

EA Team and Roles



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EVALUATION PLAN FOR 2022-24 1/7/22

1



MAIN TOPICS / MESSAGE

- Additional flexibility / responsiveness from changes in contracting and Roadmap procedures
- Budget change underpinnings – Industry standard and increased need for substantive forward-looking topics
- Broadening the study topic range – funding to better inform programs / policies
- Types of studies in the Plan

2

SETTING THE STAGE – RECENT CHANGES

Contracting Change (part of Roadmap)

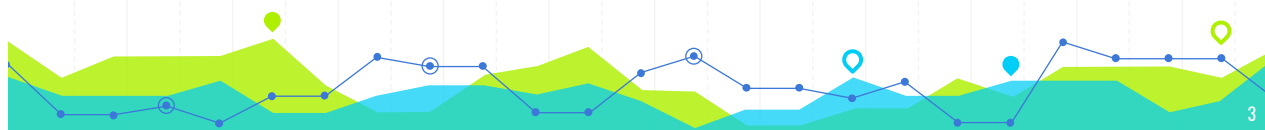
- Return to 3-year Research area contracts (consultant teams): Residential, Commercial, Cross-cutting & Topics
- Contract once, then flexibility to time projects within the 3 years
- Avoid annual RFPs, bunching, inflexibility (RFP being issued this month)

Roadmap

- Adds more communication up-front into project plans, and as questions arise
- Enhanced TRM update integration

Process Integration

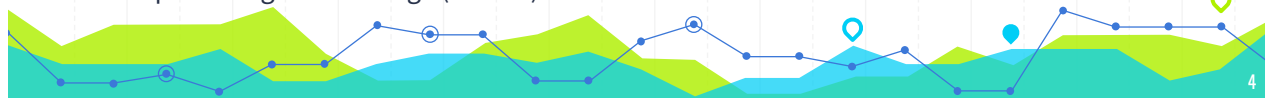
- Tech Consultants have involved / integrated Evaluation in C&LM processes



SETTING THE STAGE – BUDGET RATIONALE / UNDERPINNINGS

Integration into C&LM Plan/Budget Development Process

- Stakeholder expressed need for focus on substantive, forward-looking topics.
- Reactive vs. Integrated / Iterative – “fixed” dollars
- Steady decline in Evaluation % in CT 2012-2020, noted in Legislative Reports (2.1% to <1.1%)
- National information on evaluation percentages on average (2-2.5%)
- ➔ Implication: Changes in CT EE needed changes in evaluation range and budget
- ➔ Implication: CT was about half the national average, implying change from \$3M annually to ~\$6M
- ➔ Moving forward: better integration, and change timing to develop Evaluation Plan and budget in advance of C&LM Plan



SETTING THE STAGE – STUDY TOPIC RANGE

Changes

- State Level: Low budgets and narrow interpretation (PSD/impact & consequent limited scopes), broadening to more industry-standard range
- National & Local: Times of *substantial* change in EE – Program support and underpinnings have ramped up considerably
- Not evaluation of same old same old – directions are changing, expanding information needs for evaluation up-front planning input and performance feedback

Implications for Evaluation Plan

- Stakeholder engagement process elicited much broader range of evaluation needs, including focus on substantive topics
- → Need for
 - Broader range of studies
 - More flexibility and responsiveness (←contracting, updates)

5

STAGES IN DEVELOPING THE 2022-24 EVALUATION PLAN

IDEATION / INPUT/NEEDS

From:

- Stakeholders / needs
- Report Rec's
- Cadence Review
- Joint opp's
- Budgets & savings from Plan

DISCUSSION / REFINEMENT

Includes:

- Multiple open stakeholder discussions
- Eval Project Assembly
- Budgeting & Prioritization (criteria) & staging

PRIORITIZED PLAN

Steps:

- Presentation & discussion with Eval Committee
- Review / Comment
- Committee vote
- To Energy Efficiency Board (EEB) (January)

6

REVIEWED EVALUATION STUDIES 2011-2021

[illegible]

| Programs, Key Measures, Key Topics | Impact | Process | NTG | Stock/Fleet Characteristics | Baseline/Risk Assessment/Safety | SP | Code Compliance | Measure/Market | Equity | Other PSD | Potential | EUI/Life/maintenance/Retention/Persistence |
|------------------------------------|--------|---------|------|-----------------------------|---------------------------------|------|-----------------|----------------|--------|-----------|-----------|--|
| HVAC | | | | | | | | | | | | Special Topics |
| Com Y Boiler | | | | | 2021 | 2021 | | | | | | HCU 2021 |
| Com F Furnace | | | | | 2021 | 2021 | | | | | | |
| Lighting | | | | | 2021, SBEA 2012 | | | SBEA 2012 | | | 2021 | |
| Refrig | | | | | | | | | | 2021 | | ACOP 2021 |
| Com T Asset | | | | | | | | | | 2021 | | |
| Air Compressor | | | | | | | | 2021 | | | | |
| X-Cutting | | | | | | | | 2021 | | 2020 | | 2021 EUI, 2021, MEI 2021, CZ 2021 |
| Early Retirement | | | | | | | | | | | | Analysis Design Evaluability 2020 |
| Residential DR | | | | | | | | | | | | |
| Commercial DR | | | | | | | | | | | | |
| X-Cutting DR | | | | | | | | | | 2021 | | Pilot 2021, Coincident Factor 2021 |
| Energy Education | 2021 | 2021 | | | | | | | | | | evaluability /design/ 2021 |
| Workforce Development | 2021 | 2021 | | | | | | | | | | evaluability /design/ 2021 |
| Community Outreach | 2021 | 2021 | 2015 | | | | | | | | | evaluability /design/ 2021 |
| Community Engagement | 2021 | 2021 | | | | | | | | | | evaluability /design/ 2021 |
| Residential Loan Pgm (EUSFCOB) | | | | | | | | | | | | |
| C&I Financing Support | 2016 | | | | | | | | | | | Financing Evaluations 2014 |
| RD&D | | | | | | | | | | | | |
| Methods | 2015 | | | | | | | | | | | |
| Databases | | | | | 2020, 2018 | | | | | | | Res DB Issues 2015 |

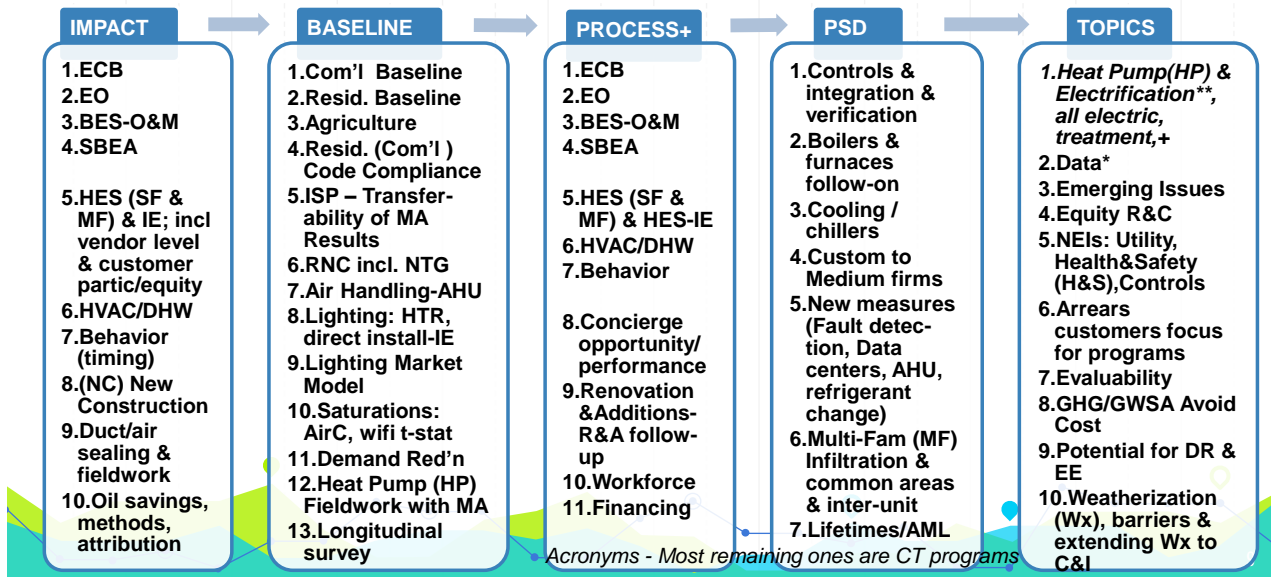
CT-EEB PROJECTS PROGRESS SUMMARY - GANTT CHART

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CURRENT EVALUATION PROJECTS

[illegible]

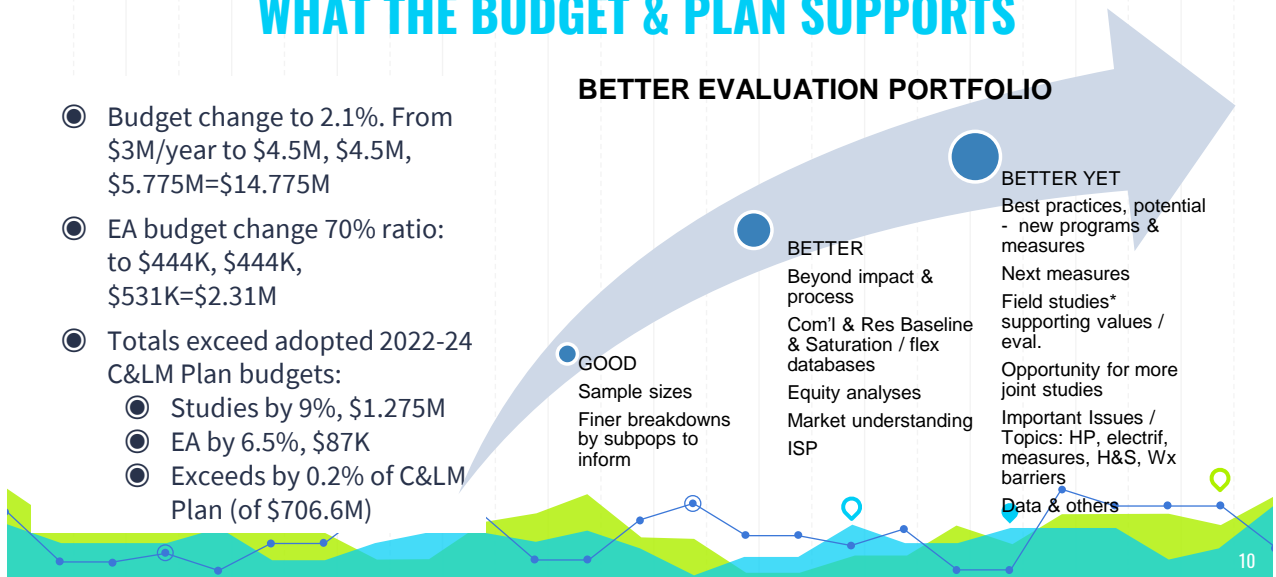
EVALUATION PLAN - 3-YEAR PLAN CONTENTS



2022-24 EVALUATION PLAN PORTFOLIO – WHAT THE BUDGET & PLAN SUPPORTS

- Budget change to 2.1%. From \$3M/year to \$4.5M, \$4.5M, \$5.775M=\$14.775M
- EA budget change 70% ratio: to \$444K, \$444K, \$531K=\$2.31M
- Totals exceed adopted 2022-24 C&LM Plan budgets:
 - Studies by 9%, \$1.275M
 - EA by 6.5%, \$87K
 - Exceeds by 0.2% of C&LM Plan (of \$706.6M)

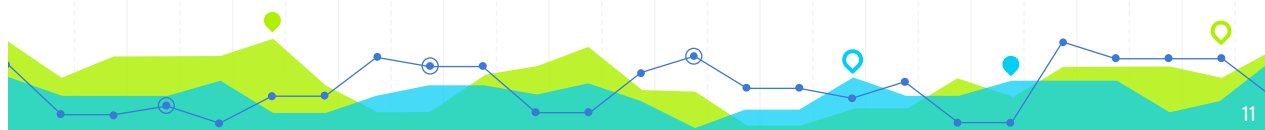
BETTER EVALUATION PORTFOLIO



CONTENTS OF THE 3-YEAR EVALUATION PLAN

Figure A.2: Recommended Evaluation Plan Budget and Project Counts by Sector and Year

| | Budget Year 1 | Budget Year 2 | Budget Year 3 | Total 3-year Budget | Share of total budget | Number of Projects |
|----------------|---------------|---------------|---------------|---------------------|-----------------------|--------------------|
| Residential | \$1,595 | \$1,169 | \$2,226 | \$4,990 | 34% | 15 |
| Commercial | \$1,330 | \$1,180 | \$1,400 | \$3,910 | 26% | 8 |
| Cross-sector | \$1,575 | \$2,151 | \$2,149 | \$5,875 | 40% | 22 |
| Total | \$4,500 | \$4,500 | \$5,775 | \$14,775 | 100% | 45 |
| Share of Total | 30.5% | 30.5% | 39% | 100% | | |



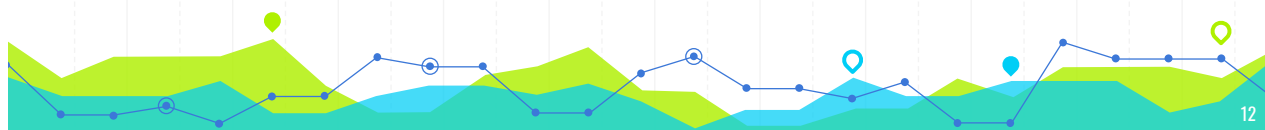
11

CONTENTS OF THE 3-YEAR EVALUATION PLAN

Figure A.3: Evaluation Plan Project List by Evaluation Type

| Evaluation Type | # of Studies | Budget | Share of Budget |
|----------------------------|--------------|----------|-----------------|
| Baseline | 9 | \$3,460 | 23% |
| Impact or Impact/Process** | 10 | \$3,850 | 26% |
| Process | 5 | \$1,275 | 9% |
| PSD | 4 | \$750 | 5% |
| Topics | 17 | \$5,440 | 37% |
| Total | 45 | \$14,775 | 100% |

(**) Table Note: \$5.025* is the budget for impact if we include the 2nd half of two large C&I impact studies, which carry over to 2025, per FCM timing needs). That budget is not in this plan.



12

STUDY LIST - 1

SERA

| Total 3-Year Budget ==> \$14,775 | | | | | |
|----------------------------------|-------------|------------|---|--------------|------------|
| EA | Proj Number | Study Type | Short Title | Total Budget | Start Year |
| PJ | C 2201 | Baseline | C&I baseline large sample | \$925 | 2022 |
| LAS | R 2202 | Baseline | Residential Appliance Saturation Survey & Baseline | \$700 | 2023 |
| DG | X 2203 | Baseline | Agricultural market and baseline assessment | \$400 | 2022 |
| RP | X 2204 | Baseline | ISP Research | \$300 | 2022 |
| PJ | C 2205 | Baseline | Refrigerated casework and desiccant AHU baseline | \$85 | 2022 |
| LAS | R 2206 | Baseline | Residential Lighting - Hard to Reach & DI-IE Update | \$175 | 2022 |
| PJ | C 2207 | Baseline | Advanced Lighting Controls Market study to examine potential, guide | \$175 | 2022 |
| DG | X 2208 | Baseline | Market effects pulse survey (residential and commercial) | \$500 | 2022 |
| RW | R 2209 | Baseline | Residential New Construction NTG and Code compliance Attribution | \$200 | 2022 |
| PJ | C 2210 | Impact | ECB impact evaluation (NOTE: 47% in 2024, rest in next 3-year plan) | \$1,250 | 2024 |
| PJ | C 2211 | Impact | BES/O&M Impact and process | \$600 | 2022 |
| LAS | R 2212 | Impact | Behavioral Program Impact Evaluation | \$100 | 2023 |
| LAS | R 2213 | Impact | Oil Savings Impacts - Methods, Attribution | \$125 | 2022 |

13

STUDY LIST - 2

SERA

| EA | Proj Number | Study Type | Short Title | Total Budget | Start Year |
|-----|-------------|-----------------|---|--------------|------------|
| RW | X 2214 | Impact Baseline | Demand Response Studies | \$200 | 2022 |
| RW | R 2215 | Impact Baseline | Residential New Construction Impact Evaluation and Code Compliance | \$300 | 2023 |
| DG | C 2216 | Impact Process | EO impact and process evaluation (NOTE: 47% in 2024, 50% in next 3-year plan) | \$1,100 | 2024 |
| DG | C 2217 | Impact Process | SBEA impact and process evaluation | \$450 | 2022 |
| RW | R 2218 | Impact Process | Process and Impact Evaluation of HES and HES-IE SF and MF | \$600 | 2022 |
| RW | R 2219 | Impact Process | HVAC & DHW (upstream) program Impact & Process evaluations | \$300 | 2024 |
| LAS | R 2220 | Process | Behavioral Program Process Evaluation | \$175 | 2022 |
| LAS | R 2221 | Process | Concierge Programs - Opportunities, Performance, and Best Practices | \$125 | 2022 |
| RW | R 2222 | Process | Increasing Market for Renovation and Additions Projects | \$600 | 2022 |
| LAS | X 2223 | Process | Res & Commercial Financing - Process Evaluation | \$225 | 2022 |
| RW | X 2224 | Process | Workforce process evaluation on updated initiative | \$150 | 2023 |
| RW | X 2225 | PSD | Infiltration Reduction in Multifamily Buildings | \$250 | 2022 |
| LAS | X 2226 | PSD | EULs-Measure Lifetimes / AML Evaluation Study | \$250 | 2022 |
| LAS | X 2227 | PSD | Potential "Next Measures" - Residential & Commercial | \$100 | 2022 |
| PJ | X 2229 | PSD | PSD updates, assorted | \$150 | 2022 |

14

STUDY LIST - 3

SERA

| EA | Proj Number | Study Type | Short Title | Total Budget | Start Year |
|-----|-------------|-------------------|---|--------------|------------|
| RP | C 2230 | Topics | Commercial Heat Pump Study | \$500 | 2022 |
| RP | X 2231 | Topics | Cross-Cutting Heat Pump Study | \$400 | 2022 |
| LAS | X 2232 | Topics | Phase 1 - Data Quality and Process Improvements Options - Evaluation | \$250 | 2022 |
| LAS | X 2233 | Topics | Phase 2 - Data Quality and Process Improvements - Evaluation - Implementation | \$0 | 2023 |
| RP | X 2234 | Topics | Emerging Issues | \$500 | 2024 |
| RW | X 2235 | Topics | Non-Participant Equity Assessment (Res and Small Business) | \$400 | 2023 |
| LAS | R 2236 | Topics | Program Targeting - Arrears / vulnerable customers | \$100 | 2022 |
| LAS | X 2237 | Topics | NEIs - Utility, H&S, and Controls Measures | \$400 | 2022 |
| LAS | X 2238 | Topics | Evaluability Study - Residential & Commercial | \$200 | 2022 |
| LAS | X 2239 | Topics | GHG / GWSA Compliance Avoided Cost Study | \$50 | 2022 |
| DG | X 2240 | Topics | Potential for DR and EE measure interaction | \$200 | 2023 |
| RP | X 2241 | Topics | EE/DR Potential Research | \$500 | 2023 |
| LAS | R 2242 | Topics | Residential Weatherization Barriers Study & Extending Wx to C&I | \$385 | 2022 |
| LAS | X 2243 | Topics | Effects of Discontinuing Gas Equipment incentives in R&C HVAC & D | \$300 | 2023 |
| LAS | X 2244 | Topics | Review possible shift from EE to GHG policy integration goals and n | \$150 | 2022 |
| RW | R 2245 | Topics | Residential New Construction Cost-Effectiveness | \$40 | 2022 |
| RP | R 2246 | Topics, Baselines | Residential Heat Pump Study | \$1,150 | 2022 |

15

THANKS!

QUESTIONS / DISCUSSION?

Seeking approval of 3 year budget from EEB and review of EA Work scope.

Figure A.1: Three-Year Evaluation Plan Budget

| Budget Entry | Year 2022 | Year 2023 | Year 2024 |
|---------------------------|-----------|-----------|-----------|
| Evaluation Plan / Studies | \$4,500K | \$4,500K | \$5,775K |
| EA Budget | \$444,110 | \$444,110 | \$531,155 |

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16

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