



# THE POWER OF COLLABORATION: HOW U.S. CITIES AND CORPORATIONS CAN WORK TOGETHER TO ADVANCE RENEWABLE ENERGY

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## EXECUTIVE SUMMARY

### Highlights

- Large energy users with renewable energy targets—like cities and corporations—face technical, policy, and market barriers when procuring renewables for their own operations and when attempting to expand access to renewables for other energy users.
- Municipal-corporate collaborations can remove these barriers and advance renewable electricity generation and use across the United States. Amplifying, enhancing, and scaling these efforts can help accelerate the clean energy transition.
- To date, municipal and corporate renewable energy buyers have partnered on education and outreach efforts, joint procurement of renewable electricity, collaborative engagement to remove market barriers, and equitable deployment of renewables within communities.
- These collaborations demonstrate civic and climate leadership and yield a variety of benefits, including increased economies of scale, reduced costs and material risk, positive publicity, equitable community-wide access to renewables, and more rapid progress toward meeting individual and shared climate and energy targets.
- Collaborations between municipal and corporate renewable energy buyers can add complexity to project implementation but can also be substantially more impactful than one entity working alone, for example, by increasing the size of or participation

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in a deal. For success, they require initial outreach and discussions; alignment on goals, roles, and responsibilities; adequate funding and staffing; and continued participation from all parties.

## Context

Decarbonizing the electricity sector is an essential strategy for reducing greenhouse gas (GHG) emissions. While action from the federal government is crucial for hitting climate goals in the United States, large energy users such as cities and corporations can play a significant role in this effort. Through actions like purchasing renewables for their operations, subnational actors could achieve 37 percent emissions reductions below 2005 levels by 2030 at the national level (Jaglom et al. 2020).

Across the United States, cities and corporations are increasingly setting aggressive goals to transition to 100 percent renewable energy—but making progress toward those targets is easier said than done. Both municipal and corporate renewable energy buyers face policy and market barriers that limit their ability to purchase renewable electricity. Even in states with a favorable policy climate and open access to the market, municipal and corporate energy buyers face challenges in executing complex technical renewables deals. This is especially true of cities, which tend to lack capacity and resources. Collaboration between municipal and corporate renewable

energy buyers can help individual entities achieve their own climate and energy goals and can broaden the scale of impact, expanding access to other large energy users and to marginalized community members who have been left out of the clean energy transition.

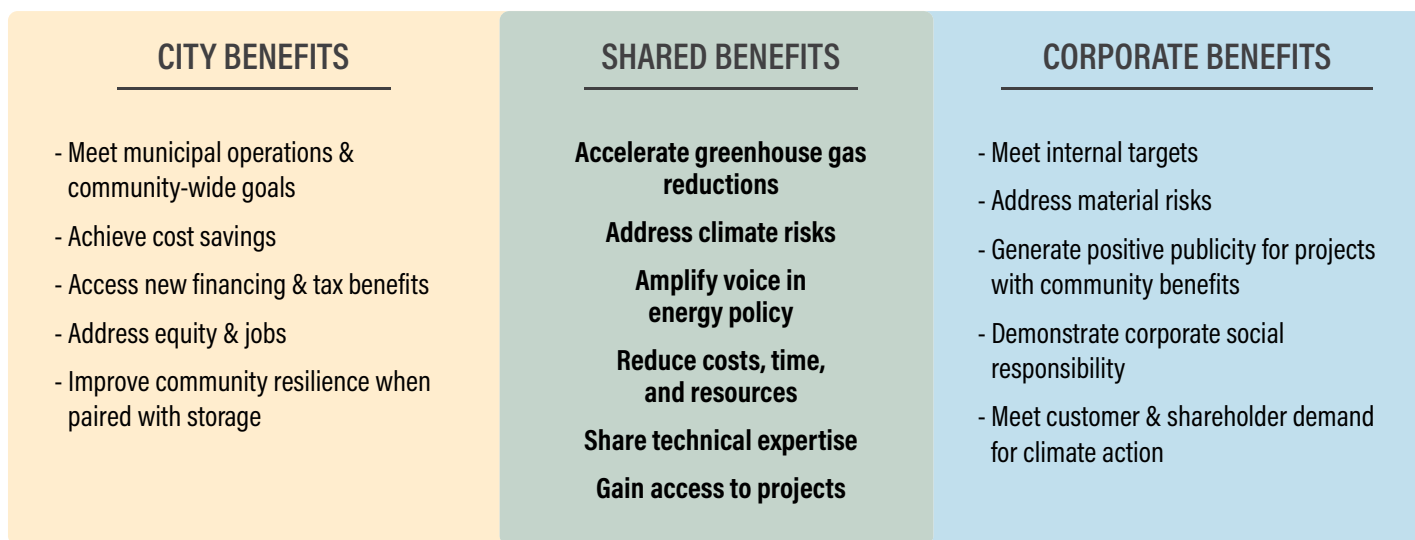
While some cities and corporations have successfully collaborated to catalyze renewable energy generation and use, there is a need to amplify, enhance, and scale these successes across the United States, as well as to identify new ways to creatively work together. Recognizing the emerging opportunity for municipal-corporate collaboration to considerably advance renewables, this working paper presents leading examples and lessons learned.

## Key Findings

Municipal and corporate renewable energy buyers see a variety of benefits from collaboration to increase access to and generation of renewable electricity. Collaboration can break down barriers to procurement, accelerate progress toward individual and collective energy and sustainability goals, and increase the visibility, impact, and scale of projects (see Figure Es-1 for additional benefits.)

Most cities and corporations begin working toward renewable energy goals by purchasing renewable electricity for internal operations, then looking for ways to expand their impact. To date, municipal-corporate collaborations on

Figure ES-1 | **Individual and Shared Benefits of Collaboration**



Source: WRI authors, based on interviews with municipal and corporate renewable energy leaders.

renewables have centered around education and outreach to increase the visibility and profile of renewable energy efforts, procurement of renewable electricity, policy engagement to increase access to renewables and remove market barriers, and promotion of equitable renewables development in their communities.

The breadth and depth of collaboration varies considerably, from one-off strategic conversations to formal and ongoing coalitions or public-private partnerships that

span years and topics. Table ES-1 summarizes the opportunities for collaboration and associated benefits that are described in this paper.

While there are many opportunities for and benefits of such municipal-corporate partnerships, collaboration can add considerable complexity to project implementation. These efforts take increased coordination, time, effort, and planning to recognize their full potential and avoid unnecessary delays. Cities and corporations that are look-

Table ES-1 | **Current Municipal-Corporate Collaboration and Associated Benefits**

COLLABORATION OPPORTUNITY	EXAMPLES OF CURRENT COLLABORATION	BENEFITS OF MUNICIPAL-CORPORATE COLLABORATION
<ul style="list-style-type: none"> <li>Education of residents and local businesses</li> </ul>	<ul style="list-style-type: none"> <li>Creating forums for ongoing public-private engagement on renewables</li> <li>Spurring residents and businesses to action through renewable energy challenges</li> <li>Providing education and technical assistance to other energy buyers through workshops, trainings, and convenings</li> </ul>	<ul style="list-style-type: none"> <li>Increase visibility and profile of both city and corporate renewable energy efforts to residents and shareholders</li> <li>Share best practices and knowledge across sectors</li> <li>Create a network or community of practice with likeminded people within a region</li> <li>Catalyze replication of successful actions and progress towards community-wide renewable energy goals</li> </ul>
<ul style="list-style-type: none"> <li>Procurement of renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>Developing new renewable energy solutions, such as a utility special contract</li> <li>Issuing a joint request for proposal for new renewable resources</li> <li>Sharing procurement-related tasks and responsibilities, such as negotiating with developers</li> </ul>	<ul style="list-style-type: none"> <li>Achieve better pricing and economies of scale</li> <li>Reduce risk and increase credibility throughout procurement process</li> <li>Increase the likelihood of deal success or successful utility engagement</li> <li>Decrease costs and increase efficiencies when sharing procurement-related responsibilities</li> <li>Allow smaller buyers access to utility-scale solutions</li> <li>Increase impact on the grid</li> </ul>
<ul style="list-style-type: none"> <li>Engagement to influence or remove market barriers</li> </ul>	<ul style="list-style-type: none"> <li>Working with electric utilities</li> <li>Engaging with the state regulatory body</li> <li>Advocating for state-level renewables-enabling policy</li> <li>Commenting on wholesale electricity market decisions and rules</li> </ul>	<ul style="list-style-type: none"> <li>Streamline and align engagement efforts</li> <li>Reduce staffing capacity/resources needed to participate in engagement</li> <li>Leverage existing technical expertise</li> <li>Show the breadth of demand for renewables</li> <li>Increase decision-maker receptivity to large energy customer needs</li> <li>Amplify voices and needs of individual cities and corporations</li> </ul>
<ul style="list-style-type: none"> <li>Equitable renewables development in communities</li> </ul>	<ul style="list-style-type: none"> <li>Including equity criteria like workforce development for marginalized communities into requests for proposals</li> <li>Ensuring the benefits of new renewables projects accrue to low-income and environmental justice communities</li> <li>Creating and supporting access to financing</li> <li>Enabling community solar projects for low-income families</li> </ul>	<ul style="list-style-type: none"> <li>Create meaningful health and economic benefits for disadvantaged communities</li> <li>Achieve internal equity goals</li> <li>Increase visibility and profile of both city and corporate renewable energy efforts to residents and shareholders</li> <li>Leverage and access funding for local renewables projects</li> <li>Create long-term reusable pool of funds and/or new revenue source for local businesses</li> <li>Reduce corporate tax liability</li> <li>Make rapid progress towards community-wide renewable energy goals</li> </ul>

Source: WRI authors, based on interviews with municipal and corporate renewable energy leaders.

ing to enter into these types of partnerships should work to identify and align goals and priorities upfront, clearly communicate roles and responsibilities, and consider when it is more efficient to work together and when it may be better to work in parallel but separately. The “lessons learned” boxes throughout this paper highlight considerations for more efficient and productive collaboration.

## APPROACH AND METHODOLOGY

This working paper was produced as part of Bloomberg Philanthropies’ American Cities Climate Challenge (ACCC), a program that provides more than 150 U.S. local governments with powerful new resources and access to cutting-edge support to help them meet their carbon reduction goals. As cities work to procure renewables to meet municipal and community-wide renewable energy and greenhouse gas (GHG) reduction goals, they are looking for ways to accelerate their own progress and mobilize other energy consumers within their communities. This paper explores the potential for cities to work with another group of large energy users—corporate renewable energy buyers—to advance individual and shared goals.

To learn more about the emerging trend of municipal-corporate collaboration on renewables, we began with a literature review and conducted a scan of corporations with renewable energy targets headquartered within the 25 Climate Challenge winning cities (see Appendix A). We also interviewed organizations that work with cities and corporations to advance renewable electricity procurement, such as the Renewable Energy Buyers Alliance (REBA), CDP, Urban Sustainability Directors Network (USDN), and the United States Environmental Protection Agency (EPA), to identify potential interviewees and case studies.

Based on this research, in the spring of 2020, we interviewed cities and corporations with renewable energy goals or targets that have explored the potential for municipal-corporate collaboration in pursuit of renewable energy, nearly 30 leaders from U.S. cities and counties, U.S.-headquartered corporations, and energy-focused organizations. Some had undertaken this type of collaboration, others had not. During the interviews, we asked about their organizations’ internal approaches to procuring renewables, how they are advancing public-private collaboration around renewables, challenges they faced in doing so, and opportunities for future collaboration. A full list of interviewees and interview questions can be

found in Appendices B and C. Case studies and lessons learned from these interviews are summarized in the following paper.

This report focuses on cities and corporations as two of the largest energy users that set climate and energy goals or targets and purchase renewable electricity for their operations. Collaboration can include other partners and be utilized to achieve other goals, like equity and local economic development; however, this report is scoped on the opportunity to advance renewable energy as a common municipal and corporate goal. Many of the lessons learned could be applied to collaborations with other large energy buyers, such as universities and public agencies like school districts. Because this report is based upon interviews on a rapidly evolving topic, there may be other examples or types of collaborations not covered below. Finally, collaboration on any of these topics is not mutually exclusive.

## THE NEED FOR MUNICIPAL-CORPORATE COLLABORATION ON RENEWABLES

Staving off the most significant expected impacts of climate change will not be possible without decarbonization of the electricity sector (Jaglom et al. 2020). Acting in addition to federal commitments, cities and corporations across the United States have voluntarily set targets and goals to purchase renewable energy. Today, more than 200 U.S. local governments have set 100 percent community-wide renewable energy goals (Sierra Club 2020) and over 300 leading U.S. corporations have become members of REBA, committing to run their operations on 100 percent renewable electricity in the coming years (Barua 2020).

Given the concentration of buildings, people, and industries, cities are heavy GHG emitters. Recognizing the substantial role they play, cities are establishing and pursuing municipal and community-wide renewable energy goals with limited resources, expertise, time, and capacity. While many cities have made progress in procuring renewable electricity to meet municipal demand, they must engage with, incentivize, and partner with residents and private-sector energy users to achieve community-wide renewable energy goals.

Corporations also play a large role in achieving U.S. climate commitments. They can have a considerable presence within a particular city and, simultaneously, across states and even countries. Corporate decisions ripple across complex and multilayered supply chains and geog-

raphies, so a corporate commitment to renewable energy can have an outsized impact. Since 2014, U.S. businesses have signed large-scale renewable energy contracts that total to nearly 30 gigawatts (GW) of new capacity (Jaburg 2021). While some corporations are just getting started, others have reached their preliminary renewables targets and are looking for new ways to demonstrate climate leadership, including opportunities to bring the benefits of renewables to low-income communities and communities of color.

Despite recent progress, many municipal and corporate renewables buyers still face hurdles when trying to purchase renewable electricity for their operations and expanding access to others in the community. Customer access to renewables varies from state to state, and cities and corporations often find they have limited options to affordably purchase renewables and influence key project criteria like siting or associated workforce development. For many, making progress toward individual energy goals will require changes to state and market rules governing how energy is produced, distributed, and consumed. Additionally, renewables transactions can be complex and involve legal and accounting risks that are especially challenging for risk-averse cities that must demonstrate responsible use of taxpayer dollars. Finally, ensuring that the benefits of renewable development flow to all citizens requires creative new financing streams and bringing in stakeholders outside of a city government or corporation.

While collaboration between municipal and corporate renewable energy buyers can help overcome these challenges, most existing action has focused on what buyers have the most control over—their own electricity use—and has been pursued in silos. The opportunity to collectively advance or use renewables has not been optimized, perhaps due to a lack of understanding of the benefits and potential for collaboration, and how and when to work collectively. It may also be due to differences in timing. Corporations have been engaging in voluntary energy commitments and purchases since the late 2000s, while cities primarily began setting targets in the mid 2010s. Differences in internal timelines, different appetites for risk and legal hurdles, and concerns around potential conflicts of interest have also likely limited collaboration (Greene 2020).

## THE BENEFITS OF COLLABORATION

Both municipal and corporate renewable energy buyers benefit from collaboration to increase access to and generation of renewable electricity, which can break down barriers to procurement, accelerate progress toward individual and collective climate and energy goals, and increase the visibility, impact, and scale of projects. For example, partnering on a joint procurement can increase access to projects and economies of scale, thus reducing costs for all parties while bringing more renewable electricity onto the grid.

Partnering with a corporation offers a host of benefits for city officials. Cities tend to have limited capacity and resources and competing political priorities, which can complicate progress toward goals. Municipal-corporate collaboration can bring valuable new resources and expertise to a city. For example, a corporate partner that has completed complex renewables transactions can provide a city with seasoned technical experience, such as legal support for establishing new procurement vehicles. Partnering on a project can also provide access to new financing or tax benefits, such as investment tax credits, that may not otherwise be available to a city. Finally, engaging with corporations around renewable energy can help cities to achieve other community goals like promoting local economic growth, attracting new businesses and residents, and improving community health and resiliency.

Similarly, there are multiple reasons for a corporation to partner with a city. Some corporations are eager to transition to renewable electricity but may not have the necessary in-house expertise to do so. They can look to experienced cities to provide education and support to make this shift. Other corporations have already made major strides toward running their operations on renewable electricity; however, they still face increased material risk when located in, or reliant upon, cities with low resilience. Cities impacted by increases in extreme weather events, climate-related diseases, and subsequent migration will be less able to provide access to capital, fully productive employees, confident consumers, and reliable supply chains to maintain healthy market returns. The Task Force on Climate-related Financial Disclosures (TCFD), a major shaper of company action on financial disclosures, recommends that corporations disclose processes for managing climate-related risks (TCFD 2020). These risks cannot be managed without real engagement with the communities that companies rely upon.

Furthermore, customers, investors, and markets want to see corporations step up and bring their technical expertise and dollars to help their communities meet clean energy goals and reduce overall exposure to climate-related risks. Collaborating with a local government can demonstrate climate leadership and a proven commitment to community health and welfare. It can also generate good will with elected officials and positive publicity within the broader community, which can help to form an advantageous foundation for future efforts.

Specific benefits of different types of collaboration are further explored in the case studies and lessons learned below.

## COLLABORATION APPROACHES AND CASE STUDIES

Over the course of nearly 30 interviews, we discovered a range of collaborative approaches that cities and corporations are using to advance shared renewable energy goals. The depth and shape of collaboration in the pursuit of renewable energy varies in the topic, desired outcome, and process. Collaboration to date has ranged from knowledge sharing around renewable energy opportunities, procuring renewable electricity jointly, overcoming market barriers, and even pursuing related priorities like equity. In some cases, engagement occurred through a formal and ongoing partnership between a city and a corporation; in others, it was primarily a phone call or meeting to keep partners abreast of key actions.<sup>1</sup>

The following sections discuss the types of collaborative approaches currently being undertaken by cities and corporations and then share examples, case studies, benefits, and lessons learned for each approach.

### 1. Education of Residents and Local Businesses

One common starting point for municipal-corporate collaboration is when there is a need to mobilize and support community energy users—including residents, local businesses, and anchor institutions like hospitals and universities—with the skills needed to make their own shift to renewables. Cities and corporations have taken multiple approaches to education and outreach partnerships, including but not limited to the following examples.

### 1.1 Creating forums for ongoing public-private engagement

Cities can initiate public-private collaboration by creating a commission or other city-led forum to formally engage the business community in city climate and energy plans on an ongoing basis. For example, in fall 2019, the mayor of Philadelphia, Pennsylvania, announced a new initiative as an inclusive and efficient way to welcome the private sector, anchor institutions, and other cities from the region into the city's climate efforts. Participants have included local businesses and corporations with a presence in the community, like Saxbys and Saint-Gobain. The first convening of the Climate Collaborative of Greater Philadelphia was an educational workshop on renewable energy procurement options, during which city staff shared their experience with procuring 70 megawatts (MW) of off-site solar for municipal operations via a power-purchase agreement (PPA) (Barkdoll 2019). Since then, one of the workshop participants, the University of Pennsylvania, has announced a similar deal, a 220 MW PPA with the same developer that the city used (Renewable Energy World 2020).

Similarly, the Business Council on Climate Change in San Francisco is a multi-sectoral partnership dedicated to supporting and scaling climate policy initiatives in the Bay Area. The Council includes corporations and the City's Department of the Environment and has supported renewables procurement topics, including catalyzing an aggregated virtual PPA signed by Bloomberg, Cox Enterprises, Gap Inc., Salesforce, and Workday (Sustainable Brands 2019).

### 1.2 Spurring action through renewable energy challenges

Other cities have created programs that provide public recognition to entities that meet specific renewable energy goals.<sup>2</sup> The City of Chicago's Renewable Energy Challenge, launched in 2017, motivates the private sector to join the city's commitment to power all buildings with 100 percent renewable electricity by 2025. Members have committed to achieving 100 percent renewable electricity usage, tracking progress, and encouraging other community members to do the same. The seven founding members included McDonald's, Microsoft, and local universities (City of Chicago 2020).

Challenges can be used to increase participation in local renewables programs. For instance, the City of San José, California, created the Climate Smart Challenge: Building Performance Leaders program: Business and community participants commit to achieving climate-smart actions, including signing up for 100 percent carbon-free electricity through San José Clean Energy (SJCE), a community choice aggregation program (City of San José 2020). By opting into the premium utility offering, customers help SJCE build and support renewable energy projects throughout the community. The 319 current Climate Smart Challenge members receive technical assistance from City staff and citywide recognition. The challenge has raised awareness of the City's community-wide renewable energy goal and provided valuable support for private sector efforts to move to a carbon-free future (Bachman 2020).

### 1.3 Providing education to other energy buyers through workshops and trainings

Corporations with experience in renewable energy procurement can provide education, technical assistance, and templates to cities, or vice versa. For example, Target provided training for a group of Minnesota cities participating in a regional renewable energy procurement network run by the Great Plains Institute and Clean Energy Resource Teams (Lahd 2020). This exchange of information helped the cities better understand procurement options available within the state. Similarly, when Bank of America and the City of Charlotte were looking into participating in a utility renewable energy program, Duke Energy's *Green Source Advantage*, Bank of America provided technical assistance to Charlotte and other businesses in the community to increase interest and participation in the program (Wytiaz 2020).

#### Box 1 | Lessons Learned and Considerations for the Education of Residents and Local Businesses

Benefits of municipal-corporate collaboration on education and outreach include knowledge exchange across sectors, increased action and progress towards community-wide renewable energy goals, and improved visibility and profile of both city and corporate renewable energy efforts to residents and shareholders. These efforts can be a springboard for future collaboration and can catalyze action from other energy buyers, as evidenced by the case study above. Lessons learned from interviews with municipal and corporate leaders include the following:

- **Design for success.** Educational campaigns are sometimes more “feel good” than impactful. When starting a campaign, clearly define the audience, objectives, and desired outcomes, and then develop appropriate outreach strategies.<sup>3</sup> Think about the timeline for the initiative and whether it's ongoing or time-bound before launching the program.
- **If pursuing a group effort, determine appropriate membership size, governance, and participation.** Smaller collaboratives may be more nimble and able to act quickly with less effort required to reach consensus, while larger coalitions may be slow-moving but have a larger reach. Coalitions should include stakeholders such as climate change experts, private sector leaders, city government staff, trusted community-based organizations, and frontline community members.
- **Ensure adequate resources to staff the effort.** Education and outreach efforts take substantial time and resources to launch and maintain. Collaboratives should consider funding staff with expertise in developing workshops, providing technical support, and managing communications and media. Both parties should consider offering financial or in-kind support, such as providing meeting space or food.
- **Create a safe space for dialogue and innovation.** When discussing challenges and needs, it is important to create a safe space for open dialogue and blue-sky thinking. To foster this, partners should consider how and when to include stakeholders that may have differing interests, such as the press and developers. This can ensure that participation doesn't lead to unwelcome press or sales pitches.
- **Seek member input when planning.** Cities should include private sector members in the planning process to ensure the success of city-led commissions. For example, input from business leaders helped Philadelphia's Climate Collaborative avoid holding events during busy periods and shaped information posted on the website to encourage participation.
- **Consider the value of friendly competition.** Cities can stimulate the market with friendly competition, funding, and positive publicity and spur renewable energy procurement deals into fruition. Competitions can encourage collaboration and create the impetus for completing projects that have been stalled or deprioritized (PaulosAnalysis 2016).

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## Case study: Boston Green Ribbon Commission catalyzes regional action

In 2010, the City of Boston, Massachusetts, issued the community's first Climate Action Plan. To engage the private sector in the plan, city leaders formed the Boston Green Ribbon Commission (GRC). The mayor invited 35 leaders to join him, representing the city's major economic sectors, including corporations, universities, hospitals, and utilities. The Commission is a voluntary network with two full-time staff and a US\$1 million annual budget provided by community foundations and member companies. It sees Boston as its customer, and the mayor's active engagement as a vital part of its success.

After Commission members heard about a 50 MW renewable electricity PPA signed by The Ohio State University in 2012, they formed a clean energy procurement network. The network then reviewed current PPA work underway in Boston and held an educational workshop on large-scale renewable electricity procurement for GRC members, and a follow-up workshop for chief financial officers. The workshops revealed the biggest barrier to action was not pricing, but internal capacity to execute complex renewable electricity transactions.

Inspired by this finding, a Commission member from the Barr Foundation offered to fund a \$100,000 Renewable Energy Leadership Prize to the Boston-based organization that could structure the best renewable energy procurement deal in 2016. The Prize catalyzed the following:

- The largest PPA ever done in the United States to that point, a 60 MW Summit Farm PPA procured by Boston Medical Center, Friends of Post Office Square, and Massachusetts Institute of Technology
- A 50 MW PPA by Boston University
- A 28.8 MW deal procured by Partners Healthcare
- A 12 MW PPA procured by Tufts University and Endicott College

The Prize stimulated a significant amount of new renewable energy development and launched a creative learning process that continues to accelerate action across the region (Cleveland and Longworth 2020).

## 2. Procurement of Renewable Electricity

Another approach to municipal-corporate collaboration is through the procurement of renewable electricity. The available opportunities and approaches will vary based on the type of procurement vehicle pursued and the market in which the renewable electricity is sought. Typically, large energy buyers like cities and corporates can access renewables by installing solar or wind on their property or through off-site procurement via a PPA or virtual PPA, community solar subscription, or utility program like a green power purchasing program, green tariff, or special utility contract.<sup>4</sup> These procurement vehicles vary by state and have different transaction structures and procurement processes, and thus different opportunities for collaboration.

In states with legislation enabling electric retail choice, which allows customers the right to purchase electricity from alternative suppliers, renewable energy buyers may have more opportunities to work directly with developers on project siting and contract details. In states with partial or no electric retail choice, buyers tend to have limited options and must work with their traditional electric provider to access renewable electricity. Buyers in any state can enter into a virtual PPA (VPPA), a financial agreement between a developer and buyer in which the electricity generated by a project is sold into a wholesale energy market, and the revenue from the sale is returned to the buyer, often along with the renewable energy certificates (RECs) associated with the project's renewable energy.<sup>5</sup>

Municipal and corporate renewable energy buyers have different drivers for procurement. Cities often prioritize projects built in or near their communities to achieve co-benefits like economic development and community education, and thus often procure via PPA or on-site solar. Meanwhile, many corporate buyers have been driven by price and have chosen to utilize VPPAs due to their flexibility and potential for revenue generation. Despite these differences, cities and corporations have begun to explore collaborative approaches to procurement, including but not limited to the following examples.

### 2.1 Developing new renewable energy solutions

Cities and corporations can collaborate to drive the creation or adjustment of renewable energy solutions, either from their traditional electric utility provider or from alternative energy suppliers. Collaborative discussions can



help providers understand shared customer needs and may increase receptivity and creativity, yielding innovative projects or solutions.

For example, in Arizona, the City of Phoenix invited corporations like Microsoft, Amazon, and Walmart to discuss procurement options to meet their 100 percent renewable energy goals with their electric utility, Salt River Project (SRP) (Crowe 2020). The conversation led to a more collaborative working relationship with SRP and the development of new renewable programs like SRP's Sustainable Energy Offering, which both cities and corporations have since utilized (SRP Newsroom 2018).

## 2.2 Issuing a joint request for proposal

When going to an electric utility or the energy market to access renewable electricity, cities and corporations can collaborate by jointly issuing a request for proposal (RFP). This allows buyers to combine loads, increase the overall scale of the solution sought, and ideally attract more bidders and/or help achieve economies of scale. For example, in 2019, Rocky Mountain Power released an RFP for new renewables resources on behalf of a group of public and private customers including Park City, Salt Lake City, Summit County, Park City Mountain Resort, Deer Valley Resort, and Utah Valley University (PacifiCorp 2021). The resources had to meet criteria specified by the customers.

## 2.3 Sharing procurement-related tasks and responsibilities

Procurement processes can be lengthy and complex, depending on the procurement pathway and deal structure. In addition to working together to develop or seek out a solution, municipal and corporate renewable energy buyers can also work together in the implementation of the procurement effort by sharing resources and associated responsibilities. This could entail combining or dividing efforts to develop or evaluate a request for information (RFI) or RFP, leading conversations with developers, contracting jointly, and managing contracting responsibility. Additionally, partners can leverage individual resources (such as legal staff and municipal or corporate land or rooftops) to reduce costs.

### Case study: Arlington County and Amazon joint procurement of off-site solar

In November 2018, Arlington County, Virginia, won a competition to be the home of Amazon's second headquarters. After the announcement, some Arlingtonians voiced

concerns about potential impacts like increased traffic and housing costs. In response, Amazon has sought ways to demonstrate its commitment to being a good neighbor.

The Arlington County Board adopted an updated community energy plan in September 2019, setting a goal of running County operations on 50 percent renewable energy by 2022 and 100 percent by 2025. The smallest county in the country, with 26 square miles of high energy intensity businesses, Arlington County staff needed more than on-site solar installations and energy efficiency measures to hit their targets. Staff held discussions with their investor-owned utility, Dominion Energy, to let them know of their interest in exploring innovative solutions such as off-site solar projects and joint procurement (Morrill 2020). In the same month, Amazon CEO Jeff Bezos co-launched The Climate Pledge, committing the company to run on 100 percent renewable electricity by 2030 and to become net zero carbon by 2040 (Amazon 2019).

Not long after, Amazon staff approached County staff about partnering on an off-site solar deal. In January 2020, Arlington, Amazon, and Dominion Energy announced an innovative public-private utility partnership to build a 120 MW solar farm in Pittsylvania County, Virginia. Dominion Energy will build, own, and operate the solar farm and will provide the renewable energy certificates to Arlington and Amazon or retire them on their behalf. Amazon will use 68 percent of the renewable electricity generated by the farm to power its new headquarters location, as well as other Virginia-based Amazon-owned operations, including Whole Foods Markets and fulfillment centers. Arlington County will use the remaining 32 percent of the electricity generated to power County buildings, streetlights, traffic signals, water pumping stations, and wastewater treatment. The procurement will result in over 80 percent renewable electricity use for Arlington's municipal operations (Holbrook 2020).

By collaborating on procurement through Dominion Energy, Amazon and Arlington were able to get access to a solar farm that was larger than either of them could have accessed alone. Cost savings and efficiencies will continue to accrue across the life of the project by both parties, as well as Dominion Energy, because it built one solar farm instead of two. This procurement is expected to be revenue neutral for Arlington and Amazon and is designed to prevent additional cost to rate payers.

## Box 2 | Lessons Learned and Considerations for Procurement of Renewable Electricity

While cities and corporations often directly procure renewable electricity, working with others can offer benefits such as better pricing and economies of scale, reduced risk, increased likelihood of success in negotiations, and a bigger impact on the grid. Partnerships can also help address challenges that all buyers face, including the level of complexity of renewable electricity procurement and the amount of technical expertise and time it can take to finalize a deal.

Working with others on a procurement can be particularly impactful for making progress toward municipal goals. Cities tend to have smaller energy loads compared to corporate buyers and are not able to directly take advantage of tax benefits like the investment tax credit; as a result, it can be challenging for some cities to get affordable access to renewables projects. By aggregating demand with corporations located in their communities, cities can increase the scale of projects to attract bidders and secure better pricing. Working with an experienced corporation can also increase city leadership's receptivity to new procurement vehicles. Corporations that provide this kind of support and partnership can garner positive publicity.

The following lessons learned and considerations for getting started, gleaned from interviews with city and corporate leaders:

- **Understand available procurement options, processes, and potential legal and market barriers.** To maximize ability to partner on renewables procurement opportunities, buyers should understand local and state policies governing the purchase of renewable electricity. Doing so can prevent lag time when collaboration opportunities arise. Where possible, partners should consider ways to eliminate differences in procurement processes (for instance, mitigating a city's longer approval timeframe by securing leadership buy-in earlier in the process) or, at a minimum, identify these potential conflicts upfront.
- **Work to understand drivers for procurement.** Cities and corporations have different priorities influencing procurement, such as price, impact, resource type, and location. Corporations may prefer to procure renewable electricity in markets where it is cheapest or easiest to access, while cities tend to prioritize proximity to attain community co-benefits, such as improved air quality and job creation. Partners should seek to understand these drivers and find consensus before collaborating on procurement efforts.
- **Identify the assets each partner brings to the table.** Partners can share technical expertise or consider hiring outside technical support or legal counsel if needed. This approach can be beneficial to both cities and corporations that do not have the in-house experience that would ensure a positive procurement outcome.
- **Pool resources to hire external advisors.** Limited resources and capacity can be a major barrier to procurement for smaller buyers. Sharing the cost of external advisors, like energy services consultants, brokers, or legal counsel, can open the door for smaller buyers to access renewables.
- **Separate for efficiency when necessary.** In general, cities have longer approval processes for procurement activities than corporations. Corporations and cities may be best served by working closely in the initial development stages, then dividing efforts into separate contracts to allow corporations to maximize time efficiencies. Separating procurement efforts can also mitigate individual concerns, such as disclosure or privacy. This may be most applicable for utility solutions, as a successful aggregated PPA may be dependent upon uniformity of contracts.

As a result of this deal, Amazon has demonstrated its commitment to its new community, and achieved cost savings and accolades for the company's leadership. Dividing the deal into two separate contracts allowed Amazon the ability to retain privacy not possible for County procurements. For the County, the partnership was critical to its ability to land the deal. As a seasoned purchaser of renewable electricity and the anchor customer on the deal, Amazon's involvement brought necessary comfort to County leaders with a new procurement approach. The County additionally benefited from Amazon's in-house expertise and ability to handle the transaction burden, though the County also hired outside counsel to help it navigate the deal development, a strategy it strongly encourages for others.

### 3. Engagement to Influence or Remove Market Barriers

For many large municipal and corporate energy buyers, making progress toward individual energy goals will require changes to the rules governing how energy is produced, distributed, and consumed. Customer access to renewable energy varies across the United States and is determined by policies and decisions set at the local, state, regional, and national levels. At the local level, cities can pass legislation, for example, authorizing new procurement vehicles like the creation of a municipal energy authority. At the state level, energy policy is shaped by electric utilities, the state utility regulatory body, and legislation such as laws that enable electric retail choice, net metering, and third-party ownership. At the regional level, renewables are influenced by wholesale energy

**Box 3 | Responsible Corporate Policy Engagement**

Corporate voices have a large role in shaping the United States policy landscape, through activities like lobbying and funding political campaigns. While many corporations are setting renewable energy and climate goals, there are also many examples of corporations (or their trade associations) actively lobbying to prevent emissions-reducing legislation and regulation at the local, state, and federal level. Twenty-one percent of companies assessed in a recent report on corporate sustainability had lobbied in opposition to science-based climate policy (Ceres 2021). Corporate renewable energy buyers should be aware of this potential conflict and review their internal processes to assess ways that they can practice responsible policy engagement.<sup>6</sup>

markets, which provide customers access to competitive suppliers. Finally, federal regulatory bodies, such as the Federal Energy Regulatory Commission (FERC), shape legislation, taxes, and incentives that influence overall access to and availability of renewable energy.

Municipal and corporate renewable energy buyers are increasingly engaging energy system decision-makers to influence or otherwise overcome market barriers for renewables. This is an area ripe for further municipal-corporate collaboration, given that engagement can be time consuming and often requires expertise outside of a city's or corporation's general scope. Below is a selection of emerging pathways for high impact energy system engagement.

### 3.1 Working with electric utilities

Electric utilities play a large role in customer access to renewables. They implement federal, state, and regulatory rules; set utility GHG reduction and renewables targets; develop long-term resource plans; and develop and implement customer programs and incentives. In the previous section, we discussed how cities and corporations can collectively engage with electric utilities in one of these areas, customer programs and deals, and provided examples from Arizona and Virginia. Beyond this, cities and corporations can work with a utility to influence customer access to or availability of renewable energy.

Municipal and corporate renewables buyers can come together to educate a utility on customer GHG and renewable energy targets to influence utility plans, including, for instance, integrated resource plans (IRPs), rate plans, and approval of new resources. Combining customer requests not only leverages limited knowledge and resources—

a common barrier to engagement—but also creates a stronger ask and may allow the utility to respond more easily (Bird and Ratz 2019). Buyers can also collaborate to support the utility in the design or implementation of a desired solution. For example, cities or corporations can offer resources such as land or assets to host or integrate renewables, or take ownership of the work required to implement the initiative, such as leading the procurement effort. This enables others to focus on different aspects of design or implementation.

At times, the rules governing utilities can create barriers outside of the utilities' control. In these cases, large energy customers can work together with utilities to influence external limitations such as state legislation or regulatory processes and guidance.

### 3.2 Engaging with the state regulatory body

State regulatory bodies, often called public utilities commissions (PUCs), are guided by state and federal legislation and influence energy policy through regulatory rules and decisions governing electric utilities. Engagement at the regulatory level can be complex and, time consuming, and, in some cases, require legal resources. Municipal-corporate collaboration at this level can include working together to understand opportunities, discussion and education on strategy and the requirements to engage in regulatory proceedings such as an IRP review, and/or collectively voicing needs and preferences through direct conversation with regulators or in public regulatory review and approval proceedings.

For example, cities and corporations may consider connecting prior to or throughout regulatory engagement to share knowledge or identify where one partner may be better suited to take an argument forward. Collective engagement in the review or approval process can also occur via filing joint comments or by providing testimony that recognizes the other's priorities or key points argued. An example of this type of engagement is provided in the Target and City of Minneapolis case study.

### 3.3 Advocating for state-level renewables-enabling policy

State and federal legislation has a large impact on the achievability of municipal and corporate energy goals, as it can mandate the use of renewable energy; enable access to energy through electric retail choice, third-party financing, net metering, and community choice aggregation; and spur market development via taxes, incentives, grants,

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and rebates. Municipal-corporate collaboration can be particularly powerful at the state level, given the direct tie between state policy and customer impact.

Some cities and corporations are coming together to advocate for state energy policy change through joint letters; discussions with legislators, state energy offices, and committee members; and support for the development and approval of legislation. For example, in 2019, cities, corporations, and community-based organizations, including the City of Fayetteville, Mars, Target, Unilever, and Walmart, formed a coalition to express support for the Solar Access Act of 2019 (SB 145), which removed Arkansas's ban on third-party financing for solar projects and tripled the maximum solar size limit for corporations (Audubon Arkansas n.d.).

Collaboration to advance state legislative initiatives might take place behind the scenes or in parallel. Corporations may have a lobbying department and the ability to advocate publicly for policy change, while city staff may be prohibited from engaging in lobbying efforts and more sensitive to local politics. If advocacy efforts can't be done jointly or through a formal partnership, this type of collaboration may take the form of periodic meetings between municipal and corporate staff.

### 3.4 Commenting on wholesale electricity market decisions and rules

Decisions and rules made by wholesale electricity market governing bodies impact local clean energy goals and, in some cases, can present obstacles for municipal and corporate energy procurement. Markets create an independent entity to manage the dispatch of electricity from power plants, guide investment into new resources, set prices for wholesale electricity, and maintain a stable, reliable grid. They also enable customers to purchase power and enter PPAs for renewable electricity directly from the grid.

Participation in market-level decisions and stakeholder processes has traditionally been dominated by utilities and generators, but municipal and corporate customers are starting to engage on issues related to renewables. In 2019, FERC directed the PJM regional transmission organization to implement a minimum offer price rule that would effectively raise the price of renewables across the Midwest and mid-Atlantic. Groups such as REBA and the PJM Cities and Communities Coalition came

together to voice the negative impacts that this rule would have on corporate and municipal procurement (Shaver and House 2020).

#### Case study: Target and City of Minneapolis partner to increase access to solar in Minnesota

Target is headquartered in Minneapolis, Minnesota, and the two entities have a history of collaborating on many fronts. Both have recently made public commitments to renewable energy: Target has committed to sourcing 100 percent of electricity from renewables by 2030 (Target 2019), while the City of Minneapolis has committed to 100 percent renewable electricity usage for municipal facilities by 2023 and community-wide by 2030 (City of Minneapolis 2021).

To help bring others in the state along with it, Target has shared extensive knowledge and expertise on renewables procurement with the City of Minneapolis and other local governments through participation in the Renewable Cities Procurement Network run by the Great Plains Institute, a nonprofit organization that focuses on advancing clean energy in the Midwest. Building off of this knowledge exchange, Target has also collaborated with the City on utility and regulatory engagement. The state of Minnesota has a regulated electricity market, with much of the state's population located within the service territory of Xcel Energy, an investor-owned electric utility. While Xcel offers some options for large energy users to procure renewables, both Target and Minneapolis have struggled to cost-effectively hit their renewable energy targets using the options available. As a result, the two have joined forces to communicate the need for new utility policies and programs.

For example, the two worked together to ensure the continued economic feasibility of solar rooftop installation in Minnesota by filing joint comments on Minnesota Public Utilities Commission Docket E999/CI-15-115, regarding Xcel's proposed changes to the PV Demand Credit Rider. The comments recommended that Xcel change its credit calculation to reflect the value of solar more accurately. The Commission accepted some of the recommendations, for example, by removing a discount to the credit value in the near term (Abbott et al. 2020).

Approaching a utility with non-corporate partners such as cities increases the chances that a large corporate customer's requests will be heard and can remove perceptions of private sector attempts to dominate the policy landscape. For a city, working with an experienced corporate

**Box 4 | Lessons Learned and Considerations for Engagement to Influence or Remove Market Barriers**

Given the complexity, time, resources, and expertise required, engagement in energy policy to influence or remove market barriers is not common for cities and corporations. Collaboration can help both cities and corporations effectively wade into policy and regulatory engagement. Partnering can overcome individual challenges by streamlining and aligning efforts, reducing demand on staffing capacity and resources, leveraging existing technical expertise, showing the breadth of demand for renewables, and amplifying the voices of cities and corporations.

Many of the above efforts have traditionally taken place behind the scenes, but this is changing. Both cities and corporations are starting to develop regional coalitions to address market barriers through utility, regulatory, and legislative engagement (Constance and Kelly 2020; Crowe 2020). Even if advocacy efforts are conducted separately, conversations around a corporation's or city's position on a topic can help to clarify and align customer needs and challenges for energy system decision-makers. Those interested in this type of collaboration should think carefully about the pros and cons of working in a coalition, versus separately but coordinated, due to the public and potentially political nature of these efforts. Below are lessons learned from interviews.

- **Identify opportunities to jointly influence or remove market barriers.** If a city or corporation is facing a barrier related to procurement, they could identify who else might be faced with or otherwise interested in the same issue or challenge, then reach out to start a conversation.
- **Think outside the box.** Sometimes the right customer solution doesn't yet exist. Municipal-corporate collaboration can spur innovative utility or legislative solutions that could meet the needs of a broader range of customers, expanding the impact to residents and other community stakeholders.
- **Consider when a collective voice will create a larger impact.** When negotiating with powerful energy system stakeholders, such as state regulators or electric utilities, it can be advantageous for cities and corporations to make coordinated or joint asks. If a stakeholder hears the same request from a city and a large corporation, it can validate the needs of both customers.
- **Work in parallel to create efficiencies and allow for tailored messaging.** Cities and corporations have different abilities and reasons to participate in advocacy efforts. Especially with regulatory or legislative engagement, it may be advantageous to submit coordinated but separate comments to allow for individualized messaging and quicker internal approval processes.
- **Share technical expertise and resources.** Policy and regulatory engagement is often outside the day-to-day activities of city and corporate employees, who may not have the bandwidth or expertise to effectively engage in this work, or insight into which opportunities to pursue. Collaboration with an experienced partner can bring others along, or partners can share the cost of a consultant or legal counsel.
- **Consider forming a coalition.** Determine if an ongoing coalition effort will provide more value than an ad hoc collaboration.
- **Leverage other local partners.** Identify if there are other local partners, such as nonprofits, university partners, or regional conveners, who already work on these issues and could coordinate efforts. Sometimes it is most efficient to work through existing channels and networks.

purchaser can facilitate buy-in from leadership and increase comfort with new stakeholder engagement pathways. Target noticed increased receptivity from Xcel and the Commission by actively coordinating with other large energy customers like the City of Minneapolis and partners involved in the Minnesota Sustainable Growth Coalition (Lahd 2020).

#### 4. Equitable Renewables Development in Communities

The previous examples focus primarily on ways that municipal and corporate renewable energy buyers can collaborate to increase their own access to renewables or support adoption by other large buyers. These strategies can be particularly effective from a GHG reduction standpoint.

However, transitioning to renewable energy is about more than emissions—it is about making a measurable difference in people's lives.

Not all renewable energy is created equal. Two projects with the same capacity can have very different impacts based on where the project is sited and the influence it has (or doesn't have) on the surrounding environment and communities. Renewables projects can displace different amounts of fossil fuels based on where they are located on the grid, and if done right, can improve the health and economic well-being of communities. It is imperative that large renewable energy buyers like cities and corporations ensure that the benefits of a clean energy transition flow to all, especially historically marginalized communities.

Cities are increasingly prioritizing community-based renewables projects and investment in low-income neighborhoods and those with higher percentages of Black, Indigenous, and People of Color (BIPOC). BIPOC and low-income communities disproportionately face higher levels of pollution from fossil fuel electricity generation and significantly higher levels of energy burden, the share of take-home income used to pay energy bills. They also often miss out on the financial benefits of rooftop solar, including tax incentives, rebates, and bill savings, due to financial and housing disparities (Hsu 2019). Transitioning to renewables has the potential to reduce pollution-related health outcomes and lower the price that residents pay for electricity; however, so far, most of those benefits have gone to whiter, more affluent Americans.

One of the greatest future opportunities for municipal-corporate collaboration on renewables is when maximizing investments and projects for positive community impact. This could entail, for example, including community benefits like workforce development for marginalized communities into renewables RFPs and contracts (Lorenzen and Scher 2020). Corporations can bring much needed expertise and innovative financing to equitable renewables efforts, while cities can provide data or insight into local conditions and act as a conduit to BIPOC and low-income communities and organizations, ensuring that corporate investments into equitable renewables deployment have a greater chance of success.

Below is a selection of emerging strategies for cities and corporations to embed equity within renewables projects.

#### 4.1 Including equity criteria in RFPs

Both cities and corporations are revisiting their clean energy goals and plans to better incorporate equity. One way to do so is by ensuring that all investments into new projects have a tangible equity benefit and that best practices are shared with other buyers. For example, Salesforce developed a procedure to incorporate equity into RFPs and proposal evaluation criteria, then partnered with REBA to share their methodology and processes to enable other large energy buyers, including cities, to follow their lead (Lorenzen and Scher 2020). Similarly, cities such as Cincinnati, Charlotte, and Philadelphia have all included community benefits into recent renewables RFPs. Peer learning and amplifying successes can help scale these efforts to other buyers, sending a strong signal to the market that equity criteria should be standard for all deals.

#### 4.2 Ensuring the benefits of new renewables projects accrue to low-income and BIPOC communities

Cities and corporations are increasingly looking for ways to expand direct access to renewables to historically disadvantaged communities; deepening partnerships in this area could help to scale those efforts. In August 2020, Microsoft announced a plan and partnership with Sol Systems to site 500 MW of new solar installations in communities disproportionately affected by environmental challenges, including urban neighborhoods with high levels of pollution and rural communities impacted by the closure of fossil fuel plants. The project will prioritize buying from women- and minority-owned businesses and will provide \$50 million in grants for education and job training in low-income communities (Clancy 2020). In a similar partnership model, Chanel is partnering with Sunrun to expand access to solar to 30,000 low-income residents in California (Solar Power World 2020).

These types of projects could benefit from collaboration with cities, which can provide on-the-ground insight into community needs, introductions to community-based organizations, and relevant data on local pollution levels, energy burdens, and project siting. This can ensure that the benefits of new renewables development accrue directly to the communities that most need them.

#### 4.3 Creating and supporting access to financing

One challenge to a community-wide transition to renewable energy is financing local projects, especially in low-income communities and tough market segments like the rental market.<sup>7</sup> Cities and corporations can support local renewables financing by creating or partnering with innovative public-private financing institutions, such as community development financial institutions (CDFIs)<sup>8</sup> and green banks,<sup>9</sup> which spur investment in “green” projects and in low-income communities. Municipal creation of and corporate investment in green banks and CDFIs can stimulate climate-friendly economic development and job growth, which benefits cities and corporations looking to attract new residents and customers. Using customized loan programs, green banks and CDFIs provide an efficient path to funnel public and private money into communities, generating renewable energy installation and energy efficiency jobs and compounding impact through revolving loans.

For example, the Solar and Energy Loan Fund (SELF), a Florida-based CDFI, works to “rebuild and empower underserved communities by providing access to affordable and innovative financing for sustainable property improvements, with the primary focus on energy efficiency, renewable energy, and climate resilience in low- and moderate- income (LMI) neighborhoods.” SELF partners with investors and local governments in Florida, which provide seed funding for community-based projects. The CDFI has dispersed more than \$10 million in loans, 70 percent of which went to LMI households, resulting in 25 percent lower energy bills and 1,000 metric tons of carbon reduced (SELF 2019).

Similarly, the Montgomery County Green Bank is dedicated to accelerating affordable energy efficiency and clean energy investment in Montgomery County, Maryland. The green bank has launched financing programs like the Commercial Loan for Energy Efficiency and Renewables (CLEER) program, which has leveraged \$20 million of new private capital against \$1 million of the bank’s existing funds to create a loan loss reserve that funds renewable energy generation and energy efficiency projects.

#### 4.4 Enabling community solar projects for low-income families

For many residents and small businesses, installing on-site solar panels is not feasible because of cost, access to credit, or lack of home or building ownership. This is especially true for low-income communities and for communities of color that have faced systemic housing and economic discrimination. Cities and corporations can support these communities through community solar programs that allow residents and businesses to subscribe to an off-site solar installation located within or nearby to their community and receive the renewable electricity generated. An example of this from San Antonio and Microsoft is featured in the next case study.

Cities and corporations can play a central role in advancing community-based renewable energy projects by leveraging their considerable property assets and energy demand to overcome barriers to community solar programs. They can lease or donate land, potentially bringing down costs in expensive urban environments, or serve as anchor off-takers to offset costs or perceived risks associated with low-income subscriptions. Cities can pool purchasers interested in renewable energy, connect them to solar developers, and negotiate lower rates for low-income residents via local credit unions.

For instance, Alpine Bank in Colorado is leveraging the community solar model to power its bank branches with renewable electricity and expand access to solar to low-income families in the communities the bank serves. The bank purchased panels of a community solar project to meet its operational demand, then donated additional panels to low-income families through a partnership with the Family & Intercultural Resource Center. This project not only supports city sustainability goals, but also reduces the bank’s tax liability and helps the bank to meet its Community Reinvestment Act<sup>10</sup> requirements (Mendelsohn 2016).

#### Case study: Innovative financing for low-income community solar in San Antonio, Texas

The Big Sun Community Solar Assistance Program is a unique partnership among San Antonio’s municipal utility CPS Energy, Go Smart Solar, River City Federal Credit Union, Texas Energy Poverty Research Institute, University of Texas at San Antonio, and Westside Development Corporation. The community solar program has creatively leveraged multiple revenue streams and funding sources, including corporate grants, to reduce financial barriers to solar and provide multiple affordable pathways for San Antonians who are unable to install solar on their homes (WDC 2020).

Big Sun offers a subscription-based program and a panel ownership program, both of which utilize solar parking canopies on privately owned parking lots across the city, providing enough solar capacity to meet the energy needs of up to 600 CPS Energy customers (Gibbons 2019). To drive down the upfront costs of panel ownership and decrease the program cost for participants, the developer Go Smart Solar brought in a new revenue stream by monetizing underutilized private land across the city. The company worked with CPS to develop an online software solution to make the sign-up and billing process seamless for customers, further reducing barriers to entry.

The first site to install solar parking canopies was the Austin Highway Business Center in northeastern San Antonio. The complex’s owner, Worth & Associates, was then able to provide covered parking as a new amenity to its commercial tenants. Worth & Associates pays a nominal monthly fee to Go Smart Solar for the covered parking and, in turn, the firm offers the structures to commercial renters for an additional charge. The firm had no upfront costs and benefits by charging more for the shaded park-

ing (Diamond 2019). Go Smart Solar uses the new revenue stream to fill the project's solar value stack and reduce costs for program participants.

To make the solar panel ownership program affordable for low-income residents, Big Sun has stitched together additional funding sources, including from corporations. Grants from Microsoft and local community foundations subsidize up to \$6,000 of the panel costs for up to

40 income-qualified families. A partnership with a local credit union created customized financing options for the remainder of the cost of the panels. As a result, Big Sun can guarantee an average of \$215 annual energy savings for low-income participants, even with a small loan payment. Participants also receive financial counseling and energy education through the partnership (WDC 2020).

### Box 5 | Lessons Learned and Considerations for Equitable Renewables Development in Communities

Partnerships to equitably expand access to renewables are a relatively new but potentially high impact concept for cities and corporations with climate and sustainability goals. There are multiple benefits to this type of partnership; most importantly, these projects can improve the lives of marginalized community members, reducing energy burdens, improving community health, and creating jobs.

For corporations, partnering with a city to advance equitable renewable energy deployment can help to meet customer and shareholder demands for corporate social responsibility. It demonstrates civic leadership and puts a human face on corporate sustainability efforts within the communities that they serve. Working with a city can also increase the likelihood of success when undertaking a community-based project, as cities can ensure that community voices are included in project design and implementation. For cities, community-based projects can be some of the most difficult from a financing and implementation standpoint. Partnering with a corporation can bring much needed technical expertise and unlock new funding opportunities.

Below are lessons learned from this type of effort, collected from interviews with municipal and corporate energy buyers.

- **Involve frontline communities in decision-making.** It is imperative that community-based projects have buy-in and participation at every stage from the communities that they aim to support. Community-based organizations and representatives of target communities must be included in decision-making to ensure that projects meet locally defined needs and do not inadvertently cause negative impacts.
- **Include community benefits as a requirement for new renewables projects.** Requiring co-benefits in requests for proposals (RFPs) can increase the impact of the project, while also aiding in pitching and getting buy-in for a new project. For example, cities or corporations that want to stimulate equitable job creation and wealth generation might consider including local hiring requirements that prioritize minority-owned businesses in the RFP for a new renewable energy project.
- **Be deliberate about siting new projects.** If a company or city already plans on investing in renewables, it can consider where to locate projects for additional impact, such as remediating a brownfield.<sup>11</sup> Buyers should be careful to avoid unintended negative impacts, such as forcing unwanted infrastructure into environmental justice neighborhoods, and they must ensure that the benefits of the project reach the communities that they are sited within, through job creation or opportunities to lower bills via access to renewable electricity. Working with a city can help a corporation identify where to site projects and which partners to include.
- **Inventory city and corporate land and assets.** Cities and corporations can expedite project implementation by maintaining accurate solar assessments. City planning departments can map and prioritize parcels within city limits, so that when the opportunity for corporate investment arises, the city already has options for where to site projects. Reviewing underutilized land and assets, including brownfields, parking lots, and reservoirs or canals, may yield interesting opportunities for solar.
- **Use subsidies or creative financing to expand access.** Many renewables projects are out of reach of low-income communities due to cost barriers, so subsidization is key to expanding access. Subsidizing solar panels or community solar subscriptions will increase the total cost of the project, so cities and corporations should look for creative ways to fill financing holes, such as fee-based amenities like shaded parking or electric vehicle charging.
- **Support existing local funding sources or explore new ones.** Cities can consider setting up a green bank to be able to capitalize on private sector investments and develop dedicated funding for local energy projects. Corporations can partner with green banks, community development financial institutions, credit unions, and other local funders to leverage corporate dollars or secure a return on investment through social impact bonds or "pay-for-success" financing.



## CONCLUSION

Over the course of nearly 30 interviews, we surfaced a range of collaborative approaches and associated benefits that municipal and corporate energy buyers are already using to expand access to and generation of renewables and achieve national and subnational climate targets. There is a need to amplify, enhance, and scale these initial successes across the United States and explore other new and innovative partnership opportunities as we transition to clean energy, including the equitable deployment of renewables within communities.

The first and most important step is to start the conversation. A theme heard across interviews was the need to understand where each partner was coming from and share goals and intentions up front. Renewable energy buyers have different priorities and drivers when procuring renewables; for example, corporations may elect to procure renewable electricity in markets where it is easiest to access, while cities tend to prioritize proximity to attain co-benefits such as local job creation. Understanding these drivers from the start can help ensure the success of the collaboration.

Once goals and priorities have been communicated, cities and corporations should identify where alignment and opportunity exist and where challenges may arise. Successful collaboration requires additional upfront planning, education, coordination, and shared decision-making amongst partners. Adding extra time into the planning process can avoid complications during project implementation. Collaborations also require adequate time, funding, staffing, and ongoing participation from each party. Honest and open conversation on what each partner can bring to the collaboration will help to avoid misunderstandings, or one partner feeling like they are doing all the work. Sometimes, working in parallel rather than jointly can yield greater results and efficiencies.

There is no right or wrong form for collaboration. Working with other stakeholders can add complexity to a project and can even create new implementation challenges, so it is important to scope out the most effective and efficient ways to partner. As commitments and desired impacts to the electricity sector continue to evolve, collaboration will also evolve. Engagement between cities and corporations, or other large energy users, should be tailored to the specific outcome desired or opportunity and related internal or external barriers.

Many challenges to both collaboration and renewable energy exist. Cities and corporations have limited resources and must juggle competing priorities. However, it is more important than ever for municipal and corporate renewable energy buyers to come together to demonstrate climate leadership, continue to advance renewables, and decarbonize the electricity system to avoid the worst impacts of climate change and help our communities to build back better. Addressing climate change depends on it.

## APPENDIX A. IDENTIFYING POTENTIAL INTERVIEWEES

To identify potential interviewees for this report, the authors first identified corporations headquartered in or with a large presence in one of the 25 cities engaged in Bloomberg Philanthropies' American Cities Climate Challenge (ACCC). Corporate leadership efforts analyzed as part of this research included the REBA, RE100, the EPA Green Power Partnership

Program, the Science Based Targets Initiative, and the We Are Still In Campaign. The research found that ACCC cities had a range of 3–90 potential corporate partners (see Table A-1 below) that were engaged in one or more of these programs. Some cities have used the resulting list of companies to explore collaboration opportunities.

Table A-1 | All 25 ACCC cities have potential corporate partners located in their communities

ACCC CITY	MUNICIPAL RENEWABLE ENERGY OR ELECTRICITY GOAL	COMMUNITY-WIDE RENEWABLE ENERGY OR ELECTRICITY GOAL	NUMBER OF CORPORATIONS INVOLVED IN CORPORATE LEADERSHIP PROGRAM
Albuquerque, NM	100% renewable energy by 2025 <sup>a</sup>	N/A	5
Atlanta, GA	100% clean energy by 2025 <sup>b</sup>	100% clean energy by 2035 <sup>b</sup>	14
Austin, TX	N/A	55% renewable energy by 2025, 65% by 2027 <sup>c</sup>	13
Boston, MA	N/A	N/A	90
Charlotte, NC	100% zero-carbon energy by 2030 <sup>d</sup>	N/A	8
Chicago, IL	100% renewable energy by 2025 <sup>e</sup>	100% renewable electricity by 2035 <sup>e</sup>	41
Cincinnati, OH	100% renewable energy by 2035 <sup>f</sup>	100% renewable electricity by 2035 <sup>g</sup>	7
Columbus, OH	N/A	100% renewable electricity by 2022 <sup>h</sup>	3
Denver, CO	100% renewable energy by 2025 <sup>i</sup>	100% renewable energy by 2030 <sup>i</sup>	53
Honolulu, HI	N/A	N/A	4
Indianapolis, IN	25% renewable energy by 2020, 100% by 2028 <sup>j</sup>	20% renewable energy by 2025, 100% by 2050 <sup>j</sup>	4
Los Angeles, CA	N/A	80% renewable electricity by 2036, 100% by 2045 <sup>k</sup>	76
Minneapolis, MN	100% renewable electricity by 2023 <sup>l</sup>	100% renewable electricity by 2030 <sup>l</sup>	20
Orlando, FL	100% renewable electricity by 2030 <sup>m</sup>	100% renewable electricity by 2050 <sup>m</sup>	7
Philadelphia, PA	100% renewable electricity by 2030 <sup>n</sup>	100% renewable electricity by 2035, 100% renewable energy by 2050 <sup>n</sup>	29
Pittsburgh, PA	100% renewable energy by 2030 <sup>o</sup>	N/A	14
Portland, OR	100% renewable electricity – goal achieved <sup>p</sup>	100% renewable electricity by 2030 <sup>q</sup>	55
Saint Louis, MO	N/A	100% clean energy by 2035 <sup>r</sup>	9
Saint Paul, MN	N/A	100% carbon neutral by 2030 <sup>s</sup>	18 (some overlap with Minneapolis)
Saint Petersburg, FL	N/A	100% renewable energy by 2035 <sup>t</sup>	4

Table A-1 | All 25 ACCC cities have potential corporate partners located in their communities (Cont.)

ACCC CITY	MUNICIPAL RENEWABLE ENERGY OR ELECTRICITY GOAL	COMMUNITY-WIDE RENEWABLE ENERGY OR ELECTRICITY GOAL	NUMBER OF CORPORATIONS INVOLVED IN CORPORATE LEADERSHIP PROGRAM
San Antonio, TX	N/A	50% renewable electricity by 2040, 100% by 2050 <sup>u</sup>	7
San Diego, CA	N/A	100% renewable electricity by 2035 <sup>v</sup>	22
San Jose, CA	N/A	60% renewable electricity by 2030, 87% by 2040, 100% by 2050 <sup>w</sup>	47
Seattle, WA	N/A	Net Zero Emissions by 2050 <sup>x</sup>	49
Washington, DC	N/A	100% renewable electricity by 2032 <sup>y</sup>	39

**Notes:** <sup>a</sup> City of Albuquerque. 2021. "Climate Action Plan." April 11. <https://www.cabq.gov/sustainability/documents/2021-climate-action-plan.pdf>; <sup>b</sup> City of Atlanta Mayor's Office of Resilience. 2019. "Clean Energy Atlanta." February 13. [https://static1.squarespace.com/static/5f91d62189677674f6d02ab6/t/5f91e88080fdee7a2aa54f7d/1603397764189/nrdc\\_100ce\\_plan\\_021319\\_v8\\_low-res.pdf](https://static1.squarespace.com/static/5f91d62189677674f6d02ab6/t/5f91e88080fdee7a2aa54f7d/1603397764189/nrdc_100ce_plan_021319_v8_low-res.pdf); <sup>c</sup> City of Austin Office of the City Auditor. 2020. "City Efforts to Reduce Carbon Emissions." February 20. 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Source: WRI authors.

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## APPENDIX B. LIST OF FINAL INTERVIEWEES

The interviews used as a primary data source for this working paper were conducted over the phone between January and May of 2020. Nineteen interviews were held with various stakeholders, including cities, corporations, and organizations that closely work with these parties to advance renewable energy procurement. Interviewees and their place of employment during the time of interview are listed below:

**Adrian Anderson**, Senior Director, and **Danielle Decatur**, Director of Datacenter Environmental Sustainability, Microsoft

**Mark Bachman**, Account Services Manager, San José Clean Energy

**Priya Barua**, Director, Zero Carbon Innovation, Renewable Energy Buyers Alliance

**Jill Bunting**, Deputy Director, and **Abe Wapner**, Program Director, Coalition for Green Capital

**Steve Chriss**, Director of Energy Services, Walmart

**John Cleveland**, Executive Director, and **Amy Longworth**, Director, Boston Green Ribbon Commission

**Lindsey Constance** and **Mike Kelly**, co-chairs, Climate Action KC

**James Critchfield**, Director, **Christopher Kent**, Program Manager, and **Verena Radulovic**, Corporate Climate Lead, Green Power Partnership Program, U.S. Environmental Protection Agency

**Jon Crowe**, Renewable Energy Programs Director, Urban Sustainability Directors Network

**Andrea Denny**, Lead, State and Local Energy and Environment Program, U.S. Environmental Protection Agency

**Tom Deyo**, Inaugural Chief Executive Officer, Montgomery County Green Bank

**Ela Eskinazi**, Senior Vice President, Sustainable Finance, **Abd Karmali**, Managing Director, Climate Finance, and **Beth Wytiaz**, Global Environmental Operations Executive, Senior Vice President, Bank of America

**Sarah Gibson**, Environmental Manager, **John Pflueger**, Principal Environmental Strategist, and **Lucian Turk**, Principal Engineer of Environmental Affairs, Dell Inc.

**Zachary Greene**, Climate Advisor, City of Philadelphia, PA

**Marsden Hanna**, Head of Sustainability and Climate Policy, Google

**Pamela Jouven**, Head of City Business Climate Alliance, C40 Cities

**Holly Lahd**, Lead Energy Program Manager, Target

**Dan Lieberman**, Director of Marketing, East Bay Community Energy

**John Morrill**, Energy Manager, Arlington County, VA

**Jon Powers**, Co-founder and President, CleanCapital

## APPENDIX C. INTERVIEW QUESTIONS

Below is a list of the questions that the authors used to guide conversations with interviewees.

### *Questions for Cities:*

- What do you see as your biggest successes so far in working to achieve your 100 percent renewable energy goals?
- What are the biggest barriers you face?
- Could collaborating with corporations help address these barriers?
- Has your city collaborated in any way with corporations in your efforts to meet your 100 percent renewable energy goals?
  - If yes:
    - How?
    - Why/how was the collaboration valuable for both parties?
    - What results were achieved, or do you anticipate achieving?
    - How could this collaboration have been even more successful for your city?
    - Do you think other cities would benefit from taking this same approach? Why or why not?
    - What lessons learned would you share with other cities thinking of taking this collaborative approach?
    - Are there other kinds of collaborations you'd like to explore with corporations?
    - What resources do you need to forge these collaborations?
    - What, if any, barriers exist to collaboration?
    - What other ways could you see partnering with corporations to help meet your municipal or community-wide renewable energy goals?
  - If no:
    - What ways could you see partnering with corporations to help meet your municipal or community-wide renewable energy goals?
    - What could corporations do to help you meet your goals?
    - What, if any, barriers exist to collaboration?
    - What question should I have asked you that I haven't asked yet? Any other information/insights you'd like to provide?

### *Questions for Corporations:*

- What do you see as your biggest successes so far in working to achieve your renewable energy goals?
- What are the biggest barriers you face?
- Could collaborations with cities help you to address these barriers?
- Has your company collaborated in any way with cities on renewable energy?

## ENDNOTES

- If yes:
  - How?
  - Why/how was the collaboration valuable for both parties?
  - What results were achieved, or do you anticipate achieving?
  - How could this collaboration have been even more successful for your corporation?
  - Do you think other corporations would benefit from taking this same approach? Why or why not?
  - What lessons learned would you share with other corporations thinking of taking this collaborative approach?
  - Are there other kinds of collaborations you'd like to explore with cities?
  - What resources do you need to forge these collaborations?
  - What, if any, barriers exist to creating these collaborations?
  - What other ways could you see partnering with cities to help meet your and/or the cities' renewable energy goals?
- If no:
  - What ways could you see partnering with cities to help meet your renewable energy goals?
  - What could cities do to help you meet your goals?
  - What, if any, barriers exist to forge these collaborations?
  - Is your company aware of the renewable energy goals for the cities that you have a strong presence in?
  - Would you be interested in helping these cities to meet these goals? Why or why not?
  - What question should I have asked you that I haven't asked yet? Any other information/insights you'd like to provide?
  - What additional actions could be taken by cities, the national government, or nongovernmental organizations to further incentivize/facilitate these types of partnerships to be developed? Or to increase renewable energy use by companies in city communities?

### Questions for Other Affiliate Organizations:

- What municipal-corporate partnerships on renewable energy are you aware of? Do you have contact information for those involved?
- Do you know any corporations that may be interested in partnering with a city around renewables? Do you have contact information for those involved?
- What barriers, benefits, and opportunities do you see for municipal-corporate collaboration around renewables?
- What do you think would be most helpful to highlight in this report to help advance renewable energy generation and use in cities?

- 1 Multistakeholder partnerships can take on a variety of shapes and forms. WRI's recent paper, *A Time for Transformative Partnerships: How Multistakeholder Partnerships Can Accelerate the UN Sustainable Development Goals*, describes the typologies and spectrum of transformative multistakeholder partnerships, including enabling partnerships that shift policies and practices towards sustainable development and market-driven partnerships that utilize the power of market forces to drive sustainable change (Li et al. 2020). The paper provides case studies and success factors that could be useful for cities and corporations developing new partnerships.
- 2 Cities can get their own recognition by becoming EPA Green Power Partnership Program Communities, committing the local government, businesses, and residents to collectively use green power in amounts that meet or exceed 5 percent of the city's total power usage. The EPA tracks and provides recognition to its member communities on its website and recognizes the Green Power Community of the Year as part of its annual awards ceremony. Award winners are selected based on their green power usage, leadership, citizen engagement, renewable energy strategy, and impact on the green power market. Winners coordinate successful community campaigns to buy green power in amounts that exceed the minimum requirements. Cities can use this opportunity to gain recognition and press for their efforts.
- 3 The City-Business Climate Alliance—a joint project of C40 Cities, CDP, and the World Business Council for Sustainable Development—offers a guide to forming city-business partnerships that may be useful in the design stage, as well as a peer-to-peer learning network for cities and businesses.
- 4 For more information on various procurement vehicles, their availability in different states, and tools and resources related to renewables procurement, readers can visit the American Cities Climate Challenge Renewables Accelerator website, which is developed and maintained by WRI and RMI. Corporations can also consider joining the Renewable Energy Buyers Alliance to gain access to similar resources developed specifically for corporate energy buyers.
- 5 Because the buyer does not physically take ownership of the produced electricity, buyers can support a renewable energy project using a VPPA regardless of the local regulatory context. The RECs obtained in a VPPA can be used to demonstrate progress towards a climate or energy goal. The primary advantage of a VPPA is its flexibility, which has made them a favored renewable energy procurement vehicle for corporations (ACCC 2021). The complexity and potential legal and financial risks associated with VPPAs have prevented cities from utilizing the transaction type to date, though some are starting to consider it as an option.
- 6 Corporations that want to demonstrate leadership on climate policy and align their policy efforts with science-based targets can find valuable resources via the AAA Framework for Climate Policy Leadership. This includes papers like WRI's *Seven Barriers to U.S. Business Leadership on Climate Policy and How to Break Them Down* and Ceres' *Blueprint for Responsible Policy Engagement on Climate Change*, which sets forth steps that companies can adopt to make sure that their efforts on climate policy are aligned with the risks climate changes poses to their businesses.

- 7 Common challenges related to expanding access to renewables to low- and moderate-income communities include lack of access to capital, insufficient tax burden, renter vs. homeowner status, distorted price signals, and unfamiliarity with solar products (NREL 2021).
- 8 CDFIs are private financial institutions that are dedicated to delivering responsible, affordable lending to low-income or other disadvantaged people and businesses. The Opportunity Finance Network offers more information about CDFIs, success stories, and a CDFI Locator for those who would like to learn more.
- 9 A green bank is a public or nonprofit financial institution able to leverage public funding to attract private capital and spur investment in “green” projects. Green banks vary greatly in terms of their scale, funding sources, product offerings, and relationship to government. As of 2021, there are 21 state and local green banks in the United States, including 4 with a city or county focus: Cuyahoga County Green Bank, District of Columbia Green Bank, Montgomery County Green Bank, and New York City Energy Efficiency Corporation (American Green Bank Consortium 2020).
- 10 The Community Reinvestment Act of 1977 is a law designed to encourage commercial banks to meet the needs of all borrowers in their communities, including low- and moderate-income neighborhoods. It was designed in part to combat discriminatory lending practices such as redlining. Banks are evaluated based upon how well they meet the needs of their communities, and programs such as those extending financing for low-income solar can potentially be used to meet the criteria laid out in the law (CDFA 2021).
- 11 A brownfield is a property previously used for commercial or industrial purposes that may be contaminated by hazardous substances or pollutants. Landfills, mines, mills, dry cleaners, and gas stations are all examples of brownfields. Redeveloping these properties can be complicated by the need for specific remediation of contaminants. These properties can be repurposed for renewables development and may be eligible for federal grants or incentives to support redevelopment. The EPA’s RE-Powering America’s Land Initiative provides resources and support for these efforts (EPA 2021).

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## ABOUT WRI

World Resources Institute is a global research organization that turns big ideas into action at the nexus of environment, economic opportunity, and human well-being.

### Our Challenge

Natural resources are at the foundation of economic opportunity and human well-being. But today, we are depleting Earth's resources at rates that are not sustainable, endangering economies and people's lives. People depend on clean water, fertile land, healthy forests, and a stable climate. Livable cities and clean energy are essential for a sustainable planet. We must address these urgent, global challenges this decade.

### Our Vision

We envision an equitable and prosperous planet driven by the wise management of natural resources. We aspire to create a world where the actions of government, business, and communities combine to eliminate poverty and sustain the natural environment for all people.

### Our Approach

#### COUNT IT

We start with data. We conduct independent research and draw on the latest technology to develop new insights and recommendations. Our rigorous analysis identifies risks, unveils opportunities, and informs smart strategies. We focus our efforts on influential and emerging economies where the future of sustainability will be determined.

#### CHANGE IT

We use our research to influence government policies, business strategies, and civil society action. We test projects with communities, companies, and government agencies to build a strong evidence base. Then, we work with partners to deliver change on the ground that alleviates poverty and strengthens society. We hold ourselves accountable to ensure our outcomes will be bold and enduring.

#### SCALE IT

We don't think small. Once tested, we work with partners to adopt and expand our efforts regionally and globally. We engage with decision-makers to carry out our ideas and elevate our impact. We measure success through government and business actions that improve people's lives and sustain a healthy environment.



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