○ Comm Market, □ Res Market, ◇ Water Saver

Release Package



User Guide (Document)

- Describes OpenBCA methodology, alignment with the NSPM, and guidance on appropriate use of the tool



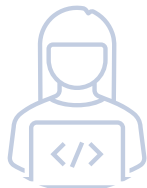
Step by Step Instruction (PPT)

- Walks users through downloading, setting up, and running OpenBCA using annotated screenshots



Value Stream Summary (PPT)

- Documents the definition, equation, and treatment of each value stream included in OpenBCA



Technical ReadMe (Document)

- Provides technical details for deployment and execution
- Hosted on GitHub and suitable for sharing with IT teams for tool review and approval

System Admin & IT Requirements



OpenBCA is a large software made up of large spreadsheets and technical code. It maybe punishing for low-spec computers.



OpenBCA may require additional IT permissions; As expected, this came up during beta testing.



Every IT team has unique requirements, the project team is available to help in case you run into any issues.

Releasing timing and next steps



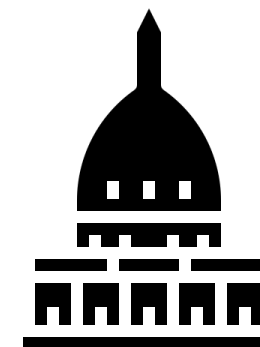
Launch Details
Expected 1st Week of June



Technical Office Hours
TBD



Host Website
Soon!



MI PSC
Next Steps

Thank you!

Questions?

Next Steps

- **Updated NSPM v2026 Guidance**
 - Staff will discuss these specific changes with project partners and, if MI test impacts are revised, determine the most appropriate way to incorporate updates. Tool can be modified in the future
- **Anticipated Commission Direction**
 - Staff expects the Commission may issue an order in the summer or fall 2026 (after the tool is launched and Staff has had the opportunity to work with the tool) that offers direction on the use of the tool along with direction on BCAs for non-DER investments