LOCAL GOVERNMENTS

N° 9 At the heart of innovation and climate action, local public policies seek to scale-up in order to reach 2030 targets

- Cities signatory to the Covenant of Mayors in Europe have, according to reported data, reduced emissions beyond their average targets for 2005 to 2020, in line with EU targets.
- The mobilisation of cities is growing significantly in Latin America and Sub-Saharan Africa. In Europe, adaptation planning is improving in quality.
- Around the world, the analysis of real progress by local governments is met with a lack of data that is credible and coherent over time. In Europe, the average gap between two municipal inventories equals the length of a mayor's mandate in France – six years.
- Several cities are rendering permanent the resilience measures that were taken during the pandemic, like the roll-out of cycling infrastructure. Subnational regions play a central role in ensuring the just transition of coal-dependent areas.

KEY FIGURES

Local governments committing for the climate

- **12,800+ signatories** of the Global Covenant of Mayors for Climate and Energy, representing 1.1 billion+ people (GCoM, 2023).
- **1,136 cities and 52 regions** among signatories of the Race to Zero initiative (UNFCCC, 2022).
- **2,336 jurisdictions** in the world have declared a "climate emergency" (Cedamia, 2023).
- **1.3 billion people** in 1,500 cities covered by renewable energy targets and policies (REN21, 2022).

Reporting and monitoring in need of standardization

- **862 distinct jurisdictions** have published emissions figures at least once through CDP (CDP, 2022).
- **58% (503 out of 862)** of them disclosed their emissions at least twice, permitting their monitoring (*ibid.*).
- **2-3 years** is the average gap between accounting and reporting years of cities reporting to CDP (*ibid.*).
- **6 years** is the average gap between two inventories of CoM-EU cities (JRC, 2022)

Europe: A general downtrend in emissions

- **41% of the 10,800+ current signatories** have renewed their targets for 2030 or 2050 (JRC, 2022).
- **-25.3% emissions** from 1,851 cities between 2005 and 2020, above the average target of -22.7% (*ibid.*).
- **320 low-emission zones (LEZ)** in Europe in 2022, vs. 228 in 2019 (Azdad, 2023)
- **1,500 cities (1.3 bn people)** have set targets policies in favour of renewables globally (REN21, 2022)

FURTHER READING

REPORTS

GLOBAL SYNTHESIS REPORT ON LOCAL CLIMATE ACTION – 2018, 2019, 2021, 2022

CASE STUDIES

BOBO-DIOULASSO • The development of a SEACAP after signing up to CoM SSA (2022)

ATHENS • A whole department of the municipality dedicated to developing resilience (2022)

SCOTLAND • Linking climate action and the SDGs (2022)

DANNIEH • Using the SEACAP as a climate finance instrument (2022)

MANCHESTER • A local carbon budget for the city (2021)

MEXICO CITY • MERCI-CO2, an example of atmospheric accounting of emissions (2021)

NOUAKCHOTT • The AREDDUN project for resilience and adaptation (2019)

Local governments: Commitment and action are advancing, but monitoring of progress lags behind

TANIA MARTHA THOMAS • Research Officer, Global Observatory of Climate Action, Climate Chance

The confluence of economic activities and greenhouse gas sources in urban areas, along with their vulnerability to climate change, has highlighted the key role played by local levels in climate action. Although cities and regions began strengthening their commitments even before the Paris Agreement, in particular through international cooperation networks and initiatives, monitoring the progress made thanks to these commitments remains complex. Reporting on common platforms like CDP has made considerable progress since 2015, and become increasingly standardized over time as more and more cities join the "transparency wave". Nevertheless, the wide range of accounting methods, the time it takes to prepare inventories, and the irregularity of available emissions data make it hard to follow the global impacts of action.

Increasing commitment through networks and initiatives

More than 50% of the world's population live in cities, generating 67% to 72% of global greenhouse gas (GHG) emissions in 2020, compared to 62% in 2015. These emissions are mainly the result of fossil energy combustion in buildings, transport and other urban infrastructures.[1,2,3] With their hubs of economic activity, built-up areas, and dense housing, cities concentrate intense climate change vulnerabilities.[4] Cities and regions are also on the front line of climate action, since they are where public policies are ultimately implemented.

Even before the signature of the Paris Agreement, cities around the world started to formulate commitments and set up mitigation and adaptation plans, either voluntarily or because required to do so by legislation. Sometimes, they are helped by international cooperation networks and initiatives that support the exchange of best practices between cities, pool resources and knowledge, and even provide technical or financial support to local decision-makers. **In 2016, over 200 national and international city networks already existed, 29% of which had an explicitly environmental vocation**.[5] Although local community networks have existed for 800 years, they have mushroomed since the 20th century. They include general city networks like United Cities and Local Governments (UCLG), and networks specializing in environmental issues like ICLEI and C40 Cities, and their common initiatives featuring thousands

of signatories, like the Global Covenant of Mayors for Climate and Energy (GCoM). The same impetus can be found in other local and sub-national jurisdictions (federated states, regions, provinces, etc.), led by networks like Regions4 and initiatives like the Under2 coalition.[6]

The Global Covenant of Mayors for Climate and Energy and its regional branches currently count more than 12,800 signatory cities, representing over 1.1 billion inhabitants (or 13% of the global population).[7] Added together, their commitments could lead to a potential emissions reduction of 4.1 $GtCO_2e$ in 2050[8] and make their territories more resilient to climate change. 1,136 cities and 52 regions feature among the 11,309 signatories of the Race to Zero initiative led by UN Climate Change High-level Champions aiming to reach "net zero" by 2050. The Race to Resilience initiative, which aims to "*increase the resilience of four billion people living in vulnerable communities by 2030*", counts 1,762 members, including cities and regions encouraged by the Covenant of the Mayors and the RegionsAdapt initiative, which brings together 70 regional governments from around the world to adapt to climate change.[9] Since 2019, 2,336 jurisdictions in the world have declared that they are in a "climate emergency", including 40 states. In total, over one billion people were covered by this kind of declaration in September 2023. The biggest number of declarations come from the United Kingdom (592) and Quebec (525), far ahead of South Korea (228) and the United States (203).[10]

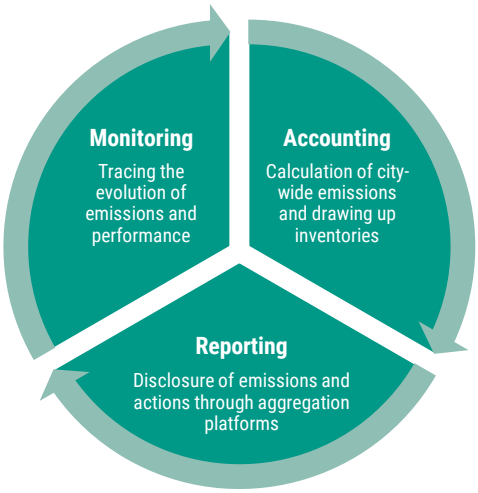
While regions featuring more recent networks and initiatives have seen a steep rise in commitment (especially the Covenant of Mayors in Latin America and the Mediterranean), regions where commitment was already high are now slowing down. According to the 2022 assessment by the European Covenant of Mayors carried out by the European Union Joint Research Centre (JRC),[11] 59% of the 10,800+ current signatories (44% of the population covered by the initiative) have committed to mitigation targets for 2020, and have still not renewed their mitigation and adaptation targets for 2030 or 2050.

A brief analysis by the Global Observatory of Climate Action of the data reported by over 1,500 cities from 2015 to 2022, publicly available on the CDP-ICLEI Track[a,b] platform, gives a more detailed overview of the increasing commitment and action of cities through evolving practices in the different phases of their "transparency cycle" (**FIGURE 1**).

FIGURE 1

THE TRANSPARENCY CYCLE OF CITIES' CLIMATE ACTION

Source: Climate Chance



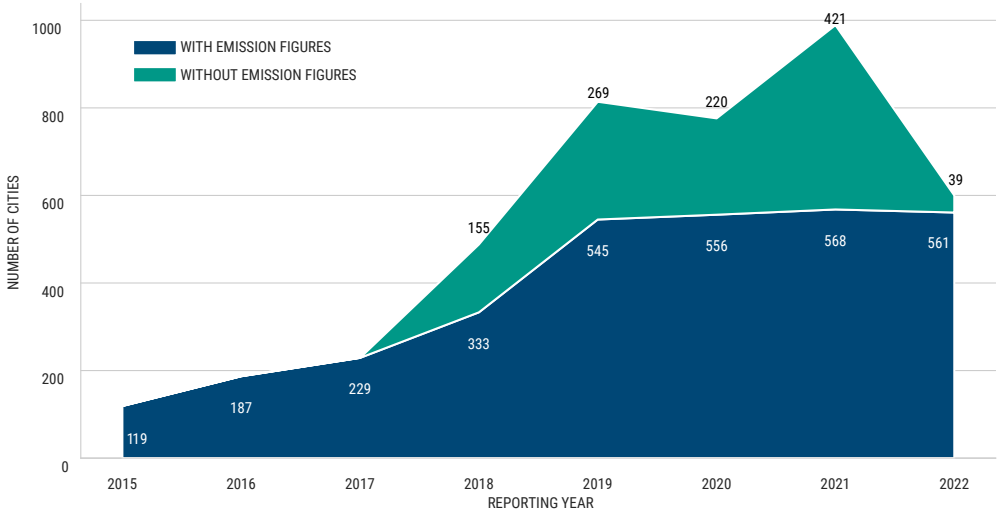
a Founded in 2003, CDP is a "*is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts*" (cf. Focus on CDP, Local Action Report 2022).

b These data were extracted from the "Citywide Emissions" database for the years 2015 to 2022, on the CDP "Open Data portal', in March and April 2023.

FIGURE 2

NUMBER OF CITIES RESPONDING TO THE QUESTIONNAIRE, WITH AND WITHOUT EMISSIONS FIGURES

Source: Climate Chance, based on data from CDP-ICLEI Track



The data challenge: lacking standardization, the monitoring of progress stands on shaky foundations

Reporting: cities join the "transparency" wave

In 2022, 600 distinct jurisdictions responded to the CDP[c] questionnaire, compared to 119 in 2015. The CDP Cities questionnaire is a reporting tool designed for the disclosure of data related to the risks and opportunities facing cities related to climate, water, and forests. The questionnaire brings together statistics reported by cities involved in different international cooperation networks and initiatives, including but not limited to:

- CDP, via the CDP-ICLEI Track platform, a common, shared reporting system run since 2019 with ICLEI, an international network of cities committed to sustainable development.

- C40, an international network of almost 100 cities representing one twelfth of the world's population and 20% of the global economy.

- The Global Covenant of Mayors (GCoM), the biggest alliance of cities and local governments in the world acting for the climate, based on the guidelines of the Common Reporting Framework (CRF).

Every year, CDP draws up an "A-List" of the most transparent cities – giving a score of a "A" to those that responded best to the questionnaire, totalling 122 cities in 2022[12] – but it does not publicly analyse the information behind the figures. The CDP in fact analyses the smallest common denominator of all the cities, *i.e.* their capacity to provide answers to the questionnaire, whatever the method employed or the quality of the data disclosed. A close examination of the data reveals some key facts.

From 2015 to 2022, 1,527 distinct jurisdictions replied to CDP's annual questionnaire at least once. Of those, a little more than half (862) published their emissions figures at least once on the CDP platform (FIGURE 2).[d] 58% (503 out of 862) of these cities reported their emissions at least twice, making it possible to follow the evolution of their emissions over at least two years; only 15% disclosed their data at least six times from 2015 to 2022. The situation is similar in Europe: out of a total 6,200 European and Mediterranean cities that have signed the Covenant of Mayors disclo-

c "Distinct jurisdiction" here designates each entity that responded to the Cities questionnaire. These, rarely, include two sets of responses for the same "city" – from the municipality, metropolitan council or a bigger agglomeration, a county, etc.

d The data featured here include cities that provided quantified items in their responses to questions on emissions – stating more than zero for at least one emissions category – and not cities that declared the existence of an inventory. A city that does not disclose quantified emissions does not necessarily have no inventory – it may simply not be publicly available, or the figures may not be declared due to a lack of reporting capacity.

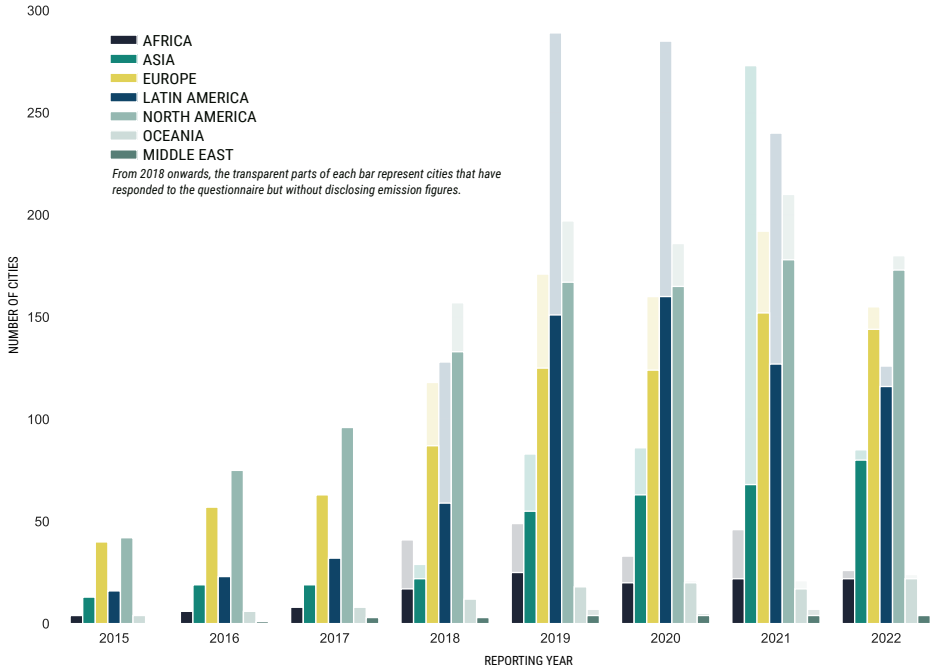
sing on the "My Covenant" platform of the European Covenant of Mayors, only 30% (1,845) had produced a baseline inventory and a monitoring inventory.[13]

North American cities rank first, with the highest number of disclosures each year, and most of them also publish their emissions figures (**FIGURE 3**). European cities also have high disclosure rates on the CDP platform – with general figures very close to the Americas. Nevertheless, the European Covenant of Mayors, which has been established the longest and has over 10,400 signatories (81% of 12,800+ signatories of the global covenant), has its own member disclosure platform – MyCovenant[14] – featuring the emissions inventories, climate-energy plans, policies and key actions established by cities.

FIGURE 3

REGIONAL DISTRIBUTION OF CITIES THAT DISCLOSE TO CDP

Source: Climate Chance, based on data from CDP-ICLEI Track



Latin American cities, which have been very active since 2019 – due to increasing local involvement and the international activity of national and regional city networks[15] – present high declaration levels, but relatively few emissions inventories. Asian cities have a relatively low disclosure rate, which can be explained by less involvement in international networks – which does not mean a lack of action. In Africa, Oceania and the Middle East, the number of cities that disclose remains very low, despite increasing involvement in regional covenants of mayors.[16] It is therefore worth stipulating that regional differences in disclosure practices do not necessarily mean a lack of commitment from some cities compared to others, but can also reflect different sizes, technical and financial means, or a different approach to participating in international cooperation spaces.

Emissions accounting: methodological convergence hides heterogeneous practices

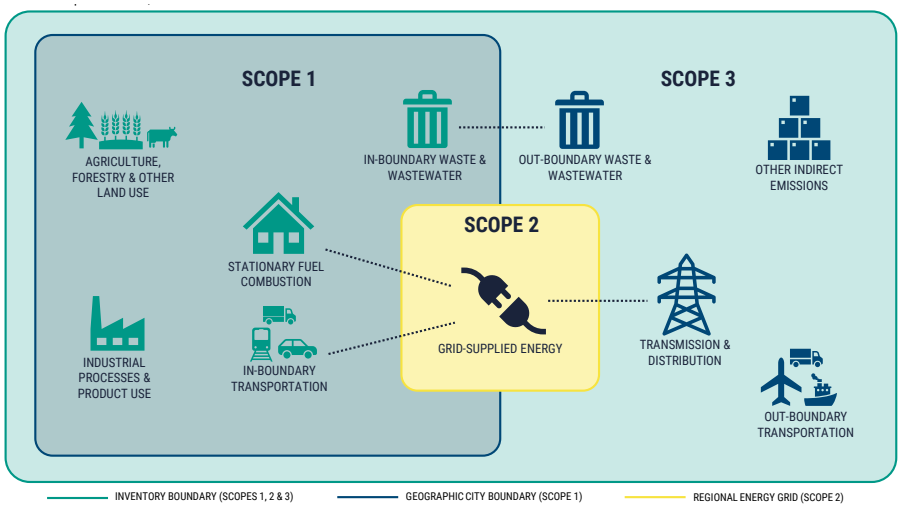
Calculating the greenhouse gas emissions of a territory, whether a state, region or city, provides authorities with strategic input to direct their short- and long-term mitigation efforts. Emissions accounting is both a tool to steer public policies based on solid data and a political instrument that provides greater transparency and accountability towards citizens and the international community. This makes it a cornerstone of international cooperation in the frame of the Paris Agreement.

Currently, statistical accounting is the most widespread method used to measure emissions. In a territorial approach, this involves drawing up an inventory of direct emissions produced by activities within the administrative or geographical borders of a territory (Scope 1), which can be associated with indirect emissions related to electricity produced outside the territory used for its production activities (Scope 2). Cities taking a so-called "global" approach, can also measure emissions produced by or for the territory beyond its borders (Scope 3) (**FIGURE 4**).

FIGURE 4

DEFINITION OF SCOPES FOR CITY INVENTORIES

Source: Global GHG Protocol for Cities, 2021

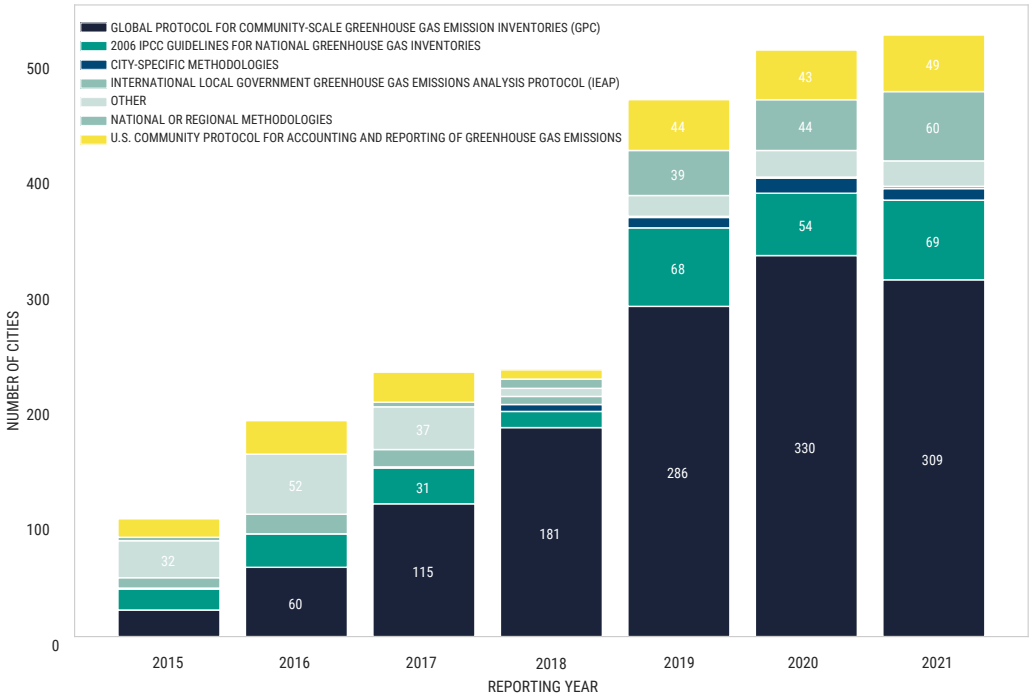


An analysis of CDP reporting reveals the very disparate methods employed by cities that have disclosed their inventories. In 2015, the breakdown was extremely heterogeneous, with no methodology used significantly more on a global scale. Over the years, the "Global Protocol for Community-scale Greenhouse Gas Emission Inventories" (GPC), produced by the World Resources Institute, C40 and ICLEI, has emerged as the most popular – GPC represented 22.5% of inventories in 2015, 78% in 2018, and 59% in 2021. Although its relative share has diminished since 2018 due to increased reporting using national methodologies, the absolute number of cities using GPC increased up to 2020 (**FIGURE 5**).

FIGURE 5

SHARE OF DIFFERENT ACCOUNTING METHODOLOGIES, 2015 -2021

Source: Climate Chance, based on data from CDP-ICLEI Track



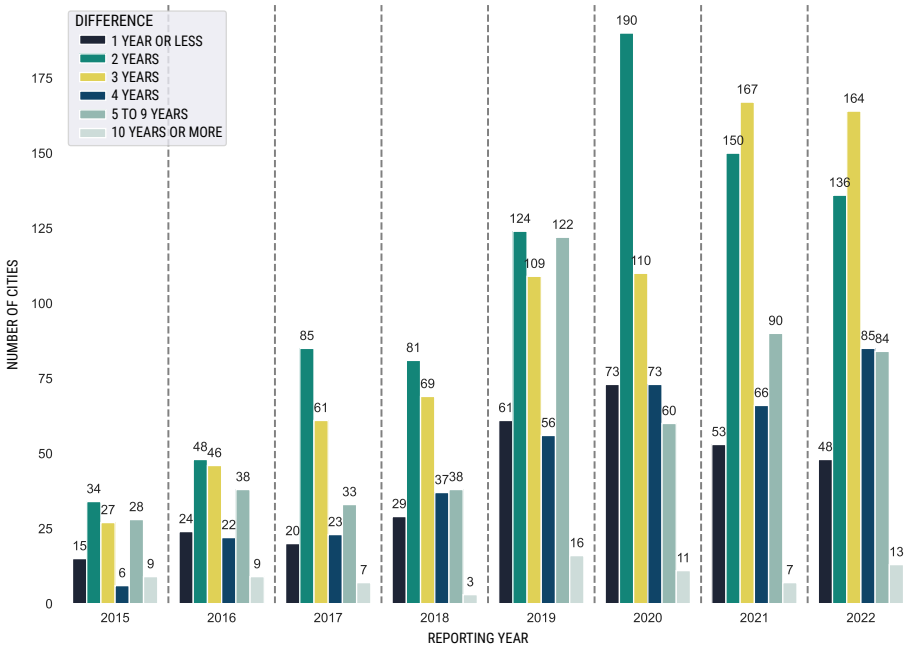
Apart from the existence of several methods, the practice of calculating emissions using inventories raises several challenges in itself. **The first difficulty that cities encounter is that of "under-reporting"**. Statistical accounting of emissions is based on the capacity of authorities to gather data on activities in their territory and on the existence of emission factors adapted to the local context. Consequently, the reliability of inventories can be highly variable. Studies using ground-based sensors and satellite observations of urban emissions have revealed differences with data declared by cities using statistical methods, in general involving an under-estimation by local governments. For example, the results of a recent study comparing the voluntary inventories of 48 of the 100 highest-emitting cities in the United States with national public databases revealed that the cities interrogated had under-estimated their CO_2 emissions related to fossil fuels by 18.3%.[17]

The second difficulty encountered by cities is the "border issue". *"Cities house 50% of the world's population but only represent about 3% of the land mass, which means that they have to externalize a high number of emissions beyond their borders"*.[18] For this reason, a territorial approach to emissions (Scopes 1 & 2) does not sufficiently reflect the emissions embodied in imported goods and services. For example, in 2019, a C40 report estimated that the emissions based on the consumption of 94 of the biggest cities in the world already amounted to 10% of global GHG emissions (4.5 $GtCO_2e$), while their total emissions based on production in 2017 were 2.9 $GtCO_2e$. These emissions are mostly hidden in territorial inventories since 85% of emissions related to goods and services consumed in C40 cities are generated beyond city borders.[19]

FIGURE 6

TIME LAG BETWEEN INVENTORY YEAR AND REPORTING YEAR

Source: Climate Chance, based on data from CDP-ICLEI Track



Lastly, an examination of the inventories reveals a time lag between the publication of statistical inventories and the year of observation. Taking into account all cities that disclosed their emissions on the CDP platform, there is an average gap of about two years between the year of the inventory and that of reporting for the period from 2015 to 2019, and a three-year gap in 2021 and 2022 (**FIGURE 6**). According to a JRC study, on average, the last emissions inventory presented by cities committed to the 2020 targets of the European Covenant of Mayors dated from 2014, which is the length of a municipal term of office in France. This underlines the time lapse between declaration practices and the drawing-up of policies.[20]

This gap can still be observed in countries that have made emissions inventories mandatory for cities. In France, 20% of large cities, 66.6% of regions, and 51% of *départements*, which have been required to publish an emissions inventory since 2011, had not yet done so in 2022.[21] Since the monitoring process is therefore incomplete (or out of sync), it is difficult to compare the progress made in relation to the targets and to evaluate the costs and advantages of implementing climate plans – as observed in the case of cities that have signed the European Covenant of Mayors.[22]

Uneven data make monitoring difficult

From 2015 to 2022, several cities among those that produced two inventories or more used different reporting formats over the years, changed accounting methodologies, modified their accounting scopes, or incorporated or withdrew some data categories, etc. These fluctuations make it harder to monitor their individual progress, and even more difficult to aggregate the statistics in order to understand the real contribution to mitigation and adaptation efforts made by local and regional governments.

The few studies that have attempted to do so at regional level – mainly in Europe – provide encouraging results. **The 2022 assessment of the European Covenant by the JRC observes that the reduction of emissions obtained by 1,851 cities with commitments for 2020 accompanied by an action plan and at least two inventories, amounted to an average 25.3% between 2005 and 2020 – a higher result than the average reduction target of 22.7%**. However, an examination of more ambitious commitments for 2030, based on a set of data available for 415 cities, showed that, on the basis of progress made up to now, the reduction of emissions by 2030 is following a trajectory 13.7% below the average city target. In both cases, the results are highly contingent, given the lack of consistency of aggregated data. These

figures are in fact compiled without considering the time boundaries of reference and monitoring inventories provided by cities: they therefore feature inventories documenting the evolution between 2005 and 2020 as well as results obtained from 2010 to 2016.

Action is making headway despite difficulties monitoring progress

Mitigation: municipal influence on all fronts

The 2022 assessmentof the European Covenant showed that, in EU-27 cities, 56% of emissions in reference inventories came from buildings, 30% from transport, and 15% from industry. In cities outside the EU, the share generated by industry and waste processing was sometimes higher. Regarding the mitigation measures indicated by cities, 49% concerned the building sector, 21% waste management, 16% transport, and 8% local electricity production. On a global scale, the data communicated by cities to the Global Covenant of Mayors in their annual reporting indicate a similar structure[23]: in all regions in the world, buildings represent the biggest share of measures taken in 2021, followed by waste and transport – with different priorities depending on the region. Cities in Eastern Europe reported a high share of action in industry (**FIGURE 7**).

Another study of 12,000 policies included in 315 monitoring inventories from European cities showed that the most common policies applied to municipal assets and structures.[24] Among the contextual factors that influence policies, population size is the most important: the least populated cities use "municipal self-management" tools (like public procurement, or energy management of public infrastructures and buildings), whereas the most populated ones tend to use more regulatory measures (urban planning, building codes, mobility plans) and financial tools. All cities employ awareness-raising tools.

More precisely, in the energy domain, REN21 identifies about 1,500 global cities that had set up policies or targets on renewable energy production or consumption in late 2021. Renewable sourcing increasingly involves Power Purchase Agreements (PPAs) between the producer and the city. Like in Melbourne (Australia)[25] or London (United Kingdom),[26] this tool initially adopted by companies is increasingly popular with cities (**CF. "ELECTRICITY" TRENDS**). This movement is part of the growing municipalization of electricity supply, also observed in the creation of municipal and participative electricity companies, such as in Cadiz (Spain).[27] Action to combat energy poverty is also a crucial issue for cities, as indicated by the creation of an energy access and poverty pillar in the Covenant of Mayors, with the objective of carrying out a just transition.[28]

This fight against energy poverty is closely linked to energy efficiency measures for buildings, which cities encourage and plan through building codes or renovation requirements (**CF. "BUILDINGS" TREND**), green or cool roof requirements,[29] or district heating and cooling systems.[30] Cities in the global North are focusing more on the energy and thermal efficiency of existing buildings and those under construction - Climate Chance has produced case studies of Vienna (Austria),[31] Rüsselsheim (Germany),[32] and Slavutych (Ukraine).[33] Meanwhile, cities in the Global South extend the issue to include energy access, as highlighted by the Observatory in the cases of Bobo-Dioulasso (Burkina Faso)[34] and Palembang (Indonesia).[35]

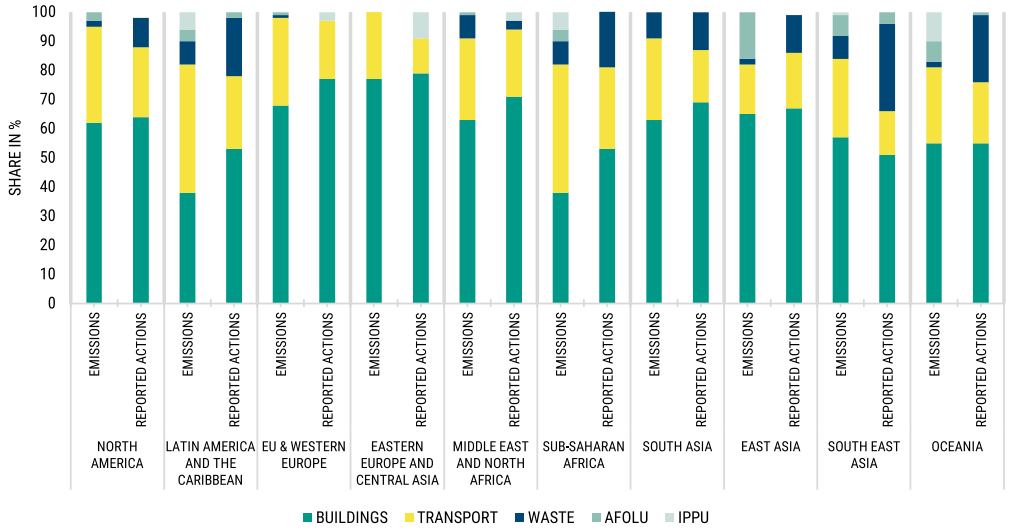
Cities are also rethinking then reorganizing the use of the public space, including in the mobility sector by giving more room to soft mobility,[36] and in land use by increasing green areas. The use of public markets is clear in the transport sector (**CF. "TRANSPORT" TRENDS**), involving cities ranging from Bogota (Colombia) to Mumbai (India), and several others, which are converting their public transport fleets into electric buses, already widespread in China.

Waste management takes different forms depending on the composition of municipal waste and socio-economic contexts. The Climate Chance Observatory has thus identified the policies that encourage composting in São Paulo (Brazil),[37] a general "zero waste" plan (Kamikatsu)[38], and the socio-economic integration of informal waste collectors in Mendoza (Argentina)[39].

FIGURE 7

AVERAGE BREAKDOWN BY SECTOR OF EMISSIONS AND ACTION IN 2021

Source: Adapted from GCoM, 2021



Local governments are better at identifying their weak spots, but still founder in their adaptation planning

While an increasing number of cities identify climate-related risks in their annual reporting (2,021 cities in the Global Covenant of Mayors indicated 14,153 risks in 2022), the proportion of adaptation measures compared to mitigation measures remains relatively low: 16,329 adaptation measures in 2022, compared to 191,055 mitigation measures.[40] Nevertheless, a large number of cross-cutting actions are indicated, which highlights the interconnection of local policies that very often combine adaption and mitigation targets – such as in Athens (Greece),[41] Kigali (Rwanda)[42] and Bariloche (Argentina).[43]

Adaptation measures are very often the starting point of integrating "nature-based solutions" into urban landscapes – with cities introducing elements ranging from parks to mangroves and even artificial reefs along the coastline – aimed at combining climate action with biodiversity.[44] Latin American and African cities have been identified as "*leading the way in redefining the relationship between people and nature in cities in an enduring way.*"[45]

The European Union Adaptation to Climate Change Mission, which aims to develop adaptation pathways at local and regional levels, includes 308 local and regional governments.[46] The regional level is also important when it involves sharing knowledge and resources on adaptation, gathering localities with similar geographic conditions.[47] For the 2021-2022 reporting cycle, 72% of regions reporting as part of the RegionsAdapt initiative had an adaptation plan.[48] The question of adaptation also implies more intersectoral and multi-actor approaches on territories, to plan and establish measures that are suited to the specific local context. This is the case in the United Kingdom, where "place-based" adaptation is gaining ground and concerns around twenty initiatives to date.[49]

The results of a study of 167 European cities shows that the overall quality of adaptation plans of cities in Europe, evaluated according to six criteria, has strongly improved in recent years.[50] The reason behind this increased quality is a combination of "*collective learning through parallel and sequential peer-to-peer transfer of knowledge and capacity building and transnational networks and other types of science-policy collaborations.*"

However, the study also identifies the lack of information on monitoring and evaluation as an obstacle to improving the quality of plans. Unlike for mitigation, it is even more difficult to standardize the definition of targets and monitoring of progress on adaptation without a common measurement unit, and given local contexts and histories that influence risks and resilience.[51] The question has generally received less attention and few attempts have been made to establish systematic monitoring.[52] Moreover, a study of 1,971 indicators taken from the adaptation plans of eleven cities that enumerate indicators and measures showed that precise targets, monitoring calendars, and data sources are rarely defined.[53]

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