



# **How the Energy Efficiency and Demand Response Industry Can Navigate Through the COVID-19 Crisis: A CEDMC White Paper**

**August 21, 2020**

## **Prelude: Why Do Energy Efficiency & Demand Response Matter Right Now? Lowering Utility Bills & Adding Jobs!**

While paying utility bills is always a concern for consumers and businesses, COVID-19 has altered the landscape dramatically. During shelter-in-place families are spending much more time at home, with many facing reduced wages or job losses. Analysis shows consumption increases of 25% or more, which would result in bill increases even larger than that due to tiered rates. Energy efficiency and demand response can play a valuable role in reducing utility bills during this difficult time, enabling Californians to pay for critical food, medicine, and rent and for businesses to produce needed supplies efficiently.

California is the U.S. leader in energy efficiency jobs, with over 300,000 people working locally to reduce energy consumption through the promotion and installation of energy efficiency and demand management measures. Unfortunately, more than 54,000 energy efficiency and demand response jobs (over 20% of CA's energy efficiency industry) have already been lost during the pandemic.<sup>1</sup> Bringing these jobs back can reinvigorate the economy while providing valuable bill reductions to customers suffering from the effects of the current health crisis. With over \$400M in funding for utility efficiency projects already approved –capable of generating over \$4B in energy savings and economic activity– critical relief efforts can ramp up quickly to reinvigorate California's economy.

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<sup>1</sup> E2, "Clean Energy Employment Initial Impacts from the COVID-19 Economic Crisis". August 2020. Available at: <https://e2.org/wp-content/uploads/2020/08/Clean-Energy-Jobs-July-COVID-19-Memo-Final.pdf>

## Executive Summary

The California Efficiency + Demand Management Council (the Council) has authored this paper to help the energy efficiency and demand response industry navigate the complex new realities we all face in light of the COVID-19 health, economic, and social crisis. This demonstrates the value of our industry in driving economic recovery by presenting an overview of the key challenges and opportunities we face, as well as near- and long-term actions necessary to alleviate the economic impacts of the current health crisis and empower a key ingredient needed to revive California's economy.<sup>2</sup> The following points are made in this paper:

### Challenges

- The EE + DR industry faces reduced revenue/funding due to halted, suspended, or eliminated initiatives as a result of the pandemic.
- Our industry has already lost over 54,000 jobs to date in California –with more jobs likely to be lost before the outlook improves– many of which may not return after the pandemic.
- Diversity & inclusion remains a huge challenge, with 78% of our industry identifying as white.
- The health impacts on both personnel and projects are large, but also difficult to quantify.

### Opportunities

- The EE + DR industry is uniquely positioned to resume work quickly as a result of hundreds of millions in approved and allocated funding.
- EE + DR work takes place locally in communities (i.e. it cannot be outsourced), presenting an enormous economic stimulus opportunity.
- Leverage this opportunity to refresh outdated cost-effectiveness standards.

### Recommendations

- Regulators must suspend feasibility requirements for EE and DR projects, funding additional workforce, education & training programs, fast tracking valuable new programs and other near-term efforts can mitigate the immediate effects of the crisis.
- Regulators must permanently allow techniques that enable remote validation of savings now and in the future.

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<sup>2</sup> As a California-focused organization, the context and recommendations are largely state-specific; however, this paper can nonetheless be useful in other states and jurisdictions as the energy efficiency and demand response industry navigates this health crisis.

- Cost-effectiveness methods must be immediately reformed to ensure the long-term health EE and DR.
- EE and DR program administrators and implementers must explicitly and intentionally address the issues of diversity, equity and inclusion.

## **Background**

The Council has authored this paper to help the energy efficiency and demand response industry navigate through the complex new reality in light of the COVID-19 health and economic crisis. This aligns with the goal of firmly establishing energy efficiency's (EE) and demand response's (DR) place in the distributed energy resource (DER) market and strengthening the role of DERs in the implementation of California's clean energy goals and boosting our economy as outlined in the Council's Strategic Plan.

### **What Are the Key Challenges COVID-19 Forces Upon the EE + DR Industry?**

There are broad challenges facing the EE + DR industry during and in the wake of the COVID-19 crisis. These are divided into three categories below, including revenue & funding, workforce, and health.

#### Revenue & Funding

The nearest-term and most impactful challenge facing the EE + DR industry is the significant drop in revenue due to halted, suspended, or eliminated projects and initiatives. During and following periods where shelter-in-place is being enforced, there are hurdles to implementing efficiency projects. These include both explicit (e.g. orders from program administrators stopping work) and implicit (e.g. customers reticent to allow EE + DR workers in their homes) efforts. This leads to a drop, and in some extreme cases even a total cessation, to incoming revenue. This has significant effects, including those related to workforce (see below), as well as the overall funding of EE + DR initiatives. Some EE + DR companies, particularly those that are larger and more diversified, may be able to weather this storm. However, smaller and more focused firms – especially those unable to access recently-passed federal resources including the Paycheck Protection Program “PPP” loans – may not.

Should projects not be completed, it may impact the overall funding level for EE and DR. Despite approved, and in many cases committed and

allocated funds, the state's stewards of these funds (particularly the California Public Utilities Commission, or CPUC) may view uncompleted projects as demonstrative of unnecessary levels of funding. This dangerous perception could have significant impacts on future funding. Both these near- and long-term implications for funding have material impacts on the ability of the EE + DR industry to drive bill reductions and employment opportunities towards mitigating the current economic crisis.

### Workforce

California is the U.S. leader in energy efficiency jobs, with over half the State's 300,000+ people working locally to reduce energy consumption represented by members of the Council. Impacts to this workforce are the most obvious effect of the loss in revenue the EE + DR industry is experiencing. This has manifested itself in widespread staffing cuts, furloughs, reductions in hours, and other means of reducing costs. The result is nearly 54,000 energy efficiency and demand response jobs lost in California through the beginning of July.<sup>3</sup> This is incredibly unfortunate for the lives and livelihoods of affected individuals, and the Council is increasingly concerned about this unfortunate reality. These hard working people can reinvigorate the state's economy while providing valuable bill reductions to customers suffering from the effects of the current health crisis.

The impact of workforce reduction in California is twofold (beyond the obvious human impact). First, skilled workers may choose to either leave the industry or the state to seek employment either in other skilled fields or other markets (or both). Second, if our industry's delivery infrastructure is decimated, it may hinder the ability of energy efficiency and demand response to meet state climate and energy goals, undermining the value of these resources in the broader energy resource mix. This may enable other industries to claim that there are cheaper and faster ways to reach state goals. Finally, some program administrators have proven to be more conservative about restarting field work than government guidelines, potentially stunting the rejuvenation of EE + DR as compared to other industries. Ensuring a robust EE + DR workforce is critical to driving economic growth, particularly due to the localized nature of our industry's work.

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<sup>3</sup> E2, "Clean Energy Employment Initial Impacts from the COVID-19 Economic Crisis". August 2020.

Available at:

<https://e2.org/wp-content/uploads/2020/08/Clean-Energy-Jobs-July-COVID-19-Memo-Final.pdf>

In addition to the challenges above, a major additional issue facing the EE + DR industry is a noticeable lack of diversity, equity and inclusion. Data around the racial and ethnic makeup of the EE + DR industry validates the individual perspectives of many that there is significant work to do in ensuring proper representation.<sup>4</sup> While 78% of our industry identifying as white is on par with national workforce averages, we must strive to be far better than average. Quite simply we need to do better, and offer clear opportunities to people of color. The Council is currently developing an action plan to provide finite actions that can be taken by this organization to address these challenges.

### Technical & Programmatic

This crisis presents a number of technical challenges unique to energy efficiency and demand response. Chief among these is energy savings and climate goal achievement. Given the halting, suspension, and cancellation of many projects, program administrators may experience greater difficulty in achieving California's essential carbon reduction policy goals. Moreover, significant shifts to energy consumption as a result of shelter-in-place and other pandemic-related policies complicate existing baselines and shift usage patterns in unforeseen ways.

Relatedly, the ability to carry out Evaluation, Measurement, and Verification (EM&V) activities, a central facet of the EE + DR industry, will face unprecedented challenges in measuring energy savings, particularly given many in-person evaluation activities (e.g. survey and inspections, discussed in greater detail below) will change considerably. As EE + DR are pivoted to an economic recovery driver through job creation, the relevance of EM&V for energy savings may be diminished, presenting both technical and messaging challenges.

### Health

This paper would be remiss in not examining the health impacts of the COVID-19 crisis. Energy efficiency and demand response require many forms of in-person work, e.g. installation of efficient appliances, inspection and quality control, as well as the manufacturing of efficient measures themselves. Intertwined in all of these are potential health issues for the people undertaking this important work. Similarly, there are health concerns

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<sup>4</sup> Lara Ettenson, NRDC, "Clean Energy Jobs Still Lead, But Worker Diversity Needed", March 18, 2019. <https://www.nrdc.org/experts/lara-ettenson/clean-energy-jobs-still-lead-worker-diversity-needed>

on the customer side, with potential customers reticent to allow outside workers in their homes. Until a vaccine is developed and widely available completing work may prove difficult, and in terms of consumer confidence hesitancy may continue even afterwards.

## **What are the Key Opportunities COVID-19 Presents for the EE + DR Industry?**

While this health crisis has myriad negative effects, it also presents a number of key opportunities for the EE + DR industry.

### Revenue & Funding

While many industries struggle to maintain funding during a deep economic downturn, the EE and DR industry is uniquely positioned to resume work quickly as a result of approved and allocated funding. The CPUC has already approved \$540 million in EE funding and \$243m in DR funding for program year 2020, placing EE and DR programs in a unique and privileged position compared to many other industries scrambling to rebuild.<sup>5,6</sup> This important funding stream enables immediate work to jumpstart while additional funding is sourced. Additionally, a significant amount of unspent funds from previous years is available, with approximately \$582m in unspent funds from the 2016–2019 period alone. While according to the CPUC these funds roll over from one year to the next, the pattern of allocated but unspent funds demonstrates an opportunity to leverage funds to achieve broader goals within the context of economic recovery. These funds can be used as a springboard to implement projects and initiatives that provide a wide array of immediate, localized benefits (workforce, environmental, economic, equity). Beyond that initial tranche, additional funding can help not only bring back the jobs that have been lost, but drive additional employment during this difficult economic period.

### Workforce

The current health, economic, and social crisis have already had significant impacts on the workforce, as described in the previous section. However, the opportunities to not only rejuvenate, but even to grow, the pool of energy efficiency and demand response workers is huge. A critical benefit, and therefore a significant opportunity, of energy efficiency and demand

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<sup>5</sup> IOU 2016–2020 Energy Efficiency Filings and Advice Letters.

<sup>6</sup> IOU 2020 Demand Response Filings (Combined DR programs and DRAM).

response work is that by definition it must take place locally in communities, and therefore cannot be outsourced. The installation of efficient appliances, or of demand response load control measures and technologies, necessarily requires work to take place throughout the state that drives both localized and grid benefits. This not only presents an enormous opportunity to drive economic recovery directly in and for communities through EE + DR initiatives that also lower bills, save energy, and bring us closer to realizing our carbon reduction goals.

Beyond the important localized benefits, there are discrete opportunities for workforce development. First, the restarting of programs, projects, and initiatives as shelter-in-place gradually wanes will enable a return to work for much of the in-field workforce. Second, economic recovery initiatives (whether federal, state, or local) can enable an expansion of previously unviable projects that can reinvigorate the workforce. Finally, expansion of workforce, education, and training programs can expand the pool and build a pipeline of trained workers. On this last point, it is central that training and education programs explicitly address diversity, equity and inclusion; the idea that important energy efficiency and demand response work can take place in workers' own communities may help to further drive enthusiasm for joining our industry.

### Technical & Programmatic

While the technical and programmatic hurdles discussed in the previous section are significant, this crisis presents an important opportunity for self-reflection around changes that have been under serious consideration by many stakeholders for some time. Chief among these is cost-effectiveness, the current regime of which has been the subject of significant debate (Note: details of recommended cost-effectiveness changes are discussed in the near- and long-term sections below). Standard Practice Manuals, how the cost-effectiveness rubber meets the programmatic road, provide a useful and somewhat regular opportunity to address program inputs. Additionally, there are opportunities to review the technical and programmatic “status quo”, including program administration, delivery, EM&V, and others. Notably, the impact of program equity can provide a significant benefit to impacted communities, particularly disadvantaged and low-income communities that are experiencing proportionally greater impact from the current economic, health, and social crisis.

Collaboration across stakeholders will be critical throughout this process of re-examination. The utilities, program implementers, evaluators, advocacy groups, environmental organizations, industry associations, nonprofits, and the workforce must find areas of common ground and symbiotic advancement. For example, suspension of cost-effectiveness threshold requirements would enable expansion of programs, driving employment and demand for new efficiency equipment. These efforts could be focused on the significant potential for energy efficiency upgrades in disadvantaged and low-income communities, driving valuable bill reductions and positive social impact. Re-examining technical and programmatic requirements can thus ensure a more flexible program delivery infrastructure to enable a more complete approach to recovery.

### Health

The Council is not a health organization; while we are able to highlight some risks stemming from the current crisis it is not within our expertise to expound on health opportunities. However, one area that has been a significant source of strain, and therefore an opportunity for improvement, throughout our industry is mental health. Between the constant specter of a novel disease, economic impacts that portend difficult times ahead (or already here), and social upheaval dominating the news cycle, mental health is impacted in new, complex, and difficult ways. We encourage our tight knit energy community to be mindful of one another, and for businesses to make the space for their employees to take better care of their mental health.

## **What Near-Term Actions can be Taken to Alleviate the Effects of COVID-19?**

### 1. Immediately Suspend Feasibility Requirements for EE Projects

Residential and business customers have cash-flow challenges and need financial assistance to unlock valuable energy savings that will reduce their energy costs. Many of these customers serve disadvantaged and low-income communities in need of urgent relief. The Council recommends the CPUC immediately and indefinitely suspend various requirements (including reducing all cost-effectiveness thresholds to TRCs of 1.0 or greater, allowing existing conditions baselines for all existing replacement and retrofit projects, and discontinue all CPUC custom review procedures) in order to allow more viable projects to move faster through the process. Furthermore, the Council believes that the CPUC should temporarily allow full effective



useful lifetimes (EUL) for all measures, remove gross realization rate (GRR) discounts, and remove net-to-gross (NTG) discounts. We recommend that these measures be taken immediately and remain permanent to facilitate economic recovery and revitalization.

## 2. Allow Remote Validation

For EE programs that are performance-based or meter-based, many customer projects that would result in customer bill savings are at the final stages of approval but still require onsite validation in order to finalize processing for the project approval. Since the shelter-in-place order has been issued (and for potential future shelter-in-place orders that may be implemented), contractors are not permitted to go onsite to validate the savings performance. That means that customers who are waiting for incentives for projects that have already been installed will not receive their incentive payments for quite some time. The Council recommends that the CPUC direct the investor-owned utilities (IOUs) to grant permanent waivers to contracting provisions and allow validations and approvals based on remote validation techniques combined with contractor and customer assurances and by using pre-approved *a priori* savings claims.

## 3. Accelerate Process for New Customer Savings Programs

Customers should be ensured access to existing revenue streams to save on bills. Most – if not all – of the steps needed to secure new programs through the solicitations process can be taken through remote means (again, valuable now as well as in potential future shelter-in-place orders). As such, the Council recommends that the CPUC should order the IOUs to accelerate their solicitation processes for third-party customer savings programs, including the market transformation administrator solicitation, in order to assure compliance with the ambitious schedules outlined by the CPUC.<sup>7</sup>

## 4. Enable Programs that Support Broader Policy Objectives (e.g. Non-Resource Programs)

It is the Council's understanding that the IOUs are in the process of scaling back many of their non-resource programs (e.g., Workforce Training & Education and Marketing, Education & Outreach) in order to meet broader CPUC EE portfolio requirements. These essential programs directly result in customer bill reductions and indirectly both deepen the skills of the existing

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<sup>7</sup> As shown in the Commission's March 11th letter to the IOUs from Deputy Executive Director Randolph.

workforce and increase the pool of trained workers. We request that the CPUC direct these, and all other non-resource programs be immediately restored. These programs support the growth and advancement of our industry’s workforce, which is invaluable to job creation and economic recovery during the current downturn.

## **What Long-Term Shifts are Needed in Response to the COVID-19 Crisis?**

While short-term actions can provide immediate relief, the current health, economic, and social crisis provide an important opportunity to drive long-term change. The Council recommends the following long-term shifts:

### 1. Reform Cost-Effectiveness Methods

It is critical that the CPUC implement technical changes to be applied to cost-effectiveness in assessing energy programs to enable the full arsenal of EE and DR efforts to be brought to bear to combat the current crisis. The technical changes needed are complex and broad. An especially strong framework for short-term cost-effectiveness reform was laid out in a paper by Adam Scheer of Recurve, “Whitepaper: Evolving Cost-Effectiveness Policy and Tools to Enable Modern Energy Efficiency and Demand-Side Management”.<sup>8</sup> The key areas he pinpoints to improve cost-effectiveness –including modification of EE cost-effectiveness policy to enable balanced decision-making, the need for updated documentation and tools, removing free-rider incentives from the TRC, and addressing much-needed reforms to the potential and goals framework– represent an excellent deep-dive into the technical changes required.

EE + DR portfolio reform represents the best avenue to create a more accurate, effective cost-effectiveness framework as the CPUC appears to be more open to portfolio reform than cost-effectiveness reform specifically as demonstrated by the shift to Rolling Portfolios. Please note this section draws heavily from concepts devised by the Natural Resources Defense Council (NRDC).<sup>9</sup> Their vision of a reformed portfolio allows resources to compete effectively not just within buckets (e.g. different energy efficiency measures

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<sup>8</sup> Adam Scheer, Recurve, “Whitepaper: Evolving Cost-Effectiveness Policy and Tools to Enable Modern Energy Efficiency and Demand-Side Management”. October, 2019. Available at: <https://www.recurve.com/blog/rethinking-cost-effectiveness-to-meet-the-needs-of-the-modern-grid>

<sup>9</sup> Natural Resources Defense Council, “NRDC Comments on Administrative Law Judge’s Ruling Inviting Responses to Potential and Goals Policy Questions: Appendices A – D”. May 22, 2020. Available at: <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M338/K276/338276629.PDF>

and programs), but against other types of resources as well (e.g. energy efficiency vs. power plant investment). This takes the form of three pillars:

1. Resource EE programs (short-term, comparable to generation).
2. Marketing Transformation (longer-term scouts to dig up EE opportunities).
3. Equity (ensuring EE programs benefit everyone, particularly low-income and disadvantaged communities).

In addition to these three pillars, we envision a fourth pillar in the form of Non-Resource programs. We define these as critical efforts supporting and enabling EE programs that may not directly result in EE savings, but are nonetheless critical to the long-term success of EE. Such programs include workforce, education, & training, emerging technologies, and marketing, education, & outreach.<sup>10</sup>

It is The Council's appraisal that cost-effectiveness reform is only needed for the first pillar, in order to allow EE programs to compete on a level playing field with other energy investments. However, the need for reform even in this one pillar is significant; in particular The Council believes cost-effectiveness can be reformed most effectively via migration to the Program Administrator Cost Test (PAC). Compared to the TRC, the PAC boasts numerous advantages in accurately capturing both the costs driven by EE programs. Notably, the PAC captures the full value of EE programs, and does not penalize private investment in EE measures – a critical shift given customers are often willing to make significant investment to improve the efficiency of their homes and businesses. While this approach does not capture the full scope of benefits (particularly non-energy benefits), the PAC test's ability to accurately appraise costs is a significant step up from the current TRC regime.

Both market transformation and equity-focused programs have different goals, and therefore cost-effectiveness must be assessed differently. Discussion around current and future cost-effectiveness standards for these programs are critical, and have been and will continue to be the subject of focused discussion that is beyond the scope of this paper.

There is a considerable amount of work that remains in fleshing out EE + DR portfolio reform, both on its own merits and as a means of driving

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<sup>10</sup> California Efficiency & Demand Management Council, "Opening Comments on Administrative Law Judge's Ruling Inviting Responses to Potential & Goals Policy Questions", p. 16-18. May 22, 2020.

cost-effectiveness reform. In weighing the broader policy objectives within the frame of technical measurement and assessment, it is critical that the CPUC considers the context of the process of reforming cost-effectiveness; shifting energy efficiency portfolios can provide a useful means of enabling continuing investment in this least-cost resource.

## 2. Align EE Goal-Setting Process with State Carbon Reduction Policies

The Council strongly believes that savings goals must be aligned with current state policies. In other words, SB 350 is a statutory mandate that aims to double the levels of efficiency by 2030. Some portion of that doubling falls within the responsibility of the CPUC's EE statutory authority. The current CPUC approach to goal-setting arrives at an amount of potential that is defined based on a policy-centric approach to market and achievable potential. No other region of the United States looks at EE potential or sets goals in this manner. New York has set a savings goal of approximately 3% of incremental electric sales by 2025.<sup>11</sup> Massachusetts currently has in place a 3-year target of 2.7% reduction in retail sales during the 3-year period 2019-2021.<sup>12</sup> Illinois has set savings targets of over 2% annual reductions by 2030 based on a legislatively derived mandate.<sup>13</sup> Furthermore, many of the Commission's current policies and rules governing EE are flawed and are in urgent need of reform. We believe that the goal-setting process for EE should be no different than how goals are set for other clean energy resources, including clean distributed generation and energy storage.

The Council strongly recommends that the EE goals should be set to align with the energy savings levels identified from SB 350, which aims to double the level of efficiency achieved by 2030 relative to 2015 levels. Once the savings goals are set, then the objective of the potential study should be to identify the specific market segments and end-uses where there is potential for achieving those goals. We would like to see the EE goal-setting process for the 2022 and beyond to be based on a format using SB 350 doubling goals.

Once the EE goals are set by the CPUC, we believe it is important that the CPUC establish a process by which those goals can be monitored and potentially adjusted to account for changing conditions. As the current COVID-19 crisis has shown, there are factors that can impact the ability for

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<sup>11</sup> <https://www.nyserda.ny.gov/About/Publications/New-Efficiency>

<sup>12</sup> <https://database.aceee.org/state/energy-efficiency-resource-standards>

<sup>13</sup> <http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=2934&ChapterID=5>

program administrators and implementers to meet their savings goals within the pre-defined timeframes. We suggest that the goal-setting process include a provision for having monitored triggers that would be based on economic indicators such as changes to gross domestic product and/or employment levels. As evidence is revealed about any market shocks that might be significant enough to expect disruption in the industry's ability to attain goals, triggers could then automatically invoke a process to consider adjustments and flexibly monitor/manage the goals until such time that market disruptions stabilize.

## **Conclusion**

The current COVID-19 health, economic, and social crisis has brought unprecedented challenges to the demand management industry. The Council has authored this paper to help our industry navigate these difficult times by understanding the hurdles we face and how we can use this time to better our industry, our state, and our environment.