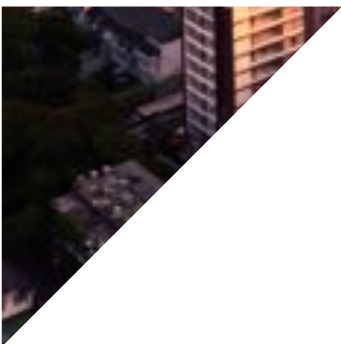


It takes a city

The case for collaborative climate action



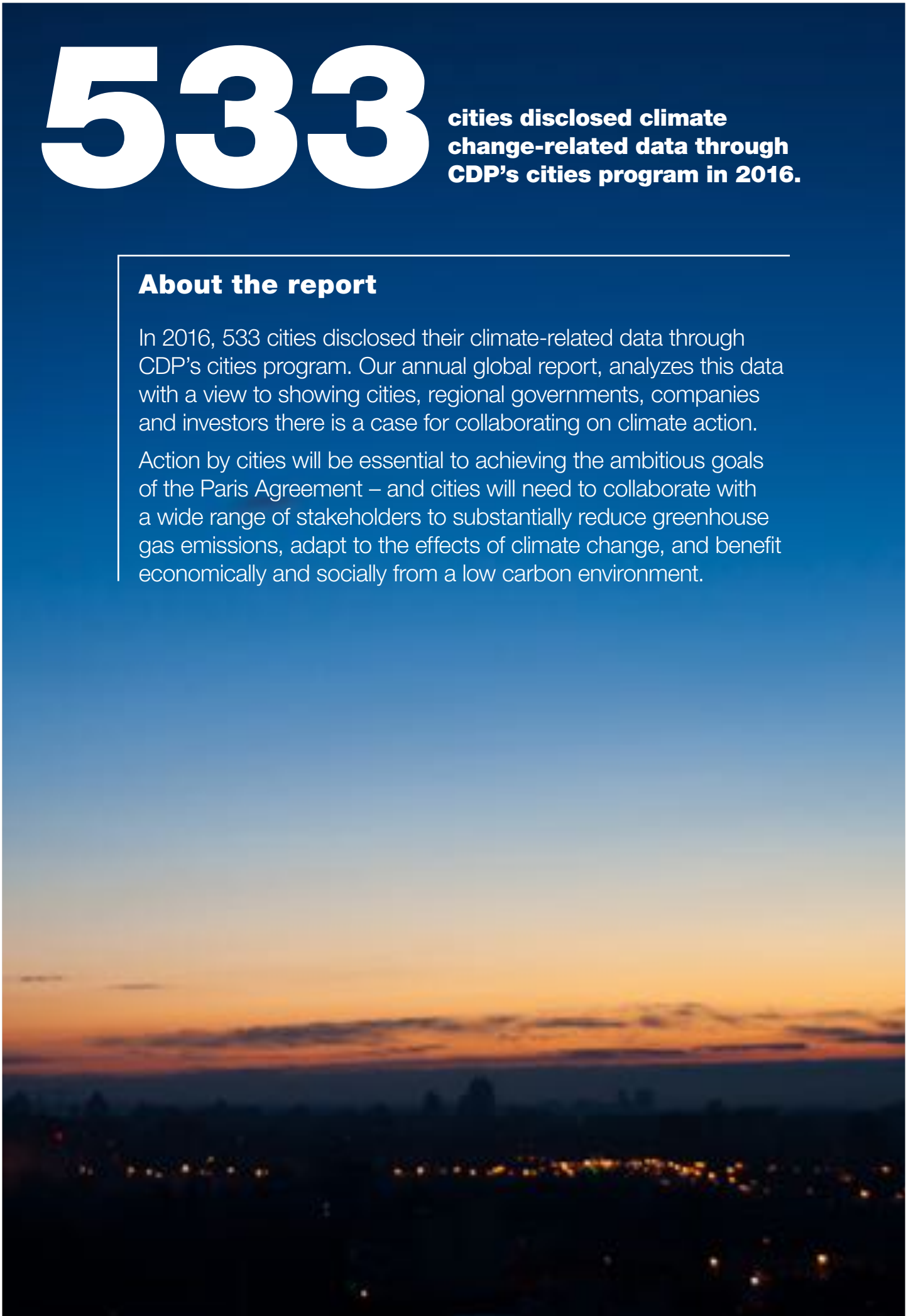
533

**cities disclosed climate
change-related data through
CDP's cities program in 2016.**

About the report

In 2016, 533 cities disclosed their climate-related data through CDP's cities program. Our annual global report, analyzes this data with a view to showing cities, regional governments, companies and investors there is a case for collaborating on climate action.

Action by cities will be essential to achieving the ambitious goals of the Paris Agreement – and cities will need to collaborate with a wide range of stakeholders to substantially reduce greenhouse gas emissions, adapt to the effects of climate change, and benefit economically and socially from a low carbon environment.



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Foreword: The city view Stockholm



Stockholm is taking decisive action against climate change. We aim to reduce greenhouse gas emissions to no more than 2.3 tCO₂ equivalent per citizen by 2020, and to become an entirely fossil free-city by 2040. Stockholm will not be able to meet these objectives on our own – and collaboration is at the center of our climate change strategy.

The city's own operations contribute just 10% of Stockholm's overall emissions. Our climate strategy depends on us finding ways to work with the majority privately owned local energy supplier, and with our partners in regional government, with whom we share responsibility for public transport in the city and beyond. And our strategy depends upon us finding ways to work with hundreds of businesses across the city, helping them to reduce their own climate impacts, and to find opportunities for new low carbon products and services.

In 2007, we launched the Climate Pact, a collaborative network that offers a forum for networking, development and sharing expertise. It was set up to break down the sense of 'them and us' that divided private companies from the city authorities, and to find common cause in reducing carbon emissions.

The pact is open to every company – big and small, environmental leaders and those looking to learn. With more than 200 members, it is not restricted to those who are already doing well – only to those who want to do better.

It provides a way for companies to share experiences with each other. Unlike other business forums, it is cross-sectoral, allowing construction firms to learn from transport companies, and energy firms to talk to IT companies. It also helps us, within the city, to develop climate policies and programs in dialogue with business. We can talk to each other to bring forward proposals that work, and that have buy-in from those who will have to deliver them.

We are now deepening collaboration with those companies who are ready to go further, with the launch of a vanguard group. These companies will serve as an inspiration to their peers and be stretched to be even more ambitious and to report their climate work.

The most important lesson from the success of the Climate Pact for other cities around the world is that collaboration can start small, and costs little. Networks can be established at little expense, and can grow and evolve as their worth is proven, and as needs are identified. The first step in addressing the challenge of climate change lies in understanding the nature of the problem, and the challenges faced by all the parties involved. Then, in a spirit of dialogue and collaboration, we move forward to begin to tackle it.

Karin Wanngård

Mayor of Stockholm



Tomorrow's attractive cities will be sustainable, socially inclusive – and smart. At Ericsson, we see a future where information and communication technology enables cities to exploit renewable, distributed energy, to seamlessly manage low carbon transport systems, address circular economy and to efficiently supply water and wastewater services.

In Stockholm, where we are based, we are turning that future vision into reality. We are collaborating with the city authorities and other private sector actors on a range of projects and initiatives that promise to make this city, and others, work better and more efficiently at the same time as reducing their environmental impacts.

We are delighted to be involved with the signature Stockholm Royal Seaport (SRS) project, helping to transform a hitherto industrial area of the city into an exemplar of sustainable living, commercial and work areas. We are co-operating with academia, the Royal Institute of Technology, the Swedish Energy authority and the private sector. One of the areas we address is smart grid projects. With our partners, we are testing how technologies and home energy management services can be used to change consumer behavior to enable flexible demand for more than 150 apartments. It is one of the first cases of its kind and size in the world where we can see how people use and adapt their behavior during a full year. This is a critical input to develop product and services on a global scale to achieve flexible demand in practice.

Stockholm has also launched its Digital Demo Stockholm initiative, in which we are participating. It aims to harness innovation to transform traffic management, elderly care, social integration and water provision – with the former promising to also reduce emissions.

Ericsson has also recently joined the city's Climate Pact, a network of companies enabled by the city authorities that holds enormous promise in terms of building relationships and developing projects that will help drive down climate impacts – at the same time as helping us develop new products and services.

Close partnerships between cities and the private sector, such as Stockholm and Ericsson, are important to support cities as they address their carbon emissions. They also provide vital laboratories for us to develop smart products and services. By sharing knowledge, and by working to understand the challenges and constraints faced by city governments, we can better tailor our offerings to their needs and demands. We can take those experiences to scale in other places and use them to develop services that are urgently needed around the world.

To successfully address climate change, the lessons we are learning working with Stockholm will also need to be applied elsewhere. Sweden's predominantly low carbon electricity mix means that per capita emissions in the country are already low. For all the progress we can make in Northern Europe, it will be in the fast-growing cities of Asia, Latin American and Africa where the major benefits of collaboration will be reaped. This is where we can combine our hands-on experience with our research experience on how Information and Communication Technology (ICT) can reduce global carbon emissions, by up to 15% by 2030.

Matilda Gennvi Gustafsson

Sustainability Director, Group Function Sustainability & Corporate Responsibility,
Ericsson

Executive summary

The world's cities account for approximately three-quarters of global greenhouse gas emissions. Their energy use, and the behaviour and habits of their citizens will dictate whether we are able to reduce emissions to the extent needed to avoid dangerous climate change as well as adapt to the impacts already being felt in cities. To meet these challenges cities cannot act alone.

Transformative action is urgently needed. Current national climate change commitments will lead to warming of around 2.7 degrees Celsius this century – considerably above the below 2 degrees goal reaffirmed in Paris at COP21, and the 1.5 degree aspiration the Paris Agreement contains.¹

Action by cities will be essential therefore to achieving the ambitious goals of the Paris Agreement – but encouragingly **more than 7,000 cities have made commitments through the Global Covenant of Mayors for Climate & Energy** – and are reporting on their progress. These cities have shown great ambition, but they will need to collaborate with a wide range of stakeholders if they are to meet their targets and substantially reduce emissions, adapt to the effects of climate change and benefit economically and socially from a low carbon economy.

The investment needed in cities into low carbon transport, energy, water, waste and telecommunications infrastructure is estimated at US\$57 trillion between now and 2030.² Investment of this magnitude can only be delivered through collaboration with businesses and investors.

Collaboration enhances a city government's ability to account for its emissions and manage them. Despite the considerable power often in the hands of city authorities, the bulk of emissions in a city typically come from sources over which it exercises no direct control. For example, New York City's municipal operations account for just 7% of total citywide emissions. Globally, cities' municipal operations produce just 3% of total citywide emissions.³ The remainder comes from sources such as buildings and private transport where business, other levels of government, or citizens exercise control.⁴

CDP serves as an official reporting platform for the Compact of Mayors, which was relaunched in June 2016 as the Global Covenant of Mayors for Climate & Energy. Co-chaired by Former New York City Mayor and UN Secretary-General's Special Envoy for Cities and Climate Change, Michael R. Bloomberg, and European Commission Vice President, Maroš Šefčovič, and with the support of global and regional city networks, including C40 Cities Climate Leadership Group, ICLEI – Local Governments for Sustainability, United Cities and Local Governments, Climate Alliance, Energy Cities, and Eurocities, the Global Covenant of Mayors for Climate & Energy represents the largest global coalition of cities committed to climate leadership.

1. Climate Action Tracker. 2015. <http://climateactiontracker.org/news/253/Climate-pledges-will-bring-2.7C-of-warming-potential-for-more-action.html>

2. "Financing the transition: Sustainable infrastructure in cities." *WWF and Z/ Yen Group Limited*, 2015. Sustainable infrastructure in cities. http://www.longfinance.net/images/reports/pdf/Financing_the_transition_March2015.pdf

3. CDP 2016 data

4. Parshall, L., Haraguchi, M., Rosenzweig, C. and Hammer, S.A., 2011, *The Contribution of Urban Areas to Climate Change: New York City Case Study*, UN Habitat. <http://unhabitat.org/wp-content/uploads/2012/06/HS2011CaseStudyChapter03NewYork.pdf>

5. In addition, this report has analyzed parts of the 2015 CDP corporate data set and States and Regions data set.

6. See question 5.0 and 5.1 of the CDP Cities Information Request 2016.

Collaboration is happening, it is working and has the potential to drive economic growth.

This year, 533 cities from around the world disclosed climate change-related data through CDP's cities program. We analyzed this data to examine where and how cities are collaborating on climate action with regional governments, businesses and investors, and to explore where the potential exists to deepen and broaden this collaboration.⁵

The data shows that collaboration is happening, it is working and it has the potential to drive economic growth.

Collaboration between cities, regions and businesses is a key feature of climate action. **Nearly two-thirds of cities reporting to CDP are already collaborating with businesses**, whether through knowledge sharing, business development, planning policy, project implementation or financing.

The economic opportunity from collaboration for cities, businesses and investors is substantial. The emergence of the low carbon economy represents an enormous economic opportunity. Globally, 299 cities disclosing to CDP identify the potential to develop new businesses and industry sectors linked to climate change action.

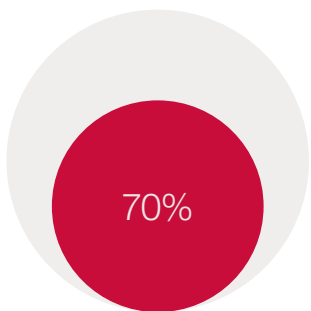
277 cities disclosing to CDP are seeking private sector involvement on 720 climate-related projects worth US\$26 billion.⁶ Cities in North America and Africa are particularly interested in financing – despite being at different stages in their approach to managing climate change.

Cities that collaborate with businesses are more likely to set emissions reduction targets. Out of the 190 cities that have an emissions reduction target, 74% also report collaboration. This suggests that collaboration helps cities aim higher on their climate actions than they would alone, and can make them more resilient in the face of climate change.

Cities have already demonstrated significant leadership on taking action on climate change and will continue to do so in the context of the mitigation and adaptation efforts required to achieve the goals of the Paris Agreement. To meet these challenges, cities cannot act alone. As the data from this year's disclosures show, cities that collaborate are more ambitious, and stand to seize more economic opportunities and attract more investments than those who don't.

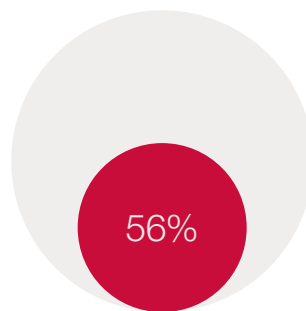
533

cities disclosing:



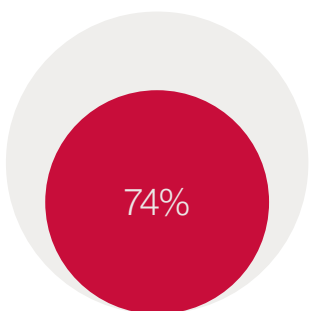
70%

increase in the number of cities disclosing since the Paris Agreement was adopted



299

cities identify an opportunity to develop new businesses or industry linked to climate change action



74%

of the 190 cities with a city-wide emissions reduction target, also collaborate with businesses

US\$26 billion

the total cost of 720 climate-related projects that cities want private sector involvement in

Case for collaboration

In both mitigating climate change and in adapting to its impacts, collaboration between cities, regions, business and investors makes sense. Collaborating between entities at different levels makes emissions reduction efforts more effective; collaboration between those facing the same local climate impacts makes adaptation actions more successful.

190

cities have a city-wide emissions reduction target, of which

74%

collaborate with business

Climate change is a shared problem

City authorities, regional governments and businesses all have a shared interest in reducing the impacts of climate change as many global risks are concentrated in urban areas. These impacts not only increase the potential cost-burden on cities themselves, but also undermine the ability of businesses to thrive.

Indeed, city leaders recognize the danger that climate change poses. This year, disclosing cities identified 2,022 risks to their communities due to climate change. These included risks from extreme temperature, floods, and water scarcity. Moreover, cities say 63% of these risks are already manifesting themselves, or will do so in the near term.

Collaboration works

Our data shows that cities who collaborate on climate action are not only more likely to have an emissions reduction target, but that target is more likely to be ambitious. Out of the 190 cities that have a city-wide emissions reduction target, 74% also collaborate with businesses. Research by C40 Cities Climate Leadership Group shows that cities that take a partnership-based approach are better placed to deliver on climate actions.⁷

Why is this? Collaboration provides opportunities to share skills, knowledge, and resources between cities and other actors. Cities can help businesses raise finance for climate action. They can – and do – set longer-term plans and targets that can provide the context for companies to be more ambitious and forward-looking in their planning. Analysis of emissions reduction targets disclosed to CDP within the 12 largest emitting countries found that the average city target extended to 2030, while company targets are more shorter term. Cities, regions, and businesses generally can work together to create complementary approaches to responding and adapting to climate change.

7. "Powering Climate Action: Cities as Global Changemakers". *C40 and Arup*, 2015. http://www.c40.org/blog_posts/new-research-from-c40-and-arup-shows-how-city-governments-are-changing-the-world

8. "Climate change plagues Madagascar's poor: 'The water rose so fast'", *The Guardian*, 7 July 2016. <https://www.theguardian.com/global-development/2016/jul/07/madagascar-climate-change-plagues-poor-the-water-rose-so-fast>

9. "Fort McMurray wildfire costliest insured disaster in Canadian history", *CBC*, 7 July 2016, <http://www.cbc.ca/news/canada/edmonton/fort-mcmurray-wildfire-costliest-insured-disaster-in-canadian-history-at-nearly-3-6b-1.3668602>

10. "The World Bank Supports Thailand's Post-Floods Recovery Effort", *The World Bank*, 13 December 2011. <http://www.worldbank.org/en/news/feature/2011/12/13/world-bank-supports-thailands-post-floods-recovery-effort>



Antananarivo, Madagascar

For example, in 2015, severe rainstorms flooded two-thirds of **Antananarivo**, the capital of Madagascar, causing landslides. Changing weather patterns are already impacting 12 million people, over half of Madagascar's population, who don't have access to clean water, and are making future water supply uncertain⁸.



Alberta, Canada

In 2016, **Alberta** faced the worst natural disaster in its history. In Fort McMurray 2,400 homes were destroyed and 80,000 people were affected by wildfires, costing some US\$2.75 billion⁹.



Bangkok, Thailand

More than two-thirds of reporting cities disclose that climate change could threaten the ability of businesses to operate successfully in their city. Much of the US\$45.7 billion worth of damage caused by the flooding in **Bangkok** in 2011 was borne by the private sector¹⁰.



Collaborating to meet targets: New York City, USA

Recognizing the existential threat that climate change poses, Mayor of New York City Bill de Blasio has set the ambitious goal to reduce citywide greenhouse gas emissions to 80% below 2005 levels by 2050. Because buildings account for nearly three-quarters of the city's emissions, the Mayor has drawn up One City: Built to Last (Transforming New York City's Buildings for a Low Carbon Future).¹¹ The plan is a comprehensive, 10-year roadmap to improve the energy efficiency of the City's buildings, and sets an ambitious goal to reduce the city's building-based emissions 30% by 2025 as a staging post to the 2050 target.

The city authorities recognise that they are not able to achieve their ambitious goals without the help of partners. Since 2007, 17 of New York City's leading universities, 11 global companies, its 11 largest hospital organizations, and 18 residential management firms have accepted the NYC Carbon Challenge, pledging to voluntarily reduce their building-based emissions by 30% or more within 10 years.¹²

Participants of this initiative have moved aggressively to cut their energy use and emissions. 6 participants have already met the 30% goal, and 12 universities, hospitals, and commercial offices have expanded their commitment to a 50% reduction by 2025. Altogether, participants have cut their annual emissions by 175,000 metric tons of CO₂e and are collectively saving almost US\$175 million annually in lower energy costs. By the end of the program, current participants are projected to reduce annual citywide emissions by nearly 515,000 metric tons of CO₂e.

The initiative works by inspiring a high level commitment within organizations, creating a platform for the exchange of information and ideas, and providing simple tools to track progress. As they explore new ideas and opportunities to meet their goals, participants will also develop effective strategies for energy efficiency that can be scaled up across New York City and beyond.

11. "One City Built to Last", *The City of New York*, 2014 <http://www.nyc.gov/html/builttolast/assets/downloads/pdf/OneCity.pdf>

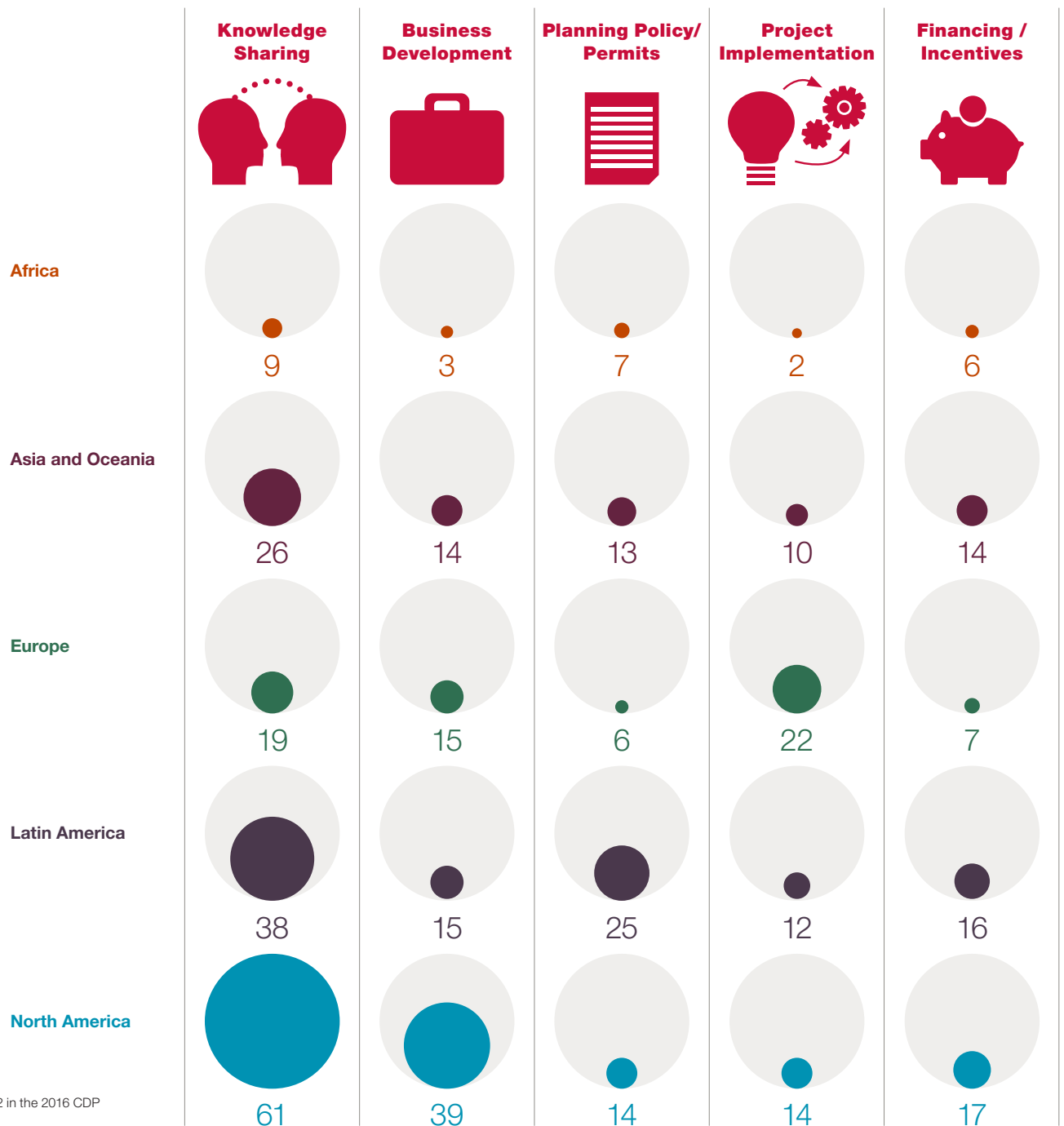
12. "The New York City Carbon Challenge," *New York City*, Web, 17 August 2016 <http://www.nyc.gov/html/gbee/html/challenge/nyc-carbon-challenge.shtml>

The current state of collaboration

Nearly two-thirds (64%) of cities disclosing through CDP in 2016 say they are collaborating with businesses on climate action.

Through the CDP cities questionnaire cities are telling us that they are collaborating with businesses on climate change.¹³ Areas of collaboration identified were: knowledge sharing, business development, planning policy/permits, project implementation, and financing and incentives. The most common form of collaboration disclosed is knowledge sharing. Cities can act as conveners, helping to bring together different stakeholders to work together to create the knowledge needed to respond and adapt to climate change. Sharing knowledge helps cities and companies learn from each other, disseminate best practice, align priorities and coordinate action – and thus deliver greater climate actions at lower cost.

Number of cities collaborating with businesses on climate action



13. See question 1.2 in the 2016 CDP cities questionnaire



The current state of collaboration cont'd



Knowledge sharing¹⁴

In **Paris** France, the city authorities have created 2 online platforms for businesses to demonstrate their commitment to climate action and share information. More than 30 companies have joined the "Paris Climate Action" partnership, committing to the Paris Climate and Energy Action Plan, while the city offers support with knowledge sharing.¹⁵

In **Vancouver** Canada, city leadership developed the Vancouver Climate Pledge to encourage companies in the city to voice their support for stronger action on climate change globally, for the local green economy, and for the city's 100% renewable energy goal. CDP partnered with the Vancouver Economic Pledge to encourage companies in the Vancouver area to set science-based targets and set a carbon price.



Business development initiatives

Singapore has made water technology a key strategic priority over the last 40 years. It describes itself as a "leading Global Hydrohub", with a thriving cluster of about 180 water companies and 26 research centers. "Our capabilities in water management, desalination and related technologies can help other countries better adapt to changing rainfall patterns and possible water shortages as a result of climate change," it says in its disclosure to CDP.

Meanwhile in South Africa, **Cape Town's** Economic Development Department is establishing a green zone industrial centre in Atlantis to attract renewable energy manufacturers. To help support local manufacture and assembly of solar equipment, the city is working with local energy service providers to put over 60,000 solar water heaters onto household roofs.



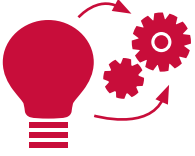
Policy and regulation

In 2015, South Australia passed Building Upgrade Finance legislation, which the state is delivering in partnership with **Adelaide**. This will help commercial building owners in the city access loans to improve the energy, water and environmental efficiency of existing commercial buildings.

In 2010, **Shenzhen** was the first city in China to pilot a carbon trading scheme, collaborating with companies in setting the rules and pricing mechanisms. 636 companies in Shenzhen are included in the system. As a result of the success of the pilot in Shenzhen and 6 other cities in China, China is launching a national emissions trading scheme in 2017.

14. Examples on this section came from responses to question 1.2 from the 2016 CDP cities questionnaire

15. "Paris Climate Action Climate Action Partnership Agreement", Paris Action Climat, Web 17 August 2016. <http://parisactionclimat.paris.fr/en/>



Project implementation

In Argentina, the **Buenos Aires** Bicycle Program promotes the use of bicycles as an ecological, healthy, and fast means of transportation. It includes the creation of a network of bike lanes and bicycle parking infrastructure, a free biking system, and its promotion to the private sector. More than 100 companies are encouraging their employees to participate.

Sacramento, California, is developing a new downtown arena, the Golden 1 Centre, in partnership with the Sacramento Kings, the local National Basketball Association team. It will be one of the most sustainable sporting venues in the country, constructed to the LEED Platinum standard.

City authority over energy issues offers an enormous range of opportunities for collaboration with the private sector. **Changwon** in South Korea, for example, has worked with companies to integrate renewable energy technologies into its projects on waste and transportation.

In Brazil, **Campinas** has partnered with SANASA, a municipal water and sanitation company, to improve the efficiency of its water supply system, leading to lower emissions and greater resilience against climate-related water shortages.



Financing and incentives

In the United Kingdom, the US\$144 million **London** Green Fund is expected to leverage up to US\$1.3 billion of investment in carbon reduction and wider 'green' programs in the city. As of December 2015, the fund had invested in 18 sustainable urban development projects valued over US\$650 million.

In 2014, **Richmond** California, and Chevron agreed to an Environmental Community Investment Agreement, providing \$90 million dollars to the Richmond community over the next 10 years. The money will go to community programs, competitive community grants, greenhouse gas reduction programs and a photovoltaic solar farm.



The economic opportunity in scaling up collaboration

The emergence of the low carbon economy represents a sizeable economic opportunity. Globally nearly 300 cities disclosing to CDP identify the potential to develop new businesses and industry sectors linked to climate change.

The development of new industries, for example, the clean-tech industry, was identified across multiple geographies as a growth opportunity. In North America, nearly 100 opportunities were identified, while across Europe over 50. Latin America and Africa represent potential market sizes of US\$349 billion and US\$235 billion respectively for SMEs focused on clean technologies.¹⁶

The opportunity to attract finance for climate-related infrastructure projects is even greater. By some estimates, more than US\$4 trillion/year of investment will be required in urban infrastructure to keep up with projected growth – and an additional US\$0.4-1.1 trillion will be required to make it low carbon and climate resilient.¹⁷ Currently, US\$331 billion is being invested into climate finance projects, illustrating that demand is still needed.¹⁸ Our data shows cities across Asia and Oceania, Europe and North America see the most economic potential in increased infrastructure investment.

The demand for climate finance

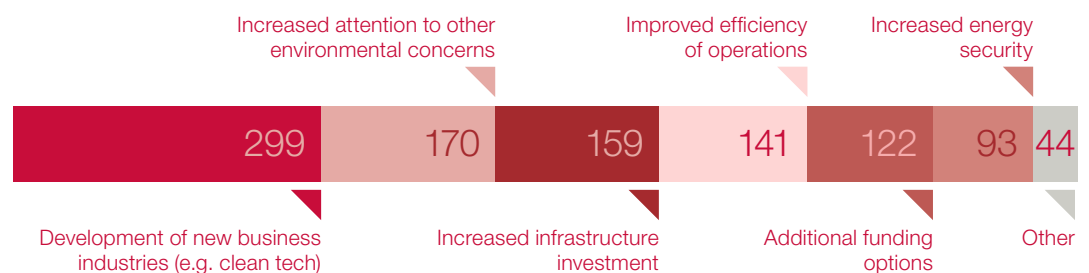
The need for climate-related investment has never been greater. Indeed, financing climate mitigation and adaption programs offers significant area for growth. This year, 277 cities disclosed that they are seeking private sector involvement on 720 climate related projects worth US\$26 billion. Given the magnitude of the infrastructure investment alone that is required, this is likely to be an understatement of demand.

299

cities identified opportunities to develop new business industries (e.g. clean tech)

Number of cities that see an economic opportunity from climate change

397 cities disclosing to CDP identified a total of 1,028 economic opportunities.



16. "New Report Identifies Major Clean-Tech Market Opportunity for Small Businesses in Developing Countries", *World Bank*, 24 September 2014. <http://www.worldbank.org/en/news/feature/2014/09/24/new-report-identifies-major-clean-tech-market-opportunity-for-small-businesses-in-developing-countries>

17. "The State of City Climate Finance 2015", *Cities Climate Finance Leadership Alliance*. <https://sustainabledevelopment.un.org/content/documents/2201CCFLA-State-of-City-Climate-Finance-2015.pdf>

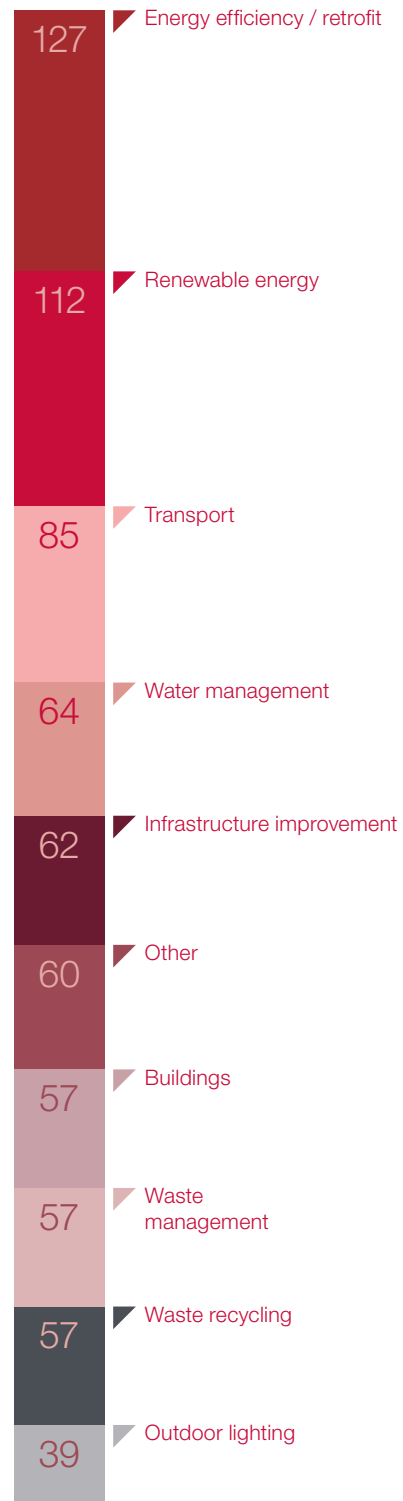
18. Ibid.

The economic opportunity in scaling up collaboration cont'd

This year's disclosures have revealed a total of 720 examples of cities aiming to work with the private sector on climate change-related projects.

720

project seeking private sector involvement





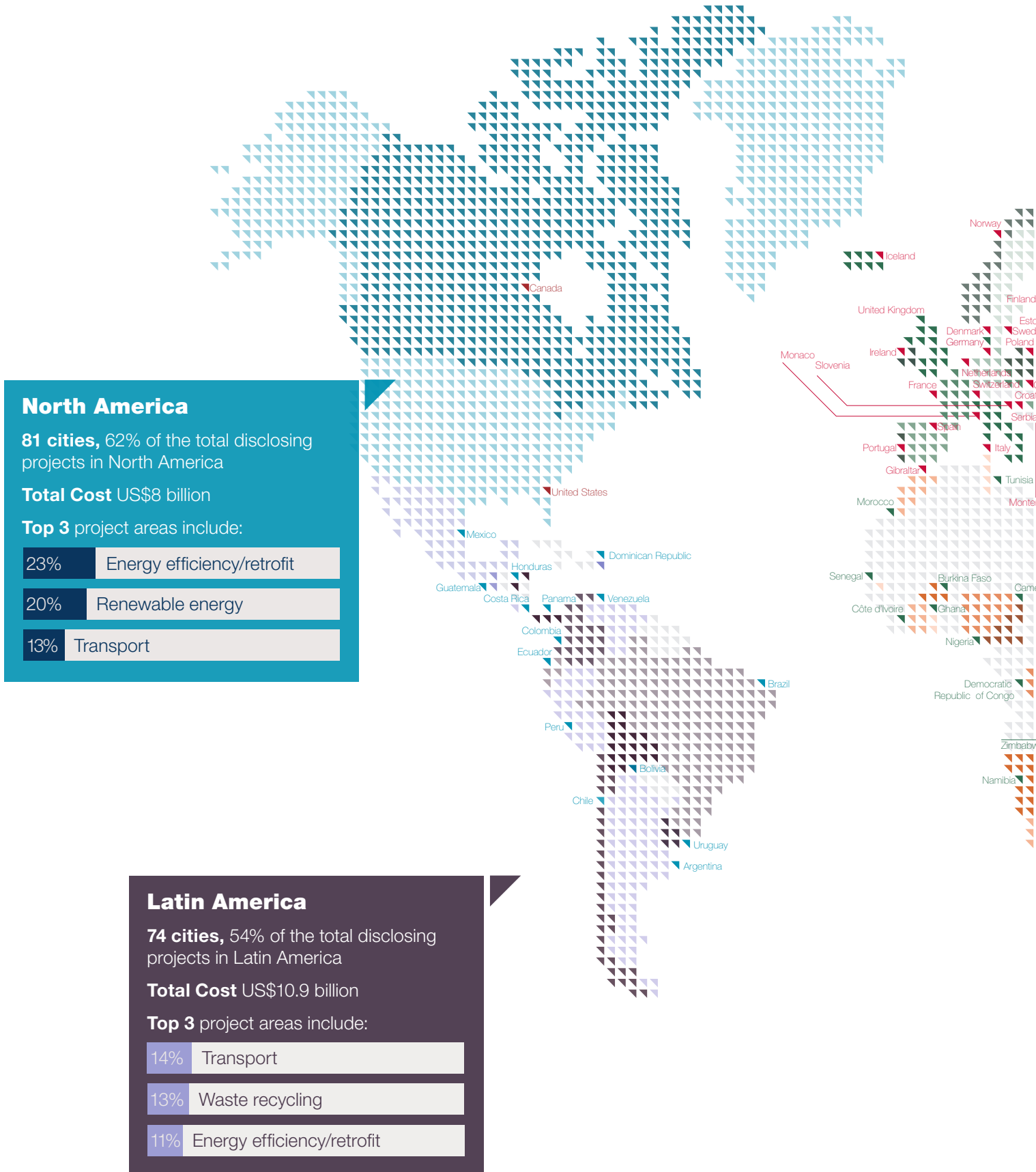
At HSBC we see cities as key to delivering tangible action on climate change. We have financed sustainable urban infrastructure and services such as Bus Rapid Transit, smart meters, city command and control systems in 'Smart Cities' around the world. Helping cities understand and develop structures that blend investment from private and public sources can improve their access to financing. We are currently working with a number of cities in the developing world to design strategies that can allow them to access investment from multilateral development banks, export credit agencies and dedicated environmental facilities such as the UN Green Climate Fund.

HSBC

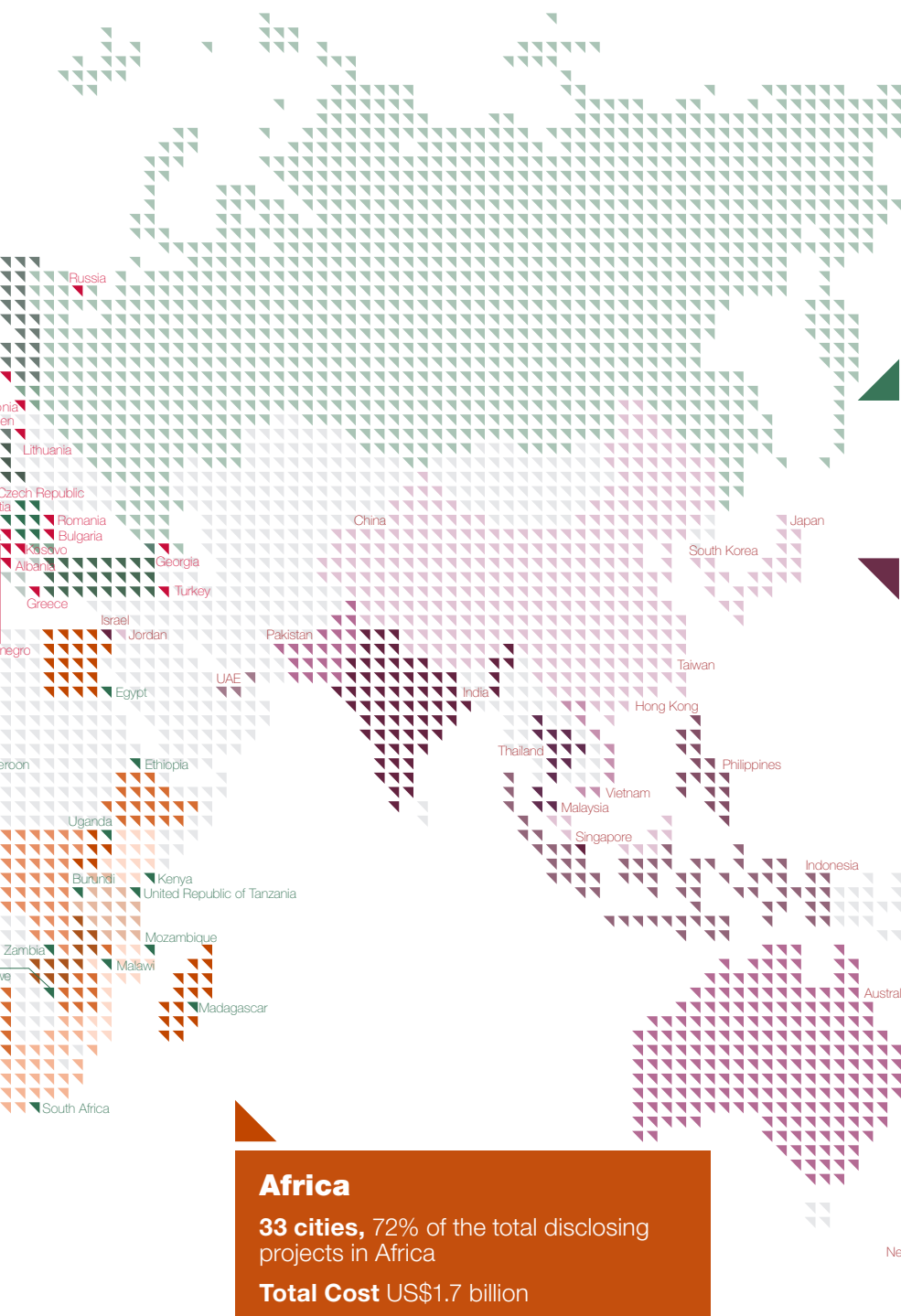


The economic opportunity in scaling up collaboration cont'd

Regional breakdown of climate related projects seeking private sector involvement



▶ **Cities disclosing to CDP are seeking private sector involvement on 720 climate-related projects worth US\$26 billion.**

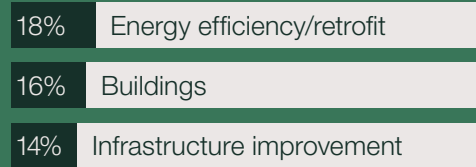


Europe

48 cities, 38% of the total disclosing projects in Europe

Total Cost US\$3.4 billion

Top 3 project areas include:

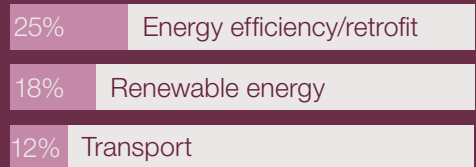


Asia and Oceania

41 cities, 44% of the total disclosing projects in Asia and Oceania

Total Cost US\$2 billion

Top 3 project areas include:



Africa

33 cities, 72% of the total disclosing projects in Africa

Total Cost US\$1.7 billion

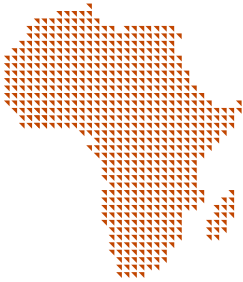
Top 3 project areas include:



The economic opportunity in scaling up collaboration cont'd

Demand for private sector involvement is highest in Africa, North America and Latin America. However, the types of projects for which cities are seeking involvement vary regionally¹⁹.

Cities in **Africa** are typically seeking collaboration on waste management and renewable energy projects.



Morogoro, Tanzania faces a growing solid waste problem, with less than 30% of solid waste collected. It is seeking private sector involvement to help address this issue, which has led to illegal dumping, causing serious health and environmental issues.

Cape Town is seeking renewable energy investment, having pioneered local government support for wind generation through its contract to purchase electricity produced by the Darling Wind farm. Private sector companies can purchase this electricity via Green Energy Certificates. The city is considering extending this to other independent power producers.

In **North America**, where cities showed the second highest demand for private sector involvement, cities are predominantly seeking collaboration for energy efficiency projects.



Atlanta, Georgia, has a buildings energy efficiency ordinance aimed at reducing energy and water consumption by 20% in commercial buildings by the year 2030, creating more than 1,000 jobs a year in its first few years, and cutting carbon emissions by 50% from 2013 levels by 2030. This is in collaboration with the City Energy Project, with whom CDP serves as a partner in data collection, which is designed to improve energy efficiency in buildings.

Phoenix, Arizona, hopes to attract private sector involvement to finance a large-scale solar project on city property, at sites with high energy use.

Latin American cities are seeking collaboration opportunities in transport and waste recycling, but the costliest projects relate to water.



Quito, Ecuador, is seeking US\$800 million to help deliver its ambitious waste management and water project. The project involves building sewage pipes and collection systems that convey wastewater to water recovery plants by a gravity system, saving electricity by avoiding the use of electric pumps. By its completion, it will benefit about 4.7 million people, treating the wastewater of 99% of the region's population, delivering an 85% reduction of the water footprint of the city of Quito, and generating a potential reduction of almost 150,000 tCO₂e per year.

Belo Horizonte, Brazil's sixth largest city, reports seeking private sector involvement with 5 different initiatives, the majority of which focus on improving transport. The city aims to encourage urban mobility, in particular through improving cycling infrastructure.

19. Examples on this page came from responses to question 5.1 from the 2016 CDP cities questionnaire

In the **Asia and Oceania** region, where just under half of cities (44%) disclose seeking private sector involvement with climate-related projects, energy efficiency and renewable energy projects are most popular, as with North American cities.



Kolkata, India, is seeking private sector involvement with renewable energy projects focused on developing solar-powered heating and lighting, including street lighting.

Sydney, Australia is running the Better Buildings Partnership (BBP), “a collaborative partnership with Sydney’s leading private commercial building owners committed to assisting the City to meet its Sydney 2030 objectives”. The partnership develops best practice and advocates for solutions to help unlock improvements to environmental performance in the commercial building sector.

Finally, in **Europe**, where just over a third of cities disclose seeking private sector involvement, projects are primarily focused on energy efficiency and buildings, although infrastructure improvement is also a key focus.



Almost a fifth of the population of **Birmingham**, the UK’s second largest city, currently lives in fuel poverty, making energy efficiency of homes a key priority. Following the withdrawal of the Green Deal, the national parent scheme, the city is in the process of relaunching its flagship energy saving program and is seeking support from the private sector.

Florence, Italy, is seeking private sector involvement with improving its transportation infrastructure. It is developing new tram lines and an electric mobility recharging network.

The economic opportunity in scaling up collaboration cont'd

Barriers to accessing investment

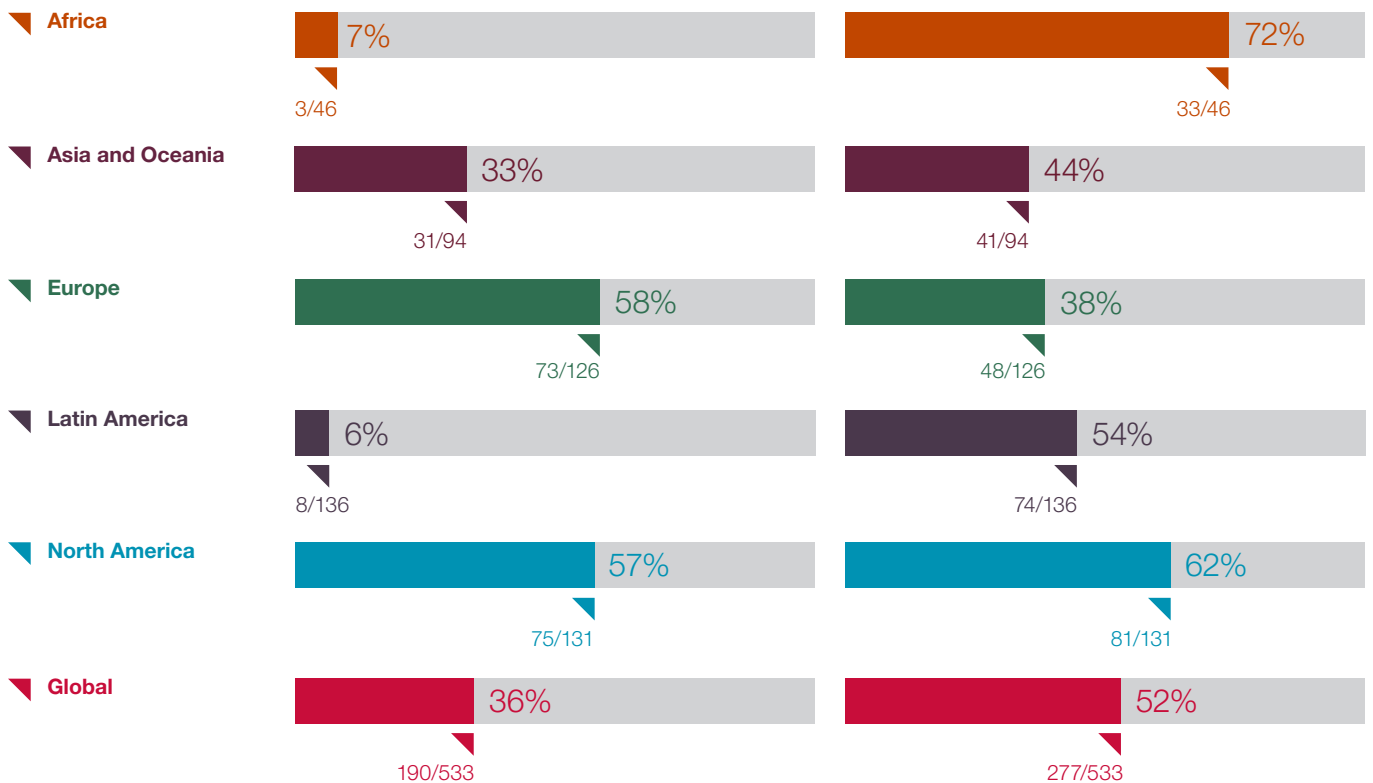
While many cities across Africa and Latin America are interested in private sector involvement in projects, they are less advanced in terms of setting emissions reduction targets. In Latin America, 74 out of 136 (nearly half) disclosing cities are seeking private sector involvement in climate-related projects, while just 6 have emissions targets. In Africa, 33 out of 46 cities are looking for investment, while just 3 have targets.

Our research on cities and investors suggests that this could be a potential barrier to accessing investment.²⁰

Cities in Africa and Latin America typically lack emissions inventories within their city, making it a challenge to set emissions-reduction targets. These cities also face numerous competing priorities and severe resource constraints that make it challenging to develop and present investable project plans alone.

Cities with emissions reduction targets

Cities seeking private sector involvement



Our research reveals that because cities typically access public finance, city authorities are not as knowledgeable on how investors operate, and how best to engage with them to attract private finance.²¹ There is a lack of awareness within city governments as to what financing opportunities exist with private investors, and a lack of capacity to access them.

Partnering with business could therefore put cities in a stronger position to attract investors in a win-win situation. In emerging markets, only 4% of the largest 500 cities in developing countries are deemed credit-worthy by international investors.²² However, cities in the global south offer some of the biggest opportunities for growth, economies of scale and density – all of which are strong incentives for business to partner and help shape the cities of tomorrow.

Publicly listed corporations, on the other hand, are typically much better at understanding and catering to the needs of private investors, who in turn view corporations as a more reliable investment opportunity.

20. "Barriers to Private Sector Investments into Urban Climate Mitigation Projects," *Climate-KIC and CDP*, 2016. <http://local.climate-kic.org/wp-content/uploads/2016/02/Final-White-Paper-Barriers-to-Investments-into-Urban-Climate-Mitigation-Projects-02022016.pdf>

21. Ibid

22. "Financing Sustainable Cities: How We're Helping Africa's Cities Raise Their Credit Ratings", *World Bank*, 24 October 2013. <http://www.worldbank.org/en/news/feature/2013/10/24/financing-sustainable-cities-africa-creditworthy>



C40 view:

How to unleash this power of collaboration



Here at the C40 Cities Climate Leadership Group, research has highlighted that 75% of the challenges preventing future climate action in our cities, cannot be resolved unilaterally by the city. Rather only through collaboration with partners in the private sector, national government, civil society and others can we unleash the vast potential for action in our cities.

For those less familiar with us, C40 is a network of the world's megacities committed to addressing climate change. C40 connects more than 80 of the world's greatest cities, representing over 600 million people and one-quarter of the global economy.

The research explored hundreds of challenges that member cities face, from which 6 were highlighted as consistent, leading issues, with the high level findings published across 2 C40 reports^{23, 24}. What follows are some highlights from the background analysis on how these challenges express themselves, and some initial framing on how we might move forward.

Challenges and opportunities around collaboration between cities and the private sector

Our cities identified challenges working with the private sector to be amongst the most prevalent and damaging in limiting climate action²⁵. These challenges included aspects like:

1. *Familiarity of cities with the solutions, services and technologies that are available across the private sector globally, due to limited resources and expertise.*
2. *Familiarity of cities with the business needs of private sector organisations in creating opportunities for collaboration.*
3. *Familiarity of companies with the needs of cities.* Resulting in companies not focusing on innovation to solve city's needs, or the city being overwhelmed by large numbers of inappropriate solutions.
4. *Opportunity to form personal networks.* Cross-sectoral engagement and clear and easy identification of relevant contacts for each sector and relationships between both sectors, ensuring professionals know "who to go to".
5. *Effective communication throughout procurement.* With a particular challenge around limits to pre-procurement communication, which can be seen as legislative risk by cities and a financial risk by companies.
6. *Policy certainty.* Uncertainty about for instance, incentive schemes, is a significant risk to private sector.
7. *Improving city transparency and financial performance, in order to create an enabling environment within cities.* Including a wide range of

conditions within a city that increase the cost and risk of doing business, for instance around levels of transparency in the city authority.

8. *Confidence as an encouragement to market development.* Giving clear signals to the private sector of intent, and demonstrating a pipeline of projects that supports investment to instil confidence and mobilize first movers.

9. *Respective image and mutual trust.* It is important that cities see the private sector as a positive influence and vital partner, rather than distrust their motives as commercial entities, and that businesses see cities as a dynamic focus of effective action.

Overall, improving engagement between the private sector and city governments is a critical element to addressing all of the above challenges. There are many excellent examples of cities or companies initiating this dialogue locally, for instance most North American cities have a range of initiatives to foster this kind of interaction, as well as organisations and initiatives specifically aimed at this work such as CDP, Global Cities Business Alliance and We Mean Business.

The evidence in this research implies that such efforts should be enhanced exponentially. Forums to establish exchange and familiarity between cities and private sector leaders in the climate space must be set up in all global regions. Many cities simply do not have the capacity to interface regularly and speculatively with the private sector, and so such curated opportunities would be of tremendous value, with targeted and regular interaction likely to address many of the above concerns. Such forums could offer a range of vitally useful functions, for instance supporting cities in establishing positive brand and reputation, creating mechanisms to share needs and solutions, regular opportunity for interface between cities and local as well as international businesses. How forums for such exchanges could be established, and the best format for doing so, should be the subject of urgent cross-sectoral research.

C40 is currently exploring research and partnership opportunities to foster such improved relationships with local and international businesses, and looks forward to announcing specific initiatives in the coming months and years.

Seth Schultz

Director of Research, Measurement & Planning, C40

23. "Potential for Climate Action" C40 Cities and ARUP, 2015. https://issuu.com/c40cities/docs/c40_citypotential_2015

24. "Unlocking Climate Action in Megacities" C40, 2015. <http://www.c40.org/researches/unlocking-climate-action-in-megacities>

25. This content considers difficulties in effective working on funded projects, rather than considering funding issues directly. Please see a recent report undertaken in partnership between C40, Siemens and Citibank for more on funding challenges and how they can be overcome: <http://www.siemens.com.sg/zdoc/corporatecommunications/new%20perspectives%20lr.pdf>

The path forward



The results of this report show just how essential collaboration between different sectors of the economy is for effective action on climate change.

- ▼ **Collaboration works:** Out of the 190 cities that have an emissions reduction target, 74% collaborate with business. Reducing city emissions cannot be done alone. Cities can be creative by creating new partnership models in order to create a low carbon economy.
- ▼ **Collaboration is happening.** 64% of cities are currently collaborating on climate action. An opportunity exists for it to be scaled up with a potential for more integrated and impactful partnerships.
- ▼ **Collaboration presents an economic opportunity.** Over half of all disclosing cities are seeking private sector involvement on 720 projects worth over US\$26 billion. Investors and companies wish to support cities in implementing innovative projects and create successful collaborative models that can foster sustainable economic growth.

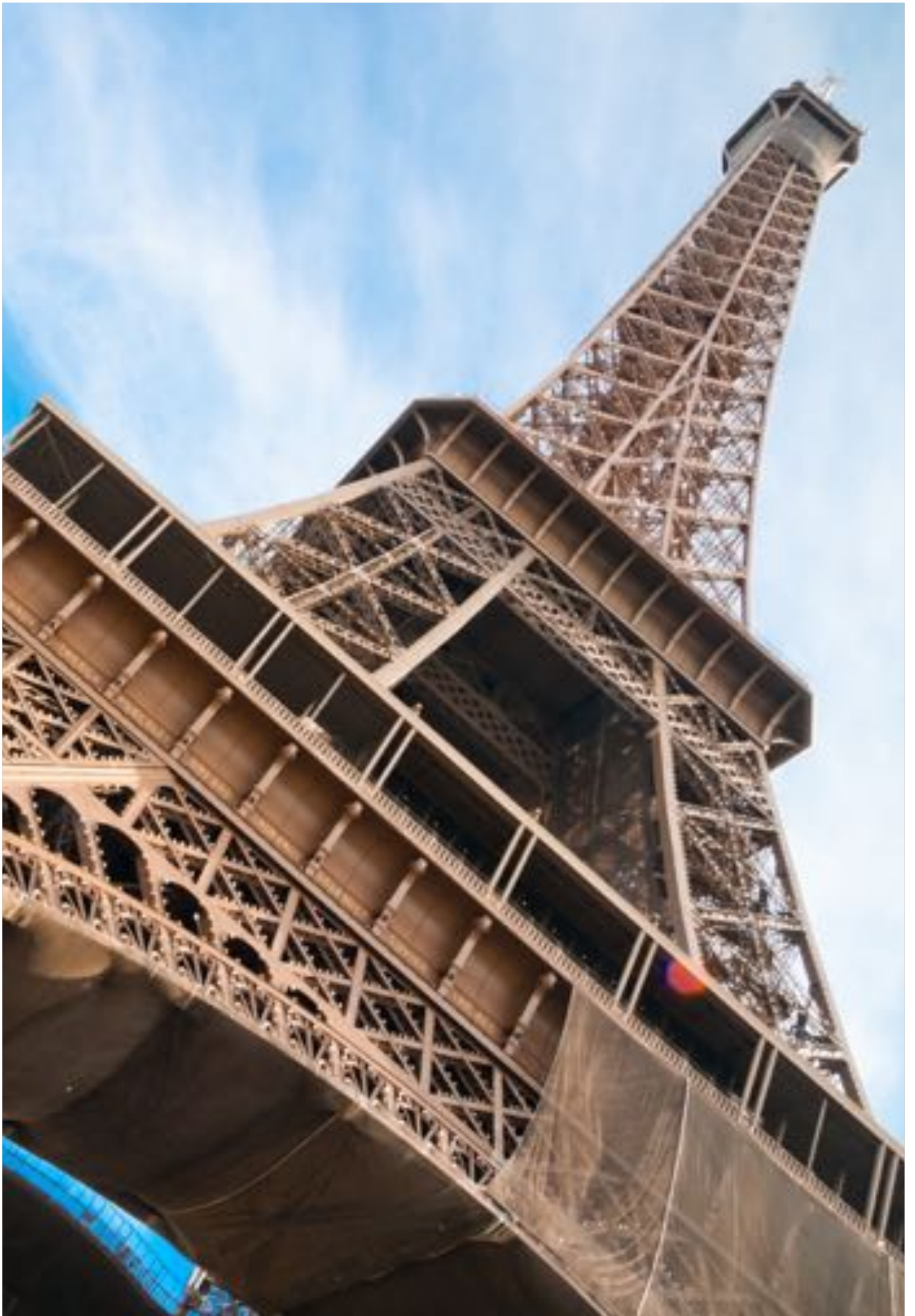
Additional potential exists for us to tackle climate change, and collaboration is the key. The Paris Agreement demands deeper action. City governments are demonstrated leaders on climate action, but it takes an entire city and all of its components—business, investors, non-profits and local government—to address the complex challenges that climate change presents.

Meeting the challenge will require traditional means of collaboration, like city governments setting strong policy, businesses developing new technologies and investors providing financial support for infrastructure projects. But it will also require new means of collaboration, and new means of what we consider to be collaboration. For example, investors can support cities not just through financing debt and infrastructure, but also by investing in start-up companies that are based in cities. These startups can create strong business eco-systems that deliver jobs and, in turn, provide a growing tax base for the city. Investors can also fund companies that count urban consumers as their main customers. These new types of collaboration may be indirect—but they are no less important than traditional methods.

The disclosures by more than 500 city governments to the CDP cities program this year highlight the extraordinary climate actions being taken by cities, as well as the long road that extends ahead of us. Cities will lead the way toward implementation of the Paris Agreement and our eventual triumph over the threat of a significantly warmer world. It takes a city—indeed, many cities—to lead us to that future.

Conor Riffle

Director, Cities and Data Product Innovation



533 disclosing cities in 89 countries

Africa › Burkina Faso › Bakata › Burundi › La mairie de Bujumbura › Cameroon › Bangangté › Foumban › Yaoundé 6 › Cote d'Ivoire › Abidjan › Grand-Bassam › Democratic Republic of Congo › Kananga › Kinshasa › Egypt › Cairo › Ethiopia › Addis Ababa › Ghana › Accra › Kenya › Kisumu › Nairobi › Nakuru › Madagascar › Antananarivo › Malawi › Blantyre › Lilongwe › Morocco › Rabat › Mozambique › Cidade de Maputo › Nacala › Namibia › Windhoek › Nigeria › Abuja › Ibadan › Lagos › Senegal › Dioudoubou › Ziguinchor › South Africa › Cape Town › Durban › Ekurhuleni › Emfuleni › Johannesburg › Nelson Mandela Bay › Pietermaritzburg › Pretoria › Tshwane › Sekhukhune › Ugu › Vhembe › Tunisia › Commune Ain Drahem › Uganda › Jinja › United Republic of Tanzania › Arusha › Dar es Salaam › Morogoro › Mwanza › Zambia › Mazabuka › Zimbabwe › Harare

Asia and Oceania › Australia › Adelaide › Byron Shire › Cairns › Canberra › Melbourne › Perth › Sydney › China › Guangzhou › Shenzhen › Wuhan › Hong Kong › India › Bangalore › Jaipur › Kolkata › Indonesia › Bogor › Jakarta › Yogyakarta › Israel › Tel Aviv-Yafo › Japan › Hiroshima › Nagoya › Okayama › Tokyo › Yokohama › Jordan › Amman › Malaysia › Iskandar › Kuala Lumpur › Petaling Jaya › New Zealand › Auckland › Kapiti Coast › Napier › Wellington › Pakistan › Karachi › Philippines › Angeles › Antipolo › Batangas › Makati › Quezon › Singapore › Singapore › South Korea › Ansan › Boseong › Changwon › Cheongsong › Daejeon › Damyang › Geoje › Geumsan › Goheung › Gokseong › Gunpo › Gurye › Gwangju › Gwangyang › Haenam › Hoengseong › Hongcheon › Hwacheon › Imsil › Incheon › Inje › Jangheung › Jangseong › Jecheon › Jeju › Jeongseon › Jeonju › Mokpo › Muan › Naju › Nonsan › Pyeongtaek › Samcheok › Sejong › Seocheon › Seogwipo › Seoul › Shinan › Sunchang › Suwon › Tongyeong › Ulsan › Wonju › Yeonggwang › Taiwan › Hsinchu › Kaohsiung › New Taipei › Pingtung › Tainan › Taipei City › Taoyuan › Yilan › Thailand › Bangkok › UAE › Dubai › Vietnam › Hanoi › Ho Chi Minh

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