



May 11, 2023

## MEMORANDUM

**TO:** MT Advisory Board (MTAB)

**FROM:** Jeff Mitchell, Resource Innovations, Jennifer Barnes, 2050 Partners, Priya Sathe, Cadmus

**SUBJECT:** MTI Scoring and Prioritization Criteria

This memo was prepared for the MTAB to describe the development of the MTI scoring and prioritization criteria.

### Introduction

A working group was formed to develop the criteria to be used to score and select the submitted ideas (Scoring WG). The Scoring WG charter included developing the details of the scoring process, including the scoring metrics, thresholds, and weighting strategy. The Scoring WG members were:

- Jennifer Barnes (2050 Partners)
- Jeff Mitchell (Resource Innovations)
- Priya Sathe (Cadmus Group)
- Melinda Lopez (Ortiz Group)
- Margie Gardner (Resource Innovations)

### MTI Scoring Categories and Criteria

The development of the scoring framework was largely completed in several sequential stages:

1. Development of scoring categories;
2. Develop of disaggregated scoring criteria within each category; and
3. Development of category and criteria weights.

Scoring categories are broad categories under which one to three specific criteria are grouped. The specific criteria (next section of this memo) are where scoring actually occurs. These scores are then aggregated to the category level using weighting factors. And then the category level scores are weighted again for an overall score of each specific MT idea.

## Development of Scoring Categories

The Scoring WG initiated the discussions on the scoring categories by reviewing the scoring categories proposed in the RI Team's MTA proposal and reviewing priorities and guidance in Attachment A to D.19-12-021 "Adopted Market Transformation Framework". After discussion and debate, the team reviewed and made the following adjustments to the scoring categories in the RI Team's MTA proposal:

1. Energy savings, GHG emissions reductions, and grid benefits were rolled into a single category for Total System Benefit (TSB). TSB was adopted by the California Public Utilities Commission (CPUC) in 2021 as the single metric to replace kWh, kW and therms.<sup>1</sup> TSB "combines and optimizes the energy and peak demand savings goals, along with greenhouse gas benefits of energy efficiency..."<sup>2</sup> and, therefore, encompasses energy savings, GHG emissions reductions, and grid benefits into a single metric. The calculation of TSB is driven by underlying avoided costs which has the added benefits of being well-reviewed and regularly updated.

However, given the importance of reducing GHG emissions and supporting grid flexibility, the Scoring WG wanted to be able to prioritize these components within the overall category. Therefore, the TSB category includes three individual criteria for energy, GHG impacts, and grid benefits. The scoring methodology involves disaggregating the underlying avoided cost categories and mapping each of them to one of these criteria.

2. Risk was removed as a separate MTI scoring category. The Scoring WG believes that MTI risk is best managed through the careful selection of MTI ideas using a robust scoring and selection process. With MTI selection, risk is minimized by ensuring the technologies or practices are commercially or near commercially available, and that the opportunities have strong MT alignment. These two categories specifically reduce the likelihood of investments that do not result in savings. In addition, the portfolio optimization exercise will examine risk at the portfolio level ensure that the MTI's selected are expected to bring the value and benefits that most align with the goals of CalMTA.

This will result in a risk profile that is skewed toward lower risk investments. As CalMTA grows its portfolio and begins to accrue successful market transformation, we may want to revisit these criteria to allow for higher risk MTI's to enter the portfolio when accompanied by equally high reward.

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<sup>1</sup> CPUC Decision 21-05-031.

<sup>2</sup> CPUC D.21-05-031, page 2.

3. Workforce development was removed as a standalone category and will instead be captured through the non-energy impacts and ESJ beneficial impacts criteria. The Scoring WG believes it is appropriate to capture workforce development within these categories because, from the standpoint of evaluating an MTI, workforce development is often tied to a barrier that might limit the potential success of an MTI. Workforce development is an effective strategy for removing the barriers of lack of contractor awareness and lack of contractor support for a technology. In other cases, an MTI could provide an opportunity to grow a contractor base, improve the skills and capabilities in the industry, or create a new delivery or support channel. This could provide significant value, specifically when targeted toward rural or low-income communities. We believe that it is appropriate to capture workforce development in these categories because it allows us to capture the benefit of the development without penalizing the MTI for the barrier we are attempting to remove.

The final scoring categories are presented in Table 2 and detailed scoring instructions are presented in Attachment 1.

*Table 1. CalMTA Scoring Categories*

<b>Category</b>	<b>Description</b>
<b>Total System Benefit</b>	Encompasses energy savings, grid benefits and reliability, and GHG impacts
<b>Readiness</b>	An indicator of the supply chain maturity/product availability
<b>MTI Cost &amp; Cost-effectiveness</b>	Assesses the overall estimated cost of the MTI against its benefits
<b>ESJ Impacts (Equity)</b>	Assess whether the MTI will provide beneficial impacts to ESJ communities or leverage existing community resources in its execution
<b>Non-energy Impacts</b>	Captures the benefits or impacts (in addition to energy savings and greenhouse gas emissions reductions) that the MTI will deliver
<b>MT Alignment</b>	Ensures that the MTI aligns with key aspects of MT theory and that there is a strong MT opportunity

### **Development of Disaggregated Scoring Criteria**

Individual scoring criteria within each category were developed, along with associated metrics and scoring guidance. Each Scoring WG member was assigned one or more categories to lead, based on their firm’s expertise. The recommended

criteria, metrics, and scoring guidance were presented by the category lead, then debated and refined by the Scoring WG. The Scoring WG ensured that the criteria were distinct without overlap or duplication between categories or criteria. The team also ensured that the metrics and framework for assigning scores were clearly defined and applicable to all types of ideas that could be received (technologies, services, practices, delivery approaches, etc.).

The metrics and framework for each criteria were then refined for use in stage 1 (which is a preliminary, high-level assessment used to rank the ideas as they come in) and stage 2 (which will be a scoring based on more in-depth information from research and analysis of available secondary resources).

The draft criteria and associated category are presented in Table 3 and the stage 2 scoring framework and guidelines are presented in Attachment 1.

*Table 2. Scoring Categories & Criteria*

<b>Category</b>	<b>Criteria</b>
<b>Total System Benefit</b>	Energy TSB
	Grid Benefits TSB
	GHG Impacts TSB
<b>Product Readiness</b>	Readiness
<b>MTI Cost &amp; Cost-effectiveness</b>	Participant Cost (Stage 1) PAC & TRC (Stage 2)
<b>ESJ Impacts (Equity)</b>	Beneficial Impacts to ESJ Communities
	Partnership Opportunities with ESJ Communities
<b>Non-energy Impact</b>	Non-energy Impacts
<b>MT Alignment</b>	Innovation Characteristics
	Leverage Points
	Sustained Benefits

User testing was an important aspect of the criteria development process. The Scoring WG found that discussing the criteria and scoring framework in abstract terms was only useful at the initial stages. The Scoring WG identified several past MTIs and CalMTA team members who had worked on them. These team members were tasked with using the proposed criteria and framework to score these past MTIs (from the perspective of the MTI when it was designed). These tests identified a number of

opportunities for clarification and refinement that were incorporated into the scoring criteria and framework.

**Development of Category and Criteria Weights**

The Scoring WG established a set of weights to prioritize each of the six categories. Working group members discussed the influence of each category on the performance of the initiative to determine its relative importance to the success of the initiative.

Through a similar process, weights were also developed for criteria within each category to sum up to 100%. The members reviewed not only the weight assigned to a criterion within a category, but also the weight assigned to each criterion relative to all other criteria across categories. For example, if the weight assigned to energy savings was 30% within the TSB category which had a category weight of 25%, the members initially reached a consensus regarding the importance of energy savings relative to grid benefits and GHG impacts within the TSB category, but then also reviewed the relative importance of the individual energy savings criterion (e.g., 30% \* 25% = 8%) compared with each of the individual criteria across all categories to define the priority level of each criterion.

The proposed weights for each category and criteria, stage 1 and stage 2, are presented in Table 4.

*Table 3. Category and Criteria Weights*

<b>Category</b>	<b>Category Weighting</b>	<b>Criteria</b>	<b>Stage I Weights</b>	<b>Stage II Weights</b>
<b>Total System Benefit</b>	25%	Energy Savings	30%	30%
		Grid Benefits and Reliability	30%	30%
		GHG Impacts	40%	40%
<b>Product Readiness</b>	10%	Readiness	100%	100%
<b>MTI Cost &amp; Cost-effectiveness</b>	5%	Participant Cost	100%	
		Cost-effectiveness: TRC		50%
		Cost-effectiveness: PAC		50%
<b>ESJ Impacts (Equity)</b>	15%	Beneficial Impacts to ESJ Communities	65%	65%
		Partnership Opportunities with ESJ Communities	35%	35%

<b>Non-energy Impact</b>	15%	Non-energy Impacts	100%	100%
<b>MT Alignment</b>	30%	Innovation Characteristics	20%	20%
		Leverage Points	50%	50%
		Sustained Benefits	30%	30%

**Customization of Cadmus’ Scoring Tool**

Cadmus’ prioritization tool was customized to calculate weighted scores for each initiative and objectively rank MTI ideas based on the criteria and weightings. The scoring tool ensures that the ideas are scored using a consistent set of criteria and a defined scale. The tool applies weights to the individual criterion score and aggregates them across scoring categories to develop an initiative score. Lastly, the prioritization tool allows comparison of multiple MT ideas on an apples-to-apples basis.

After initiatives have been scored for all criteria and prioritized using the initial weights, sensitivity and scenario analyses can be run to test the initiative scores for the relative impacts of the individual criteria by adjusting category and criteria weights.

The Scoring Team can increase or decrease weights of specific key criteria to test how initiatives rank under various conditions. For instance, the Scoring Team could test for the initiatives scoring highest for a single criterion like energy savings with all other scoring criteria being equal, or a scenario to test the ranking of initiatives for only a single category or criterion with all other criteria assigned a zero weight. This analysis also allows the Scoring Team to observe trends and how certain types of initiatives score relative to specific criteria.

**Attachment 1: Stage 1 Scoring Framework and Guidelines**

<b>Total System Benefit</b>		
Energy Savings	The energy savings score is the Energy component of TSB	The TSB value will be binned into categories of low, medium, and high based on market sector and end use.
Grid Benefits	The grid benefits score is the Grid components of TSB (Generation Capacity, Transmission, Distribution, Avoided AS Procurement, and Losses)	The TSB value will be binned into categories of low, medium and high based on the market sector and end use.
GHG Impacts	<p>The GHG impacts score is the GHG components of TSB (GHG Cap and Trade, GHG Adder, GHG Portfolio Rebalancing, and Methane Leakage)</p> <p>Reviewers will estimate and include additional GHG benefits not captured in the calculation of TSB, such as carbon capture technologies or embedded energy savings.</p>	The TSB value will be binned into categories of low, medium and high based on the market sector and end use.

<b>Readiness</b>		
Readiness	Readiness is an indicator of the supply chain maturity/product availability. Scores are assigned based on the level of availability of the technology or practice in California.	1 - Not commercially available or limited, pre-commercial availability (anywhere) 2 - Commercially available outside of California; requires special order in California 3 - Some/limited commercial availability in California (3 pts) 4 - Good commercial availability in California; stocked throughout region (4 pts) 5 - Commercially available from 2+ manufacturers, well developed supply chain; widely and easily available in California (5 pts)
<b>MTI Cost and Cost-effectiveness</b>		
Cost-Effectiveness	Program Administrator Cost Test (PAC) Total Resource Cost Test (TRC)	1 - <1.0 2 - >=1.0
<b>ESJ Impacts (Equity)</b>		
Beneficial Impacts to ESJ Communities	Beneficial impacts result from projects which include activities to reduce energy burden, create jobs in disadvantaged communities and high road pathway opportunities, reduce GHG emissions, and demonstrate transformative climate change actions which contribute to	1 - none of the benefits generated by the initiative idea will accrue to ESJ communities 2 - some of the benefits generated by the initiative accrue to ESJ communities 3 - about half of the benefits generated by the initiative will accrue to ESJ communities

	<p>the ESJ community's health, safety, and improved environment.</p> <p>The MTI should specifically address the delivery of benefits to ESJ communities as part of the MTI idea. MTI ideas that focus on the general market but generate benefits to ESJ communities incidentally (as in the case of mass market products that both general market and low-income customers purchase) can receive points in this category if the reviewer determines that there is a plausible strategy.</p> <p>Technologies or practices that improve air quality in DAC or DAC adjacent communities should receive credit in this category.</p> <p>Initiatives that build workforce development in ESJ communities should receive credit in this category.</p>	<p>4 - most of the benefits generated by the initiative accrue to ESJ communities</p> <p>5 - all of the impacts generated by the initiative will accrue to ESJ communities (exclusively)</p>
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<p>Partnership Opportunities with ESJ Communities</p>	<p>The partnership opportunities with ESJ communities reflects whether the initiative will leverage existing community resources, partner with other ESJ entities, or use available resource(s) in its execution. The points earned in this category depend on whether the described initiative specifically identifies an ESJ agency or other CBO for delivery, or whether they identify the role for an agency but indicates that it will be filled later. Ideas can receive points in this category if the reviewer determines that there are additional partnership opportunities.</p>	<p>1 - no role has been identified/anticipated for an ESJ agency or other CBO in a stakeholder or advisory role for the initiative  2 - there is a strategy for involving public participation from the ESJ communities, however, potential partnerships or the targeted geographic locations have not been identified  3 - there is an identified role for a CBO partner and/or ESJ agency, however, a specific partner has not been identified  4 - one CBO organization who will work on the implementation of the initiative has been identified  5 - two or more CBO organizations OR a single statewide/regional CBO have been identified to work on the initiative</p>
<p><b>Non-energy Impacts</b></p>		

<p>Non-energy Impacts</p>	<p>The non-energy impacts capture the impacts generated by the initiative other than the direct energy (kWh and therms) and demand savings. For the purposes of this scoring, GHG emissions reductions do not count as a non-energy impact since they are captured under the TSB score. The non-energy impact score is determined by whether the non-energy impacts are incidental (achievable and measurable) or a fundamental element of the initiative's value proposition.</p> <p>Workforce education and training (WE&amp;T) should be captured as an NEI when an existing WE&amp;T effort can be leveraged to support the initiative.</p>	<p>1 - no identified NEIs  2 - NEIs are identified in the initiative, but are not measurable and are not of strategic value to the success of the initiative  3 - NEIs are identified in the initiative and are measurable, but do not have strategic value to the success of the initiative  4 - NEIs are identified in the initiative, are measurable and likely have some strategic value to the success of the initiative  5 - NEIs are identified in the initiative, are measurable, and substantial, and have significant strategic value to the success of the initiative</p>
<p><b>MT Alignment/Opportunity</b></p>		
<p>Innovation Characteristics</p>	<p>The innovation characteristics capture the technology or service's alignment with the factors of diffusion, which have influence on the innovation's likelihood of success or failure.</p>	<p>1 - product or service aligns with 0 factors of diffusion  2 - product or service aligns with 1 factor of diffusion  3 - product or service aligns with 2 factors of diffusion  4 - product or service aligns with 3 factors of diffusion</p>

		5 - product or service aligns with 4+ factors of diffusion
Leverage Points	The leverage point criteria captures whether there is a known aggregation node in the technology or services market structure that can be utilized to gain market leverage causing amplified MTI influence.	<p>1 - there are no known or identified market leverage points or proven intervention strategies</p> <p>2- one identified market leverage point/intervention strategy, without evidence of likely success</p> <p>3- one identified market leverage point/intervention strategy with some evidence of likely success (i.e., previously interventions or relevant conversations have already taken place)</p> <p>4 - one market leverage point with proven intervention strategies and MT success</p> <p>5 - two or more market leverage points with proven intervention strategies and MT success</p>
Sustained Benefits	Sustained benefits are the structural changes that will occur to lock in the desired market behavior. The reviewer should have a theory for where or how those changes might occur and have a plausible strategy to create that change.	<p>1 - no changes in market structure/infrastructure/regulations envisioned that could result in sustained market adoption</p> <p>2 - changes in market structure/infrastructure/regulations that could result in sustained market adoption are envisioned, but no strategy is identified</p>

	<p>Examples of sustained benefits include adopted code or standard, permanent changes to manufacturing operations, market practice, or permanent infrastructure that does not require CalMTA support.</p>	<p>3 - the MTI envisions a change in market conditions/infrastructure/regulations that could result in sustained market adoption, and infrastructure mechanisms exist to support change, but the strategy is not clear</p> <p>4 - the MTI includes a plausible strategy that can lead to changes in market conditions/infrastructure/regulations that could result in sustained market adoption, and infrastructure mechanisms exist to support change</p> <p>5 - the MTI includes a proven strategy that can lead to changes in market conditions/infrastructure/regulations that would result in sustained market adoption</p>
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