



GOLD VI

***Case-Based Contribution
to Chapter 7: Renaturing***
*GOLD VI Report on Pathways
to urban and territorial equality*

Cities and Regions Race to Zero

– Local decarbonization pathways

In partnership with:



Cities and Regions Race to Zero – Local decarbonization pathways

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Buenos Aires (Argentina:); Boston (United States); Catalonia (Spain)

CHAPTER

7: Renaturing

SUMMARY

Local and regional governments pathways to decarbonization build on their close relationship with communities and in representation of their aspirations. Initiatives that seek carbon neutrality by 2050 are fundamental, in line with scientific projections to keep global warming to the 1.5°C goal, particularly when these are linked to broader ecological transformations, which seek the improvement of livelihoods and equality. This is the case of the Cities Race to Zero, and the present text provides an overview of the specific experiences of Boston, Buenos Aires and Catalonia. An emission target-oriented decarbonization process can imply additional needs by smaller cities and regions or with fewer resources, for example regarding the elaboration of emission inventories, access to funds and staff capacity building, and the multilevel and multistakeholder frameworks and mechanisms of governance. As the specific cases presented highlight, existing local and regional government strategies to achieve net zero carbon can build on the specific circumstances of cities and territories. Additionally, local and regional decarbonization pathways should foresee an equal distribution of the benefits of climate action, while envisaging to improve access to public services, develop green spaces and infrastructure, with the final goal to make decarbonization a catalyst and driver of the larger necessary transformation.

The Paris Agreement adopted during the UNFCCC COP 21 defined commitment to keep global average temperature increase to well below 2°C above pre-industrial levels, also indicating the relevance of pursuing even more ambitious efforts to maintain temperature rise to 1.5°C. Subsequent expert reports of the Intergovernmental Panel on Climate Change (IPCC) demonstrate the 1.5°C goal would avoid further extreme climate impacts. Working towards this scenario would require net zero global CO₂ emissions by mid-century.¹

In line with this statement and recommendations of the scientific community, **the Race to Zero² global campaign was launched in 2020 to rally leadership and create an alliance of multi-stakeholders, with businesses, cities and regions, civil society, committed to the acceleration of global agendas for decarbonization and resilience.**

As part of the global mobilization, C40 Cities, the Global Covenant of Mayors for Climate & Energy (GCoM), ICLEI – Local Governments for Sustainability (ICLEI), United Cities and Local Governments (UCLG), CDP, the World Wide Fund for Nature (WWF) and the World Resources Institute (WRI) joined forces to establish the Cities Race to Zero, to support and recruit cities to join the campaign by the UNFCCC COP 26.

Up to this moment at least 700 cities have joined the campaign, which require them to fulfill a list of criteria, including to recognize the global climate emergency, to pledge to reach net zero emissions by 2050, whereas defining a mid-term target considering a fair share of the 50% global reduction in CO₂ by 2030.

The pathways to decarbonization and resilience in the Cities Race to Zero consider equality as a fundamental principle, and cities joining the campaign are required to plan at least one “*inclusive and equitable climate action*” from

a list of suggested actions.³ The list proposes actions on different topics and sectors towards achieving net zero, including targeted at community engagement, inclusive planning, to expand access to affordable and plant-based food, or to pursue methodologies as the 15/30-minute neighborhoods⁴ in which residents may meet most needs within walking and biking distance. Cities joining the campaign commit to begin the implementation of the selected action and to report progress annually beginning no later than 2022.

Among the cities committed to net zero, the city of **Boston** (United States) provides an interesting example that combines climate action and equity. The city’s 2019 Climate Action Plan Update⁵ sets the target to reduce community-wide carbon emissions by 50% in 2030 and by 100% in 2050, compared to 2005 levels, with the caveat that it plans to reduce municipal emissions by 60% in 2030. Boston’s update to the plan was the result

1. IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press

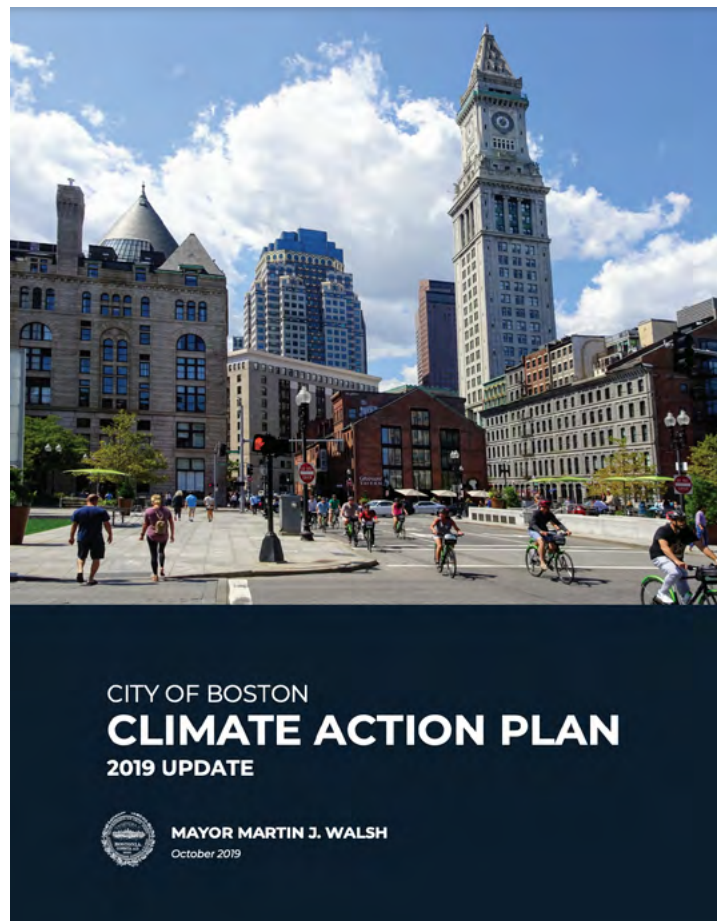
2. The initiative is led by the High-Level Climate Champions for Climate Action – Nigel Topping, from UK COP 26 and Gonzalo Muñoz, Chile COP 25. More information and basic criteria at <https://unfccc.int/climate-action/race-to-zero-campaign#eq-4>

3. See the list of suggested actions: https://www.c40knowledgehub.org/s/race-to-zero-pledge-form?language=en_US

4. See C40 Cities, How to build back better with a 15-minute city, July 2020: https://www.c40knowledgehub.org/s/article/How-to-build-back-better-with-a-15-minute-city?language=en_US

5. See Boston 2019 Updated Climate Plan: https://www.boston.gov/sites/default/files/embed/file/2019-10/city_of_boston_2019_climate_action_plan_update_4.pdf

Boston 2019 Updated Climate Plan
Source: City of Boston, cover photo by Vera Izrait



of a consultation process, with the engagement of at least 70 organizations in working group meetings, from varied stakeholder groups as student associations, professional associations, civil society organizations and representatives of the green construction sector. In addition, more than 700 surveys were replied by residents, a community working group was established and interviews with small businesses were conducted to propose the key strategies and roadmaps, securing language, color and age diversity in the consultation process. As a result, the plan identified that specific socioeconomic groups and neighborhoods experience impacts of climate change differently, and thus it established as principles that **people of color, low-income communities and vulnerable people need to be protected from disproportionate climate impact**, and includes targeted actions in housing policies or labor and careers opportunities and training in green building and operations.

Based on the 2017 GHG emissions inventory, the city identified at least 71% of the emissions came from buildings of all types, followed by transportation. Therefore, the plan recognizes that 80% of existing buildings would need to undertake retrofits and to become electrified by 2050. With that in mind, the Boston's Department of Neighborhood Development defined **Zero Emissions Building standards**,⁶ specifying most relevant actions as window replacement, air sealing, insulating roofs, upgrading mechanical and lighting systems, and considering the carbon emissions resulted in the production of different construction materials.

Following the adoption of the plan, the mayor of Boston also emitted an executive order requiring any new public building to follow the Zero Emissions standards. In March 2021, the city announced it

would award \$34 million to support 14 affordable-housing projects,⁷ including 608 new units and the preservation of additional 233 units of income-restricted housing stock. Combining homeownership and accessible rental programs, the projects selected are required for the first time to also follow the Zero Emissions Building standards. Projects are also required to set aside units for individuals and families experiencing homelessness, seniors or people recovering from substance use. The funding for the affordable housing projects combines federal and municipal funding, as well as resources from the city's linkage fee, which extracts funds from new commercial projects built, and from the Community Preservation Action, a 1% property tax increase that was approved by voters in 2016.

Another city committed to the Race to Zero is **Buenos Aires** (Argentina), which launched its Climate Action Plan 2050 in 2020, setting an emissions' reduction target of 53% by 2030 and over 84% by 2050, using 2015 as reference – remaining residual emissions are planned to be addressed through offsetting actions. According to the city's GHG emission inventory of 2015, 58% of the emissions in the city corresponded to the energy sector, 28% to transportation and 14% to solid-waste. The city studied **different scenarios according to possible emission trends**, and the resulting floods, heatwaves and other climate risks are considered for their aggregated impact on vulnerable populations, such as older people, children and low-income neighborhood residents.

The definition of Buenos Aires' climate plan was the result of a **consultation process**, which included 30 events and 1,538 participants, and prioritized 19 selected actions, and five transversal topics, including targets for every 5 years

6. See the guidance document by the Department of Neighborhood Development: https://www.boston.gov/sites/default/files/file/2020/03/200306_DND%20book_FOR%20WEB.pdf

7. See press release on the projects awarded: <https://www.boston.gov/news/more-34-million-create-and-preserve-841-affordable-homes-boston>

up to 2050 on topics like access to health services, air quality and environmental education. Actions in the plan are structured around four thematic blocks: preparedness, proximity, low-carbon innovation, and inclusivity, bringing together mitigation and adaptation efforts to reduce emissions, while enhancing resilience and increasing equality. For instance, the climate action plan focuses on green and blue infrastructure to eliminate the risk of injuries and evacuation due to floods by 2050. Moreover, different actions are targeted to public spaces and wellbeing, for example to increase green coverage and areas for residents, including a target of average 400m household distance to the closest green area by 2025.

Buenos Aires also sets **sustainability and environmental criteria for urbanization projects** and considers the integration of neighborhoods, committing to secure people's access to public services and to reduce air pollution. For the monitoring of the actions in the plan, the city sets varied indicators, for example bus trip time to measure transport efficiency and improvement. Building on the indicators defined for each action, the city commits to presenting periodic reports, to legislative bodies and at the global level, through reporting platforms as the CDP-ICLEI unified reporting system.⁸ Furthermore, and following the city's commitment to open data, a specialized platform on Open Government and Climate Change⁹ was created, in which environmental reports, emission's data and a list of actions stakeholders can engage is available.

In addition to cities, regions have also joined the Race to Zero, applying a territorial perspective to climate action and decarbonization. This is the case of the government of **Catalonia** (Spain), which has set a carbon neutrality target by 2050 through the 2017 Climate Law¹⁰ - and includes interim targets of 40% GHG emission reduction by



2030 and 65% in 2040, with baseline of 2005. The region defines a broad-range of actions and topics that exceed urban spaces and consider rural and natural areas, including agriculture, fishing, industry or tourism. Among others, Catalonia pursues the electrification of transport and mobility, and incentives to change consumer behavior, for instance by planning to indicate the carbon footprint in product packages.

The **Catalan 2017 Climate Law** also lays the commitment to reduce the vulnerability of the population and socioeconomic sectors to the impacts of climate change, committing to secure basic services provision on water, energy, waste management to vulnerable populations, especially in times of extreme climate events, such as heat waves, extreme cold or drought periods. Furthermore, Catalonia recognizes the necessary implication of private sector, companies and other stakeholders and promotes their voluntary commitments¹¹ to reduce emissions. Stakeholders who undertake a voluntary commitment must submit annual reports, while the government provides them with guidance and a label as an official initiative showcased in the government list of carbon neutrality endeavors.

Buenos Aires, Argentina
Source: Transport Secretariat, Buenos Aires City Council (GCBA)

8. The international reporting platform discloses climate and environmental data on an annual basis and is one of the suggested platforms by the Cities Race to Zero initiative: <https://www.cdp.net/en/cities-discloser>

9. The online platform can be accessed at <https://www.buenosaires.gob.ar/cambioclimatico>

10. See Law number 16/2017 on Climate Change, published in Spanish: <https://www.boe.es/buscar/pdf/2017/BOE-A-2017-11001-consolidado.pdf>

11. See details and criteria of the program of voluntary commitments: https://canvclimatic.gencat.cat/en/ambits/mitigacio/acords_voluntaris/index.html

In order to finance the climate commitments included in this law, an expert group is commissioned to define five-year carbon budgets, and a tax on vehicles' CO₂ emissions which nurtures a Climate Fund. The progressive tax to vehicles' carbon emissions had been temporarily suspended by the national constitutional court and finally came into force in 2021, four years after the law's approval. In addition to the tax, the Catalan governments had also established Low Emission Zones¹² from early 2020, limiting the circulation of higher emission and older vehicles in Barcelona's metropolitan area, applying fines to vehicles that enter forbidden zones, which cover part of the territory of multiple cities. Political instabilities, lack of resources or competencies and the COVID-19 pandemic are said to have contributed to the difficulties of the regional government to comply with the timeline of different climate actions.¹³

In 2021, the government of Catalonia initiated the preparations for the region's climate adaptation strategy 2021-2030, replacing the 2012-2020 strategy. The new strategy departs from recent climate and meteorological assessments and regional studies to define the scenarios for 2030 and 2050. A consultation process was recently concluded with the proposal of over 700 interventions, organized around three axes: water, food and forests; infrastructure; urban and rural agendas.¹⁴

The level of ambition on the decarbonization pathways can vary considerably according to cities and regions size and capacities, which could explain the majority of well documented cases of carbon neutrality plans coming from city capitals or in developed countries. In a joint project by UCLG, ICLEI and GCoM carried throughout 2020 and 2021, a **series of consultations** were held across continental

regions, including through regional workshops and over 50 questionnaires replied by city governments and associations of local and regional governments. As a result of this consultation, it was identified that carbon neutrality is already perceived as a political and strategic priority in regions as North America, Latin America and Asia. Nevertheless, it was particularly pointed out that additional support is required to develop GHG inventories, including methodologies and capacities to measure emissions, considering the inventories are the basis for informed decarbonization pathways.

Additionally, in the UCLG-ICLEI-GCoM series of consultations, cities and regions agreed the **need to combine mitigation, adaptation and resilience efforts, setting people and equality at the center of climate action, especially in the context of the COVID-19 pandemic crises.**

This has been the example of the cases of Boston, Buenos Aires and Catalonia which have recently turned to decarbonization, that addresses resilience and equality. Nevertheless, the consultation process stressed by most local governments, especially smaller and intermediary cities, require further technical capacities and access to financial resources to enhance ambition, and in some cases to establish targets, adopt and implement climate plans, in line with the Race to Zero initiative.

As included in the three cases mentioned by the present document, cities' contribution to net zero emissions mostly falls on sectors such as energy, industry, transportation, buildings or solid-waste. **National climate frameworks and multi-level governance systems** may also play a fundamental part in supporting climate and emissions' neutrality in cities and regions. In Asia, the commitment of South Korea and Japan for carbon

12. See the specificities of the Low Emission Zones initiative available in Spanish or Catalan: http://mediambient.gencat.cat/es/05_ambits_dactuacio/atmosfera/qualitat_de_laيرة/qualitat-de-laيرة-a-la-conurbacio-de-barcelona/pla_millora_qua_aire_2011_2015/mesures-del-pamqa/episodis_ambientals/faqs/restriccions/

13. See this news piece considering the delayed actions of the 2017 climate law as of June 2020, available in Spanish: <https://www.climatica.lamarea.com/govern-incumple-ley-del-cambio-climatico/>

14. See the results of the participatory process for the definition of the Catalan Climate Adaptation Strategy 2021-2030, available in Catalan: https://canviclimatic.gencat.cat/web/content/03_AMBITES/adaptacio/ESCACC_2021_2030/Informe_ESCACC30_vfinal.pdf

neutrality by 2050, and China by 2060, provided an important push for local and regional governments in those countries.¹⁵ These countries rely vastly on the promotion of carbon capture, utilization and storage, which is yet to be clarified on its full potential,¹⁶ or in alternative fuel and energy sources, such as hydrogen and ammonia.

Local and regional governments, for their proximity to citizens and concerns over the decarbonization transformations of urban and territorial structures, represent unique actors to pursue the Race to Zero with a focus on the benefits to the people and towards equality. **The implication of cities and regions towards decarbonization should be framed in broader strategies of ecological transition and new economic models.** The cases of Boston, Buenos Aires and Catalonia, and increasingly by the governments joining the Race to Zero, show that city and regional climate action may address local inequalities and prompt integrated territorial action to tackle the impact of climate change and protect vulnerable people.

15. See ICLEI, *Japan to go climate neutral with support of net zero cities*, October 2020: <https://iclei.org/en/media/japan-to-go-climate-neutral-with-support-of-net-zero-cities>

16. Study on the Potential for the Promotion of Carbon Dioxide Capture, Utilisation, and Storage in ASEAN Countries: Current Situation and Future Perspectives, Economic Research Institute for ASEAN and East Asia (ERIA)

This paper has been produced as a Case-Based Contribution to the sixth Global Report on Local Democracy and Decentralization (GOLD VI): the flagship publication of the organized constituency of local and regional governments represented in United Cities and Local Governments. The GOLD VI report has been produced in partnership with the Development Planning Unit (University College London), through the programme Knowledge in Action for Urban Equality (KNOW). GOLD VI focuses on how local and regional governments can address the local manifestations of growing inequalities and contribute to create “Pathways to urban and territorial equality”. The GOLD VI report has been produced through a large-scale international co-production process, bringing together over a hundred representatives of local and regional governments, academics and civil society organizations. This paper is an outcome of this process and is part of the *Pathways to Equality Cases Repository*, which collects the over 60 Case-Based Contributions produced as part of the GOLD VI report.

In particular, the present paper has contributed to Chapter 7 on “Renaturing”, which focuses on the governance and planning of nature-based solutions, with specific emphasis on decoupling economic development and resource use, the transition to net zero carbon systems, risk reduction and urban resilience. The chapter explores how local and regional governments can promote approaches that advance these goals, placing the needs and priorities of structurally discriminated social groups at the core of their actions, and contribute to urban and territorial equality.

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