

## MGB ACADEMY

## C-PACE for Architects &amp; Engineers

# Savings-to-Investment Ratio Worksheet

*A structured method for producing the evidence — with a worked example*

| Program metadata    | Detail                                                                   |
|---------------------|--------------------------------------------------------------------------|
| Program             | MGBA-AE-101 — C-PACE for Architects & Engineers                          |
| Document code       | MGBA-AE-JA-05                                                            |
| Companion segment   | Segment 3 — The Standard: Economic Benefit                               |
| Audience            | Licensed architects and engineers practicing in Missouri                 |
| Issued by           | Missouri Green Banc, administrator of the Missouri Clean Energy District |
| Statutory authority | §67.2800 RSMo et seq.                                                    |
| Version / date      | v1.0 · August 2026                                                       |

## HOW TO USE THIS DOCUMENT

A working form. Complete it, attach the assumptions schedule, and file it behind the benefit projection.

Read MGBA-AE-JA-04 first. The ratio produced here is supporting evidence of economic benefit, not a statutory qualification test, and the worksheet should never be transmitted in a way that implies otherwise.

## The calculation

### METHOD

SIR = present value of projected benefits over the analysis period ÷ eligible project cost financed.

Analysis period is the shorter of the weighted average useful life of the financed measures and the assessment term, which cannot exceed twenty years. State the discount rate you used and why.

Nothing in the statute sets a threshold for this figure. A ratio at or above 1.0 makes the benefit case straightforward to present; a ratio below 1.0 does not disqualify a project, but it means the benefit case rests on components the ratio does not capture, and those components must then be documented explicitly.

## Step 1 — Project and cost basis

| Input                                     | Entry | Source / basis |
|-------------------------------------------|-------|----------------|
| Property and address                      |       |                |
| MCED participating jurisdiction confirmed |       |                |
| Eligible hard cost                        |       |                |
| Eligible soft cost (see MGBA-AE-JA-03)    |       |                |
| Capitalized program and closing costs     |       |                |
| <b>Total eligible cost financed</b>       |       |                |
| Proposed assessment term (max 20 years)   |       |                |
| Weighted average useful life of measures  |       |                |
| Analysis period used                      |       |                |
| Discount rate and rationale               |       |                |



## Worked example — illustrative only

A 96,000 square foot 1978 office building in a participating jurisdiction. Envelope, plant, and controls scoped as a package. Figures are illustrative and are not MCED assumptions.

| Measure                                     | Eligible cost      | Useful life          | Yr 1 benefit     | Basis                       |
|---------------------------------------------|--------------------|----------------------|------------------|-----------------------------|
| Roof assembly and above-deck insulation     | \$610,000          | 25 yrs               | \$28,400         | Calibrated model            |
| Curtain wall and glazing replacement        | \$1,240,000        | 30 yrs               | \$52,900         | Calibrated model            |
| Chiller and boiler replacement, right-sized | \$1,050,000        | 20 yrs               | \$61,200         | Model + avoided replacement |
| Building automation and submetering         | \$285,000          | 15 yrs               | \$34,700         | Model + measured baseline   |
| LED relighting with controls                | \$196,000          | 15 yrs               | \$41,300         | Fixture schedule            |
| Soft costs — design, audit, commissioning   | \$342,000          | —                    | —                | Fee proposal by measure     |
| <b>Totals</b>                               | <b>\$3,723,000</b> | <b>21.4 yrs wtd.</b> | <b>\$218,500</b> | —                           |

Analysis period: 20 years, the assessment term, since it is shorter than the 21.4-year weighted average useful life. Discount rate: 5.0%. Energy escalation: 2.0%. Avoided replacement credited in the years the equipment would otherwise have been replaced.

| Line                                       | Value       |
|--------------------------------------------|-------------|
| <b>Present value of benefits, 20 years</b> | \$3,946,000 |
| <b>Total eligible cost financed</b>        | \$3,723,000 |
| <b>Savings-to-investment ratio</b>         | <b>1.06</b> |
| <b>Ratio at escalation – 1 pt</b>          | 0.98        |
| <b>Ratio at benefits reduced 15%</b>       | 0.90        |

### HOW TO READ THIS EXAMPLE

The ratio clears 1.0 in the base case and falls below it under two reasonable stresses. That is not a disqualification — nothing here is a gate. It is a signal about what the file has to say plainly: which benefit components are load-bearing, which assumptions drive the result, and what the owner is relying on. A project presented with that sensitivity disclosed is stronger than one presented with a single confident number.

*Never file the base case alone. The sensitivity lines are what distinguish a professional opinion from a sales figure.*

*Useful life ranges, discount rate conventions, escalation assumptions, and eligible cost treatment in this worksheet are illustrative and must be reconciled with MCED's published program assumptions before use on a live project.*