1) Milestones and Momentum to Date

A groundswell of large corporate buyers of electricity, and the utilities that serve them, have joined in making significant commitments to a decarbonized economy. Five notable data points:

- More than 330 companies have announced plans to reducing carbon emissions in line with climate science.
- More than 130 global brands have committed to match 100 percent of their operational energy consumption\(^1\) with the purchase of renewables/RECs (Renewable Energy Certificates)\(^2\).
- Nearly half of the Fortune 500 have set clean energy consumption or emission reduction targets.
- More than 300 U.S. cities, towns, or counties have stated a commitment to climate action\(^3\).
- Within the U.S., voluntary purchases of renewable energy nearly tripled from 2010 to 2016\(^4\).

2) The Next Generation of Low-Carbon Impact Solutions at Least-Cost

Renewable energy growth has been highly concentrated in particular regions, where some electricity markets are actually “saturated” with wind and solar projects. Moreover, 100% renewable energy commitments continue to depend on existing fossil capacity and integrated grid services.

For these reasons, options that address greenhouse gas (GHG) emissions in the wider energy system represent the next frontier as large buyers pursue substantial commitments to consuming renewable energy. The goal is to measure low-carbon impacts while also promoting renewable energy generation.

Recognizing this reality, large buyers and their utility providers are collaborating on new approaches that can guarantee GHG emission reductions. In some cases, the most economical solution with the lowest carbon impact is \textbf{not} a new wind or solar plant for an individual company, but rather a system-wide approach to providing clean energy for multiple customers.

While continued deployment of wind and solar is a cornerstone, other relevant technologies and portfolio approaches need to be on the table. For example, electric vehicles, large batteries, hydroelectric systems, nuclear energy, demand response strategies, etc., all have the potential for providing a high-value contribution to achieving stretch goals for GHG reductions.

In the absence of a policy mandate, regulators must be persuaded that these new solutions will drive their communities towards a low-carbon economy at least cost. Similarly, environmental advocates, the financial community and other interested stakeholders will want to authenticate the intended benefits and potential costs of these new solutions.

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\(^1\) Represents global brands that have signed on to the \texttt{RE100} initiative as of July 2018.

\(^2\) A Renewable Energy Certificate represents the property rights to the environmental attribute of RE generation.

\(^3\) Platforms include: c40, ICLEI USA, Global Covenant of Mayors for Climate & Energy, Under2 MOU, and We Are Still In.

3) Changing Our Mindset to Allow for New Possibilities

For many years, individual renewable energy additions were a large buyer’s only practical solution to reducing carbon impact, and environmental advocates focused exclusively on this measure of success. The good news is that as markets and technologies have matured, there are greater opportunities to match customers’ clean energy needs with an electric utility’s resource base.

This will require education, understanding, transparency and trust among all the leading actors—beginning with regulators, NGO advocates, customers and utilities. Biases and presumptions need to be left at the door. The shared objective needs to stay focused on how best to achieve large-scale, low-carbon impacts in a cost-effective manner.

4) Customers Need a Credible Story of Their Impact on Emissions

Large energy buyers are pressured on their emissions impact by their own customers and investors. The response has typically been to add a new wind or solar project, documented through RECs. As utilities embark on their own decarbonization plans, these large energy buyers now have the opportunity to scale up their impact through actions that “green” the grid and energy systems overall.

For example, a large buyer could proceed as follows: a) purchase energy from a blend of new wind and solar (including the REC) and existing nuclear; and, b) further use on-site energy storage solutions to utilize off-peak wind and peak solar generation to help balance the grid. This kind of integrated solution can meet a 100% renewable energy goal and result in lower emissions.

5) Utility Perspective on New Low-Carbon Resources

Some utilities want to rapidly add renewable energy but find consumer advocates and regulators resistant to their proposals, absent a mandate to reduce emissions or add new supply. In other words, early-action—even when economic—can be difficult to justify, especially with uncertainty about the size of future load requirements and federal policies.

As a regulated entity, utilities must consider a holistic, cost-sensitive approach to reducing emissions by looking at a diversity of resources. All low carbon options must be available with a focus on technologies that can be integrated with renewables and combined to deliver reliable power to all.

Large-scale customers and their utilities need to seek alignment on renewable energy expansion opportunities that shares benefits with residential customers. To avoid a piecemeal allocation of clean power resources, customers need to collaborate with utilities on integrated solutions rather than focus exclusively on individual projects.

6) It’s Possible to Go Further Together

Nearly all large energy buyers already annually report the GHG emissions from the energy they buy. Many have set GHG reduction goals, alongside their renewable energy purchasing pledges. With transparency from the utility, they can begin to work hand-in-hand to reduce system emissions for everyone and then stretch to close any remaining gap between the system emissions and the energy buyer’s individual ambitions.

Working together on a decarbonization plan, utilities and their customers can deliver lower-cost, larger-scale emissions reductions that satisfy regulators.