COVID-19 is Making Us Sick

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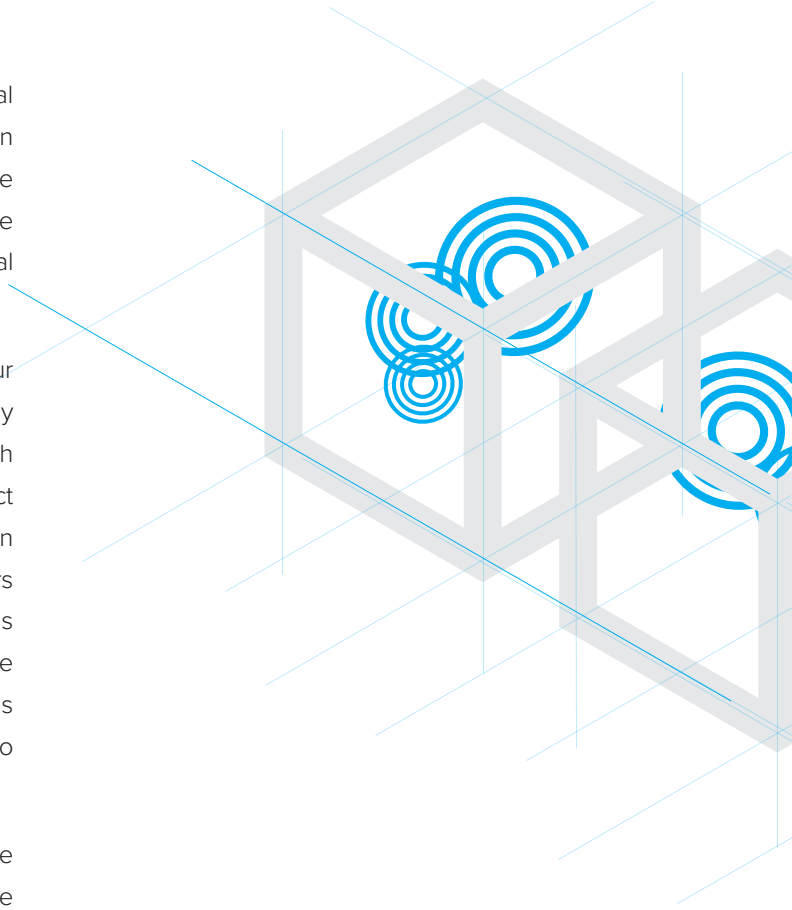
ENERGY EFFICIENCY IS PART OF THE CURE

PUBLIC HEALTH IS AT THE CENTER OF OUR NATIONAL ATTENTION

Questions about how to protect our families, neighbors, and employees consume our thoughts as parents, caretakers, business owners, and policymakers.

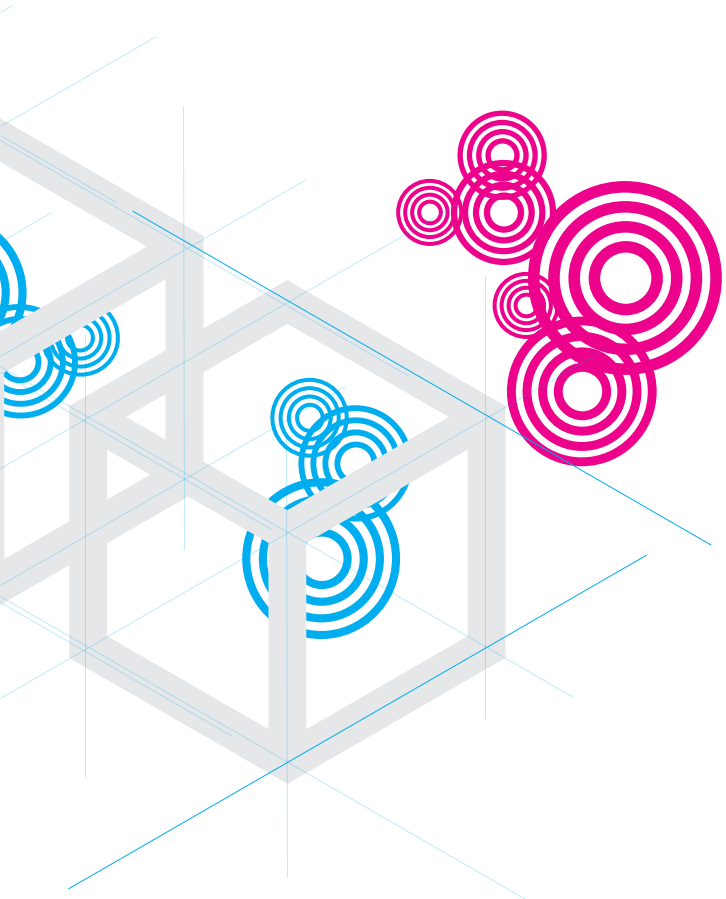
Where does that leave energy?

COVID-19 is in the air we breathe and is driving our political discourse. The virus has transformed the way we engage in our most meaningful and intimate interactions. Despite these seismic social changes, we have not aligned our industry with the shifting values playing out in what may be the greatest cultural transformation of our lifetimes.



The very spaces that keep us thriving are now making us sick—our homes, workplaces, and social venues—where the virus is easily spread through aerosols (fine droplets) in the air and contact with our communities.[1] In a practical sense, our industry has a direct and critical role to play in protecting public health. The American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHREA) is continually updating guidance on building operations changes and ventilation and filtration methods to reduce the airborne concentration of the virus[2] and multiple scientific journals have signaled that improving indoor air quality is elemental to the future of our health.[3]

Now is the time to value, reframe, and extol the many measurable public health and safety benefits of our industry. In doing so, we have the opportunity to elevate the relevance of energy efficiency, expand the reach of our programs and services, and show care for customers during a fearful time. But how?



First, we need to change the way we discuss impacts.

Typically, utilities, program administrators, implementers, evaluators, and regulators measure demand-side management impacts in terms of MWh savings, bill savings, load shed, and number of participants. It is time that we reframe these metrics by touting that higher rates of efficiency reduce point-source emissions from fossil fuel generation sources. This, in turn, lowers local rates of air pollution and childhood asthma, both of which increase the vulnerability of our citizens to the worst effects of COVID-19.[4] More globally, this also means lower carbon emissions and therefore reduced risks from climate impacts like deadlier storms and sea level rise.[5]

Second, we need to value public health benefits.

Some expanded cost-benefit models do measure lifetime carbon and greenhouse gas (GHG) emissions reductions, like the model the EPA created for state and local governments to quantify the benefits of energy efficiency and renewable energy. These should be standard practice.[6] Additionally, we need to elevate these factors in our reporting. Our spotlight on savings has taken our attention away from health and climate metrics and kept us from recognizing that MWh and MMBtu measurements can represent other things that the public cares about—especially right now—like lower rates of indoor air pollution.

Third, we need to focus on both micro and macro benefits of health and not limit the discussion to emissions and pollutants.

Our industry can inform the public of the health benefits of energy efficiency at the **micro** (building) level and **macro** (public benefits) level.

Using current models and conversion factors, we can estimate air quality and health outputs based on energy efficiency actions and measures. Highlighting these metrics on scorecards, factoring them into performance reviews, and making sure they are prevalent in annual reports will shift the narrative and tighten the energy and health connection.

Fourth, we need to rely on better data.

The greatest gap we have in our metrics is our reliance on general conversion factors to estimate outcomes based on inputs like peak demand savings. We have been reporting carbon and emissions benefits using adjustment factors and formulas, but not necessarily truing up estimates of criteria air pollutants (ozone, particulate matter, sulfur oxides) around and near generating facilities. To truly prove the benefits we model, we need to use air quality and emissions monitoring data—real measurements—in local/regional communities and overall. For example, adopting models like the Locational Emissions Estimation Methodology (LEEM) developed by Wayne State University, can help the industry better predict emission levels and estimate costs over time to make, "more informed emission management decisions for the future."[7]

Fifth, we need to focus on the citizens most adversely impacted by generation.

Regulators are increasingly asking program administrators to demonstrate proportional or greater-than-proportional benefits of efficiency to underserved and environmental justice communities. In some states, administrators are tasked with measuring achieved emissions reductions from the source since it is long been proven that health and pollution burdens are higher in communities of color and low-income communities.[8]

So how do we go about doing this work? Start by understanding where impacted communities are located. Many states and federal agencies have or are developing frameworks to identify environmental justice (EJ) communities. We discuss this work in our article "Defining your Underserved Customers". These frameworks include the California EnviroScreen 3.0 and the EPA Environmental Justice Screen (EJSCREEN). For example, EJSCREEN is an environmental justice mapping tool that uses eleven environmental indicators (including particulate matter, traffic proximity and volume), six demographic indicators (including percentage of low-income, non-white, and less educated residents), and eleven environmental justice indices (including lead paint indicators and proximity to national priorities list sites) to show how the risk in select communities stacks up against what is common in the state, region, and U.S. in total. For generations, EJ communities have asked that their lived experiences are honored and not wait for data to bear this out. In a year underscored by equity (and surrounded by an abundance of data) our industry must prioritize impacted communities.

Finally, tell your story.

Our industry can address numerous health issues that people and businesses face today, including those associated with poor indoor air quality. The benefits are real and address impacts that are on everyone's mind, like reducing the risk of COVID-19 transmission. If we can measure and communicate these health benefits well, we can serve more people. If we do not make the connection between energy and health, we risk at minimum losing an opportunity to prove the value and relevance of what we do, and at most risk losing public support and funding. Aligning our tools and metrics with what policymakers know and trust, or even using open data sharing to allow other agencies to model energy efficiency benefits, could help bring a broader audience into the narrative. Then, we can draw the crucial connection between energy, health, and the climate that we can all believe in.

Gathering the Data

Once you identify regions where you need to measure impacts, gather baseline measurements and identify data sources for direct localized and overall measurement:

- **Occupant health outcomes:** Determine the baseline health conditions of residential customers and employees before energy efficiency projects and measure changes after installation using metrics like fewer sick days and lower rates of absenteeism
- **Public health metrics:** Partner with agencies to provide public health metrics like childhood asthma or hospitalization rates and measure whether changes in generation are associated with reductions in negative outcomes
- **Indoor environmental conditions:** Take baseline measurements of indoor pollutants like excessive moisture/humidity, mold, VOCs, carbon monoxide, NOx, or radon, and measure again after energy projects
- **Criteria air pollution and GHG emissions from power plants:** Use monitoring data and localized measurements to understand changes in hazardous pollutants over time

If you do not have the measurements or models to do this, partner with agencies or scientific working groups to collaborate. You can use and repurpose data collected for public health and environmental research to assess the impacts of energy-related benefits.