



THE POWER BEHIND THE PARIS CLIMATE AGREEMENT

70%

Approximately 70% of global energy-related carbon dioxide emissions are attributable to cities.

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Nearly three-quarters of these urban emissions are generated directly by buildings.¹

30%

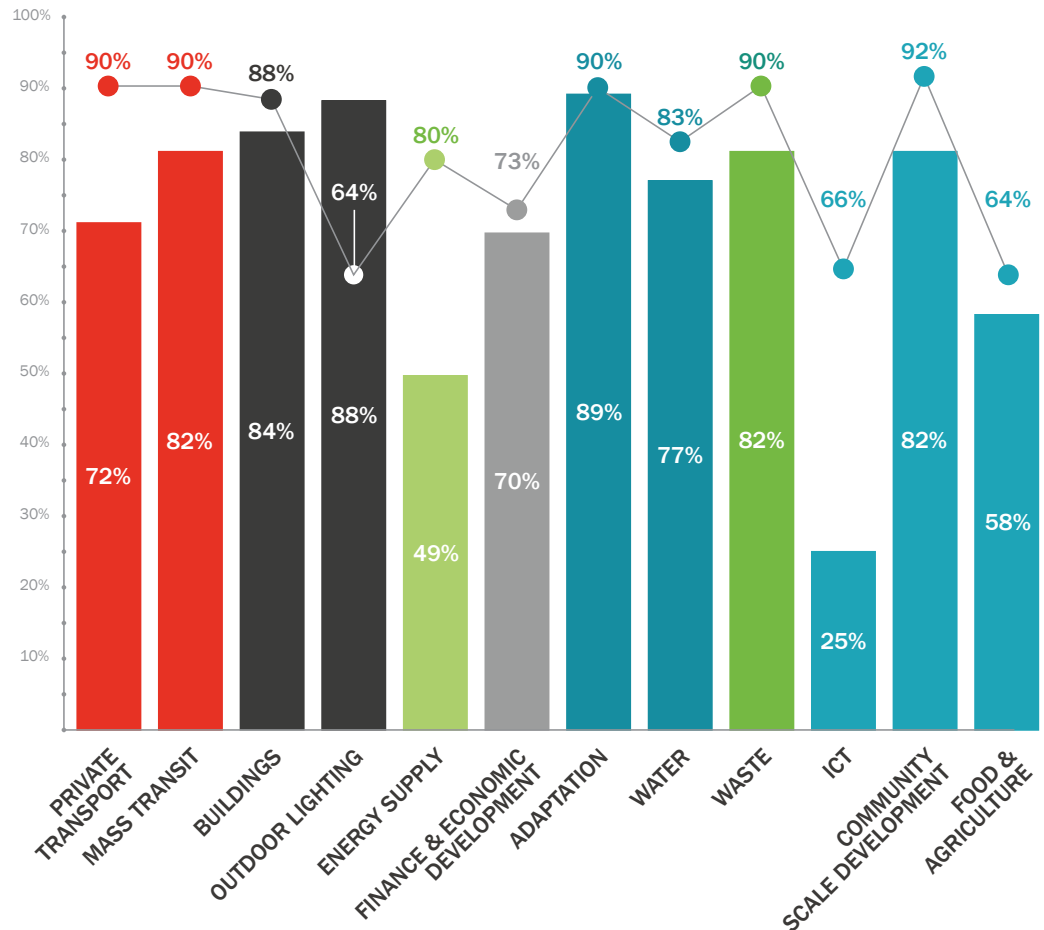
In the buildings sector specifically, cities with strong power report taking 30% more action over those without.

HOW MUCH DIFFERENCE DO CITIES MAKE?

- Recent analysis of the buildings sector (where most city GHG emissions originate and where cities have the greatest ability to make change) suggests that even modest improvements in city powers - or the level of control a city has over various sectors - could yield large benefits to the climate.
- There is even greater potential to realize climate protection benefits when cities are empowered to work in partnership with other levels of government and the private sector.

BACKGROUND:

Figure 1: Powers and Sectors

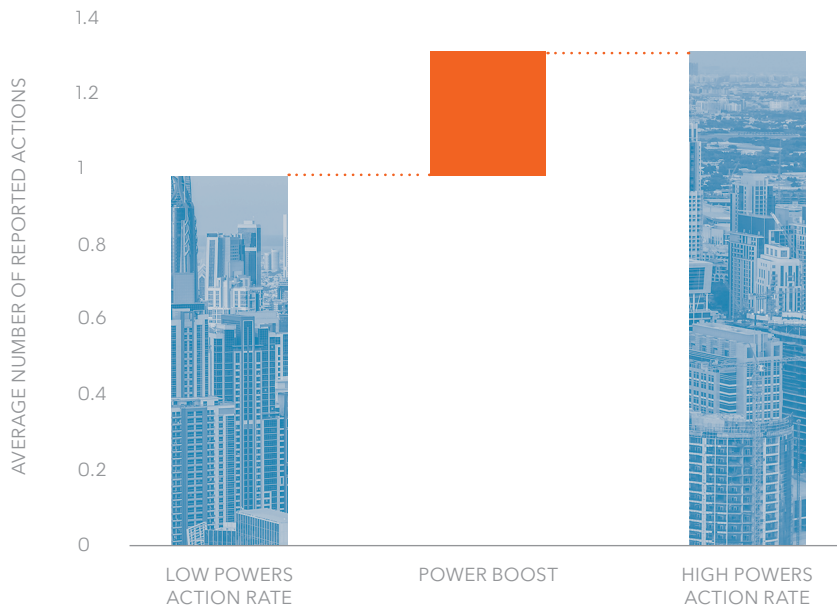


This analysis provides examples of cities around the world that are implementing action; it takes into account their different levels of power or local authority to enforce and implement standards across the buildings sector. The analysis explores opportunities to enable local actors to achieve even greater global climate goals.

POWER IS AN IMPORTANT FACTOR IN DRIVING CITY ACTION.

This analysis reaffirms a simple fact: **the amount of power a city has to effect change matters.** Looking at the buildings sector specifically, cities with strong power are 30% more likely to take action over those without. This quantifiable “power boost” may exist in other sectors where cities also enjoy a high degree of control.ⁱⁱ

Figure 2: The Power Boost



STUDY OVERVIEW:

Identifying the link between power, barriers and action.

Our analysis is the first attempt at quantifying the interplay between power, barriers and city action.

- Based on an analysis of a subset of cities, we have identified the likelihood of action based on a city’s “power profile.”ⁱⁱⁱ
- Cities cannot easily act where they have limited power—but, with more power, they can do more and achieve more.
- At the same time, other barriers to action are present. For example, cities can have the theoretical ability to mandate strong efficiency standards, but lack the financial capacity to enforce them -- or they may have the funds, but not the political will, data, information or public support.

By bringing years of analysis together, we have been able to show that simply giving cities more power yields more action. However, cities could do much more if they addressed the barriers that impede action through measures like collaborative partnerships with other levels of government and the private sector

THIS ANALYSIS:

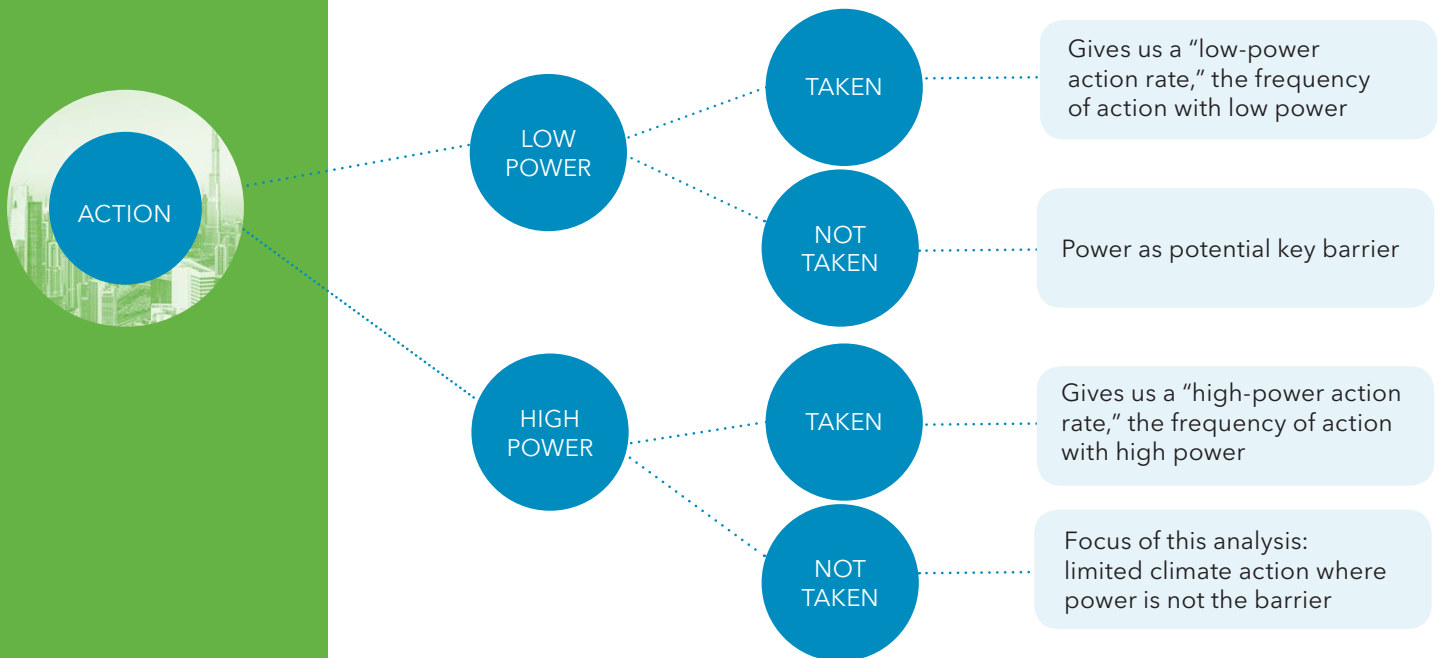
When city government officials decide to take action, they are faced with the need to make many decisions: How much can we currently control our future? Where might we need to partner with others? How can we have the greatest impact?

The decision tree below highlights options that city governments can take when deciding to take action within the buildings sector. These can be the basis for testing power across various levels of government and ownership categories as well as associated types of buildings (municipally owned, commercial, residential).

Past analysis has identified different building-related initiatives cities could undertake to reduce GHG emissions. It shows that for each city, when some of the total possible initiatives are within its grasp—it can act. In other instances, it has partial authority. For a third set, the city has no power.

Figure 3: Actions–Powers–Barriers Decision Tree

There are many actions a city can implement. For every action, they have either low or high power. In either case case, a city may elect to take or not take a particular action.



Previous work underscores that cities do not have uniform power over buildings.^{iv} Power, however, is not the only barrier to unlocking city potential and does not account for other financial, political, institutional, regulatory and legislative challenges a city faces. By studying municipal buildings, the asset where cities have the greatest control and the most limited range of barriers, we can begin to open up the full potential of cities.

30%

Where cities have more power over commercial buildings, they report taking 30% more action.

70%

For buildings they own, cities face considerably fewer barriers to action. In fact, they report taking 70% more action, showing that information, public support and financial factors play an influential role on par with power.

RETHINKING CITY-LEVEL POLICY

The reality of the interplay between powers and barriers will change how we consider policy, opening a new set of methods to galvanize city action and support nations in meeting their Nationally Determined Contributions (NDCs).^v Below is a brief discussion on how powers and barriers interact across various building types and where the greatest opportunities for paradigm shifts lie.

Cities can do more with power over commercial buildings, 25-30% more than is possible with current, lower levels of power. . Analysis reveals that cities can unlock opportunities for even deeper GHG emissions reductions by addressing barriers. Each graph presented in subsequent sections shows how rates of action increase **with increasing levels of power or local control**, leading to the “full potential” of action when barriers are addressed.

Figure 4: Commercial Buildings

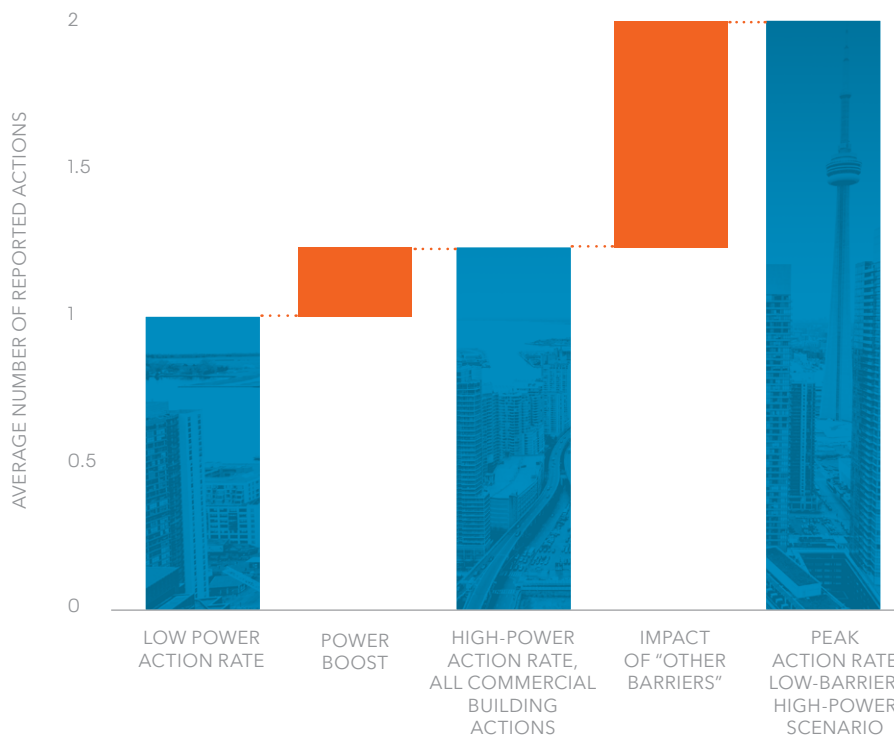
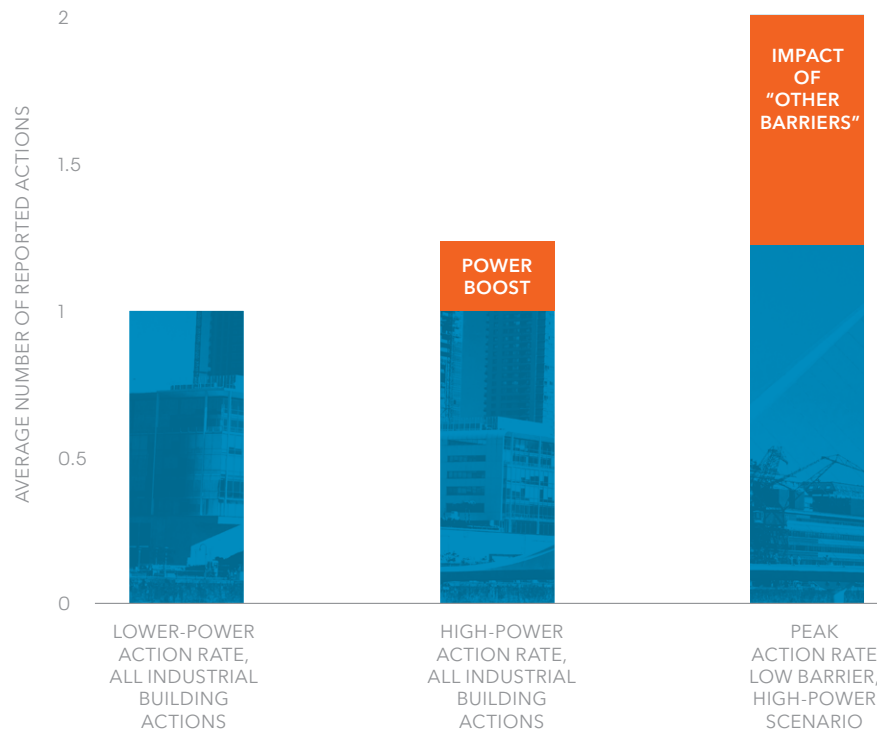
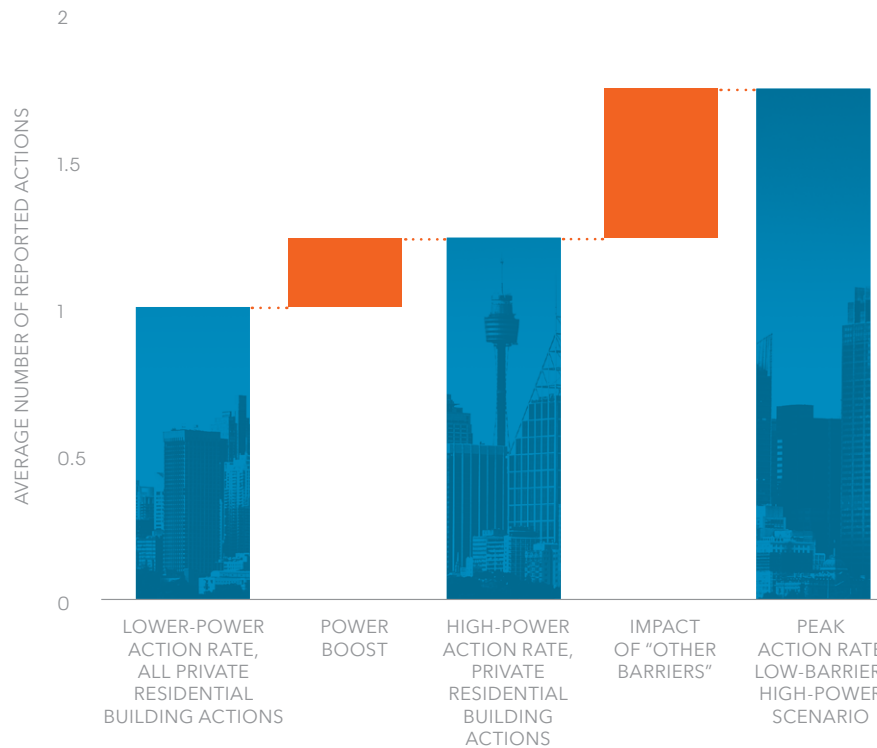


Figure 5: Industrial Buildings



For industrial buildings, power plays a much less significant role, indicating that other forces are at play that stand between cities and significant action in this sector.

Figure 6: Private Residential Buildings



In summary, lowering barriers has a tangible impact on unlocking even greater potential in cities. National governments must find avenues to support cities in overcoming the full array of these obstacles.

UNDERSTANDING AND CONTEXTUALIZING THE IMPACT OF “OTHER BARRIERS”

While city power is fundamental to unlocking emission reductions opportunities in urban areas, the analysis presented in this report shows the need to address barriers to action. Following are concrete examples of the barriers cities face:^{vi}

- **Procurement Processes:** In Johannesburg, city representatives reported that “if I want to implement a project on energy efficiency, for example, I have to put out to tender for a private contract. The contracting becomes very difficult in the sense that our municipal finance is not very flexible about how we can contract. The third-party contractor may want to do off-balance-sheet funding, which we are not able to do.”
- **Collaboration Across Stakeholders:** Melbourne identified several barriers to increasing the generation of renewable energy. The city identified 15 large organizations and institutions based in the city that have renewable energy targets. These businesses are large energy users and interested in driving investment in renewable energy to deliver on their own carbon targets. We are in the midst of developing a tender to go out to market to ask for new renewable energy upstream in the grid to be built for our demand, we want a cost-competitive process. We weren’t sure whether it would work, and, while there is a bit of a way to go, it feels like we might get there.”
- **Making the Case for Action:** In 2010, the City of Vancouver launched its Greenest City Action Plan 2020, a key target of which is to double the number of green jobs. “Vancouver is taking a more holistic approach to economic development, a critical initial step towards operationalizing this was to get a better sense for the drivers behind our green economic growth, as well as the policy and investment levers that could help meet our Greenest City Action Plan.” Vancouver’s approach to measuring the impact of its economic development activities started with the development of robust and defensible definitions of the green economy, green jobs, direct production, and incremental and transformational jobs. “We used employment projections for key industries and examined the influence of economic trends and policy and regulation to review green job growth.” As well as macro-level factors, the city reviewed local policies—identifying 20 that have potential to impact green jobs. “We estimated the total investment for each policy and combined this with ‘best fit’ employment multipliers to forecast the total employment impact.”
- **Funding for Climate Action:** Like many other cities, Washington, D.C., faces challenges in accessing money for climate action. “Big green infrastructure needs public and private dollars,” the city notes; however, it faces challenges in combining the use of private and public funds. Recently, Washington, D.C. has also implemented a program that has encouraged the growth of private-sector investment in solar energy. The city passed legislation to allow third-party power purchase agreements, which has encouraged strong growth in the solar sector. “The [residential power purchase] market is starting to grow much more quickly. ... [because] people don’t have to pay anything upfront. Not every state in the U.S. does this, our policy has created a situation where the market takes over and does a lot of the work. Then we’re able to take the limited resources we can provide and focus on low-income, high-need populations.” The city hopes that the success of this approach can show how to work effectively with the private sector and can help pave the way for future sustainability projects.^{vii}

2050

We already know that half of the world lives in cities and that nearly 75% will do so by 2050.

CONCLUSION: A New Paradigm for Cities

Cities have the power to help deliver a low carbon future. Fundamentally, they must work with other stakeholders to address the financial, political, institutional, regulatory and legislative challenges cities face. Urban emissions reductions are crucial—we already know that half of the world lives in cities and that nearly 75% will do so by 2050. But, cities also manifest the greatest opportunity for efficiency while also serving as the proving grounds for innovation, economic growth and progress in advancing climate commitments. Through the Compact of Mayors, 500 cities are voluntarily making a commitment to be part of a solution. This coalition of the willing has already pledged to do their part based on the power they have. Let's help them go further, faster.

End notes

- ⁱ Page 23 of SEI Report, "The contribution of urban-scale actions to ambitious climate targets." http://unenvoy.mikebloomberg.com/assets/SEI_C40_Summary_FullReport.pdf
- ⁱⁱ Analysis in this report is based on the frequency at which cities report taking action across the building sector. The frequency of action reported by cities with low power is indexed to 1. This helps to more clearly quantify and assess the impact of both power and barriers on frequency of action.
- ⁱⁱⁱ Powering Climate Action: https://issuu.com/c40cities/docs/powering_climate_action_full_report_lbid.
- ^{iv} As reported by the City of Toronto during the 2015 CDP Cities reporting cycle: <https://www.cdp.net/en-US/Pages/events/2015/cities/infographic.aspx>
- ^v Intended Nationally Determined Contributions (INDC) are publicly outlined post-2020 climate actions countries have committed to undertake. For more information on INDCs please visit the United Nations Framework Convention on Climate Change INDC portal (http://unfccc.int/focus/indc_portal/items/8766.php)
- ^{vi} C40's recent report "Unlocking City Potential" contextualizes many of the challenges that cities face in implementing climate action. See: http://www.c40.org/c40_research
- ^{vii} All city perspectives included come from the C40 report, "Unlocking City Potential": See: http://www.c40.org/c40_research