

WORKING TOGETHER TO BEAT THE CLIMATE CRISIS

**Collaborative city, state and regional climate action:
six country snapshots**



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This report was created using the data reported to CDP by cities, states and regions through the [CDP-ICLEI Unified Reporting System](#) in 2020 and 2021. Our open-source cities, states and regions datasets can be downloaded for free from our [Open Data Portal](#).

For more information about annual disclosure, please email cities@cdp.net or statesandregions@cdp.net.



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The reference to a "city" in the report applies to any entity that submitted data through the Cities 2021 Questionnaire (as of 13 August 2021) in the CDP-ICLEI Unified Reporting System. The analysis contains data from cities or, in some instances, groups of cities at different administrative levels that reported in 2021. This includes metropolitan areas, combined authorities, and some regional councils. The reference to a "state and region" in the report applies to any entity that submitted data through the States & Regions 2020 Questionnaire and the States & Regions 2021 Questionnaire (as of 13 August 2021) in the CDP-ICLEI Unified Reporting System. This regional government includes states, counties, provinces and in some instances countries (e.g. Scotland). The data from States and Regions was analysed for 2020 and 2021 and the most recent data was used where the data overlapped.

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FOREWORD

2021 marks a code red for humanity. Cities, states and regions have a vital role to play in driving change.

Throughout 2021, the impacts of climate change have been evident across the globe, from wildfires in Greece and California to flooding across Central Europe, Japan and East Africa. Even while the world battles the COVID-19 pandemic, this year must mark a turning point in the fight for climate action.

Immediate action is needed to stop global greenhouse gas emissions, avoid new emissions, design resilient infrastructure and switch to renewable energy. Cities, states and regions – especially those reporting through the CDP-ICLEI Unified Reporting System – are a critical part of this new path forward. They must help halve global emissions by 2030, and set science-based climate targets to stay on the pathway of a 1.5°C temperature rise. 93% of cities are already at risk – they must put plans in place to adapt to the impacts of climate change, underpinned by a climate risk and vulnerability assessment (CRVA).

But change cannot happen in silos. At CDP and ICLEI, we know the value of collaboration, and the benefits that come from working

with actors across cities, states, regions, governments and business. This report shows how collaboration across all levels of government is key to driving multi-level climate action: nearly one in three cities report that their ability to adapt to climate change is dependent on factors influenced by different levels of government.

As we approach the critical United Nations Climate Conference COP26, national government are increasingly including local and regional government in their plans. However, there is still ample opportunity to raise targets by including sub-national contributions more fully and to enhance vertically integrated Nationally Determined Contribution (NDC) implementation and investment plans.

Multilevel collaboration and action are part of the new normal to enable ambitious climate action. In the face of the climate emergency, the groundwork is being laid for just, inclusive, holistic and nature-friendly climate action led by all levels of government, with local leadership guiding and driving implementation in cities, states and regions.



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THE IMPORTANCE OF COLLABORATION

Urgent need for immediate collaborative action to tackle climate change

The warnings of the Intergovernmental Panel on Climate Change's Sixth Assessment Report (AR6) (August 2021) could not be clearer: climate change is a code red for humanity and system-wide action is needed to limit the irreversible impacts of climate change. Globally, 93% of cities are facing significant climate risks, CDP research has revealed that is why now is the time to take immediate, urgent action¹. It is a time for cities and countries to come together, for disparate bodies to work together, share knowledge, and develop policy to focus efforts before it becomes too late. National government, regions, cities and business must all commit to ambitious plans to mitigate against, and adapt to, the rise in the earth's temperature. We need to halve global emissions by 2030 if we are to reach a 1.5°C resilient future.

Cities are at the forefront of combatting climate change

Cities, which are home to 55% of the world's population, make up 70% of global emissions². Ambitious cities offer clear examples of how to drive climate innovation, influencing the weight and urgency national government gives to these crucial goals of reducing emissions and building resilience. Collaborations are happening at the sub-national level to achieve ambitious climate action, but this needs to happen more widely across the globe. For example, the city of **Bristol** in the UK gathers climate change evidence to help inform and influence government policy and shares best practice with other regions. **Rio de Janeiro** is working proactively with other cities in Brazil to address the water threats it faces. While the **State of California** is offering incentives – as well as imposing regulations – to reduce greenhouse gas emissions from all sectors.

Meanwhile, the collaboration, rapid action and resilience of cities, states and regions in the face of the COVID-19 pandemic has shown how effectively we can mobilize in an emergency. We now need to deploy the same resources and approach to the climate crisis, with cities, states and regions leading the way.

Collaboration across all levels of government is essential for effective city-led climate action

Cities are reporting a need for more collaboration across all tiers of government, the lack of which is proving a barrier to their climate adaptation and mitigation action.

While ambitious cities have the potential to influence government positively, they cannot act alone.

State, regional and city-level collaboration is a powerful force for change in the climate crisis and creates positive momentum. There is evidence of constructive competition between national and sub-national government - when one sets ambitious targets it encourages increased ambition from the other³. Cities, states and regions reporting to CDP and ICLEI demonstrate that collaboration leads to effective co-ordination and alignment on climate policies and plans, improving the collective effort in all directions.

Collaboration with business is common across cities, states and regions. Effective collaboration between government and companies accelerates climate action through increased access to funding, resources and other innovations. Strong collaboration with business will therefore be key to delivering tangible action.

¹ [Cities on the Route to 2030, CDP, 2021](#)

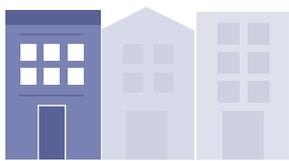
² [Global Report on Human Settlements 2011: Cities and Climate Change, UN-HABITAT, 2011.](#)

³ [Global climate action from cities, regions and businesses, NewClimate Institute, 2021.](#)

GLOBAL PICTURE: WHAT THE DATA REVEALS ON COLLABORATION

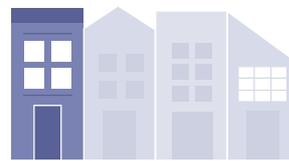
This report highlights the collaborative action already happening between cities, states, regions, business, and national government, using data reported by over 1000 cities, states and regions through the CDP-ICLEI Unified Reporting System. In CDP's "Cities on the route to 2030" report we asked for cities to take a number of actions, including to adopt a science-based climate target and develop adaptation plans⁴. In 2021, we have seen 485 cities making adaptation plans, and 194 reporting their target is 1.5°C aligned, but now we are calling for cities, states and regions to work together, share knowledge and collaborate to ensure the world remains on the narrow pathway to a 1.5°C temperature rise.

Collaboration is critical for cities' climate action



Nearly
1/3 | 298/965
of cities

report that their ability to adapt to climate change is dependent on factors that are influenced by different levels of government.



More than
1/4 | 246/965
of cities

report that their city-wide emissions reduction target was conditional on the success of a component of policy outside of the city's control.



Collaboration is needed to finance climate actions



27% | 256/965

of cities report that their adaptation actions are majority funded by regional, national and international government or through inter-city collaboration.

To ensure financing is available for climate action in cities, collaboration is needed, keeping in mind the current finance gap of around \$70 billion dollars a year in financing for lower income countries⁵.

The majority of states and regions are collaborating with government on climate action or intend to in the next two years



90% | 123/136
with national governments



88% | 120/136
with local governments

Collaboration with business on climate action is common across cities, states and regions



75% | 726/965

of cities are collaborating with business, or intend to do so within the next two years. The strongest areas of collaboration include:

▼ energy ▼ finance ▼ building ▼ transport



65% | 89/136

of states and regions are collaborating with business, or intend to in the next two years. The strongest areas of collaboration include:

▼ emissions reductions ▼ climate adaptation
▼ renewable energy ▼ energy efficiency

⁴ Ibid, CDP, 2021.

⁵ Adaptation Gap Report 2020, UNEP, 2021.

REPORT RECOMMENDATIONS

CDP's analysis shows that while collaboration is happening at multiple levels, all actors need to go further and faster together to deliver tangible climate action.

'Cities on the route to 2030', outlined a number of actions that cities must take, including adopting a science-based climate target, developing a climate action plan, conducting a climate risk and vulnerability assessment (CRVA), and developing an adaptation plan⁶.

This report builds on those recommendations and encourages all levels of government to work together to achieve these actions, as the data shows they can't achieve them alone. For example, once a city has adopted a science-based climate target, it should take a data-driven approach to identify how to best reduce emissions. It should also identify who to collaborate with to achieve its plan, and how best to work together.

Climate action support cities need from national government (based on city responses in 2021)⁷.



Help finance emissions reductions and adaptation, so cities can tap into public and private investment.



Enable and encourage innovation and the development and scaling up of technologies for climate action.



Decarbonize electricity grids and transport systems.



Develop robust policies and regulation on decarbonization across all sectors, particularly energy, transport, infrastructure, water and waste, to give an incentive for the uptake of low-carbon activities and behaviour.

All levels of government should work together, and with business, to implement the following key actions:

▶ **Set science-based climate targets, which includes an interim target, and develop a climate action plan to support the implementation of the targets.**

Climate action at all levels must be ambitious and based on the latest science. It is vital policymakers work together with cities, states and regions to create strong science-based climate targets to ensure we are on a narrow path to maintain a global temperature rise of 1.5°C. To date, only 20% of cities, and 10% of states and regions, globally say that their target is aligned with a 1.5°C pathway. We urge all cities, states and regions to set a science-based climate target and **join the UN-backed global campaign: Race to Zero.**

- Previous CDP research shows that cities with climate action plans identify twice as many opportunities – such as business innovation or additional funding – from addressing climate change as those that do not. These cities are also taking five times as many actions to reduce emissions than other cities⁸.

▶ **Undertake a CRVA to identify climate risks and create an adaptation plan to manage them.** All cities, states and regions should conduct a CRVA, identifying at risk communities, infrastructure, and resources. We also urge all cities, states and regions to **join the UN-backed global campaign: Race to Resilience.**

- As previous CDP research shows, cities with vulnerability assessments are more than twice as likely to report long-term hazards, and are taking almost six times the number of adaptation actions compared to those cities that have not conducted vulnerability assessments⁹.

⁶ [Ibid, CDP, 2021.](#)

⁷ These recommendations are based on qualitative analysis of data reported by a sub-set of the 965 cities globally.

⁸ [Ibid, CDP, 2021.](#)

⁹ [Cities at Risk, CDP, 2019](#)

Science-based climate targets

A science-based climate target is a city-wide emissions reduction target that represents a fair share of the global emissions reduction required to halve emissions by 2030 and reach global net-zero by 2050. While the global target is to reduce greenhouse gas emissions by 45% by 2030, the level of reduction required by each city may be higher or lower, based on historic emissions and current capacity to act. Setting science-based climate targets is vital to ensure that planned mitigation actions go far enough to limit the most devastating impacts of climate change.

Set a science-based climate target: <https://www.cdp.net/en/cities/science-based-targets-for-cities>

Race to Zero

Race to Zero is a UN-backed global campaign to mobilize leadership and support from business, cities, regions and investors to commit to interim and net-zero targets by 2050. It aims to create a healthy, resilient and fair zero carbon economy. By joining Race to Zero, cities are committing to setting science-based climate targets, in line with doing their fair share to limit global warming to 1.5°C.

Pledge to join the Cities Race to Zero at www.citiesracetozero.org

Race to Resilience

Race to Resilience is a UN-backed global campaign to rally leadership and support from cities, regions, business and investors to help four billion people from vulnerable communities build resilience and adapt to the impacts of climate change. Cities are at the forefront of increasing loss and damage incurred by flooding, drought, extreme heat and rising sea levels.

Pledge to join the Cities Race to Resilience at www.citiesracetoresilience.org



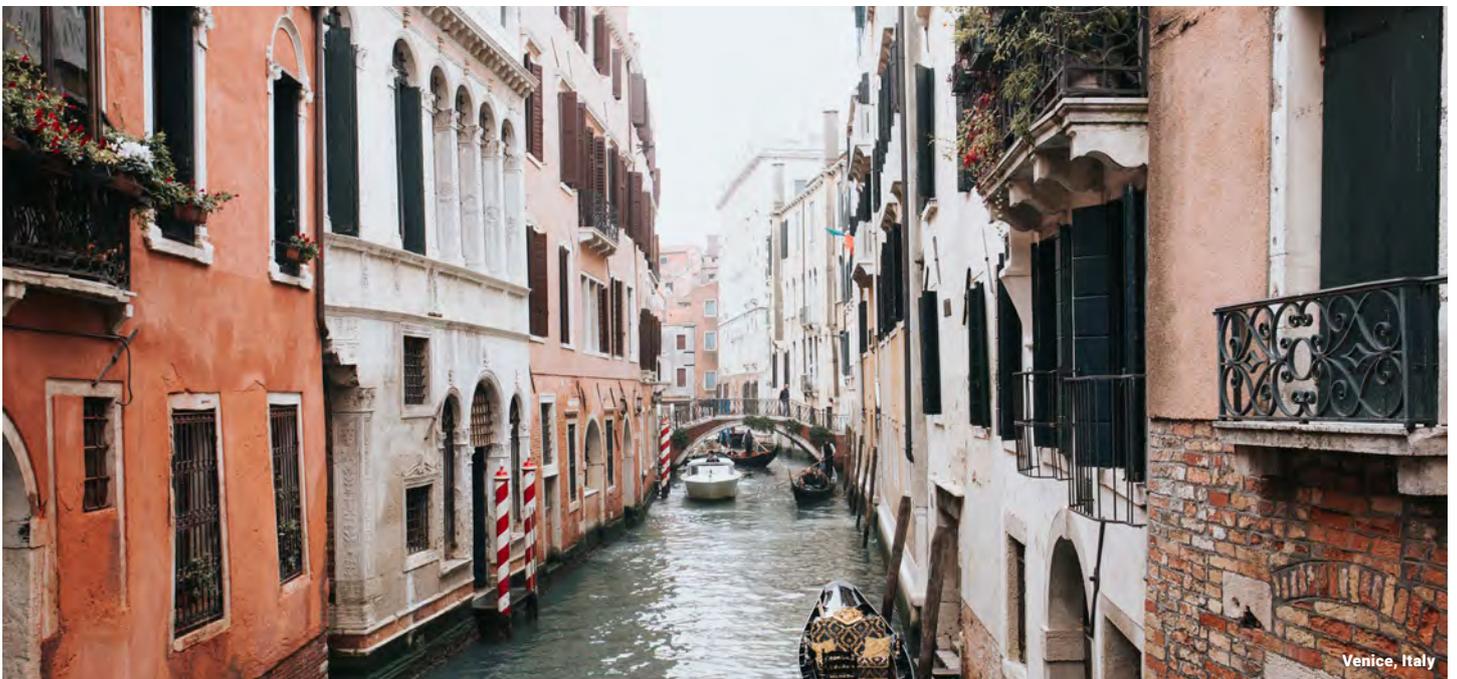
COUNTRIES IN FOCUS



In this report we focus on sub-national action across cities, states, and regions in six countries from five continents where we have seen a significant increase in reporting to CDP on climate action. While limiting the global temperature rise to 1.5°C is the goal for all countries, the journey to reach that looks different for each nation, based on where they currently are in their transition and their particular contexts. The six countries in our report – **Brazil, Italy, Kenya, Japan, the United Kingdom and the United States of America** – show the different ways this is demonstrated across the world. For each, we focus on a different climate-related theme, from decarbonization to sustainable technology, with the aim of showing the diversity of action and strength of collaboration across the globe.

Data from reporting cities, states and regions shows they need more support with their climate action from regional, state and national government. CDP's analysis

shows that while collaboration is happening at all levels, all actors need to go further and faster together to deliver tangible climate action.



BRAZIL



NDC*

43% reduction by 2030
and net-zero by 2060.

* Nationally Determined Contributions



Top reported climate risks for cities

- ▼ Rainstorms
- ▼ Drought
- ▼ Vector-borne diseases
- ▼ Flash floods and river flooding



77 cities reporting



90% of cities are facing climate risks



12% of cities have undertaken climate risk and vulnerability assessment



9% of cities have an emissions reduction targets



6% of cities reported having targets aligned to 1.5°C



26 states reporting



69% of states are facing climate risks



27% of states have undertaken climate risk and vulnerability assessment



8% of states have emissions reduction targets



No states have targets aligned to 1.5°C



18% of cities have adaptation plans

Top adaptation actions by cities

- ▼ Flood mapping
- ▼ Real time risk monitoring
- ▼ Tree planting and creation of green space
- ▼ Disease prevention measures
- ▼ Community engagement

27% of states have adaptation plans

Top adaptation actions by states

- ▼ Risk monitoring
- ▼ Crisis management
- ▼ Soil retention strategies
- ▼ Diversification of water supply
- ▼ Tree planting



10% of cities have mitigation plans

Top mitigation actions by cities

- ▼ Increasing green spaces
- ▼ Biodiversity preservation and expansion
- ▼ Energy efficiency
- ▼ Retrofit measures
- ▼ Changing outdoor lighting to LED and other low energy lighting
- ▼ Reducing emissions from buses and light rail

38% of states have mitigation plans

Spotlight

Water risks and action

Brazil is facing its worst drought in 91 years and at least five states warn of a water emergency. This will affect the energy sector, as nearly 65% of Brazil's electricity is generated from hydropower¹⁰, and is also impacting agriculture which could result in falling exports of coffee, sugar and soybeans, and a rise in prices globally¹¹. Meanwhile, water insecurity threatens to raise energy bills and food costs in a country where inflation is already running at almost double the central bank's target. This is exemplified in **Tangara da Serra**, which is experiencing

crop and cattle damage from water scarcity and has declared a city emergency due to the lack of rainfall.

More than half of Brazilian cities – 57% – have identified risks to their city's water security. While on average 89% of the urban population in reporting cities has access to drinking water, in some cities this figure is as low as 13% – a disparity that highlights the urgent need for sustainable water access and sanitation for all.



Rio de Janeiro, Brazil

Planning for a water secure future

There is a direct link between deforestation of the **Cerrado and Amazon region** and rainfall reduction in southern Brazil. If deforestation is not reduced, the risk of water scarcity will increase, especially as the Guandu reservoir, which provides water to **Rio de Janeiro**, is fed by the Paraíba do Sul river basin. When droughts occur, such as in 2014, there is no alternative water body to supply most of the population, so water insecurity swiftly sets in. Currently, water supply and distribution is managed at the state level by water and sewage company CEDAE, but Rio de Janeiro is in discussions with other cities to work together to address the city's single source of water, and is also working to incentivize the reuse of rainwater through actions such as the Map for Rainwater Use.

Collaboration in Brazil

Some cities reported examples of collaboration with higher levels of government on climate action, such as the **Prefeitura de Santos**, which is working with the Ministry of the Environment to map the main challenges to climate action, and learning from solutions that other areas, nationally and internationally, have found effective. One fifth of cities – 22% - reported that their ability to adapt to climate change is dependent on factors that are influenced by different levels of government, while

a quarter of cities – 25% - reported that their adaptation actions were majority-funded by regional, national and international government or through collaborations with other cities. Only five cities said that their city-wide emissions reduction target was conditional on the success of an externality or policy outside of their control, with two cities saying their city-wide emissions reduction target was conditional on state or national government policy or funding.

¹⁰ [Brazilian Energy Balance, Ministry of Mines and Energy, 2021.](#)

¹¹ [Brazil's Worst Water Crisis in 91 Years Threatens Power Supplies, Bloomberg Green, 2021.](#)

The importance of water management across cities, states and regions.

The majority of states – 85% – said they were collaborating, or intend to in the next two years, with local and national government on climate action on topics such as deforestation, emissions reduction, water treatment and energy efficiency and climate adaptation.

Alagoas implemented Water Redistribution Systems, technology funded by the Water for All Program, in partnership with Ministry of Regional Development of Brazil. The program aims to give water security to communities which struggle to find clean drinking water.

Collaboration with business

75% of cities, and 50% of states, said they are collaborating, or plan to collaborate in the next two years, with business and industries on sustainability projects. Although water threats are the top climate risk, very few cities are collaborating with business on this issue. For cities, the top collaboration areas include waste and the development of energy efficiency measures, while emissions reduction and water treatment are priorities for states. Pernambuco's Cidade Saneada Program aims to expand sewage services and treatment in the whole state. The program is operated by the Sanitation Company and private company BRK Ambiental, and aims to expand sewage service coverage by 90% and reach six million people by 2037.



CEMIG

Working to improve Brazil's biodiversity

CEMIG is a Brazilian power company headquartered in **Belo Horizonte**, capital of the **state of Minas Gerais**. Since 2019, CEMIG has had a partnership with the São Francisco River Watershed Committee (CBHSF) to develop a project to recover the marginal lagoons of the São Francisco River, in Minas Gerais. It is an innovative, challenging, and unique effort aimed at improving the quality of the river water and the biodiversity. The main objective is to assess the

ecological integrity of the marginal lagoons considered as priorities for the preservation of the biodiversity in the São Francisco River, associated with the operation of Três Marias Hydroelectric Plant (UHE). The project aims to replenish the marginal lagoons and works in partnership with communities to foster conservation and recovery. The project generates data for a study into the adjustments required to the UHE Três Marias during the rainy season to stop the periodic flooding of the marginal lagoons of the Upper São Francisco.

Next steps in climate action for Brazil

A number of cities and states have reported the following priorities for continued climate action. Successful implementation will require collaboration with business and all levels of government in order to preserve natural resources, such as water, and to ensure that communities have access to basic resources.

- ▶ Greater financial support is needed, especially in key areas such as water conservation, waste management and sustainable transport.
- ▶ Nature-based solutions, like better urban planning that considers the impacts of climate change and the creation of green space.
- ▶ Stronger support for adaptation through improving government capacity such as training government staff on environmental issues, increased political engagement and transparency on climate issues.



EU NDC

55% reduction by 2030
and net-zero by 2050.

Italy's NECP (National Energy and Climate Plan)

33% reduction by 2030 (non-Emissions
Trading Scheme sectors)



Top reported climate risks for cities

- ▼ Rainstorms
- ▼ Heatwaves
- ▼ River flooding
- ▼ Landslides
- ▼ Drought



22 cities
reporting



95% of cities are facing
climate risks



59% of cities have undertaken climate
risk and vulnerability assessment



55% of cities have emissions
reduction targets



9% of cities reported having
targets aligned to 1.5°C



5 regions
reporting



60% of regions are facing
climate risks



40% of regions have undertaken climate
risk and vulnerability assessment



40% of regions have emissions
reduction targets



No regions have targets aligned to 1.5°C



68% of cities have adaptation plans

Top adaptation actions by cities

- ▼ Flood defences
- ▼ Tree planting
- ▼ Creation of green space
- ▼ Real time risk monitoring
- ▼ Flood mapping

40% of regions have adaptation plans

Top adaptation actions by regions

- ▼ Community engagement
- ▼ Incorporating climate change into long-term planning
- ▼ Biodiversity monitoring
- ▼ Landslide risk mapping



55% of cities have mitigation plans

Top mitigation actions by cities

- ▼ Energy efficiency
- ▼ Retrofit measures
- ▼ Improving efficiency of outdoor lighting
- ▼ Reducing emissions from motorised transport
- ▼ Low or zero carbon energy supply
- ▼ Reducing emissions from buses and light rail

20% of regions have mitigation plans

Spotlight

Climate action technology

Italy is using technology to support climate action with 64% of cities identifying the sustainable transport sector as the top opportunity for climate action, and energy efficiency measures and technologies as a close second.

Collaboration in Italy

Cities' ability to adapt to climate change requires collaboration across different levels of government: almost half of cities – 45% – reported they are dependent on factors influenced by different levels of government. 45% of cities also reported that their adaptation actions were majority-funded by regional, national and international government or through collaborations with other cities, highlighting the importance of collaboration for access to finance on climate action. 36% of cities reported that their citywide emissions reduction target was conditional on the success of an

Regions have identified resource conservation and management development, energy efficiency measures and technologies development, and increased attention to other environmental concerns such, as air quality, as opportunities.

externality or policy outside of their control. 59% of cities are seeking finance for climate-related projects in particular for water management, energy efficiency, renewable energy and transport.

40% of regions said they are seeking finance for climate change adaptation and emissions reductions projects such as renewable energy. **The Abruzzo region** has aligned its renewable energy target to the target set by the Ministry of Ecological Transition, and has already exceeded the forecast of energy consumption from renewables.



City of Parma, Italy

On the road to net-zero

Parma is leading the way with its carbon neutral alliance between the city and regional authority, business, university and research centres who are all working together to make the Province of Parma carbon neutral by 2030. Mapping emissions and knowledge sharing will be completed in 2021, followed by an action roadmap to achieve carbon neutrality by 2030 and monitoring of the carbon balance. Parma aims to show that it is possible to combine growth, development and a better quality of life while reducing CO₂ emissions.

Collaboration with business

Both Italian cities and regions are focused on collaborating with business: 80% of regions are currently collaborating with business and 73% of cities are collaborating – or planning collaborations – with business. The top collaboration areas for cities are focused on energy, transport and other emissions reduction measures. For example, the city of **Florence** is working with the local distribution system operators in Smart grid development

to test innovative e-mobility schemes and create a fast recharge network for an e-taxi fleet. The city of **Turin** is also focused on encouraging innovation – through a university partnership to create centres of excellence that focus on clean transport technology, while the Torino City Lab, a partnership of large companies and international scaling partners, allows companies to test operations in real conditions for transportation.



The value of disclosure in the fight against climate action

Since 2017, CDP and the Italian government have worked together to drive transparent climate action by Italian companies, cities and regions through **CDP's Government Partnership program**¹². Since then, the number of cities, regional authorities and companies disclosing data on climate change, water and forests has doubled. In 2020, CDP Europe signed its third Program of Work, to raise ambition and encourage climate action of non-state actors, within the framework of the Global Stocktake at Glasgow and beyond.



Assicurazioni Generali S.p.A.

Companies adapting to change

Italian insurance company Assicurazioni Generali S.p.A. is using its experience in risk modelling to help develop climate mitigation strategies. It aims to promote insurance solutions for sectors that are crucial in helping the transition to a low carbon economy, for example, electric vehicles and equipment powered by renewable energy. These policies can be expanded to include cover for loss of profits following the interruption of electricity production, and insurance products specifically designed to cover catastrophe risks or specific environmental damage, such as coverage for crop losses due to adverse weather conditions. Insurance support helps provide reassurance as business and people change to more environmentally friendly solutions.

Next steps in climate action for Italy:

A number of cities and regions have reported the following priorities for continued climate action. Successful implementation will require collaboration with all levels of government and the private sector.

- ▶ Greater funding to invest in technologies such as sustainable transport, energy efficiency and renewable energy to enable climate action.
- ▶ Nature-based solutions, such as land use planning, incorporating climate change into master urban planning, the creation of more green space, and biodiversity monitoring.
- ▶ Stronger support for adaptation through increased community and political engagement and transparency (e.g. public consultation) as well as access to relevant, quality data which is crucial for understanding the impact of climate change.
- ▶ Improving the resources of local government to respond to climate change through increased funding, capacity building and information exchange.



NDC

46%

reduction in emissions by 2030,
carbon neutrality by 2050.



189 cities reporting



Top climate risks for cities

- ▼ Rainstorms
- ▼ Heatwaves
- ▼ River flooding
- ▼ Landslides



Top adaptation actions

- ▼ Campaign and awareness building
- ▼ Flood mapping
- ▼ Crisis management including warning and evacuation systems



Top mitigation actions

- ▼ Low or zero carbon energy supply generation
- ▼ Improve fuel economy and reduce CO₂ from motorized vehicles
- ▼ Waste prevention policies and eco-district development strategies. 47% of cities are implementing these



Tokyo, Japan

Spotlight

Decarbonization: 2050 zero carbon city declaration scheme

444 local governments in Japan have committed to net-zero carbon emissions by 2050¹³, representing 111 million people and 88% of Japan's population. The number of cities and prefectures in Japan pledging to reach zero carbon has increased from four in September 2019 to over 444 by August 2021.

¹³ For this commitment, the cities are not required to set any 2030 or intermediate target which is different from Cities Race to Zero campaign where such criteria is set. Visit [Ministry of Environment, Government of Japan](#) for more information.



City of Tokyo, Japan

Zero-emission strategy, renewable energy & reducing food waste

Tokyo has a comprehensive Zero-Emission strategy aiming for halving emissions by 2030 and net-zero by 2050. This includes making renewable energy a major energy source and expanding the use of hydrogen energy. Tokyo is also leading in fostering momentum to work on reducing food waste and strongly promote voluntary actions and collaborative efforts by business and consumers. Tokyo formulated the Tokyo Food Loss and Waste Reduction Plan in March 2021 based on recommendations made at the multi-stakeholder partnership meetings in order to halve food waste by 2030.



Kyoto City, Japan

Road to Net-Zero from the birthplace of the Kyoto Protocol

Kyoto City, ahead of other local government in Japan, has declared its ambition to achieve Net-Zero CO₂ emissions by 2050 and embedded this commitment into the city's legal ordinance. It has formulated the "Kyoto City Plan of Global Warming Countermeasures" to accelerate transformation for the next decade in the four areas of lifestyle, business, energy, and mobility.

In terms of lifestyle, all school districts in the city are working actively as "Eco-School District". On energy, the city has been expanding the introduction of renewable energy in both generation and use. Kyoto City has also been proactively promoting "Sound Material-Cycle Society" and achieved the goal of reducing waste to less than half of its peak level by 2020. Furthermore, the city promotes decarbonization by converting waste into energy, for example, by recovering energy from biomass waste such as food scraps and waste cooking oil.

Collaboration with business

Across Japan, 39% of cities collaborate with business on sustainability projects, or plan to do so over the next two years. The top areas for collaboration with business are: education, energy, industry, transport and waste including the circular economy. In **Toyama City**, for example, the city is training business owners to help reduce commercial waste, using data to monitor their progress. 165 companies on average participate every year in the trainings. The city also visits business sites to identify and study innovative and advanced actions for business waste

reduction, which are shared widely through training in order to raise awareness and to increase the submission rate of the waste reduction plans by business as well as their participation rate in the trainings.

Cities also collaborate with the financial sector. A number of regional banks are working with local government and universities providing financial and non-financial support to enhance decarbonization of the region and contributing to revitalizing the local economy, particularly by creating new employment in rural areas.



City of Yokohama, Japan

Collaboration on renewable energy

Collaboration with multiple stakeholders and co-operation with rural towns is increasing access to renewable energy. City of **Yokohama** is striving for maximum renewable energy within the city and a transition towards the goal of 'Zero Carbon Yokohama'. It is doing this by promoting partnership with regions

(12 municipalities), located over 700km away from Yokohama, that have large-scale power generation facilities such as wind power and biomass power plants. Now, 18 business in Yokohama use the renewable energy from these facilities. Yokohama SDGs (Sustainable Development Goals) Design Centre promotes various efforts toward achievement of SDGs including decarbonization with multi-stakeholders (business, community, and academia).

Next steps in climate action for Japan:

A number of cities have reported the following priorities for continued climate action. Successful implementation will require collaboration across cities, communities, and the private sector to ensure progress:

- ▼ Greater funding is essential to finance renewable energy creation. For example, local financial institutions can promote renewable energy creation in rural areas, helping to further decarbonize Japan while contributing to the local economy.
- ▼ Implementation of adaptation measures in line with the release of Japan's national adaptation plan, including flood mapping, awareness building, warning and evacuation systems.
- ▼ A greater focus on nature-based solutions such as urban greening and eco-district development.

Further effort is also needed on¹⁴:

- ▼ Accelerate emissions reduction and ensure all cities set and achieve 1.5°C aligned science-based climate targets.
- ▼ Increased reporting on vulnerability and adaptation through CDP can help cities monitor progress and fill the gap in the mitigation-focused National Reporting system.

¹⁴ This has been suggested by the CDP regional team.

KENYA



NDC

32%

reduction in emissions by 2030.



Top reported climate risks for cities

- Extreme rainfall
- Flash floods
- Water borne diseases
- River flooding
- Drought



4

cities reporting. All of these cities are facing climate risks.



Nairobi and Kisumu have adaptation plans.



1

region reporting. The region of Turkana is facing climate risks.

Top adaptation actions for cities

- Biodiversity monitoring
- Flood mapping



All need to undertake a climate risk and vulnerability assessment and set science-based climate targets aligned with 1.5°C.



Although none of the four reporting Kenyan cities have a climate mitigation plan, they are reporting mitigation actions.



Although the region of Turkana does not report an adaptation plan, it is reporting adaptation actions.

Key actions cities are taking include:

- Increasing green space
- Biodiversity expansion and nature preservation
- Landfill management
- Improved efficiency of waste collection
- Onsite renewable energy generation and implementing building codes and standards

Top adaptation actions for region of Turkana

- Cooling centres and pools
- Tree planting and creation of green spaces
- Economic diversification measures



Nairobi, Kenya

Spotlight

Building resilience in Kenyan cities

Reporting Kenyan cities are conscious of the need to build resilience to withstand climate shocks, especially the knock-on impact of disease and illness. Poverty is the biggest factor limiting cities' ability to adapt.

All reporting cities are incorporating adaptation targets into their master plans and implementing resilience-building measures (such as flood mapping) in collaboration with international government and business.

Collaboration in Kenya

Reporting Kenyan cities have a well-coordinated approach to climate action, with the national government's climate change strategy scaled down to regional and city government levels, and effective collaboration occurring between them. **Nairobi** works with government departments, other cities and regions and international development organizations on climate action, working closely with the Ministry of Environment and Forestry and the National Treasury, and with city leaders using committees to bring together support for climate intervention.

Cities collaborate with international development organizations and receive funding from international

financial institutions to help with climate action, such as **Kisumu**, which is partnering with Expertise France to develop a Sustainable Energy Access and Climate Action Plan. Waste, water management and renewable energy are the main areas where cities seek finance. In addition, two of the cities indicate that their adaptation actions are majority-funded by regional, national and international government or through collaborations with other cities. Kisumu is implementing trans-boundary projects, including the construction of dams, spearheaded by the national government. It is developing local adaptation plans and providing regional forums for discussing climate action, but implementing climate change resiliency projects is limited by lack of allocated finances.



Region of Turkana

Climate action collaboration fostering peace among communities

The region of Turkana is collaborating with local government and cities to develop and manage shared trans-boundary projects such as water point rangelands. This collaboration promotes vital and peaceful coexistence among the pastoral communities. Turkana works with the national government to implement the National Climate Policy Act 2016, and relies on it to mobilise resources to finance climate action. Turkana reports annually to the National Directorate of Climate Change on the status of implementation of mitigation and adaptation strategies.

Collaboration with business

All cities are collaborating, or plan to collaborate in the next two years, with business and industries within their boundaries on sustainability projects, with the top areas of collaboration being on energy and waste.

Embu City has been working with business and community-based organisations (CBO) on its waste management, with CBOs Transtec and Utamaduni supporting the city to manage plastic and glass disposal.



City of Nakuru

Developing international links

The city of **Nakuru** is collaborating nationally and internationally to fund its climate action goals. The city is encouraging investment in clean energy and ensuring that energy generation and distribution are climate-proofed under the Strengthening Business Society Engagement in Climate Change Mitigation project (SBSECCM) with partial funding from the UK's Foreign, Commonwealth and Development Office to the Kenya Association of Manufacturers (KAM).

Next steps in climate action for Kenya:

A number of cities and the **region of Turkana** have reported the following priorities for continued climate action. Successful implementation will require collaboration across all levels of government, as seen in the **region of Turkana**, with the management of shared resources across boundaries. Partnerships like this must continue to build momentum.

- ▼ Greater funding is needed to enable cities to implement climate projects and adaptation measures, particularly in waste and water management and renewable energy.
- ▼ Nature-based solutions are needed, examples of this include land-use planning that incorporates climate change adaptation and green space and biodiversity preservation or expansion.
- ▼ Stronger supportive adaptation measures for cities, like more affordable housing; access to education; access to healthcare and access to quality and timely data for early warning flooding systems will help build climate resilience.

UNITED KINGDOM



NDC

68% reduction by 2030
and net-zero by 2050.



Top reported climate risks for cities

- Heatwaves
- Flash floods
- River floods
- Extreme rainfall
- Drought



52 cities reporting



96% of cities are facing climate risks



40% of cities have undertaken a climate risk and vulnerability assessment



75% of cities have emissions reduction targets



56% of cities reported having targets aligned to 1.5°C



2 countries reporting



Both Scotland and Wales are facing climate risks



Both have undertaken a climate risk and vulnerability assessment



Both have emissions reduction targets



Both reporting having targets aligned to 1.5°C



71% of cities have mitigation plans

Top mitigation actions by cities

- Energy efficiency
- Retrofit measures
- Low or zero carbon energy supply generation
- Reducing emissions from motorised vehicles

Both **Scotland and Wales** have mitigation plans



62% of cities have adaptation plans

Top adaptation actions by cities

- Flood mapping
- Flood defences
- Tree planting and creating green spaces
- Incorporating climate change into long term planning documents

Top adaptation actions by **Scotland and Wales**

- Flood mapping
- Flood defences
- Building improvements and restricting developments in at risk areas

Spotlight

Renewable energy and energy access

Most UK cities have adaptation – 62% – and mitigation – 71% – plans, and are actively addressing climate change through a variety of actions such as flood mapping, energy efficiency, renewable energy and building improvements. Issues related to housing – such as old buildings, lack of affordable homes, inefficient energy systems and a lack of resources to upgrade these – were considered the number one factor affecting cities' ability to adapt to climate change and are areas that require urgent support. On top of this, an unprecedented spike in electricity prices has put half a

million more households in the UK at risk of falling into fuel poverty in 2021. Yet, while energy bills from fossil fuels are soaring, renewable energy costs are falling, highlighting the potential to be gained from a speedier transition to renewables¹⁵. 62% of cities are seeking finance for climate-related projects, in particular for renewable energy, energy efficiency, transport and buildings. Cities need more funding to address these issues, with six of them reporting reduced finance available as a result of COVID-19.

Collaboration in the UK

Collaboration between local and national government is key to drive climate action. For example, **Birmingham** Council created the Route to Zero taskforce in 2019, a collaboration between different levels of government, the National Health Service (NHS), educational bodies, business and faith communities, campaigners and activists. UK cities depend on the national government to achieve their targets, through financial support, policy direction, and decarbonization of the national grid. Almost half of cities – 42% – reporting their adaptation efforts rely on factors influenced by different levels government while 50% of cities say their adaptation actions are majority-funded by regional, national and international governments or through collaborations with other cities.

Some cities are making strides with emission reductions, such as **Glasgow**, which is incorporating Scotland's national energy efficiency target into its city master plan with the aim to reduce fuel poverty. 19 cities – 37% of those reporting – say their city-wide emissions reduction target is conditional on the success of an externality or policy outside of their control. 13 of these cities report that their emissions reduction target is conditional on national government policy or funding. This highlights the importance of collaborating with different levels of government for access to finance for adaptation and mitigation action and crucial alignment of policies.



City of Bristol, UK

Local, city and international collaboration

Bristol City Council collaborates with local authorities in neighbouring areas on energy, transport investment, economic strategy, housing, planning and project delivery. The council collaborates with major cities across the UK and chairs the Core Cities Low Carbon, Energy and Resilience Policy Hub, preparing evidence to help inform and influence government policy and sharing best practice. It collaborates internationally on climate change matters through the European Green Capital Network, ICLEI and C40.

Collaboration in Scotland and Wales

Both **Scotland and Wales** collaborate with local governments on emissions reduction. In Wales, the Partnership Council works on issues surrounding climate change and is made up of representatives from local authorities, the NHS, Fire and Rescue Authorities (FRAs), town and community councils, the voluntary sector, Police and Crime Commissioners and the Welsh Government. The Scottish Government collaborates with local

authorities on a full range of climate change initiatives, such as green transport and city low emissions zones among others. Under the Climate Change (Scotland) Act 2009, local authorities and other public bodies have a statutory duty to contribute to Scotland's national effort on climate mitigation and adaptation, to act sustainably, and to conserve biodiversity with local action plans.

Collaborating with business

96% of cities are collaborating, or plan to do so over the next two years, with business and community organisations on climate action. **Manchester**, for example, is part of the global City-Business Climate Alliance, giving the city a platform to set joint commitments, and co-create, projects that deliver on Climate Action Plans in line with the Paris Agreement.



A.G. Barr

Renewable energy making drinks

Soft drinks company, A.G. Barr PLC, has entered into a Power Purchase Agreement (PPA) with an energy company to supply 100% renewable electricity across all their sites. This will be done through a new windfarm the energy company is building in partnership with the Scottish Government and by installing photovoltaic panels and heat pumps across its sites. It estimates it will save around £720,000 per year and over 2,100 tonnes of CO₂ a year.

Next steps in climate action for the UK:

A number of cities and countries have reported the following priorities for continued climate action. Successful implementation will require collaboration with national government, as well as the private sector, community groups and universities.

- ▶ Greater funding is needed from the national government for further investment in renewable energy, alongside the development of energy efficiency technology, and in the sustainable transport sector.
- ▶ More political transparency and engagement support is needed from elected representatives at city council level, as this is critical for decision making for climate adaptation measures, including allocation of budget for actions.
- ▶ Greater access is needed to clean, affordable renewable energy and energy efficient systems in buildings.

UNITED STATES OF AMERICA



NDC

50-52% reduction by 2030 and net-zero by 2050.



Top reported climate risks for cities

- Extreme hot days
- Extreme rainfall
- Flash floods
- Drought
- Heatwaves



187 cities reporting



98% of cities are facing climate risks



59% of cities have undertaken a climate risk and vulnerability assessment



67% of cities have emissions reduction targets



32% of cities reported having targets aligned to 1.5°C



8 states reporting



8 states are facing climate risks



6 states have undertaken a climate risk and vulnerability assessment



8 states have emissions reduction targets



2 states reported having targets aligned to 1.5°C



63% of cities have adaptation plans

Top adaptation actions by cities

- Flood mapping
- Community engagement and education
- Storm water capture systems
- Tree planting

4 states have adaptation plans

Top adaptation actions by states

- Projects and policies targeted at those most vulnerable
- Sea level rise modelling



68% of cities have mitigation plans

Top mitigation actions by cities

- Energy efficiency
- Low or zero carbon energy supply generation
- Building codes and standards
- On-site renewable energy generation
- Improve fuel economy and reduce CO₂ from motorized vehicles

3 states have mitigation plans

Spotlight

Green jobs and economic development

60% of cities and four states have reported they are seeking finance for sustainability and climate-related projects, from energy efficiency to buildings, which will deliver green jobs for the local economy. Over a quarter of cities – 27% – say their adaptation actions are already majority funded by regional, national and international governments or collaborations with other cities. For example, the city of **Albuquerque** is a member of the Coalition for Sustainable Communities New Mexico. The coalition helps cities, counties and Native American pueblos, nations and tribes in the state access finance and resources for climate action, with a focus on social equity, collaboration, and governmental coordination. Albuquerque is also participating in CDP's Matchmaker program, seeking support for its hydrogen fueling station project, which capitalizes on the city's favourable conditions for solar energy as it moves to a zero-emissions bus fleet.



Collaboration in the United States

49% of cities say their ability to adapt to climate change is dependent on factors influenced by different levels of government, demonstrating the need for city governments to work with other cities across states to accelerate their climate action. Meanwhile, all states reported collaboration with both national and local governments on climate action, including energy efficiency, renewable energy, water quality and emissions reduction and adaptation. Some cities and states are working with other levels of government to achieve sustainability goals and finance sustainable initiatives. For example, the **State of New York** launched an initiative to support the development of climate-related measurement and disclosure from their public authorities¹⁶, who run critical systems used by millions of people each day – from airports to public transit to wastewater. The new disclosure model will allow government entities to more accurately measure, mitigate and disclose climate-related information and take a consistent approach to measuring environmental impact and climate risk, which will enhance financial stability.

Collaboration with business

Some 93% of cities are collaborating with business on climate action, or intend to in the next two years, with the biggest focus on energy, transport, waste, building infrastructure and water.

7 states are collaborating with business, with the top area of collaboration being on emissions reduction. For example, the **State of Oregon** has created an ongoing dialogue with utilities and other energy suppliers for two-way education on how to reduce emissions.

¹⁶ CDP to collaborate with New York State to expand environmental disclosure for public authorities across North America, CDP, 2021.



City of Dallas, Texas

Delivering a better environment and quality of life

Dallas' Comprehensive Environmental and Climate Action Plan (CECAP) identifies 97 actions across eight key areas to achieve the city's mitigation, adaptation, environmental quality and environmental justice goals. The city has also identified 12 co-benefits that will be delivered by these actions, including greater access to employment and job creation, and decreasing inequality and poverty. Dallas' approach, led by the city council,

is highly collaborative, with business and civic participation in working groups and workshops.

Dallas is one of eight global cities forming the first cohort of the City Business Climate Alliance. It is forming a city-business partnership of leading firms to jointly deliver key elements of the CECAP to reduce emissions from buildings, energy and transport.



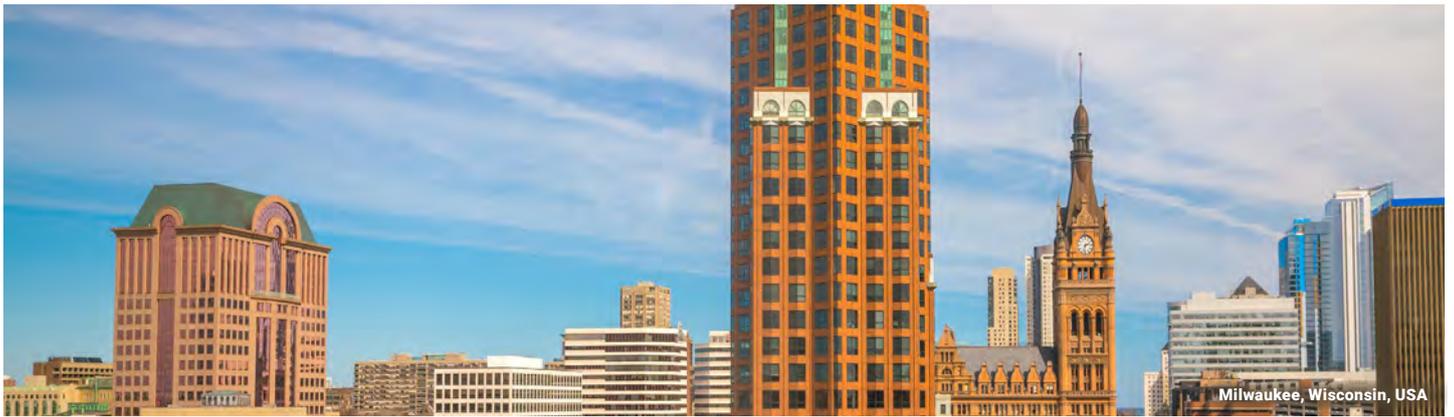
State of California

Financing clean growth

California offers incentives, grants, and regulations to reduce greenhouse gas emissions from all sectors¹⁷. The California Infrastructure and Economic Development Bank (IBank) has established a Climate Catalyst Revolving Loan Fund (CCRLF)¹⁸ to help finance climate-related projects from governmental, private and tribal entities. By targeting small business that traditional lenders won't serve, the CCRLF promotes inclusivity when it comes to the climate action economy.

¹⁷ For more information, please see: [California's AB 32 Climate Change Scoping Plan](#).

¹⁸ For more information, please see: [State Infrastructure and Economic Development Bank](#)



Solar energy for the State of Wisconsin

Clean energy bringing jobs and tax revenues

In 2019, Alliant Energy pledged to install 1,000 megawatts of solar energy in the **State of Wisconsin** by 2023, while this year, the regulated Wisconsin electric utility received approval to construct, own and operate six utility-scale solar projects totalling 675 megawatts in six counties. These projects are expected to create more than 1,200 local construction jobs, and will provide an estimated \$80 million in local tax revenues over the next 30 years, as well as help

customers avoid more than \$2 billion in long-term costs. Local communities are expected to receive an estimated \$50 million in shared revenues – for the next 30 years – funding local fire departments, investing in school programs and upgrading park facilities. These projects, five of which are being self-developed by Alliant Energy, are expected to create more than 800 local construction jobs across five counties.

Next steps in climate action for the USA:

A number of cities and states have reported the following priorities for continued climate action. Successful implementation will require collaboration across all levels of government to provide access to finance and the necessary decision-making powers to push through climate action.

- ▶ Greater funding is required to enable investment in adaptation measures, sustainable infrastructure, renewable energy and additional climate-related projects that will, amongst other positives, create green jobs and encourage economic development.
- ▶ Stronger support is needed for adaptation measures through increased community engagement and more dedicated government resource to help implement climate plans.
- ▶ Nature-based solutions are essential, examples include better land-use planning and creation of green space.

Further effort is also needed on¹⁹:

- ▶ Further support from state governments, utility companies and business is needed to ensure the transport network and electrical grids can be made both resilient and decarbonized at the scale and speed required.
- ▶ Increased engagement and knowledge sharing with the private sector to understand more about how it approaches and implements climate actions.
- ▶ Leadership is needed from state government to help engage public authorities, this will support more efficient and effective infrastructure investment.

¹⁹ This has been suggested by the CDP regional team

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The data for this report was collected in partnership by CDP and ICLEI – Local Governments for Sustainability.

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